Jackson County School District

Regular Meeting
Monday, March 13, 2023 - 5:00 PM
Our District Office Board Room
4700 Colonel Vickrey
VANCLEAVE, MS 39565

Jackson County School District
Strategic Plan Goals
1. Decreased Safety Incidents 2. Increased Student Achievement 3. Sound Financial Management
4. Improved Facilities and Infrastructure
5. Positive Educational Experience 6. Effective Leadership

Final on 3/10/2023 @2:54 p.m.

AGENDA

1. Call to Order
2. Invocation
3. Pledge
4. **Approve Consent Agenda Items**
5. **Approve Agenda**
6. **Minutes**
   - A. **Approve February 13, 2023 Meeting Minutes** **5**
7. **Superintendent of Education**
   - A. Acknowledgements and Announcements
     1. East Central Attendance Center
     2. St. Martin Attendance Center
     3. Vancleave Attendance Center
   - B. f.y.i. Superintendent Update
     1. f.y.i. Planning Zoning Department Public Hearing 18
   - C. Public Comments
   - D. **Financial Management**
     1. **Approve Purchase of Four (4) New IC Diesel School Buses for East Central Attendance Center** **23**
     2. **Open Bids for Professional Audit Services**
     3. **Approve Flood Insurance Policy Renewal Proposals** **25**
     4. **Approve Asset Surplus** **33**
     5. **Approve Transfer of Funds Between Activity Accounts as Listed on Schedule {MS 27-105-367(2)(a)}** **34**
     6. f.y.i. - *Draft of FY24 Budget Timeline* 35
     7. **Approve Prepaid Claim Docket** **37**
     8. **Approve MOA With Mississippi Department of Environmental Quality (MDEQ) as Condition of Receiving No More Than $23,093.00 to Purchase One New Diesel School Bus** **42**
     9. **Approve Open Claim Docket** **94**
   - E. **Human Resources and Risk Management**
     1. **Approve Revision to Policy GGBB - Supplement Scale** **115**
     2. **Approve MSBA Superintendent Search Items**

        A. **Approve Deadline Date for Applicants (4/12/23)**

C. **Approve Advertisement for Reverse Auction for Exterior/Interior Walk In Refrigeration at East Central High School.** **917**

H. **16th Section Leases**
1. f.y.i. Past Due Leases
2. **Approve Authorization for Service from the Mississippi Forestry Commission for Two 16th Section Parcels** **918**
3. **Rescind Request of Gorjian Vancleave, LLC to Proceed with Resurvey of Land in Current Lease**
4. **Approve Amendment to Extend Gorjian Vancleave, LLC Lease Agreement Initial Term from 25 Years to 40 Years**
5. **Approve Request to Advertise Hunting and Fishing State Lease Nos. 8161 and 8162**

I. **Contracts and Agreements**
1. **Approve VHS Prom Site Contract with Addendum** **920**
2. **Approve SMNE Contract for School Date Books** **927**
3. **Approve SMAC Use Of Facility for Joe Barlow Stadium** **929**
4. **Approve Renaissance Star 360 Subscription Contract for ECUE** **931**
5. **Approve Student Transfer**

J. **Fundraisers and Donations**
1. Fundraisers
   A. **Approve SMHS Fundraiser for Choir** **937**
2. Donations

K. **Travel Request**
1. Professional Travel
   A. **Approve SMHS Travel Request to Attend Cook Around the World Disney Competition**
   B. **Approve Travel for SpEd to Attend Mississippi Assoc. for Psychology in Schools**
   C. **Approve Changes to Travel Request Approved in February for SpEd to Attend MAFEPD Conference**
   D. **Approve Travel Request for VUE to Attend Josten's Renaissance Global Conference**
   E. **Approve the Travel Request for the 2023 Annual MSSCA Conference**
   F. **Approve Hotel Change for ECHS ISTE Conference- Approved in February**
   G. **Approve Hotel Change for SMHS ISTE Conference- Approved in February**
   H. **Approve Hotel Change for ECMS ISTE Conference- Approved in February**
   I. **Approve Hotel Change for ITC ISTE Conference- Approved in February**
   J. **Approve Hotel Change for VHS ISTE Conference- Approved in February**
   K. **Approve Travel Request Change for VMS ISTE Conference- Approved February**
   L. **Approve Travel Request for JCTC to Attend SkillsUSA Conference**
   M. **Approve Travel Request for ECMS to Attend FBLA State Leadership Conference**
2. Field Trips
3. **Approve Emergency Travel Authorization Request for VHS**

L. **Approve Consent Agenda**

M. **Executive Session**

1. Student Discipline
   16:22-23 ECHS/Exp
2. Legal/Personnel Matters

JACKSON COUNTY BOARD OF EDUCATION MINUTES

Regular Session

Monday, February 13, 2023

A Regular Session of the Board of Trustees of Jackson County School District was held Monday, January 9, 2023, beginning at 5:00 PM at the District Office Board Room located at 4700 Colonel Vickrey Road, Vancleave, Mississippi.

Members Present:

J. Keith Lee	**Chairman**
Amy Dobson	**Vice Chairwomen**
Jory Howell	**Secretary**
Glenn Dickerson	**District 1**
Amy A. Peterson	**District 5**
Dr. John Strycker	**Superintendent**
Jack Pickett, Esq.	**Board Attorney**

Those present were: See attached sign in sheet.

Board Chairman Lee called the meeting to order at 5:01 p.m.

Board Member Howell gave the invocation. Board Member Dobson led the pledge.

CONSENT AGENDA: Motion by Board Member Dobson, Second by Board Member Dickerson to approve the consent agenda as presented, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Item	7	D-4	Approve Letter Requesting to Rescind Matching Grant Purchase Order 2330390
Item	7	D-5	Approve Request to Advertise and Accept Sealed Bids for Professional Audit Services for FY23-FY25
Item	7	D-9	Approve Assets Surplus
Item	7	D-11	Approve Prepaid Claim Docket
Item	7	E-4	Approve Payroll Correction in the Amount of $3,736.80
Item	7	E-6	Approve Personnel Changes
Item	7	F-1A	Approve VHS Library Discard List
Item	7	F-2A	Approve SpEd Contract for Orientation and Mobility Specialist
Item	7	F-3A	Approve the District Test Security Addendum
Item	7	F-3B	Approve the ASCA School Counseling Consulting Agreement: RAMP up Your School Counseling Program Workshop
Item	7	G-1B	Approve Change Order Returning the Remaining $10,200.00 to ESSER II From JCTC Project

Item	7	G-1C	Approve Bus Turnarounds
Item	7	G-2A	Approve VHS Fixed Asset EEF Donations
Item	7	I-1	Approve SMHS Prom Security and Fire Department
Item	7	I-2	Approve ECHS Prom Lease Agreement Pelican Landing
Item	7	I-3	Approve ECHS Prom DJ Contract Phillip Drake
Item	7	I-4	Approve MGCCC Dual Credit Agreement for VHS
Item	7	I-5	Approve MGCCC Dual Credit Agreement for SMHS
Item	7	I-6	Approve Use of Facility for SMHS Gym, Band Hall and Cafeteria
Item	7	I-7	Approve SMHS IXL Learning Site License
Item	7	I-8	Approve McGraw Hill Textbook Purchase and Contract Addendum
Item	7	I-9	Approve CDWG Quote and Contract Addendum
Item	7	I-10	Approve PreACT Purchase and Contract Addendum
Item	7	I-11	Approve Matching Grant ECHS Football Foundation-Lockers
Item	7	I-12	Approve Request for Jackson County School District
Item	7	I-15	Approve Student Transfer and Releases
Item	7	I-17	Approve ECLE Yearbook Contract
Item	7	I-18	Approve ECUE Yearbook Contract
Item	7	I-19	Approve ECMS Yearbook Contract
Item	7	I-20	Approve ECHS Yearbook Contract
Item	7	J-1	Approve SMUE Fundraiser for Student Rewards
Item	7	J-2	Approve SMUE Fundraiser for Student Incentives
Item	7	J-3	Approve SMHS Fundraiser for HOSA Competition Fees
Item	7	J-4	Approve SMHS Fundraiser for Baseball Diamond Girls
Item	7	J-5	Approve VHS Esports Fundraiser for February 15-19, 2023
Item	7	J-6	Approve SMMS Cheer Fundraiser
Item	7	J-7	Approve ECHS Fundraiser Authorization HOSA Car Wash
Item	7	J-8	Approve ECHS Fundraiser Authorization-HOSA Chil-Fil-A Sale
Item	7	J-9	Approve ECHS Fundraiser Authorization Life Skill T-Shirt Sale
Item	7	J-10	Approve ECHS Yearbook Fundraiser Authorization
Item	7	J-11	Approve ECHS Fundraiser Authorization-Baseball Chevron Your Cause Donation
Item	7	J-12	Approve ECMS Student Council Fundraiser Authorization Form
Item	7	J-13	Approve SMNE Fundraiser for Book Fair and Field Day
Item	7	J-14	Approve SMHS Fundraiser for eSports
Item	7	K-1	Approve Travel Request for 2023 MAFEPD Conference
Item	7	K-2	Approve Travel Request for 2023 ASCA Conference
Item	7	K-3	Approve Travel Request for VHS to Attend CEO Leadership Academy
Item	7	K-4	Approve Travel Request to Attend CTE Counselor Workshop
Item	7	K-5	Approve Travel Request to Attend the 2023 DTC Training
Item	7	K-6	Approve Travel Request for SMMS to Attend OSI Convention SP23
Item	7	K-7	Approve Travel Request for VHS Senior Trip- Amended
Item	7	K-8	Approve Travel Request for SMHS to Attend Civil Rights Museum Workshop
Item	7	K-9	Approve Travel Request for SMMS Teacher to ISTE
Item	7	K-10	Approve Travel Request for VHS Teacher to ISTE
Item	7	K-11	Approve Travel Request for SMHS Teacher to ISTE
Item	7	K-12	Approve Travel Request for ECHS Teacher to ISTE
Item	7	K-13	Approve Travel Request for ECMS Teacher to ISTE

Item	7	K-14	Approve Travel Request for ITC to ISTE
Item	7	K-15	Approve Travel Request for IT Director to CoSN
Item	7	K-16	Approve Travel Request to MAFEPD Conference
Item	7	K-17	Approve Travel Request for Curriculum Director to Attend 2023 DTC Training
Item	7	K-18	Approve Travel Request for VMS to Attend Student Council Conference
Item	7	K-19	Approve Travel Request for SMHS to Attend FBLA
Item	7	K-20	Approve Travel Request for SMHS to Attend FBLA
Item	7	K-21	Approve Travel Request for ECHS/JCTC to Attend MS ACTE Summer Conference
Item	7	K-22	Approve Travel Request for Child Nutrition to Attend Connect 2023 Conference
Item	7	K-23	Approve Travel Request for Superintendent to Attend 51st Annual MSBA Conference
Item	7	K-24	Approve Travel Request for SMHS to Attend HOSA Competition
Item	7	K-25	Approve Travel Request for ECHS to Attend HOSA Conference
Item	7	K-26	Approve Travel Request for SMHS to Attend MS ProStart Competition
Item	7	K-27	Approve Travel Request for SMHS to Attend Scolt Conference
Item	7	K-28	Approve Travel Request for SMHS to Attend Scolt Conference
Item	7	K-29	Approve Travel Request for SMHS to Attend Scolt Conference
Item	7	K-30	Approve Travel Request for SpEd Department to Attend MDE Annual Collaborative Fiscal Conference
Item	7	K-31	Approve SMHS Travel Request for Theatre Conference
Item	7	K-32	Approve Travel Request for VMS Teacher to ISTE Conference
Item	7	K-33	Approve Travel Request for Vancleave Athletics to Attend Mid-South Coaches Clinic
Item	7	K-34	Approve Travel Request for the 2023 Annual Collaborative Fiscal Conference
Item	7	K-35	Approve Travel Request for Child Nutrition to Attend Required MDE Summer Feeding Training
Item	7	K-36	Approve Travel Request for Child Nutrition to Attend School Nutrition Association National Leadership Conference
Item	7	K-37	Approve Travel Request for Curriculum Department to Attend the ISTE Conference

APPROVE AGENDA, Motion was made by Board Member Dobson and Seconded by Board Member Peterson, to approve agenda with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

BOARD MEETING MINUTES OF January 9, 2023, Motion by Board Member Dickerson, Second by Board Member Howell**,** with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Acknowledgements/Announcements –

f.y.i - Superintendent Update

Discuss School Policy Process

Public Comments – none

Discuss November Monthly Financial Reports {MS 37-9-18}

Approve Flood Insurance Policy Renewal Proposal, Motion by Board Member Dobson, Seconded by Board Member Peterson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Transfer of Funds Between Activity Accounts as Listed on Schedule {MS 27-105-367(2)(a)}, Motion by Board Member Howell, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Award Base Bid for East Central Window Upgrades to DNP, Inc in the Amount of $478,300.00, Motion by Board Member Dickerson, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Award Base Bid for East Central Flooring Upgrades to Continental Flooring Company in the Amount of $526,888.00, Motion by Board Member Howell, Seconded by Board Member Peterson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Authorize Submission of Phase 1 Application for US DOE American Made Energy Champion Leading the Advancement of Sustainable Schools (CLASS) Prize ($100,000-Phase 1 Award), Motion by Board Member Dobson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Request to Advertise and Conduct Reverse Auction to Purchase/Install New Intercom Systems, Motion by Board Member Dobson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Open Claim Docket, Motion by Board Member Dobson, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

f.y.i. FY22 Contract Audit Results

MSBA Executive Director, Denotris R. Jackson- Presentation of Guidelines for Superintendent Search

Motion to Amend Agenda Item 7. E.1. to Approve MSBA as Consultant for Superintendent Search, Motion by Board Member Dobson, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Bus Driver Appreciation Resolution, Motion by Board Member Peterson, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve 2023-2024 Administrator Annual Recommendations, Motion by Board Member Howell, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Present Policy GBRC Professional Personnel Work Load

Present Policy AE School Year (Academic Year)

Present 2023-2024 Academic School Year Calendar

Approve FY22 ESSER ARP Homeless 2.0 Funding Application, Motion by Board Member Dobson, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

f.y.i. School Improvement Reports for TSI and ATSI Schools: ECM, SMU, SMM, SMH, VMS

Approve FY23 School Improvement 1003 Funding Application, Motion by Board Member Dickerson, Seconded by Board Member Peterson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye

Board Member Peterson	Aye

f.y.i. Construction Update

f.y.i. January 2023 Average Daily Participation

f.y.i. January 2023 Free and Reduced Percentages

16th SECTION:

f.y.i – 16th Section Past Due Rent

Approve Request to Advertise for Hunting & Fishing 16th Section 16-6S-6W Property, Motion by Board Member Dickerson, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Request for Appraisal on 16-5S-6W State Lease No. 8161 and 16-6S-6W State Lease No. 8162 from Heidelberg & Associates, Motion by Board Member Dickerson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Rescind Cancellation of David Holbert Lease, Motion by Board Member Howell, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Rescind Cancellation of SMO, LLC Lease for Past Due Taxes, Motion by Board Member Dobson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye

Board Member Peterson	Aye

Approve Amendment to Solar Site Evaluation Easement, Motion by Board Member Howell, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Assignment and Assumption of Solar Site Evaluation Easement from Pine Gate Real Estate, LLC to Satellite Solar, LLC, Motion by Board Member Dobson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Assignment of Lease from Gwen Gavin to Vancleave Worship Center Subject to Payment of Past Due Taxes and Rent, Motion by Board Member Peterson, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Assignment of Lease from SMO, LLC to Vancleave Worship Center Subject to Payment of Past Due Taxes and Rent, Motion by Board Member Dobson, Seconded by Board Member Howell, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Rescind Cancellation of Sonnier Custom Cabinets Lease for Past Due Taxes, Motion by Board Member Dickerson, Seconded by Board Member Peterson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye

Board Member Peterson	Aye

Approve ECHS Cheer Facility Usage, Motion by Board Member Dobson, Seconded by Board Member Dickerson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve ECMS Cheer Facility Usage, Motion by Board Member Peterson, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve ECMS Dance Team Facility Usage, Motion by Board Member Dickerson, Seconded by Board Member Dobson, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Consent Agenda, Motion by Board Member Peterson, Seconded by Board Member Dickerson, to approve consent agenda, with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Approve Letter Requesting to Rescind Matching Grant Purchase Order 2330390
Approve Request to Advertise and Accept Sealed Bids for Professional Audit Services for FY23-FY25
Approve Asset Surplus
Approve Prepaid Claim Docket
Approve Payroll Correction in the Amount of $3,736.80
Approve Personnel Changes
Approve VHS Library Discard List
Approve SpEd Contract for Orientation and Mobility Specialist
Approve the District Test Security Addendum

Approve the ASCA School Counseling Consulting Agreement: RAMP up your School Counseling Program Workshop
Approve Change Order Returning the Remaining $10,200.00 to ESSER II from JCTC Project
Approve Bus Turnarounds
Approve VHS Fixed Asset EEF Donations
Approve SMHS Prom Security and Fire Department
Approve ECHS Prom Lease Agreement-Pelican Landing
Approve ECHS Prom DJ Contract-Phillip Drake
Approve MGCCC Dual Credit Agreement for VHS
Approve MGCCC Dual Credit Agreement for SMHS
Approve Use of Facility for SMHS Gym, Band Hall and Cafeteria
Approve SMHS IXL Learning Site License
Approve McGraw Hill Textbook Purchase and Contract Addendum
Approve CDWG Quote and Contract Addendum
Approve PreACT Purchase and Contract Addendum
Approve Matching Grant ECHS Football Foundation-Lockers
Approve Request for Jackson County Board of Supervisors to Donate a Mini Excavator to Jackson County School District
Approve Student Transfers and Releases
Approve ECLE Yearbook Contract
Approve ECUE Yearbook Contract
Approve ECMS Yearbook Contract
Approve ECHS Yearbook Contract
Approve SMUE Fundraiser for Student Rewards
Approve SMUE Fundraiser for Student Incentives
Approve SMHS Fundraiser for HOSA Competition Fees
Approve SMHS Fundraiser for Baseball Diamond Girls
Approve VHS eSports Fundraiser for February 15-19, 2023
Approve SMMS Cheer Fundraiser
Approve ECHS Fundraiser Authorization HOSA Car Wash
Approve ECHS Fundraiser Authorization HOSA Chick-Fil-A Sale
Approve ECHS Fundraiser Authorization Life Skills T-Shirt Sale
Approve ECHS Yearbook Fundraiser Authorization
Approve ECHS Fundraiser Authorization Baseball Chevron your Cause Donation
Approve ECMS Student Council Fundraiser Authorization Form
Approve SMNE Fundraiser for Book Fair and Field Day
Approve SMHS Fundraiser for eSports
Approve Travel Request for 2023 MAFEPD Conference
Approve Travel Request for 2023 ASCA Conference
Approve Travel Request for VHS to Attend CEO Leadership Academy
Approve Travel Request to Attend CTE Counselor Workshop
Approve Travel Request to Attend the 2023 DTC Training
Approve Travel Request for SMMS to Attend OSI Convention SP23
Approve Travel Request for VHS Senior Trip Amended
Approve Travel Request for SMHS to Attend Civil Rights Museum Workshop
Approve Travel Request for SMMS Teacher to ISTE
Approve Travel Request for VHS Teacher to ISTE
Approve Travel Request for SMHS Teacher to ISTE

Approve Travel Request for ECHS Teacher to ISTE
Approve Travel Request for ECHM Teacher to ISTE
Approve Travel Request for ITC to ISTE
Approve Travel Request for IT Director to CoSN
Approve Travel Request to MAFEPD Conference
Approve Travel Request for Curriculum Director to Attend 2023 DTC Training
Approve Travel Request for VMS to Attend Student Council Conference
Approve Travel Request for SMHS to Attend FBLA
Approve Travel Request for SMHS to Attend FBLA
Approve Travel Request for ECHS/JCTC to Attend MS ACTE Summer Conference
Approve Travel Request for Child Nutrition to attend Connect 2023 Conference
Approve Travel Request for Superintendent to Attend 51st Annual MSBA Conference
Approve Travel Request for SMHS to Attend HOSA Competition
Approve Travel Request for ECHS to attend HOSA Conference
Approve Travel Request for SMHS to Attend MS ProStart Competition
Approve Travel Request for SMHS to Attend Scolt Conference
Approve Travel Request for SMHS to Attend Scolt Conference
Approve Travel Request for SMHS to Attend Scolt Conference
Approve Travel Request for SpEd Department to Attend MDE Annual Collaborative Fiscal Conference
Approve SMHS Travel Request for Theatre Conference
Approve Travel Request for VMS Teacher to ISTE Conference
Approve Travel Request for Vancleave Athletics to Attend Mid-South Coaches Clinic
Approve Travel Request for the 2023 Annual Collaborative Fiscal Conference
Approve Travel Request for Child Nutrition to Attend Required MDE Summer Feeding Training
Approve Travel Request for Child Nutrition to Attend School Nutrition Association National Leadership Conference
Approve Travel Request for Curriculum Department to Attend the ISTE Conference

EXECUTIVE SESSION: Motion by Board Member Dobson, Second by Board Member Peterson to go into Executive Session at 7:58 p.m., with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Student Discipline

STUDENT DISCIPLINE CASE 10:22-23: Motion by Board Member Howell, Seconded by Board Member Dobson to approve recommendation of administration, with the following vote taken**.**

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye

Board Member Dickerson	Aye
Board Member Peterson	Aye

STUDENT DISCIPLINE CASE 14:22-23: Motion by Board Member Dickerson, Seconded by Board Member Howell to approve recommendation of administration, with the following vote taken**.**

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

STUDENT DISCIPLINE CASE 15:22-23: Motion by Board Member Dobson, Seconded by Board Member Peterson to approve recommendation of administration, with the following vote taken**.**

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Legal/Personnel Matters

f.y.*i.* - Workers Comp Update

EXECUTIVE SESSION: Motion by Board Member Dickerson, Second by Board Member Peterson, to come out of Executive Session at 10:23 p.m., with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

There being no further business to come before the Board at this time, a motion was made by Board Member Peterson, Seconded by Board Member Dobson to adjourn at 10:23 p.m. with the following vote taken:

Board Member Lee	Aye
Board Member Dobson	Aye
Board Member Howell	Aye
Board Member Dickerson	Aye
Board Member Peterson	Aye

Meeting adjourned 10:23 p.m.

J. Keith Lee, Chairman

Attested by Jory Howell, Board Secretary

NOTICE

RZON- 02-2023-00033

Public notice is hereby given that the Jackson County Planning Commission will hold a public hearing in the regular meeting place of the Board of Supervisors located at 2915 Canty Street, Jackson County Services Complex in the city of Pascagoula, at **9 A.M. on Wednesday, March 15, 2023,** to hear the application of **Greater Gulf Development, LLC** TO REQUEST: a **Zone Change from Highway Commercial District (C-3) to Planned Unit Development District (PUD),** in the **St. Martin (Rose Farm Road)** area, on the following property:

A parcel of land located in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson County, Mississippi. More particularly described as:
Commencing at a point on the present North line fence of the Rose Farm where the West line of Section 7 joins the East line of said Section 12; thence along said fence line, West 478 feet, more or less, to a stake; thence Southward a distance of 1205 feet, more or less to a point on the South line of Interstate 10 Highway and the Point of Beginning; running thence South 00 degrees 13 minutes West 455.2 feet to an iron pipe; running thence North 89 degrees 28 minutes East 1341.5 feet to an iron pipe running thence North 02 degrees 29 minutes West 482.9 feet to the South line of interstate 10 Highway; running thence South 89 degrees 32 minutes West along said South line 637.0 feet; running thence south 81 degrees 17 minutes West along said south line 202.1 feet; running thence South 89 degrees 32 minutes West along said South line 482.1 feet to the Point of Beginning containing 14.37 acres, more or less.
Easement A
A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson County, Mississippi, more particularly described as;, as per this survey by Gene Paul Stenum, dated December 29, 2021, (Survey based on the Mississippi State Plane Coordinate System (East Zone, NAD83) being more particularly described with the following bearings derived by true grid North by G.P.S. observations. Trimble V.R.S. network, NAD 83 (2011) (EPOCH:2010.0000), with a convergence angle of 0'00'05.7412" (determined at Point of Beginning of property) and using grid distances with a combined factor of 0.99995000 (determined at Point of Beginning of property) and described as follows:
Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West subdivision; thence North 89 degrees 30 minutes 38 seconds East 37.32' to an iron rod set at the Point of Beginning of a 25' wide ingress and egress easement described herein; (Mississippi State plane coordinates: North 346405.33 East

258.36' to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 263.30' to to an iron rod set at the end of said easement, containing 0.574 acre. Said property being a portion of the property now or formerly of New York's Biloxi, LLC. Described in Deed Book 1478, Page 70.

Easement B

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson County, Mississippi, more particularly described as: as per this survey by Gene Paul Stenum, dated December 29, 2021, (survey based on the Mississippi State plane coordinate system (East Zone. NAD83) being more particularly described with the following bearings derived by true grid North by G.P.S. observation. Trimble V.R.S. network, and 83(2011)(epoch:2010.0000). With a convergence angle of 0'00'01.7798' (determined at Point of Beginning of property) and using grid distance with a combined factor of 0.99995000 (determined at Point of Beginning of property) and described as follows:

Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West Subdivision; thence North 89 degrees 30 minutes 38 seconds East 37.32' to an iron rod set; thence along the center line of a 25' ingress and egress easement, North 00 degrees 18 minutes 37 seconds West 31.05' to an iron rod set; thence further along said centerline, South 89 degrees 34 minutes 07 seconds West 139.38' to an iron rod set ; thence North 52 degrees 24 minutes 28 seconds West 108.26' to an iron rod set; thence North 87 degrees 24 minutes 38 seconds West 200.41' to an iron rod set; thence North 78 degrees 05 minutes 38 seconds West 258.36'to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 37.32' to an iron rod set at the Point of Beginning of a 25' wide ingress and egress easement described herein: (Mississippi State plane coordinates: North: 346600.60 East: 984557.35) thence along the center line of said 25' ingress and egress easement, North 51 degrees 23 minutes 21 seconds West 337.83' to an iron rod set at the end of said easement, containing 8,446 square feet. Said property being a portion of the property now or formerly of New York's Biloxi, LLC. Described in Deed Book 1478, Page 70.

Easement C

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 south, Range 9 West, Jackson County, Mississippi, more particularly described as; as per this survey by Gene Paul Stenum, dated December 29, 2021, (survey based on the Mississippi State plane coordinate system (East Zone, NAD83) being more particularly described with the following bearings derived by true grid North by G.P.S. observation. Trimble V.R.S. network. NAD83(2011) (EPOCH:2010.0000) with a convergence angle of (-)0'00'01,5854" (determined at Point of Beginning of property) and using grid distance with a combined factor of 0.99995000 (determined at Point of Beginning of property) and described as follows:

Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West Subdivision; thence North 89 degrees 30 minutes 38 seconds East 37.32' to an iron rod set; thence along the center line of a 25' ingress and egress easement North 00 degrees 18 minutes 37 seconds West 31.05' to an iron rod set; thence further

easement, North 51 degrees 23 minutes 21 seconds West 357.54' to a point; thence South 89 degrees 14 minutes 37 seconds West 301.78' to the at the Point of Beginning of a 25' wide ingress and egress easement described herein; (Mississippi State plane coordinates: North: 346819.73 East: 983976.22) thence along said center line of 25' ingress and egress easement North 89 degrees 14 minutes 37 seconds East 443.05 to the end of said easement, containing 11,076 square feet, said property being a portion of the property now or formerly of New York's Biloxi, LLC. Described in Deed Book 1478, Page 70.

Easement D

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson County, Mississippi. More particularly descried as, as per this survey by Gene Paul Stenum, dated December 29, 2021, (survey based on the Mississippi State plane coordinate system (East Zone, NAD83) being more particularly described with the following bearings derived by true grid North by G.P.S. observation, Trimble V.R.S. network NAD83(2011) (EPOCH:2010.0000). With a convergence angle of 0'00'01.2948' (determined at Point of Beginning of property) and using grid distance with a combined factor of 0.9999500 (determined at Point of Beginning of property) and described as follows:

Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West Subdivision: thence North 89 degrees 30 minutes 38 seconds East 37.32' to an iron rod set; thence along the center line of a 25' ingress and egress easement, North 00 degrees 18 minutes 37 seconds West 31.05' to an iron rod set; thence further along said centerline South 89 degrees 34 minutes 07 seconds West 139.38' to an iron rod set; thence North 52 degrees 24 minutes 28 seconds West 108.26' to an iron rod set; thence North 87 degrees 24 minutes 38 seconds West 200.41' to an iron rod set: thence North 78 degrees 05 minutes 38 seconds West 258.36' to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 275.87' to a point; thence South 87 degrees 05 minutes 46 seconds West 46.75' to Point of Beginning of a 25' ingress and egress easement: (Mississippi State plane coordinates: North 346833.88 East: 984473.59) thence along said center line, North 87 degrees 05 minutes 46 seconds East 447.72' to the end of said easement. Containing 11,193 square feet, said property being a portion of the property now or formerly of New York's Biloxi, LLC. Described in Deed Book 1478, Page 70.

Easement E

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson County, Mississippi, more particularly described as; as per this survey by Gene Paul Stenum, dated December 29, 2021, (survey based on the Mississippi State plane coordinate system (East Zone, NAD83) being more particularly described with the following bearings derived by true grid North by G. P. S. observation trimble V.R.S. network NAD 83(2011) (EPOCH:2010.0000). With a convergence angle of 0'00'03.8841" (determined at Point of Beginning of property) and using grid distances with a combined factor of 0.99995000 (determined at Point of Beginning of property) and described as follows:

minutes 38 seconds West 200.41' to an iron rod set; thence North 78 degrees 05 minutes 38 seconds West 258.36' to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 275.87' to a point; thence North 87 degrees 05 minutes 46 seconds East 400.97' to a point; thence 00 degrees 00 minutes 00 seconds East 12.52' to an iron rod set at the Point of Beginning; (Mississippi State plane coordinates: North: 346869.08 East: 984920.74) thence North 90 degrees 00 minutes 00 seconds East 55.00' to an iron rod set; thence South 90 degrees 00 minutes 00 seconds West 55.00' to an iron rod set; thence North 00 degrees 00 minutes 00 seconds East 55.00' to the Point of Beginning, containing 3,025 square feet, said property being a portion of the property now or formerly of New York's Biloxi, LLC, described in Deed Book 1478, Page 70 and having access to a public road through a 25' ingress and egress easement shown and described hereon.

Easement F

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and section 12, Township 7 South, Range 9 West, Jackson County, Mississippi. More particularly described as; as per this survey by Gene Paul Stenum, dated December 29, 2021, (survey based on the Mississippi State planed coordinate system (East Zone, NAD83) being more particularly described with the following bearings derived by true grid North by G. P. S. observation, trimble V.R.S. network, NAD 83(2011) (EPOCH:2010.0000).. with a convergence angle of 0'00'01.2839" (determined at Point of Beginning of property) and using grid distances with a combined factor of 0.99995000 (determined at Point of Beginning of property) and described as follows:

Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West Subdivision; thence North 89 degrees 30 minutes 38 seconds East 37.32' to an iron rod set; thence along the center line of a 25' ingress and egress easement, North 00 degrees 18 minutes 37 seconds West 31.05' to an iron rod set; thence further along said centerline, South 89 degrees 34 minutes 07 seconds West 139.38' to an iron rod set; thence North 52 degrees 24 minutes 28 seconds West 108.26' to an iron rod set; thence North 87 degrees 24 minutes 38 seconds West 200.41' to an iron rod set; thence North 78 degrees 05 minutes 38 seconds West 258.36' to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 275.87' to a point; thence South 87 degrees 05 minutes 46 seconds West 46.75' to a point; thence North 08 degrees 37 minutes 28 seconds West 12.56' to an iron rod set at the Point of Beginning; (Mississippi State plane coordinates: North: 346846.30 East: 984471.71)thence South 08 degrees 37 minutes 28 seconds East 55.00' to an iron rod set; thence South 81 degrees 22 minutes 32 seconds West 55.00' to an iron rod set; thence North 08 degrees 37 minutes 28 seconds West 55.00' to an iron rod set; thence North 81 degrees 22 minutes 32 seconds East 55.00' to the Point of Beginning, containing 3,025 square feet said property being a portion of the property now or formerly of New York's Biloxi, LLC. Described in Deed Book 1478, Page 70 and having access to a public road through a 25' ingress and egress easement shown and described hereon.

Easement G

A parcel of land situated in Section 7, Township 7 South, Range 8 West, and Section 12, Township 7 South, Range 9 West, Jackson

Beginning of property) and using grid distances with a combined factor of 0.99995000 (determined at Point of Beginning of Property) and described as Follows:
Commencing at an iron rod found at the Northeast corner of lot 1, Jackson Place West Subdivision; thence North 89 degrees 30 minutes 38 seconds Ease 37.32' to an iron rod set; thence along the center line of a 25' ingress and egress easement, North 00 degrees 18 minutes 37 seconds West 31.05' to an iron rod set; thence further along said centerline, South 89 degrees 34 minutes 07 seconds West 139.38', to an iron rod set; thence North 52 degrees 24 minutes 28 seconds West 108.26' to an iron rod set; thence North 87 degrees 24 minutes 38 seconds West 200.41' to an iron rod set thence North 78 degrees 05 minutes 38 seconds West 258.36' to an iron rod set; thence North 08 degrees 56 minutes 25 seconds West 37.32' to an iron rod set; thence along the center line of said 25' ingress and egress easement, North 51 degrees 23 minutes 21 seconds West 327.54' to a point; thence South 89 degrees 14 minutes 37 seconds West 301.78' to a point; thence North 00 degrees 00 minutes 00 seconds East 12.50' to an iron rod set at the Point of Beginning; (Mississippi State plane coordinates: North: 346832.23 East: 983976.22) thence South 00 degrees 00 minutes 00 seconds East 55.00' to an iron rod set; thence South 90 degrees 00 minutes 00 seconds West 55.00' to an iron rod set; thence North 90 degrees 00 minutes 00 seconds East 55.00' to an iron rod set; thence North 90 degrees 00 minutes 00 seconds East 55.00' to the Point of Beginning, containing 3,025 square feet; said property being a portion of the property now or formerly of New York's Biloxi, LLC., described in Deed Book 1478, Page 70 and having access to a public road through a 25' ingress and egress easement shown and descried hereon.
Parcel #'s 03007070.050 & 03612402.000

At the aforementioned time and place, all parties in interest shall have an opportunity to be heard.

WITNESS MY HAND, This 22nd day of February, 2023.

Marcus Archer

Interim Planning Director
Jackson County, Mississippi
(228) 769-3406

MISSISSIPPI DEPARTMENT OF EDUCATION

APPLICATION TO PURCHASE NEW SCHOOL BUSES AS COMPLETE UNITS, SCHOOL BUS BODIES, SCHOOL BUS CHASSIS, AND OPTIONAL EQUIPMENT

Name of School District Jackson County	Number to Be Purchased 4		Method of Payment Cash ☒ or Loan* ☐
Type of School Bus A☐ C■ D☐	*If a loan, under what authority or how will the district repay the loan?		
School Bus Chassis			
Year/Make 2024/IC	Wheelbase 276		Model/Series IC
	Tire Size 11R22.5		Front Axle GAWR 10,000
Engine Series/Model Cummins B6.7 220HP	Diesel	■	Rear Axle GAWR 19,800
	Gasoline	☐	Rear Axle Ratio 5.57
	Electric	☐	Auto Transmission Brand Allison
School Bus Body			
Year/Make 2024/IC			Seating Capacity Prior to Installation of Wheelchair Positions 71
Model or Series IC			Seating Capacity After Installation of Wheelchair Positions

Optional Equipment
List all optional equipment listed under the "Optional Equipment" section of the Mississippi Board of Education Approved Price List

Optional Equipment	Price	Optional Equipment	Price
Additional Heater	214.29	White Roof	850
Air Conditioner 48-71 Capacity	9,000	Camera System	INC
Door Lock	400		
Fuel Tank - 100 Gallons	600		
Heat Booster Pump	450		
High Back Driver Seat	100		
Public Address System	500		
Tinted Glazing	950		
Total price of each chassis (if purchased separately), delivered to school district	**Price**	**Total price of each bus body (if purchased separately) delivered to school district**	**Price**
Price of complete bus unit before optional equipment added	**Price** 96,935.71	**Total price of optional equipment**	**Price** 13,064.29

Total price of complete bus including options delivered to school district:
110,000

MISSISSIPPI DEPARTMENT OF EDUCATION

Vendor/Company Completes This Section	
I certify that the equipment meets or exceeds all Mississippi Minimum Standards for School Buses and the Federal Motor Safety Standards for the year it was manufactured.	
Representative Signature Jordan Sumrall	Title Sales
Name of Company Waters Truck and Tractor	Address 96 E Plymouth Rd Columbus MS 39703
Motor Vehicle License Number 242	Date 2/14/2023
School District Completes This Section	
The school board of the _____ School District approved the total price of the complete bus including options from the vendor/company included on this application form and requests approval from the Mississippi Department of Education, Office of Safe and Orderly Schools, Division of Pupil Transportation.	
Date Board Approved (include documentation of approval)	Superintendent's Name (print)
Superintendent's Signature	Date Signed
Mississippi Department of Education/Division of Pupil Transportation Completes This Section	
Pupil Transportation Administrator's Signature and Date	**APPROVED** ☐ **NOT APPROVED** ☐
Based on the information contained within this application, the local school board is authorized to order, take delivery of, and pay for the equipment listed.	
Comments:	

Wright National Flood Insurance Company
A Stock Company
P.O. Box 33003
St. Petersburg, FL 33733-8003
Customer Service: 1-800-820-3242
Claims: 1-800-725-9472

WFL 99.023 1021
0600221
2/16/23

2000 11523 FLD RGLR

Policy Number	Expiration Date	Date of Notice
23 1151215681 08	4/13/23 12:01 a.m. S.T.	2/16/23

Agent (228)863-5362
CADENCE INSURANCE INC
PO BOX 250
GULFPORT MS 39502-0250

JACKSON COUNTY SCHOOL DISTRICT
ATTN LAURA MCCOOL
PO BOX 5069
VANCLEAVE MS 39565-5069

RENEWAL NOTICE

Your flood insurance policy is about to expire.
Confirm coverage selection and renew today.

Payor: Insured
Property Address:
10800 YELLOW JACKET RD,
ST MARTIN MIDDLE SCHOOL
OCEAN SPRINGS, MS 39564-9246

CRS Discount: 10%

NFIP Policy Number 1151215681

Please make your renewal payment on or before the expiration date shown above. Premium payments can be made via either credit card or electronic funds online through the website: http://www.myfloodpayment.com or, if paying by check, see the instructions on the remittance coupon below.

If we receive your payment more than 30 days following the expiration date shown above you will be required to submit a new application for coverage, your coverage may be subject to a 30-day wait, you may become ineligible to receive some premium discounts, and it could prevent you from the ability to file a claim.

Coverage Options	Coverages		Deductibles		Premium
	Building	Contents	Building	Contents	
A: CURRENT COVERAGE	$500,000	$500,000	$1,250	$1,250	$6,394.00
B: INCREASED COVERAGE	N/A	N/A	N/A	N/A	N/A

*See reverse for important billing information

Please **RETURN BOTTOM PORTION** along with your payment to the mailing address below.

Please **WRITE POLICY NUMBER ON CHECK**

And make payable to: **Wright National Flood Insurance Company**

Insured: JACKSON COUNTY SCHOOL DISTRICT
To be paid by: Insured

Renewal Date: 4/13/23

Option A ☐ **$6,394.00**
Option B ☐ **N/A**

PO. Box 33070
St. Petersburg, FL 33733-8070

02000 11523 FLD* RGLR 231151215681 08 00639400 RE 0000000 3

0600221231151215681230 47 0000F

Company

23 1151215681 08 2/16/23

IMPORTANT MESSAGES

1. Flood Insurance is the most important thing you can do to protect against the devastating cost of flooding. You've taken the first step by purchasing a flood insurance policy, but to maintain coverage you must renew your policy each year.

2. Using Certified Mail when sending premium payments has the advantage of limiting lapses in coverage as the certified mail date is used as the premium receipt date to ensure the earliest receipt date possible and also provides a method to track your payment from the post office to the remittance center by going to www.usps.com/shipping/trackandconfirm.htm.

3. If you have already submitted payment, please disregard this notice. If your mortgage lender pays your policy premium from an escrow account or if the mortgagee listed isn't correct, forward this bill to the financial institution. Please also have a change endorsement sent to update the policy.

4. You are encouraged to insure your property for at least 80% of the structure's replacement cost to ensure adequate coverage in the event of a loss. Contact your insurance agent for details.

5. Carefully review the renewal offer being provided for accuracy. The renewal offer will expire 30 days from the effective date shown on this form at 12:01 a.m. Price and terms associated with this renewal offer are subject to underwriting review and may not be available after expiration of this renewal offer. Please refer to the policy for complete terms, conditions, and exclusions. Please refer to www.ambest.com for rating, financial size category and additional information on the company shown on this renewal offer.

6. Our records show you are the building or unit owner at the address listed on the front of this notice. If you are not the owner and are a tenant, please contact your agent to update your policy.

0600221231151215681230 47 0000F

Company

WFL 99.023 1021
0600221
2/16/23

23 1151215681 08

Property Address
10800 YELLOW JACKET RD
ST MARTIN MIDDLE SCHOOL
OCEAN SPRINGS MS 39564-9246

Agent (228)863-5362
CADENCE INSURANCE INC
PO BOX 250
GULFPORT MS 39502-0250

ADDITIONAL COPIES SENT TO THE FOLLOWING:
First Mortgagee
Loan UNKNOWN
FEMA
220 POPPS FERRY RD
BILOXI MS 39531-2351

0600221231151215681230470000F

Company

23 1151215681 08

0600221231151215681230470000F

Company

Wright National Flood Insurance Company
A Stock Company
P.O. Box 33003
St. Petersburg, FL 33733-8003
Customer Service: 1-800-820-3242
Claims: 1-800-725-9472

WFL 99.023 1021
0600221
2/16/23

2000 11523 FLD RGLR

Policy Number	Expiration Date	Date of Notice
23 1151215679 08	4/13/23 12:01 a.m. S.T.	2/16/23

Agent (228)863-5362
CADENCE INSURANCE INC
PO BOX 250
GULFPORT MS 39502-0250

JACKSON COUNTY SCHOOL DISTRICT
ATTN LAURA MCCOOL
PO BOX 5069
VANCLEAVE MS 39565-5069

RENEWAL NOTICE

Your flood insurance policy is about to expire.
Confirm coverage selection and renew today.

Payor: Insured
Property Address:
11000 YELLOW JACKET RD,
ST MARTIN UPPER ELEMENTARY
OCEAN SPRINGS, MS 39564-5871

CRS Discount: 10%

NFIP Policy Number 1151215679

Please make your renewal payment on or before the expiration date shown above. Premium payments can be made via either credit card or electronic funds online through the website: http://www.myfloodpayment.com or, if paying by check, see the instructions on the remittance coupon below.

If we receive your payment more than 30 days following the expiration date shown above you will be required to submit a new application for coverage, your coverage may be subject to a 30-day wait, you may become ineligible to receive some premium discounts, and it could prevent you from the ability to file a claim.

Coverage Options	Coverages		Deductibles		Premium
	Building	Contents	Building	Contents	
A: CURRENT COVERAGE	$500,000	$500,000	$1,250	$1,250	$5,258.00
B: INCREASED COVERAGE	N/A	N/A	N/A	N/A	N/A

*See reverse for important billing information

Please **RETURN BOTTOM PORTION** along with your payment to the mailing address below.

WRIGHT Flood

Please **WRITE POLICY NUMBER ON CHECK**

And make payable to: **Wright National Flood Insurance Company**

Insured: JACKSON COUNTY SCHOOL DISTRICT
To be paid by: Insured

Renewal Date: 4/13/23

Option A ☐ **$5,258.00**
Option B ☐ **N/A**

PO. Box 33070
St. Petersburg, FL 33733-8070

02000 11523 FLD* RGLR 231151215679 08 00525800 RE 0000000 8

06002212311512156792304 7 00006

Company

23 1151215679 08 2/16/23

IMPORTANT MESSAGES

1. Flood Insurance is the most important thing you can do to protect against the devastating cost of flooding. You've taken the first step by purchasing a flood insurance policy, but to maintain coverage you must renew your policy each year.

2. Using Certified Mail when sending premium payments has the advantage of limiting lapses in coverage as the certified mail date is used as the premium receipt date to ensure the earliest receipt date possible and also provides a method to track your payment from the post office to the remittance center by going to www.usps.com/shipping/trackandconfirm.htm.

3. If you have already submitted payment, please disregard this notice. If your mortgage lender pays your policy premium from an escrow account or if the mortgagee listed isn't correct, forward this bill to the financial institution. Please also have a change endorsement sent to update the policy.

4. You are encouraged to insure your property for at least 80% of the structure's replacement cost to ensure adequate coverage in the event of a loss. Contact your insurance agent for details.

5. Carefully review the renewal offer being provided for accuracy. The renewal offer will expire 30 days from the effective date shown on this form at 12:01 a.m. Price and terms associated with this renewal offer are subject to underwriting review and may not be available after expiration of this renewal offer. Please refer to the policy for complete terms, conditions, and exclusions. Please refer to www.ambest.com for rating, financial size category and additional information on the company shown on this renewal offer.

6. Our records show you are the building or unit owner at the address listed on the front of this notice. If you are not the owner and are a tenant, please contact your agent to update your policy.

0600221231151215679230470 00006

WFL 99.023 1021
0600221
2/16/23

23 1151215679 08

Property Address
11000 YELLOW JACKET RD
ST MARTIN UPPER ELEMENTARY
OCEAN SPRINGS MS 39564-5871

Agent (228)863-5362
CADENCE INSURANCE INC
PO BOX 250
GULFPORT MS 39502-0250

ADDITIONAL COPIES SENT TO THE FOLLOWING:
First Mortgagee
Loan UNKNOWN
FEMA
220 POPPS FERRY RD
BILOXI MS 39531-2351

0600221231151215679230470 00006

Company

23 1151215679 08

0600221231151215679230 47 00006

Company

AssetNo	Asset_Description	Manufacturer	ModelNo	SerialNo	AcquistionDate	DisposalReason	LocationName	Comment
60035	CARGO VAN, 1999	FORD	E150	1FTRE1427XHB31285	12/16/2009	JUNKED OR USED FOR PARTS	CENTRAL OFFICE HVAC	junked
14047	COMPUTER, DESKTOP	DELL	OPTIPLEX 790SFF	496BPS1	6/12/2012	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	
14050	COMPUTER, DESKTOP	DELL	OPTIPLEX 790SFF	495HPS1	6/12/2012	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	
14327	COMPUTER, DESKTOP	HOWARD	H61AMKB	2033980614	3/18/2014	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	
14748	COMPUTER DESKTOP	DELL	OPTIPLEX 3020	1LFNK52	11/17/2015	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	
14761	COMPUTER DESKTOP	DELL	OPTIPLEX 3020	GS8DK52	11/17/2015	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	
16369	COMPUTER W MONITOR	DELL	OPTIPLEX 3050	78X0YM2	5/15/2018	JUNKED OR USED FOR PARTS	EAST CENTRAL HIGH SCHOOL	2-13-23 Tommy replaced the hard drive for this newer computer and the computer still did not work properly. He said it needed to be discarded because the motherboard was most likely bad.
7003665	ECLE/Title FY20--LENOVO 14e CHROMEBOOK	LENOVO	14e	1S81MH000BUSMP1LHYXL	3/14/2020	JUNKED OR USED FOR PARTS	EAST CENTRAL LOWER ELEMENTARY	Tech said to discard because it is out of warranty and the screen won't work.
200394	TABLET	DELL	LATITUDE 3180	2DRR5H2	9/11/2017	JUNKED OR USED FOR PARTS	ST. MARTIN EAST ELEMENTARY	No longer able to update.
7001562	LENOVO 100E CHROMEBOOK (2ND GEN), 4GB RAM, WI-FI, BLUETOOTH	LENOVO	1S81QB0000US	P206SPRK	12/10/2019	JUNKED OR USED FOR PARTS	ST. MARTIN NORTH ELEMENTARY	
65729	TABLET	DELL	CHROMEBOOK	1S81ER0002USP2036TEX	12/11/2018	JUNKED OR USED FOR PARTS	ST. MARTIN UPPER ELEMENTARY	
7000125	LENOVOCHROMEBOOKSVLU	LENOVO	81MH000BUS	SMP1LGZR7	8/2/2019	JUNKED OR USED FOR PARTS	VANCLEAVE LOWER ELEMENTARY	
7000857	14e CHROMEBOOK A4 9120C	LENOVO	81MH000BUS	MP1MTD7Z	10/29/2019	JUNKED OR USED FOR PARTS	VANCLEAVE LOWER ELEMENTARY	
33456	PICKUP TRUCK, 1996, 8 CYL	CHEVROLET	GK1	2GCEK19R8T1111248	9/16/2010	JUNKED OR USED FOR PARTS	VANCLEAVE MAINTENANCE	junked
34040	TRIMMER, HEDGE	STIHL	HS56CE	299424522	10/21/2014	JUNKED OR USED FOR PARTS	VANCLEAVE MAINTENANCE	junked
35985	EDGER	STIHL	FS91	509422003	6/30/2017	JUNKED OR USED FOR PARTS	VANCLEAVE MAINTENANCE	junked
59	1993 FORD F150 PICKUP TRUCK	FORD	F150	1FTDF15Y3PLA30543	11/17/1992	JUNKED OR USED FOR PARTS	VANCLEAVE TRANSPORTATION	junked
37924	CAMERAS	SEON	VULCAN V5X3	VH467287	10/18/2018	JUNKED OR USED FOR PARTS	VANCLEAVE TRANSPORTATION	

Current Account	Old Acocunt Name	Balance	Close (Y/N)	If Yes, close into account #	New Account Name
1154-101-0000-000-000-20-0371	VAN ALSTINE SCHOLARHIPS	1,564.30	Y	1154-101-0000-000-000-20-0126	VOLLEYBALL

FY24 BUDGET TIMELINE

Updated March 8, 2023

March 13, 2023 Board Meeting

- FY24 Budget Timeline Draft

April 20, 2023 Board Meeting

- FY24 Updated Combining Budget Preview
- FY24 Updated MAEP Allocation (state)
- FY24 Updated Ad Valorem Revenue Projections (local)

May 8, 2023 Board Meeting

- FY24 Updated Combining Budget Preview
- FY24 Final MAEP Allocation (state)
- FY24 Updated Ad Valorem Revenue Projections (local)
- FY24 Updated Title/IDEA Allocations (federal)
- Approve FY24 Budget Advertisement (see schedule below)

May 17, 2023

- Run 1st advertisement for public hearing and ad valorem tax notice

May 24, 2023

- Run 2nd advertisement for public hearing and ad valorem tax notice

May 31, 2023

- Run 3rd advertisement for public hearing and ad valorem tax notice

Possible May/June 2023 Budget/Capital Work Session

- *Discuss General Fund Revenue/Expenditure/Fund Balance for FY24*
- *Discuss Operating Millage Target for FY24*
- *Discuss Capital Fund Targets and Projects for FY24*

June 12, 2023 Board Meeting

- FY24 Updated Combining Budget Preview
- FY24 Final Federal Programs/IDEA Allocations (federal)

- FY24 Final Ad Valorem Revenue Projections (local)
- Hold Public Budget Hearing

Possible June 30 Special Meeting

- *June 30 claims docket*
- *Approve FY24 Budget*

July 10, 2023

- Approve FY24 Budget
- Approve Resolution to Levy Ad Valorem Taxes for FY24

July 19, 2023

- Run advertisement of FY24 adopted budget

By August 15, 2023

- Provide two copies of budget and Resolution to Chancery Clerk

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Report Date: 3/13/2023 Claim Status: PrePaid

Claim No.: ALL AP Dates: ALL

Claim No.	Claimant Name	Claim Amount	Fund	Description
223507	SINGING RIVER ELECTRIC	$55,558.10	1120	2022-23 ELECTRIC UTILITY
		$914.75	1935	2022-23 ELECTRIC UTILITY
		$2,192.56	2711	2022-23 ELECTRIC UTILITY
223508	RIVER OAKS RESTAURANT-HICKORY	$160.00	1154	VAC- GIRLS GOLF TOURNAMENT
223509	EAST CENTRAL STUDENT ACTIVITY	$180.00	1154	VAC- BOYS GOLF TOURN FEE
223510	MS DEPT OF EDUCATION DECA	$1,205.00	1154	VHS- STATE DECA COMPETITION
223511	HOTEL TUPELO	$3,278.00	1154	VHS- DECA HOTEL- STATE COMP
223512	ANDREW R. WOIDTKE	$1,180.00	1154	VAC- MID- SOUTH FOOTBALL
223513	GLASS, KAREN	$2,792.30	1154	VAC- MS DANCE UNIFORM REFUNDS
223514	GLASS, KAREN	$490.00	1154	VMS- ROBOTIC FEE REFUNDS
223515	SINGING RIVER ELECTRIC	$65,777.91	1120	2022-23 ELECTRIC UTILITY
223516	J & L DESPORTE, LLC	$40,454.54	1120	SMAC-JANITORIAL CONTRACT-FY23
223517	JACKSON COUNTY UTILITY AUTH	$13,120.87	1120	2022-23 WATER AND SEWER
		$92.00	1935	2022-23 WATER AND SEWER
223524	A T & T ONE NET 1001-202-8550	$773.10	1120	2022-23 TELEPHONE SERVICES
223525	A T & T 228-M25-0095-095-0597	$3,465.41	1120	2022-23 TELEPHONE SERVICES
223526	CENTERPOINT ENERGY	$6,535.59	1120	2022-23 NATURAL GAS
		$902.97	2711	2022-23 NATURAL GAS
223527	PELICAN WASTE AND DEBRIS, LLC	$16,069.06	1120	DO-WASTE MANAGEMENT FY-23
		$76.64	1935	DO-WASTE MANAGEMENT FY-23
		$178.83	2711	DO-WASTE MANAGEMENT FY-23
223528	SINGING RIVER ELECTRIC	$117,353.86	1120	2022-23 ELECTRIC UTILITY
		$852.53	1935	2022-23 ELECTRIC UTILITY
		$2,408.04	2711	2022-23 ELECTRIC UTILITY
223529	DON'TUSEHOLIDAY INN EXPRESS &	$973.00	1153	SMHS Hotel State Wrestling
223530	DON'TUSEHOLIDAY INN EXPRESS &	$1,008.00	1153	SMHS Hotel State Wrestling
223531	MS SCHOOLS FOR THE DEAF AND	$150.00	1153	SMHSA Entry fee Wrestling Tour
223532	ST. ANDREW'S EPISCOPAL SCHOOL	$150.00	1153	SMHSA Entry fee Wrestling Tour
223533	DRAGONFLY ATHLETICS, LLC	$4,000.00	1153	SMHS-Officials Pay - DragonFly
223534	MACHADO | PATANO, PLLC	$10,530.00	2594	FP-EII&III-Architect fees
223535	MHSAA, INC.	$330.00	1120	WBA MS Athletic Admin Conf.
223536	U S POST OFFICE	$113.40	1120	BO-POSTAGE
223537	WRIGHT NATIONAL FLOOD	$3,916.00	1120	SMHS-FLOOD INSU. RENEW-GYM, C
223538	PHILLIP DRAKE	$100.00	1152	ECHS Prom DJ

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
223539	ST. ANDREW'S EPISCOPAL SCHOOL	$150.00	1152	ECHS wrestling state tourn.
223540	NASHVILLE MARRIOTT AT VANDERBI	$799.27	2110	CN - HOTEL - MOSAIC CONFERENCE
223541	GULFPORT SCHOOL DISTRICT	$100.00	1152	ECHSA Softball tournament
223542	PRCC SOFTBALL	$170.00	1152	ECHS Softball tournament
223543	SOLIANT HEALTH	$17,760.00	1130	SPED- SLP Contract Service
223544	HAMPTON INN-CLEVELAND, MS	$645.00	1155	JCTC - Ed Rising Hotel Rooms
223545	WEST JACKSON CO. UTIL DIST.	$7,995.93	1120	2022-23 WATER AND SEWER
223546	SEYMOUR, BETH	$750.00	1155	JCTC - Ed Rising Meals
223547	SKILLS USA, INC	$140.00	1155	JCTC--Skills Advisors Membersh
223548	PASS CHRISTIAN PUBLIC SCHOOL	$200.00	1152	ECHS track meet Pirate Relays
223549	TRAVEL TURF, INC	$10,671.00	1153	SMHS - Bal on Culinary comp
223550	UCA UDA VARSITY SPIRIT FASHION	$20,555.74	1153	SMHS - Uniforms
223551	PRO-LOCK	$1,700.00	1120	SMAC-Keypads-SMEE&SMUE
223553	SYCAMORE THERAPY	$3,895.00	2610	SPED- SLP Contract
223554	LRP CONFERENCES, LLC	$1,550.00	2599	SPED/LRP Conference
223555	LRP CONFERENCES, LLC	$1,550.00	2599	SPED/LRP Conference
223556	LRP CONFERENCES, LLC	$1,450.00	2599	SPED/LRP Conference
223557	LRP CONFERENCES, LLC	$1,450.00	2599	SPED/LRP Conference
223558	SOUTHWEST ALABAMA GOLF	$280.00	1152	ECHS Boys golf tournament
223559	MHSAA, INC.	$153.00	1154	VHSA- BBALL POST SEASON SHARE
223560	WAYNE COUNTY SCHOOL DISTRICT	$124.95	1154	VHSA- BKB RD1 PLAYOFF SHARE
223561	MISSISSIPPI WRESTLING	$758.00	1154	VHSA- POST SEASON SHARE
223562	MISSISSIPPI WRESTLING OFFICIAL	$1,645.00	1154	VAC- WRESTLING OFFICIALS
223563	HANCOCK COUNTY SCHOOL DISTRICT	$200.00	1154	VHSA- GIRLS GOLF TOURN FEE
223564	MS SCHOOLS FOR THE DEAF AND	$150.00	1154	VAC- STATE WRESTLING MEET FEE
223565	ST. ANDREW'S EPISCOPAL SCHOOL	$150.00	1154	VAC- STATE IND WRESTLING FEE
223566	THE OAKS HOLDING CO. LLC	$200.00	1154	VAC- BOYS GOLF TOURN FEE
223567	BILOXI HS ATHLETICS	$175.00	1154	VAC- LADY INDIAN GOLF TOURN
223568	MISSISSIPPI SKILLS USA	$840.00	1155	JCTC - SkillsRegistrationSTATE
223569	BILOXI HS ATHLETICS	$200.00	1154	VAC- SOFTBALL TOURN FEE
223570	CITY OF BILOXI	$1,500.00	1153	SMHS - Prom facility
223701	LONG BEACH SCHOOL DISTRICT	$200.00	1152	ECHS track meet Olan Welch
223702	COMFORT INN & SUITES FLOWOOD	$399.96	1152	ECAC wrestling hotel room
223703	COAST GOLF LLC	$175.00	1153	SMHS - Boys Golf Entrance fee
223704	MS WILDLIFE OF FISHERIES &	$240.00	1153	SM/Ath--Archery Reg Fee
223705	CITY OF MOSS POINT	$250.00	1152	ECHS prom venue rental
223706	EAST CENTRAL STUDENT ACTIVITY	$180.00	1153	SMHS - Boys Golf Entrance fee

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
223707	THE OAKS HOLDING CO. LLC	$200.00	1153	SMHS - Entrance fee Golf
223708	WESTIN JACKSON	$842.16	1153	SMHS - Hotel Rooms
223709	ALLEN AUTOMOTIVE INC	$367.70	1153	SMHS - Car rental
223710	SCOLT-SOUTHERN CONFERENCE ON	$350.00	1153	SMHS - Registration fee SCOLT
223711	KALEIDOSCOPE ADVENTURES, INC	$6,504.00	1153	SMHS - Theatre Disney trip
223712	PASCAGOULA - GAUTIER SCHOOLS	$200.00	1154	VAC- TRACK MEET FEE
223716	JC BOARD OF SUPERVISORS	$1,575.00	1154	VAC- SUPPLEMENTAL SECURITY-JAN
223717	GULFPORT SCHOOL DISTRICT	$175.00	1152	ECHS 5A south state powerlift
223740	BILOXI HS ATHLETICS	$175.00	1153	SMHS - Entrance fee Golf
223741	KTRG LLC. - DBA RIB CRIB BAR	$233.31	1154	VUE- GIFTED FIELD TRIP MEALS
223759	HOME 2 SUITES BY HILTON	$98.00	2110	CN - MDE SFSP TRAINING HOTEL
223760	U S POST OFFICE	$252.00	1120	ECAC PO box rental large box
223761	HARRISON COUNTY SCHOOL DIST	$200.00	1154	VAC- TRACK MEET FEE
223762	EAST CENTRAL STUDENT ACTIVITY	$80.00	1154	VAC- GIRLS GOLF TOURNAMENT FEE
223763	GULFPORT SCHOOL DISTRICT	$600.00	1154	VAC- SOUTH STATE POWERLIFT
223764	BILOXI HS ATHLETICS	$175.00	1154	VAC- GOLF TOURN FEE
223765	ST MARTIN ACTIVITY FUND	$120.00	1154	VAC- GIRLS GOLF TOURN FEE
223766	SHRIJI PEARL LLC	$952.00	1154	VAC- HOTEL @ MOCK TRIAL STATE
223767	BARNES, LAURA	$910.00	1154	VAC- MEALS @ STATE MOCK TRIAL
223777	INDIGO HOTEL HATTIESBURG HOSPI	$149.00	1120	VHS - Hotel for CEO Leadership
223778	TRUSTMARK PARK HOTEL, LLC	$2,142.00	1155	JCTC - Hotel for Skills
223779	U S POST OFFICE	$96.00	1120	ECU-postcard stamps
223781	GULFPORT SCHOOL DISTRICT	$100.00	1152	ECHS Gaston Hewes Relays
223782	HANCOCK COUNTY SCHOOL DISTRICT	$200.00	1153	SMHS - Entrance fee
224169	MOBILE COUNTY PUBLIC SCHOOL SY	$920.00	1152	ECMS 8th grade field trip
224171	GULFPORT SCHOOL DISTRICT	$175.00	1152	ECHS 5A south state powerlift
224172	DRAGONFLY ATHLETICS, LLC	$5,000.00	1154	VAC- FUNDING DRAGONFLY- SPRING
224173	WEST, WARREN	$150.00	1154	VAC- GIRLS POWERLIFT MEALS
224175	TRUSSELL, JOSHUA	$100.00	1154	VAC- BOYS POWERLIFT MEALS
224176	TAYLOR RITCHERY SCOTT	$150.00	1154	VAC-TAYLOR RITCHEY Dance Judge
224177	NICHOLAS WALLACE RUSHING	$200.00	1153	SM/A-Cheer/Dance Judge tryouts
224178	MICAH BROOME	$200.00	1153	SM/A-Cheer/Dance Judge tryouts
224180	HARRISON COUNTY SCHOOL DIST	$100.00	1153	SMHS Track meet
224181	GULFPORT SCHOOL DISTRICT	$225.00	1153	SMAC Entry 6A S Boys Powerlift
224182	CATHERINE TAYLOR	$200.00	1153	SM/A-Cheer/Dance Judge tryouts
224184	ASHLEY L FAGGARD	$200.00	1153	SM/A-Cheer/Dance Judge tryouts
224185	LONG BEACH SCHOOL DISTRICT	$200.00	1153	SM/A-Long Beach Track Meet Fee

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224186	DRAGONFLY ATHLETICS, LLC	$4,000.00	1153	SM/A-Officials Pay - DragonFly
224188	HARRISON COUNTY SCHOOL DIST	$331.28	1153	SM/A-Dist. BB Tour. Rev. Share
224190	MHSAA, INC.	$1,148.40	1153	SM/A-Dist. BB Tour. Rev. Share
224192	OCEAN SPRINGS SCHOOL DISTRICT	$300.44	1153	SM/A-Dist. BB Tour. Rev. Share
224193	PASCAGOULA - GAUTIER SCHOOLS	$306.14	1153	SM/A-Dist. BB Tour. Rev. Share
	Docket Total:	**$467,237.74**		

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.: ALL AP Dates: ALL

Claim Status: PrePaid

Total Expenditures By Fund

Fund	Description	Claim Amount
1120	DISTRICT MAINTENANCE	$333,660.77
1130	SPECIAL EDUCATION	$17,760.00
1152	EAST CENTRAL ACTIVITY	$3,219.96
1153	ST MARTIN ACTIVITY	$55,652.86
1154	VANCLEAVE ACTIVITY	$23,486.56
1155	JCTC ACTIVITY	$4,517.00
1935	FAB LAB JACKSON COUNTY	$1,935.92
2110	SCHOOL FOOD SERVICE	$897.27
2594	ESSER II	$10,530.00
2599	IDEA B (ARP)	$6,000.00
2610	IDEA PART B	$3,895.00
2711	VOCATIONAL EDUCATION	$5,682.40
	Total for Funds:	**$467,237.74**

Total Expenditures By Unit

Unit	Description	Claim Amount
	Total for Units:	

APPROVED THIS THE _____ DAY OF _____ , _____

_____ PRESIDENT

_____ SECRETARY

_____ _____ _____

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF MISSISSIPPI **MDEQ AGREEMENT NO. 23-00110**
COUNTY OF HINDS

MEMORANDUM OF AGREEMENT
SUBGRANT FOR THE
MISSISSIPPI DIESEL EMISSIONS REDUCTION PROGRAM

This document reflects a Memorandum of Agreement ("MOA") between the **Mississippi Department of Environmental Quality** (herein referred to as "MDEQ") and the **Jackson County School District**, Unique Entity Identifier Number NYAJV67R8VZ6, (herein referred to as "SUB-GRANTEE," and together with MDEQ the "Parties" and each a "Party") to provide grant funds for the Work specified in paragraph 3, Statement of Work.

1. Purpose

The purpose of this MOA is to reduce diesel emissions in Mississippi through the implementation of approved projects selected from the Mississippi Diesel School Bus Replacement Program.

2. Source of Funds

The grant funds, issued in the form of a rebate, provided by this MOA are provided through the U.S. Environmental Protection Agency ("EPA"), State Clean Diesel Grant Program pursuant to Federal Award #DS-02D11021-1, CFDA 66.040, State Clean Diesel Grant Program (B), (hereinafter referenced as "Federal Award"), awarded on September 15, 2021, (Budget Period of October 1, 2021 – September 30, 2022) and amended on November 8, 2022, (Budget Period October 1, 2021 – September 30, 2023). This Federal Award is fully incorporated by reference into this MOA as Attachment "A", and is an integral part of this MOA.

3. Statement of Work

A. Services:

For the consideration referred to in paragraph 5, Consideration and Payment, the SUB-GRANTEE shall perform the tasks as described in 3.B. Tasks.

B. Tasks:

1) The SUB-GRANTEE shall purchase and hold the title to one (1) new school bus for an early replacement of the following International School Bus.

    a) 2000 International School Bus VIN 1HVBBABM6YH295668

2) The SUB-GRANTEE shall make the 2000 International School Bus inoperable by drilling a three-inch by three-inch hole into the engine block and cutting the frame rails on the chassis.

4. Period of Performance

The period of performance for this MOA shall commence upon execution by the Executive Director of MDEQ and end no later than **September 30, 2023**.

5. Consideration and Payment

A. Consideration:

As consideration for the performance of this MOA, MDEQ agrees to pay the SUB-GRANTEE a maximum total not to exceed **$23,093.00.**

MDEQ shall pay 25% of the purchase price of the school bus, up to $23,093.00, and the SUB-GRANTEE shall pay at least 75% of the purchase price of the school bus.

B. Invoices:

i. The SUB-GRANTEE shall submit invoices supported by documentation of costs of work performed as required by MDEQ. The invoices shall include supporting documentation of costs incurred. MDEQ may request additional documentation if necessary for review of invoices.

ii. All invoices for time periods ending June 30 of any year through the course of this MOA shall be submitted separately and no later than July 31 of that same year. Final invoice(s) shall be submitted to MDEQ no later than thirty (30) days after the end date of this MOA.

iii. Invoices should be emailed to invoices@mdeq.ms.gov **or** mailed to:

MDEQ
Attention: Invoices
P.O. Box 2369
Jackson, MS 39225-2369

C. Payment:

Subject to available funding, as set forth in the EPA General Terms and Conditions and all other terms and conditions of this MOA, MDEQ shall pay all properly invoiced amounts due to the SUB-GRANTEE within forty-five (45) days after MDEQ's receipt of such invoice, except for any amounts disputed by MDEQ in good faith. Legislative approval may be required where MDEQ receives any claim for payment from the SUB-GRANTEE that includes work performed outside a one-year period from receipt of such invoice.

i. *Request for Payment.* The SUB-GRANTEE shall request payment of funds on a reimbursement basis (such requests, "Reimbursement Requests"), unless otherwise directed by MDEQ. The SUB-GRANTEE shall make Reimbursement Requests in accordance with the following procedures and subject to the following terms and conditions:

1. The SUB-GRANTEE may make Reimbursement Requests during the Period of Performance of this MOA.

2. The SUB-GRANTEE shall only request payment under this MOA for the costs necessary to complete the Statement of Work specifically stated and required under this MOA;

3. Any funds that are paid by MDEQ to the SUB-GRANTEE that are deemed ineligible or not necessary for the completion of the Work in this MOA must be returned to MDEQ within 30 days from receiving MDEQ's written notification for return of funds.

4. The SUB-GRANTEE understands that no payment, including final payment, shall be interpreted as acceptance of defective and incomplete Work, and the SUB-GRANTEE shall remain responsible for performance in strict compliance with this MOA. If MDEQ rejects, condemns or fails to approve any part of the Statement of Work, it may terminate this MOA as permitted in paragraphs entitled Termination for Convenience, Termination for Default or Termination Upon Bankruptcy.

5. MDEQ reserves the right to refuse to pay all or any part of the funds requested in a Reimbursement Request if, at the time the request is submitted, the SUB-GRANTEE has failed to comply with any term or condition of this MOA or has otherwise failed to perform the Work to date in accordance with the Statement of Work.

ii. *Indirect Cost Rate*. The SUB-GRANTEE does not have a federally negotiated indirect cost rate agreement, at the time of this Agreement.

6. Terms and Conditions

This MOA and the SUB-GRANTEE are subject to the terms and conditions of the EPA General Terms and Conditions, a copy of which is attached hereto as Attachment "B" and fully incorporated herein by reference, all applicable terms and conditions in 2 C.F.R. Part 200 of the Office of Management and Budget ("OMB") Uniform Guidance for Grants and Cooperative Agreements, including Appendix II to Part 200, and all other OMB circulars, executive orders or other federal laws or regulations applicable to the services provided under this MOA. For purposes of determining applicable terms and conditions, the payment provided to the Sub-Grantee is a rebate and is classified as a participant support cost, as provided in 2 C.F.R 1500.1(a). All of the applicable terms and conditions apply to the SUB-GRANTEE and its Contractors.

7. Final Payment and Reports

When the SUB-GRANTEE has performed all the Work, the SUB-GRANTEE shall transmit to their MDEQ Program Manager, a comprehensive report on the Work, along with the corresponding results (the "Final Project Report"). As appropriate, the Final Project Report should include copies of any publications, press releases, and other documents, materials, and products developed as part of the Project, including, without limitation, photographs, video footage, and other electronic representations of the Project and Work. The Final Report shall be provided by the SUB-GRANTEE to their MDEQ Program Manager within thirty (30) days of Project completion.

Upon satisfactory completion of the work performed under this MOA, as a condition before final payment under this MOA or as a termination settlement under this MOA, the SUB-GRANTEE shall execute and deliver to MDEQ a release of all claims, Attachment "C", against MDEQ arising under, or by virtue of, this MOA, except claims which are specifically exempted by the SUB-GRANTEE to be set forth therein. Unless otherwise provided in the MOA, by state law or otherwise expressly agreed to by the parties in this MOA, final payment under this MOA or settlement upon termination of this MOA shall not constitute waiver of MDEQ's claims against the SUB-GRANTEE or its sureties under this MOA or applicable performance and payment bonds.

8. Final Management and Compliance

MDEQ requires that the SUB-GRANTEE have in place, prior to the receipt of funds, a financial management system that will be able to isolate and trace every dollar funded under this MOA from receipt to expenditure and have on file appropriate support documentation for each transaction. Examples of documentation are copies of checks paid to vendors, vendor invoices, bills of lading, purchase vouchers, payrolls, bank statements and reconciliations, and real property and easement appraisals. Prior to the submittal of any such documentation to MDEQ, the SUB-GRANTEE shall redact, in accordance with 2. C.F.R. § 200.82, all information reflecting an individual's first name or first initial and last name in combination with any one or more of types of information, including, but not limited to, social security number, passport number, credit card numbers, clearances, bank numbers, biometrics, date and place of birth, mother's maiden name, criminal, medical and financial records, educational transcripts. This does not include Personally Identifiable Information (PII) that is required by law to be disclosed. (See also §200.79 PII). The SUB-GRANTEE and any Contracted Parties (as such term is defined in Article 21) are limited to the travel rates of the State of Mississippi, including dining and hotels, in place at the time of the expenditure for which reimbursement is sought; and the SUB-GRANTEE shall audit any such invoice for same, clearly indicating the actual expense and the adjustment, if any.

The SUB-GRANTEE has been determined to be at a low risk of noncompliance as stated in Attachment "D", a copy of which is attached hereto and incorporated herein in its entirety. The SUB-GRANTEE agrees to submit to and cooperate with MDEQ in any risk assessment evaluation and periodic audit procedures to ensure adequate financial management of all funds.

9. Employment Status

The SUB-GRANTEE shall, during the entire term of this MOA, be construed to be an independent the SUB-GRANTEE. Nothing in this MOA is intended to nor shall be construed to create an employer-employee relationship, or a joint venture relationship.

The SUB-GRANTEE represents that it is qualified to perform the duties to be performed under this MOA and that it has, or will secure, if needed, at its own expense, applicable personnel who are qualified to perform the duties required under this MOA. Such personnel shall not be deemed in any way, directly or indirectly, expressly or by implication, to be employees of MDEQ.

Any person assigned by the SUB-GRANTEE to perform the services hereunder shall be the employee of the SUB-GRANTEE, who shall have the sole right to hire and discharge its employee. If the SUB-GRANTEE is notified within the first eight (8) hours of assignment that the person is unsatisfactory, the SUB-GRANTEE will not charge MDEQ for those hours.

The SUB-GRANTEE shall pay when due, all salaries and wages of its employees and it accepts exclusive responsibility for the payment of federal income tax, state income tax, social security, unemployment compensation and any other withholdings that may be required.

It is further understood that the consideration expressed herein constitutes full and complete compensation for all services and performances hereunder, and that any sum due and payable to the SUB-GRANTEE shall be paid as a gross sum with no withholdings or deductions being made by MDEQ for any purpose from said MOA sum except as permitted in paragraphs, entitled Termination for Convenience, Termination for Default or Termination Upon Bankruptcy.

10. Applicable Law

The MOA shall be governed by and construed in accordance with the laws of the State of Mississippi, excluding its conflicts of laws provisions, and any litigation with respect thereto shall be brought in the courts of the State. The SUB-GRANTEE shall comply with applicable federal, state, and local laws and regulations.

11. Availability of Funds

It is expressly understood and agreed that the obligation of MDEQ to proceed under this MOA is conditioned upon the appropriation of funds by the Mississippi State Legislature and the receipt of state and/or federal funds. If the funds anticipated for the continuing fulfillment of the MOA are, at any time, not forthcoming or insufficient, either through the failure of the federal government to provide funds or of the State of Mississippi to appropriate funds or the discontinuance or material alteration of the program under which funds were provided or if funds are not otherwise available to MDEQ, MDEQ shall have the right upon ten (10) working days written notice to the SUB-GRANTEE, to terminate this MOA without damage, penalty, cost or expenses to MDEQ of any kind whatsoever. The effective date of termination shall be as specified in the notice of termination.

12. Representation Regarding Contingent Fees

The SUB-GRANTEE represents that it has not retained a person to solicit or secure a state MOA upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except as disclosed in the SUB-GRANTEE's bid or proposal.

13. Representation Regarding Gratuities

The SUB-GRANTEE represents that it has not violated, is not violating, and promises that it will not violate the prohibition against gratuities set forth in Section 6-204 (Gratuities) of the Mississippi Public Procurement Review Board Office of Personal Service Contract Review Rules and Regulations.

14. Trade Secrets, Commercial and Financial Information

It is expressly understood that Mississippi law requires that the provisions of this MOA which contain the commodities purchased or the personal or professional services provided, the price to be paid, and the term of the MOA shall not be deemed to be a trade secret or confidential commercial or financial information and shall be available for examination, copying, or reproduction.

15. Compliance with Laws

The SUB-GRANTEE understands that MDEQ is an equal opportunity employer and therefore, maintains a policy, which prohibits unlawful discrimination based on race, color, creed, sex, age, national origin, physical handicap, disability, genetic information, or any other consideration made unlawful by federal, state, or local laws. All such discrimination is unlawful and the SUB-GRANTEE agrees during the term of the MOA that the SUB-GRANTEE will strictly adhere to this policy in its employment practices and provision of services. The SUB-GRANTEE shall comply with, and all activities under this MOA shall be subject to, all applicable federal, State of Mississippi, and local laws and regulations, as now existing and as may be amended or modified.

16. Stop Work Order

A. Order to Stop Work. MDEQ, may, by written order to the SUB-GRANTEE at any time, and without notice to any surety, require the SUB-GRANTEE to stop all or any part of the work called for by this MOA. This order shall be for a specified period not exceeding ninety (90) days after the order is delivered to the SUB-GRANTEE, unless the parties agree to any further period. Any such order shall be identified specifically as a stop work order issued pursuant to this clause. Upon receipt of such an order, the SUB-GRANTEE shall forthwith comply with its terms and take all reasonable steps to minimize the occurrence of costs allocable to the work covered by the order during the period of work stoppage. Before the stop work order expires, or within any further period to which the parties shall have agreed, MDEQ shall either:

   1) Cancel the stop work order; or

   2) Terminate the work covered by such order as provided in the Termination Clauses of this MOA.

B. Cancellation or Expiration of the Order. If a stop work order issued under this clause is canceled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the SUB-GRANTEE shall have the right to resume work. An appropriate adjustment shall be made in the delivery schedule or service price, or both, and the MOA shall be modified in writing accordingly, if:

   1) the stop work order results in an increase in the time required for, or in the SUB-GRANTEE's cost properly allocable to, the performance of any part of this MOA; and

   2) the SUB-GRANTEE asserts a claim for such an adjustment within thirty (30) days after the end of the work period of work stoppage; provide that, if MDEQ decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this MOA.

C. Termination of Stopped Work. If a stop work order is not canceled and the work covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop work order shall be allowed by adjustment or otherwise.

17. E-Payment

The SUB-GRANTEE agrees to accept all payments in United States currency via the State of Mississippi's electronic payment and remittance vehicle. MDEQ agrees to make payment in accordance with Mississippi law on "Timely Payments for Purchases by Public Bodies," which generally provides for payment of undisputed amounts by MDEQ within forty-five (45) days of receipt of invoice. Mississippi Code Annotated § 31-7-301 *et seq*.

18. E-Verification

If applicable, the SUB-GRANTEE represents and certifies that it will ensure its compliance with the Mississippi Employment Protection Act of 2008, and will register and participate in the status verification system for all newly hired employees. Mississippi Code Annotated §§ 71-11-1 *et seq*. The term "employee" as used herein means any person that is hired to perform work within the State of Mississippi. As used herein, "status verification system" means the Illegal Immigration Reform and Immigration Responsibility Act of 1996 that is operated by the United States Department of Homeland Security, also known as the E-Verify Program, or any other successor electronic verification system replacing the E-Verify Program. The SUB-GRANTEE agrees to maintain records of such compliance. Upon request of the State and after approval of the Social Security Administration or Department of Homeland Security when required, SUB-GRANTEE agrees to provide a copy of each such verification. SUB-GRANTEE further represents and certifies that any person assigned to perform services hereafter meets the employment eligibility requirements of all immigration laws. The breach of this MOA may subject the SUB-GRANTEE to the following:

A. Termination of this MOA for services and ineligibility for any state or public contract in Mississippi for up to three (3) years with notice of such cancellation/termination being made public;

B. The loss of any license, permit, certification or other document granted to the SUB-GRANTEE by an agency, department or governmental entity for the right to do business in Mississippi for up to one (1) year; or,

C. Both. In the event of such cancellation/termination, the SUB-GRANTEE would also be liable for any additional costs incurred by the State due to Contract cancellation or loss of license or permit to do business in the State.

19. Transparency

This MOA, including any accompanying exhibits, attachments, and appendices, is subject to the "Mississippi Public Records Act of 1983" and its exceptions. See Mississippi Code Annotated §§ 25-61-1 *et seq.* and Mississippi Code Annotated § 79-23-1. In addition, this MOA is subject to the provisions of the Mississippi Accountability and Transparency Act of 2008. Mississippi Code Annotated §§ 27-104-151, *et seq*. Unless exempted from

disclosure due to a court-issued protective order, a copy of this executed MOA is required to be posted to the Mississippi Department of Finance and Administration's independent agency Contract website for public access at http://www.transparency.mississippi.gov. Information identified by the SUB-GRANTEE as trade secrets or other proprietary information, including confidential vendor information, or any other information which is required confidential by state or federal law or outside the applicable freedom of information statutes will be redacted. The personal or professional services to be provided, the price to be paid, and the terms of this MOA shall not be deemed to be a trade secret or confidential commercial or financial information.

20. Paymode

Payments by state agencies using the electronic payment system shall be made and remittance information provided electronically as directed by the State. These payments shall be deposited into the bank account of the SUB-GRANTEE's choice. The State, may at its sole discretion, require the SUB-GRANTEE to electronically submit invoices and supporting documentation at any time during the term of this MOA. The SUB-GRANTEE understands and agrees that the State is exempt from the payment of taxes. All payments shall be in United States currency.

21. Termination for Convenience

A. *Termination*. MDEQ's Executive Director or designee may, when the interests of the State so require, terminate this MOA in whole or in part, for the convenience of the State. MDEQ's Executive Director or designee shall give written notice of the termination to the SUB-GRANTEE specifying the part of the MOA terminated and when termination becomes effective.

B. *SUB-GRANTEE's Obligations*. The SUB-GRANTEE shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the SUB-GRANTEE will stop work to the extent specified. The SUB-GRANTEE shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The SUB-GRANTEE shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. MDEQ's Executive Director or designee may direct the SUB-GRANTEE to assign the SUB-GRANTEE's right, title, and interest under terminated orders or subcontracts to the State. The SUB-GRANTEE must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.

22. Termination for Default

A. *Default*. If the SUB-GRANTEE refuses or fails to perform any of the provisions of this MOA with such diligence as will ensure its completion within the time specified in this MOA or any extension thereof, or otherwise fails to timely satisfy the MOA provisions, or commits any other substantial breach of this MOA, MDEQ's Executive Director or designee may notify the SUB-GRANTEE in writing of the delay or nonperformance and if not cured in ten (10) days or any longer time specified in writing by MDEQ's Executive Director or designee, such officer may terminate the

SUB-GRANTEE's right to proceed with the MOA or such part of the MOA as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part, MDEQ's Executive Director or designee may procure similar supplies or services in a manner and upon terms deemed appropriate by MDEQ's Executive Director or designee. The SUB-GRANTEE shall continue performance of the MOA to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services.

B. *SUB-GRANTEE's Duties***.** Notwithstanding termination of the MOA and subject to any directions from the procurement officer, the SUB-GRANTEE shall take timely, reasonable, and necessary action to protect and preserve property in the possession of the SUB-GRANTEE in which the State has an interest.

C. *Compensation*. Payment for completed services delivered and accepted by the State shall be at the MOA price. The State may withhold from amounts due to the SUB-GRANTEE such sums as MDEQ's Executive Director or designee deems to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders and to reimburse the State for the excess costs incurred in procuring similar goods and services.

D. *Excuse for Nonperformance or Delayed Performance*. Except with respect to defaults of subcontractors, the SUB-GRANTEE shall not be in default by reason of any failure in performance of this MOA in accordance with its terms (including any failure by the SUB-GRANTEE to make progress in the prosecution of the work hereunder which endangers such performance) if SUB-GRANTEE has notified MDEQ's Executive Director or designee within 15 days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of the public enemy; acts of the State and any other governmental entity in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the SUB-GRANTEE shall not be deemed to be in default, unless the services to be furnished by the subcontractor were reasonably obtainable from other sources in sufficient time to permit SUB-GRANTEE to meet the MOA requirements. Upon request of the SUB-GRANTEE, MDEQ's Executive Director or designee shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the SUB-GRANTEE's progress and performance would have met the terms of the MOA, the delivery schedule shall be revised accordingly, subject to the rights of the State under the clause entitled "Termination for Convenience." (As used in this Paragraph of this clause, the term "subcontractor" means subcontractor at any tier).

E. *Erroneous Termination for Default*. If, after notice of termination of the SUB-GRANTEE's right to proceed under the provisions of this clause, it is determined for any reason that the MOA was not in default under the provisions of this clause, or that the delay was excusable under the provisions of Paragraph (4) (Excuse for Nonperformance or Delayed Performance) of this clause, the rights and obligations of the parties shall, if the MOA contains a clause providing for termination for convenience of the State, be the same as if the notice of termination had been issued pursuant to such clause.

F. *Additional Rights and Remedies*. The rights and remedies provided in this clause are in addition to any other rights and remedies provided by law or under this MOA.

23. Termination Upon Bankruptcy

This MOA may be terminated in whole or in part by MDEQ upon written notice to The SUB-GRANTEE, if the SUB-GRANTEE should become the subject of bankruptcy or receivership proceedings, whether voluntary or involuntary, or upon the execution by the SUB-GRANTEE of an assignment for the benefit of its creditors. In the event of such termination, the SUB-GRANTEE shall be entitled to recover just and equitable compensation for satisfactory work performed under this MOA, but in no case shall said compensation exceed the total MOA price.

24. Counterparts

This MOA may be executed in counterparts, each of which shall be deemed an original but all of which together shall be deemed to be one and the same agreement. A signed copy of this MOA delivered by facsimile, e-mail or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this MOA.

25. Ownership of Documents and Work Products

MDEQ shall own all documents, files, reports, work papers and working documentation, electronic or otherwise, created in connection with this MOA, except for the SUB-GRANTEE's internal administrative and quality assurance files and internal documents. The SUB-GRANTEE shall deliver such documents and work papers to MDEQ upon termination or completion of this MOA. The foregoing notwithstanding, the SUB-GRANTEE shall be entitled to retain a set of such work papers for its files. The SUB-GRANTEE shall be entitled to use such work papers only after receiving written permission from MDEQ and subject to any copyright protections.

26. Record Retention and Access to Records

The SUB-GRANTEE shall maintain and make available to MDEQ, any financial records, supporting documents, statistical records and all other records pertinent to the services performed under this MOA. These records shall be maintained for at least three (3) years; however, if any litigation or other legal action, by or on behalf of MDEQ has begun that is not completed at the end of the three (3) year period, or if audit findings, litigation or other legal action has not been resolved at the end of the three (3) year period, the records shall be retained until resolution.

27. Modification or Amendment

Modification, changes or amendments to this MOA may be made upon mutual agreement of the parties hereto. However, any change, supplement, modification or amendment of any term, provision or condition of this MOA must be in writing and signed by both parties hereto and executed prior to the expiration of this MOA.

28. Assignment

The SUB-GRANTEE shall not assign or otherwise transfer the obligation incurred on its part pursuant to the terms of this MOA without the prior written consent of MDEQ. Any attempted assignment or transfer of its obligations without such consent shall be null and void. All obligations and duties of either party under this MOA shall be binding on all successors in interest or assigns of such party.

29. Waiver

MDEQ may waive any provision, in whole or in part, of this MOA not otherwise required by law. Failure by MDEQ, at any time, to enforce the provisions of the MOA shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the MOA or any part thereof or the right of MDEQ to enforce any provision at any time in accordance with its terms.

30. Governing Law

This MOA shall be construed and governed in accordance with the laws of the State of Mississippi and venue for the resolution of any dispute shall be Jackson, Hinds County, Mississippi. The SUB-GRANTEE expressly agrees that under no circumstances shall MDEQ be obligated to pay an attorney's fee or the cost of legal action to the SUB-GRANTEE.

31. Severability

If any term or provision of this MOA is prohibited by the laws of the State of Mississippi or declared invalid or void by a court of competent jurisdiction, the remainder of the MOA shall be valid and enforceable to the fullest extent permitted by law.

32. Disputes

Before pleading to any judicial system at any level, the SUB-GRANTEE must exhaust all administrative remedies. A written complaint must first be sent to the Executive Director of MDEQ. The decision of the Executive Director shall be reduced to writing and a copy thereof mailed or furnished to the SUB-GRANTEE. Pending non-resolution of the complaint at this point, successive administrative remedies will include bringing the complaint before the Mississippi Commission on Environmental Quality pursuant to Mississippi Code Annotated Section 49-17-35 (Rev. 2012), with appeals from the Commission's decision following procedures as outlined in Mississippi Code Annotated Section 49-17-41 (Rev. 2012).

33. Conflict of Interest

The SUB-GRANTEE shall immediately notify MDEQ in writing of any potential conflict of interest resulting from the representation of or service to other clients. If such conflict cannot be resolved to MDEQ's satisfaction, MDEQ reserves the right to terminate this MOA per the paragraphs entitled Termination for Convenience, Termination for Default or Termination Upon Bankruptcy.

34. Insurance

The SUB-GRANTEE shall maintain during the Period of Performance of this Agreement the following liability insurance coverage, and shall require its Contractors to maintain said coverage, related to the work of the SUB-GRANTEE and in connection with this Agreement.

A. Workers' Compensation and Employer's Liability Insurance. This insurance shall protect the SUB-GRANTEE against all claims under applicable State workers' compensation laws. The SUB-GRANTEE shall also be protected against claims for injury, disease, or death of employees, which for any reason, may not fall within the provisions of a workers' compensation law. The liability limits shall not be less than the required statutory limits for workers' compensation and employer's liability limits in the amount of One Million and 00/100 Dollars ($1,000,000.00). The SUB-GRANTEE shall supply MDEQ endorsements from its carriers evidencing waiver of subrogation in favor of MDEQ.

35. Indemnification

The SUB-GRANTEE agrees to maintain responsibility for the Project and agrees to provide proper operation and maintenance of all facilities for the life of the Project. The SUB-GRANTEE's tort liability, as an entity of the State of Mississippi, is determined and controlled in accordance with Mississippi Code Annotated §§ 11-46-1 *et seq*., including all defenses and exceptions contained therein. Nothing in this MOA shall have the effect of changing or altering this liability or of eliminating any defense available to the State under statute.

36. Subcontracts

The SUB-GRANTEE must notify MDEQ in writing and submit a Request to Contract form, provided by MDEQ, prior to contracting any portion of the Work under this MOA. MDEQ, in its sole discretion, shall have the right to reject the letting of any such contract. Should MDEQ determine that any proposed contractor of the SUB-GRANTEE under this MOA has a conflict of interest with respect to MDEQ, the SUB-GRANTEE or the Project; MDEQ shall have the right to reject the letting of any such contract. If any potential conflict of interest exists, the Parties will resolve it according to the applicable procurement laws and regulations. MDEQ's failure to reject the letting of any contract under this MOA shall not be deemed in any way to provide for the incurrence of any obligation of MDEQ in addition to the Funds. If the SUB-GRANTEE issues any contract in coordination with this MOA, then the SUB-GRANTEE will be deemed to have represented and certified to MDEQ at each such time, in connection with such contract, as follows:

A. in making such contract, the SUB-GRANTEE has complied with all applicable State and Federal laws, regulations, rules, orders, and other governmental mandates, including, without limitation, those pertaining to procurement, acquisition, and other contracting actions by the SUB-GRANTEE;

B. in making such contract, the SUB-GRANTEE has complied with its internal policies and procedures applicable to procurement, acquisition, or contracting actions;

C. each contractor is qualified to perform the applicable Work and is authorized to do business in the State of Mississippi;

D. each contractor is required under its agreement with the SUB-GRANTEE to perform the applicable Work within budgeted costs identified for such Work;

E. each contractor has agreed to conduct its activities related to the Work in compliance with all terms and conditions of this MOA, all applicable State and Federal laws, regulations, rules, orders, and other governmental mandates;

F. each contractor has agreed to obtain and maintain all appropriate bonds and insurance against liability for injury to persons or property from any and all activities undertaken by such contractor related to the Work in accordance with Mississippi laws, including, without limitation Mississippi Code Annotated § 31-5-51; and

G. no contractor has any conflict of interest with respect to MDEQ, the SUB-GRANTEE or the Project.

The SUB-GRANTEE shall be responsible for accountability of funds, compliance with Project specifications, and Project management, and any work performed by its contractors. MDEQ shall not bear responsibility for any liability caused or incurred by any contractor in performing Work. MDEQ shall not be deemed by virtue of this MOA to have any contractual obligation to, or relationship with, any of the SUB-GRANTEE's contractors, and the Parties agree and acknowledge that, as between MDEQ and the SUB-GRANTEE, all Work shall be deemed to be the responsibility of, and performed by, the SUB-GRANTEE. No contractor or other recipient of funds from MDEQ under this MOA shall be deemed to be an agent, representative, employee or servant of MDEQ in connection with this MOA. Parties with whom contracts or sub-agreements are entered into shall be referred to herein as "Contracted Party" or "Contracted Parties".

37. Third Party Action Notification

The SUB-GRANTEE shall give MDEQ prompt notice in writing of any action or suit filed, and prompt notice of any claim made against the SUB-GRANTEE by any entity that may result in litigation related in any way to this MOA.

38. No Third Party Beneficiaries

This MOA is for the sole benefit of the Parties hereto and their respective successors and permitted assigns, and nothing herein, express or implied, is intended to or shall confer upon any other person or entity any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of this MOA.

39. Authority to Contract

The SUB-GRANTEE certifies that (a) it is a Mississippi state agency; (b) entry into and performance under this MOA is not restricted or prohibited by any loan, security, financing, contractual, or other agreement of any kind; and (c) notwithstanding any other provision of this MOA to the contrary, that there are no existing legal proceedings, either voluntary or otherwise, which may adversely affect its ability to perform its obligations under this MOA

OR

The SUB-GRANTEE certifies (a) that it is a validly organized business with valid authority to enter into this MOA; (b) that it is qualified to do business and in good standing in the State of Mississippi; (c) that entry into and performance under this MOA is not restricted or prohibited by any loan, security, financing, contractual, or other agreement of any kind; and (d) notwithstanding any other provision of this MOA to the contrary, that there are no existing legal proceedings, either voluntary or otherwise, which may adversely affect its ability to perform its obligations under this MOA.

40. Confidential Information

The SUB-GRANTEE shall treat all MDEQ data and information to which it has access by its performance under this MOA as confidential to the extent that confidential treatment of same is required under federal and/or state law and shall not disclose such data or information to a third party without specific written consent of MDEQ. In the event that the SUB-GRANTEE receives notice that a third party request divulgence of confidential or otherwise protected information and/or has served upon it a subpoena or other validly issued administrative or judicial process ordering divulgence of confidential or otherwise protected information, the SUB-GRANTEE shall promptly inform MDEQ and thereafter respond in conformity with such subpoena to the extent mandated by state or federal law. This section shall survive the termination or completion of this MOA.

41. Captions

The captions or headings in this MOA are for convenience only, and in no way define, limit or describe the scope or intent of any provision or section of this MOA.

42. Notice

All notices, requests, consents, claims, demands, waivers and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by facsimile or e-mail of document(s) (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next business day if sent after normal business hours of the recipient; or (d) on the third day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the respective Parties at the following addresses (or at such other address for a Party as shall be specified in a notice given in accordance with this Article):

The contact information for contract administration matters is as follows:

For MDEQ: Ms. Aveleka Moore
P. O. Box 2261
Jackson, MS 39225-2261

For SUB-GRANTEE: Mr. Ryan Earley
4701 Col Vickery Rd.
Vancleave, MS 39565

43. MOA Changes

MDEQ may, at any time, by written order, make changes within the general scope of the MOA or any of its Task Orders as to the services or work to be performed. If such changes cause an increase or a decrease in the SUB-GRANTEE's cost or time required to perform any services under this MOA or assigned Task Orders, whether or not changed by any order, MDEQ shall make an equitable adjustment and modify this MOA , or the appropriate Task Order, in writing. The SUB-GRANTEE must assert any claim for adjustment under this clause in writing within thirty (30) days from the date the SUB-GRANTEE received MDEQ's notification of change, unless MDEQ grants additional time before the date of final payment. No services for which the SUB-GRANTEE will charge an additional compensation shall be furnished without the written authorization of MDEQ.

For the faithful performance of the terms of this MOA, the parties hereto have caused this MOA to be executed by their undersigned authorized representatives.

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

_____ _____
Chris Wells Date
Executive Director

JACKSON COUNTY SCHOOL DISTRICT

_____ _____
Authorized Signature Date

_____
Typed/Printed Name

_____
Title

ATTACHMENT A

	U.S. ENVIRONMENTAL PROTECTION AGENCY **Assistance Amendment**	**GRANT NUMBER (FAIN):** 02D11021 **MODIFICATION NUMBER:** 1 **PROGRAM CODE:** DS	**DATE OF AWARD** 11/08/2022
		TYPE OF ACTION Augmentation: Increase	**MAILING DATE** 11/14/2022
		PAYMENT METHOD: ASAP	**ACH#** 40110

RECIPIENT TYPE: State	**Send Payment Request to:** Contact EPA RTPFC at: rtpfc-grants@epa.gov
RECIPIENT:	**PAYEE:**
MS Dept of Environmental Quality P.O. Box 2339 515 E. Amite Jackson, MS 39225 **EIN:** 64-0629297	MS Dept of Environmental Quality P.O. Box 2339 Jackson, MS 39225

PROJECT MANAGER	**EPA PROJECT OFFICER**	**EPA GRANT SPECIALIST**
Stephen Bennett 515 East Amite Street P.O. Box 2261 Jackson, MS 39225-2261 **Email:** sbarnett@mdeq.ms.gov **Phone:** 601-961-5276	Katherine Evans 61 Forsyth St., S.W. Atlanta, GA 30303 **Email:** evans.katherine@epa.gov **Phone:** 404-562-8965	Kenny Richardson Grants and Audit Management Section 61 Forsyth Street S.W. Atlanta, GA 30303-8960 **Email:** richardson.kenny@epa.gov **Phone:** 404-562-9021

PROJECT TITLE AND EXPLANATION OF CHANGES

Diesel Emission Reduction Act State Grants

See Attachment 1 for project description.

BUDGET PERIOD	**PROJECT PERIOD**	**TOTAL BUDGET PERIOD COST**	**TOTAL PROJECT PERIOD COST**
10/01/2021 - 09/30/2023	10/01/2021 - 09/30/2023	$1,739,800.00	$1,739,800.00

NOTICE OF AWARD

Based on your Application dated 06/16/2022 including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA) hereby awards $529,767.00. EPA agrees to cost-share 60.00% of all approved budget period costs incurred, up to and not exceeding total federal funding of $1,043,880.00. Recipient's signature is not required on this agreement. The recipient demonstrates its commitment to carry out this award by either: 1) drawing down funds within 21 days after the EPA award or amendment mailing date; or 2) not filing a notice of disagreement with the award terms and conditions within 21 days after the EPA award or amendment mailing date. If the recipient disagrees with the terms and conditions specified in this award, the authorized representative of the recipient must furnish a notice of disagreement to the EPA Award Official within 21 days after the EPA award or amendment mailing date. In case of disagreement, and until the disagreement is resolved, the recipient should not draw down on the funds provided by this award/amendment, and any costs incurred by the recipient are at its own risk. This agreement is subject to applicable EPA regulatory and statutory provisions, all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	**AWARD APPROVAL OFFICE**
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
U.S. EPA, Region 4 61 Forsyth Street Atlanta, GA 30303-8960	U.S. EPA, Region 4, Air and Radiation Division OAR - Office of Air and Radiation 61 Forsyth Street Atlanta, GA 30303-8960

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

Digital signature applied by EPA Award Official Shantel Shelmon - Grants Management Officer	**DATE** 11/08/2022

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$514,113	$529,767	$1,043,880
EPA In-Kind Amount	$0	$0	$0
Unexpended Prior Year Balance	$0	$0	$0
Other Federal Funds	$0	$0	$0
Recipient Contribution	$0	$0	$0
State Contribution	$0	$0	$0
Local Contribution	$0	$0	$0
Other Contribution	$342,742	$353,178	$695,920
Allowable Project Cost	$856,855	$882,945	$1,739,800

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.040 - Diesel Emissions Reduction Act (DERA) State Grants	Diesel Emission Reduction Act of 2010, codified at 42 U.S.C. 16133	2 CFR 200, 2 CFR 1500 and 40 CFR 33

Fiscal									
Site Name	Req No	FY	Approp. Code	Budget Oganization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	2204VW2139	22	E4	04V5	000AH4	4123	-	-	$529,767
									$529,767

Budget Summary Page

Table A - Object Class Category (Non-Construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$42,812
2. Fringe Benefits	$14,342
3. Travel	$4,800
4. Equipment	$0
5. Supplies	$4,000
6. Contractual	$1,000
7. Construction	$0
8. Other	$1,648,440
9. Total Direct Charges	$1,715,394
10. Indirect Costs: 41.90 % Base Direct Salaries and Fringe	$24,406
11. Total (Share: Recipient 40.00 % Federal 60.00 %)	$1,739,800
12. Total Approved Assistance Amount	$1,043,880
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$529,767
15. Total EPA Amount Awarded To Date	$1,043,880

Attachment 1 - Project Description

This action approves an award in the amount of $529,767 to continue to support Mississippi Department of Environmental Quality's efforts to reduce diesel emissions and exposure throughout the State of Mississippi. These funds will be used to support the recipient’s efforts to reduce diesel emissions that contribute to air quality problems in the State by retrofitting or replacing heavy duty vehicles or equipment or implementing other emission reduction approaches. Specifically, Mississippi Department of Environmental Quality will operate a rebate program to fund a statewide early replacement school bus program for school districts. Districts in Mississippi will be given an opportunity to apply for assistance in replacing model year 2009 and older school buses. This will reduce emissions of the diesel particulate matter and other pollutants such as Nitrogen Oxide, Particulate Matter 2.5, Carbon Monoxide, Carbon Dioxide and Hydrocarbons. Expected deliverables include use of funds through grants, contracts or rebates to support the cost of purchasing new vehicles, engines and retrofit technologies that significantly reduce diesel emissions as well as technologies that conserve diesel fuel through reduced long duration idling using verified technologies. This project will help achieve Mississippi’s goal for the project, which is to reduce the emissions of pollutants that contribute to the air quality problems in the State. The specific outcomes of this project will be reduced emissions of toxic air emissions of diesel exhaust pollutants that contribute to air quality problems in the State helping to ensure that more Americans are living and working in areas that meet high air quality standards, while also meeting EPA or CARB verification or certification requirements. Direct beneficiaries of this program include the public health of all Mississippians. This action also extends the budget/project period end date from 09/30/2022 to 09/30/2023 to allow the recipient additional time to achieve the goals of their work plan.

Administrative Conditions

The Following Administrative Conditions Are Revised

General Terms and Conditions

The General Terms and Conditions of this agreement are updated in accordance with the link below. However, these updated conditions apply solely to the funds added with this amendment and any previously awarded funds not yet disbursed by the recipient as of the award date of this amendment. The General Terms and Conditions cited in the original award or prior funded amendments remain in effect for funds disbursed by the recipient prior to the award date of this amendment.

The recipient agrees to comply with the current EPA general terms and conditions available at: https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2022-or-later.

These terms and conditions are binding for disbursements and are in addition to or modify the assurances and certifications made as a part of the award and the terms, conditions, or restrictions cited throughout the award.

The EPA repository for the general terms and conditions by year can be found at: https://www.epa.gov/grants/grant-terms-and-conditions#general.

All Other Administrative Conditions Remain the Same.

Programmatic Conditions

All Programmatic Conditions Remain the Same.

ATTACHMENT B

EPA General Terms and Conditions Effective October 1, 2022

1. Introduction

(a) The recipient and any sub-recipient must comply with the applicable EPA general terms and conditions outlined below. These terms and conditions are in addition to the assurances and certifications made as part of the award and terms, conditions, and restrictions reflected on the official assistance award document. Recipients **must** review their official award document for additional administrative and programmatic requirements. Failure to comply with the general terms and conditions outlined below and those directly reflected on the official assistance award document may result in enforcement actions as outlined in 2 CFR 200.339 and 200.340.

(b) If the EPA General Terms and Conditions have been revised, EPA will update the terms and conditions when it provides additional funding (incremental or supplemental) prior to the end of the period of performance of this agreement. The recipient must comply with the revised terms and conditions after the effective date of the EPA action that leads to the revision. Revised terms and conditions do not apply to the recipient's expenditures of EPA funds or activities the recipient carries out prior to the effective date of the EPA action. EPA will inform the recipient of revised terms and conditions in the action adding additional funds.

2. Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards

This award is subject to the requirements of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards; Title 2 CFR, Parts 200 and 1500. 2 CFR 1500.2, Adoption of 2 CFR Part 200, states the Environmental Protection Agency adopts the Office of Management and Budget (OMB) guidance Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards to Non-Federal Entities (subparts A through F of 2 CFR Part 200), as supplemented by 2 CFR Part 1500, as the Environmental Protection Agency (EPA) policies and procedures for financial assistance administration. 2 CFR Part 1500 satisfies the requirements of 2 CFR 200.110(a) and gives regulatory effect to the OMB guidance as supplemented by 2 CFR Part 1500. This award is also subject to applicable requirements contained in EPA programmatic regulations located in 40 CFR Chapter 1 Subchapter B.

2.1. Effective Date and Incremental or Supplemental Funding. Consistent with the OMB Frequently Asked Questions at https://cfo.gov/cofar on Effective Date and Incremental Funding, any new funding through an amendment (supplemental or incremental) on or after December 26, 2014, and any unobligated balances (defined at 2 CFR 200.1) remaining on the award at the time of the amendment, will be subject to the requirements of the Uniform Administrative Requirements, Cost Principles and Audit Requirements (2 CFR Parts 200 and 1500).

3. Termination

Consistent with 2 CFR 200.340, EPA may unilaterally terminate this award in whole or in part:

a. if a recipient fails to comply with the terms and conditions of the award including statutory or regulatory requirements; or

b. if the award no longer effectuates the program goals or agency priorities. Situations in which EPA may terminate an award under this provision include when:

(i) EPA obtains evidence that was not considered in making the award that reveals that specific award objective(s) are ineffective at achieving program goals and EPA determines that it is in the government's interest to terminate the award;

(ii) EPA obtains evidence that was not considered in making the award that causes EPA to significantly question the feasibility of the intended objective(s) of the award and EPA determines that it is in the government's interest to terminate the award;

(iii) EPA determines that the objectives of the award are no longer consistent with funding priorities for achieving program goals.

Financial Information

4. Reimbursement Limitation

EPA's financial obligations to the recipient are limited by the amount of federal funding awarded to date as reflected on the award document. If the recipient incurs costs in anticipation of receiving additional funds from EPA, it does so at its own risk. See 2 CFR 1500.9.

5. Automated Standard Application Payments (ASAP) and Proper Payment Draw Down

Electronic Payments. Recipients must be enrolled or enroll in the Automated Standard Application for Payments (ASAP) system to receive payments under EPA financial assistance agreements unless:

- EPA grants a recipient-specific exception;
- The assistance program has received a waiver from this requirement;
- The recipient is exempt from this requirement under 31 CFR 208.4; or,
- The recipient is a fellowship recipient pursuant to 40 CFR Part 46.

EPA will not make payments to recipients until the ASAP enrollment requirement is met unless the recipients fall under one of the above categories. Recipients may request exceptions using the procedures below but only EPA programs may obtain waivers.
To enroll in ASAP, complete the ASAP Initiate Enrollment Form located at:
https://www.epa.gov/financial/forms and email it to rtpfc-grants@epa.gov or mail it to:

US Environmental Protection Agency
RTP-Finance Center (Mail Code AA216-01)
4930 Page Rd.
Durham, NC 27711

Under this payment mechanism, the recipient initiates an electronic payment request online via ASAP, which is approved or rejected based on the amount of available funds authorized by EPA in the recipient's ASAP account. Approved payments are credited to the account at the financial institution of the recipient organization set up by the recipient during the ASAP enrollment process. Additional information concerning ASAP and enrollment can be obtained by contacting the EPA Research Triangle Park Finance Center (RTPFC), at rtpfc-grants@epa.gov or 919-541-5347, or by visiting: https://www.fiscal.treasury.gov/asap/.

EPA will grant exceptions to the ASAP enrollment requirement only in situations in which the recipient demonstrates to EPA that receiving payment via ASAP places an undue administrative or financial management burden on the recipient or EPA determines that granting the waiver is in the public interest. Recipients may request an exception to the requirement by following the procedures specified in RAIN-2018-G06-R.

Proper Payment Drawdown (for recipients other than states)

a. As required by 2 CFR 200.305(b), the recipient must draw funds from ASAP only for the minimum amounts needed for actual and immediate cash requirements to pay employees, contractors, subrecipients or to satisfy other obligations for allowable costs under this assistance agreement. The timing and amounts of the drawdowns must be as close as administratively feasible to actual disbursements of EPA funds. Disbursement within 5 business days of drawdown will comply with this requirement and the recipient agrees to meet this standard when performing this award.

b. Recipients may not retain more than 5% of the amount drawn down, or $1,000 whichever is less, 5 business days after drawdown to materially comply with the standard. Any EPA funds subject to this paragraph that remain undisbursed after 5 business days must be fully disbursed within 15 business days of draw down or be returned to EPA.

c. If the recipient draws down EPA funds in excess of that allowed by paragraph b., the recipient must contact rtpfc-grants@epa.gov for instructions on whether to return the funds to EPA. Recipients must comply with the requirements at 2 CFR 200.305(b)(8) and (9) regarding depositing advances of Federal funds in interest bearing accounts.

d. Returning Funds: Pay.gov is the preferred mechanism to return funds. It is free, secure, paperless, expedient, and does not require the recipient/vendor to create an account. Contact RTPFC-Grants at rtpfc-grants@epa.gov to obtain complete instructions. Additional information is available at the Pay.gov website: (https://www.pay.gov/public/home). Information on how to repay EPA via check is available at https://www.epa.gov/financial/makepayment. Instructions on how to return funds to EPA electronically via ASAP are available at https://www.fiscal.treasury.gov/asap/.

e. Failure on the part of the recipient to materially comply with this condition may, in addition to EPA recovery of the un-disbursed portions of the drawn down funds, lead to changing the payment method from advance payment to a reimbursable basis. EPA may also take other remedies for noncompliance under 2 CFR 200.208 and/or 2 CFR 200.339.

f. If the recipient believes that there are extraordinary circumstances that prevent it from complying with the 5-business day disbursement requirement throughout the performance period of this agreement, recipients may request an exception to the requirement by following the procedures specified in RAIN-2018-G06-R. EPA will grant exceptions to the 5-business day disbursement requirement only if the recipient demonstrates that compliance places an undue administrative or financial management burden or EPA determines that granting the exception is in the public interest.

Proper Payment Drawdown for State Recipients

In accordance with 2 CFR 200.305(a), payments are governed by Treasury-State Cash Management Improvement Act (CMIA) agreements and default procedures codified at 31 CFR Part 205, Subparts A and B and Treasury Financial Manual (TFM) 4A-2000, "Overall Disbursing Rules for All Federal Agencies" unless a program specific regulation (e.g. 40 CFR 35.3160 or 40 CFR 35.3560) provides otherwise. Pursuant to 31 CFR Part 205, Subpart A—*Rules Applicable to Federal Assistance Programs Included in a Treasury-State Agreement*, States follow their Treasury-State CMIA Agreement for major Federal programs listed in the agreement. For those programs not listed as major in the Treasury-State agreement, the State follows the default procedures in 31 CFR Part 205, Subpart B—Rules Applicable to Federal Assistance Programs Not Included in a Treasury-State Agreement**,** which directs State recipients to draw-down and disburse Federal financial assistance funds in anticipation of immediate cash needs of the State for work under the award. States must comply with 2 CFR 200.302(a) in reconciling costs incurred and charged to EPA financial assistance agreements at time of close out unless a program specific regulation provides otherwise.

Selected Items of Cost

6. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

This term and condition implements 2 CFR 200.216 and is effective for obligations and expenditures of EPA financial assistance funding on or after 8/13/2020.

As required by 2 CFR 200.216, EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). Recipients, subrecipients, and borrowers also may not use EPA funds to purchase:

a. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

b. Telecommunications or video surveillance services provided by such entities or using such equipment.

c. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Consistent with 2 CFR 200.471, costs incurred for telecommunications and video surveillance services or equipment such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:

a. Obligating or expending EPA funds for covered telecommunications and video surveillance services or equipment or services as described in 2 CFR 200.216 to:
(1) Procure or obtain, extend or renew a contract to procure or obtain;
(2) Enter into a contract (or extend or renew a contract) to procure; or
(3) Obtain the equipment, services, or systems.

Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the System for Award Management exclusion list.

7. Consultant Cap

EPA participation in the salary rate (excluding overhead) paid to individual consultants retained by recipients or by a recipient's contractors or subcontractors shall be limited to the maximum daily rate for a Level IV of the Executive Schedule, available at: https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/, to be adjusted annually. This limit applies to consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate. This rate does not include transportation and subsistence costs for travel performed (the recipient will pay these in accordance with their normal travel reimbursement practices).

Information on how to calculate the maximum daily rate and the daily pay limitation is available at the Office Of Personnel Management's Fact Sheet: How to Compute Rates of Pay and Fact Sheet: Expert and Consultant Pay. Specifically, to determine the maximum daily rate, follow these steps:

1. Divide the Level IV salary by 2087 to determine the hourly rate. Rates must be rounded to the nearest cent, counting one-half cent and over as the next higher cent (e.g., round $18.845 to $18.85).
2. Multiply the hourly rate by 8 hours. The product is the maximum daily rate.

Contracts and subcontracts with firms for services that are awarded using the procurement requirements in Subpart D of 2 CFR Part 200 are not affected by this limitation unless the terms of the contract provide the recipient with responsibility for the selection, direction and control of the individuals who will be providing services under the contract at an hourly or daily rate of compensation. See 2 CFR 1500.10.

8. Establishing and Managing Subawards

If the recipient chooses to pass funds from this assistance agreement to other entities, the recipient must comply with applicable provisions of 2 CFR Part 200 and the EPA Subaward Policy, which may be found at: https://www.epa.gov/grants/grants-policy-issuance-gpi-16-01-epa-subaward-policy-epa-assistance-agreement-recipients.

As a pass-through entity, the recipient agrees to:

1. Be responsible for selecting subrecipients and as appropriate conducting subaward competitions using a system for properly differentiating between subrecipients and procurement contractors under the standards at 2 CFR 200.331 and EPA's supplemental guidance in Appendix A of the EPA Subaward Policy.

(a) For-profit organizations and individual consultants, in almost all cases, are not eligible subrecipients under EPA financial assistance programs and the pass-through entity must obtain prior written approval from EPA's Award Official for subawards to these entities unless the EPA-approved budget and work plan for this agreement contain a precise description of such subawards.

(b) Stipends and travel assistance for trainees (including interns) and similar individuals who are not are not employees of the pass-through entity must be classified as participant support costs rather than subawards as provided in 2 CFR 200.1 *Participant support costs*, 2 CFR 200.1 *Subaward*, and EPA's Guidance on Participant Support Costs.

(c) Subsidies, rebates and similar payments to participants in EPA funded programs to encourage environmental stewardship are also classified as *Participant support costs* as provided in 2 CFR 1500.1 and EPA's Guidance on Participant Support Costs.

2. Establish and follow a system that ensures all subaward agreements are in writing and contain all of the elements required by 2 CFR 200.332(a). EPA has developed a template for subaward agreements that is available in Appendix D of the EPA Subaward Policy.

3. Prior to making subawards, ensure that each subrecipient has a "Unique Entity Identifier (UEI)." The UEI is required by 2 CFR Part 25 and 2 CFR 200.332(a)(1). Subrecipients are not required to complete full System for Award Management (SAM) registration to obtain a UEI. Information regarding obtaining a UEI is available at the SAM Internet site: https://www.sam.gov/SAM/ and in EPA's General Term and Condition "**System for Award Management and Universal Identifier Requirements"** of the pass-through entity's agreement with the EPA.

4. Ensure that subrecipients are aware that they are subject to the same requirements as those that apply to the pass-through entity's EPA award as required by 2 CFR 200.332(a)(2). These requirements include, among others:

(a) Title VI of the Civil Rights Act and other Federal statutes and regulations prohibiting discrimination in Federal financial assistance programs, as applicable.

(b) Reporting Subawards and Executive Compensation under Federal Funding Accountability and Transparency Act (FFATA) set forth in the General Condition pass-through entity's agreement with EPA entitled **"Reporting Subawards and Executive Compensation."**

(c) Limitations on individual consultant fees as set forth in 2 CFR 1500.10 and the General Condition of the pass-through entity's agreement with EPA entitled **"Consultant Fee Cap."**

(d) EPA's prohibition on paying management fees as set forth in General Condition of the pass-through entity's agreement with EPA entitled "**Management Fees**."

(e) The Procurement Standards in 2 CFR Part 200 including those requiring competition when the subrecipient acquires goods and services from contractors (including consultants).

EPA provides general information on other statutes, regulations and Executive Orders on the Grants internet site at www.epa.gov/grants. Many Federal requirements are agreement or program specific and EPA encourages pass-through entities to review the terms of their assistance agreement carefully and consult with their EPA Project Officer for advice if necessary.

5. Ensure, for states and other public recipients, that subawards are not conditioned in a manner that would disadvantage applicants for subawards based on their religious character.

6. Establish and follow a system for evaluating subrecipient risks of noncompliance with Federal statutes, regulations and the terms and conditions of the subaward as required by 2 CFR 200.332(b) and document the evaluation. Risk factors may include:

Prior experience with same or similar subawards;

(a) Results of previous audits;

(b) Whether new or substantially changed personnel or systems, and;

(c) Extent and results of Federal awarding agency or the pass-through entity's monitoring.

7. Establish and follow a process for deciding whether to impose additional requirements on subrecipients based on risk factors as required by 2 CFR 200.332(c). Examples of additional requirements authorized by 2 CFR 200.208 include:

(a) Requiring payments as reimbursements rather than advance payments;

(b) Withholding authority to proceed to the next phase until receipt of evidence of acceptable performance within a given period of performance;

(c) Requiring additional, more detailed financial reports;

(d) Requiring additional project monitoring;

(e) Requiring the non-Federal entity to obtain technical or management assistance,and

(f) Establishing additional prior approvals.

8. Establish and follow a system for monitoring subrecipient performance that includes the elements required by 2 CFR 200.332(d) and report the results of the monitoring in performance reports as provided in the reporting terms and conditions of this agreement.

9. Establish and maintain an accounting system which ensures compliance with the $25,000 limitation at 2 CFR 200.1, *Modified Total Direct Costs*, if applicable, on including subaward costs in *Modified Total Direct Costs* for the purposes of distributing indirect costs. Recipients with Federally approved indirect cost rates that use a different basis for distributing indirect costs to subawards must comply with their Indirect Cost Rate Agreement.

10. Work with EPA's Project Officer to obtain the written consent of EPA's Office of International and Tribal Affairs (OITA), prior to awarding a subaward to a foreign or international organization, or a subaward to be performed in a foreign country even if that subaward is described in a proposed scope of work.

11. Obtain written approval from EPA's Award Official for any subawards that are not described in the approved work plan in accordance with 2 CFR 200.308.

12. Obtain the written approval of EPA's Award Official prior to awarding a subaward to an individual if the EPA-approved scope of work does not include a description of subawards to individuals.

13. Establish and follow written procedures under 2 CFR 200.302(b)(7) for determining that subaward costs are allowable in accordance with 2 CFR Part 200, Subpart E and the terms and conditions of this award. These procedures may provide for allowability determinations on a pre-award basis, through ongoing monitoring of costs that subrecipients incur, or a combination of both approaches provided the pass-through entity documents its determinations.

14. Establish and maintain a system under 2 CFR 200.332(d)(3) and 2 CFR 200.521 for issuing management decisions for audits of subrecipients that relate to Federal awards. However, the recipient remains accountable to EPA for ensuring that unallowable subaward costs initially paid by EPA are reimbursed or mitigated through offset with allowable costs whether the recipient recovers those costs from the subrecipient or not.

15. As provided in 2 CFR 200.333, pass-through entities must obtain EPA approval to make fixed amount subawards. EPA is restricting the use of fixed amount subawards to a limited number of situations that are authorized in official EPA pilot projects. Recipients should consult with theirEPA Project Officer regarding the status of these pilot projects.

By accepting this award, the recipient is certifying that it either has systems in place to comply with the requirements described in Items 1 through 14 above or will refrain from making subawards until the systems are designed and implemented.

9. Management Fees

Management fees or similar charges in excess of the direct costs and approved indirect rates are not allowable. The term "management fees or similar charges" refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses; unforeseen liabilities; or for other similar costs which are not allowable under this assistance agreement. Management fees or similar charges may not be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the scope of work.

10. Federal Employee Costs

The recipient understands that none of the funds for this project (including funds contributed by the recipient as cost sharing) may be used to pay for the travel of Federal employees or for other costs associated with Federal participation in this project unless a Federal agency will be providing services to the recipient as authorized by a Federal statute.

11. Foreign Travel

EPA policy requires that all foreign travel must be approved by its Office of International and Tribal Affairs. The recipient agrees to obtain prior EPA approval before using funds available under this agreement for international travel unless the trip(s) are already described in the EPA approved budget for this agreement. Foreign travel includes trips to Mexico and Canada but does not include trips to Puerto Rico, the U.S. Territories or possessions. Recipients that request post-award approval to travel frequently to Mexico and Canada by motor vehicle (e.g. for sampling or meetings) may describe their proposed travel in general terms in their request for EPA approval. Requests for prior approval must be submitted to the Project Officer for this agreement.

12. The Fly America Act and Foreign Travel

The recipient understands that all foreign travel **funded under this assistance agreement** must comply with the Fly America Act. All travel must be on U.S. air carriers certified under 49 U.S.C. Section 40118, to the extent that service by such carriers is available even if foreign air carrier costs are less than the American air carrier.

Reporting and Additional Post-Award Requirements

13. System for Award Management and Universal Identifier Requirements

13.1. Requirement for System for Award Management (SAM) Unless exempted from this requirement under 2 CFR 25.110, the recipient must maintain current information in the SAM. This includes information on the recipient's immediate and highest level owner and subsidiaries, as well as on all the recipient's predecessors that have been awarded a Federal contract or Federal financial assistance within the last three years, if applicable, until the submittal of the final financial report required under this award or receipt of the final payment, whichever is later. This requires that the recipient reviews and updates the information at least annually after the initial registration, and more frequently if required by changes in the information or another award term.

13.2. Requirement for Unique Entity Identifier. If the recipient is authorized to make subawards under this award, the recipient:

a. Must notify potential subrecipients that no entity (see definition in paragraph 13.3 of this award term) may receive a subaward unless the entity has provided its Unique Entity Identifier.

b. May not make a subaward to an entity unless the entity has provided its Unique Entity Identifier. Subrecipients are not required to obtain an active SAM registration but must obtain a Unique Entity Identifier.

13.3. Definitions. For the purposes of this award term:

a. **System for Award Management (SAM)** means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the SAM Internet site: https://www.sam.gov/SAM/.

b. **Unique Entity Identifier** means the identifier assigned by SAM to uniquely identify business entities.

c. **Entity** includes non-Federal entities as defined at 2 CFR 200.1 and also includes all of the following:

13.3.c.1. A foreign organization;

13.3.c.2. A foreign public entity;

13.3.c.3. A domestic for-profit organization; and

13.3.c.4. A domestic or foreign for-profit organization; and

13.3.c.5. A Federal agency.

d. **Subaward** is defined at 2 CFR 200.1.

e. **Subrecipient** is defined at 2 CFR 200.1.

14. Reporting Subawards and Executive Compensation

14.1. Reporting of first-tier subawards.

a. **Applicability.** Unless the recipient is exempt as provided in paragraph 14.4. of this award term, the recipient must report each action that obligates $30,000 or more in Federal funds for a subaward to a non-Federal entity or Federal agency (see definitions in paragraph 14.5 of this award term).

b. **Where and when to report.** (1) The recipient must report each obligating action described in paragraph 14.1.a of this award term to www.fsrs.gov. (2) For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on any date during the month of November of a given year, the obligation must be reported by no later than December 31 of that year.)

c. **What to report.** The recipient must report the information about each obligating action as described in the submission instructions available at: http://www.fsrs.gov.

14.2. Reporting Total Compensation of Recipient Executives.

a. **Applicability and what to report.** The recipient must report total compensation for each of their five most highly compensated executives for the preceding completed fiscal year, if:

14.2.a.1. the total Federal funding authorized to date under this award is $30,000 or more;

14.2.a.2. in the preceding fiscal year, the recipient received: (i.) 80 percent or more of their annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); (ii.) and $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

14.2.a.3. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at: http:// www.sec.gov/answers/execomp.htm.)

b. **Where and when to report.** The recipient must report executive total compensation described in paragraph 14.2.a of this award term: (i.) As part of the registration Central System for Award Management profile available at https://www.sam.gov/SAM/ (ii.) By the end of the month following the month in which this award is made, and annually thereafter.

14.3. Reporting of Total Compensation of Subrecipient Executives.

a. Applicability and what to report. Unless exempt as provided in paragraph 14.4. of this award term, for each first-tier non-Federal entity subrecipient under this award, the recipient shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if:

14.3.a.1. in the subrecipient's preceding fiscal year, the subrecipient received: (i.) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and (ii.) $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

14.3.a.2. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at: http://www.sec.gov/answers/execomp.htm.)

b. Where and when to report. The recipient must report subrecipient executive total compensation described in paragraph 14.3.a. of this award term:

14.3.b.1. To the recipient.

14.3.b.2. By the end of the month following the month during which the recipient makes the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), the recipient must report any required compensation information of the subrecipient by November 30 of that year.

14.4. Exemptions

a. If, in the previous tax year, the recipient had gross income, from all sources, under $300,000, the recipient is exempt from the requirements to report:

14.4.a.1. (i) subawards, and (ii) the total compensation of the five most highly compensated executives of any subrecipient.

14.5. Definitions. For purposes of this award term:

a. **Federal agency** means a Federal agency as defined at 5 U.S.C. 551(1) and further clarified by 5 U.S.C 552(f).

b. **Non-Federal entity** means all of the following, as defined in 2 CFR Part 25: (i.) A Governmental organization, which is a State, local government, or Indian tribe; (ii.) A foreign public entity; (iii.) A domestic or foreign nonprofit organization; and (iv.) A domestic or foreign for-profit organization.

c. **Executive** means officers, managing partners, or any other employees in management positions.

d. **Subaward:**

14.5.d.1. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

14.5.d.2. The term does not include procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR 200.331).

14.5.d.3. A subaward may be provided through any legal agreement, including an agreement that the recipient or a subrecipient considers a contract.

e. **Subrecipient** means a non-Federal entity or Federal agency that:

14.5.e.1. Receives a subaward from the recipient under this award; and

14.5.e.2. Is accountable to the recipient for the use of the Federal funds provided by the subaward.

f. **Total compensation** means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information

see 17 CFR 229.402(c)(2)):

14.5.f.1. Salary and bonus.

14.5.f.2. Awards of stock, stock options and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

14.5.f.3. Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

14.5.f.4. Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

14.5.f.5. Above-market earnings on deferred compensation which is not tax-qualified.

14.5.f.6. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds $10,000.

15. Recipient Integrity and Performance Matters - Reporting of Matters Related to Recipient Integrity and Performance

15.1. General Reporting Requirement

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds $10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

15.2. Proceedings About Which You Must Report

Submit the information required about each proceeding that:

a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;

b. Reached its final disposition during the most recent five-year period; and

c. Is one of the following:

15.2.c.1. A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;

15.2.c.2. A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of $5,000 or more;

15.2.c.3. An administrative proceeding, as defined in paragraph 5. of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of $5,000 or more or reimbursement, restitution, or damages in excess of $100,000; or

15.2.c.4. Any other criminal, civil, or administrative proceeding if:

15.2.c.4.1. It could have led to an outcome described in paragraph 15.2.c.1, 15.2.c.2, or 15.2.c.3 of this award term and condition;

15.2.c.4.2. It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and

15.2.c.4.3. The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

15.3. Reporting Procedures

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

15.4. Reporting Frequency

During any period of time when you are subject to the requirement in paragraph 15.1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than $10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

15.5. Definitions

For purposes of this award term and condition:

a. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (*e.g.,* Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.

b. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.

c. Total value of currently active grants, cooperative agreements, and procurement contracts includes—

15.5.c.1. Only the Federal share of the funding under any Federal award with a recipient cost share or match; and

15.5.c.2. The value of all expected funding increments under a Federal award and options, even if not yet exercised.

16. Federal Financial Reporting (FFR)

Pursuant to 2 CFR 200.328 and 2 CFR 200.344, EPA recipients must submit the Federal Financial Report (SF-425) at least annually and no more frequently than quarterly. EPA's standard reporting frequency is annual unless an EPA Region has included an additional term and condition specifying greater reporting frequency within this award document. EPA recipients must submit the SF-425 no later than 30 calendar days after the end of each specified reporting period for quarterly and semi-annual reports and 90 calendar days for annual reports. Final reports are due no later than 120 calendar days after the end date of the period of performance of the award Extension of reporting due dates may be approved by EPA when requested and justified by the recipient. The FFR form is available on the internet at: https://www.epa.gov/financial/forms. All FFRs must be submitted to the Research Triangle Park Finance Center (RTPFC) via email at rtpfc-grants@epa.gov or mail it to:

US Environmental Protection Agency
RTP-Finance Center (Mail Code AA216-01)
4930 Page Rd.
Durham, NC 27703

The RTPFC will make adjustments, as necessary, to obligated funds after reviewing and accepting a final Federal Financial Report. Recipients will be notified and instructed by EPA if they must complete any additional forms for the closeout of the assistance agreement.

17. Indirect Cost Rate Agreements

This term and condition provides requirements for recipients using EPA funds for indirect costs and applies to all EPA assistance agreements unless there are statutory or regulatory limits on IDCs. See also EPA's Indirect Cost Policy for Recipients of EPA Assistance Agreements (IDC Policy).

In order for the assistance agreement recipient to use EPA funding for indirect costs, the IDC category of the recipient's assistance agreement award budget must include an amount for IDCs and at least one of the following must apply:

- With the exception of "exempt" agencies and Institutions of Higher Education as noted below, all recipients must have one of the following current (not expired) IDC rates, including IDC rates that have been extended by the cognizant agency:
  - Provisional;
  - Final;
  - Fixed rate with carry-forward;
  - Predetermined;
  - 10% *de minimis* rate authorized by 2 CFR 200.414(f)
  - EPA-approved use of an expired fixed rate with carry-forward on an exception basis, as detailed in section 6.4.a. of the IDC Policy.
- "Exempt" state or local governmental departments or agencies are agencies that receive up to and including $35,000,000 in Federal funding per the department or agency's fiscal year, and must have an IDC rate proposal developed in accordance with 2 CFR Part 200, Appendix VII, with documentation maintained and available for audit.
- Institutions of Higher Education must use the IDC rate in place at the time of award for the life of the assistance agreement (unless the rate was provisional at time of award, in which case the rate will change once it becomes final). As provided by 2 CFR Part 200, Appendix III(C)(7), the term "life of the assistance agreement", means each competitive segment of the project. Additional information is available in the regulation.

IDCs incurred during any period of the assistance agreement that are not covered by the provisions above are not allowable costs and must not be drawn down by the recipient. Recipients may budget for IDCs if they have submitted a proposed IDC rate to their cognizant Federal agency or requested an exception from EPA under subsection 6.4 of the IDC Policy. However, recipients may not draw down IDCs until their rate is approved, if applicable, or EPA grants an exception. IDC drawdowns must comply with the indirect rate corresponding to the period during which the costs were incurred.

This term and condition does not govern indirect rates for subrecipients or recipient procurement contractors under EPA assistance agreements. Pass-through entities are required to comply with 2 CFR 200.332(a)(4)(i) and (ii) when establishing indirect cost rates for subawards.

18. Audit Requirements

In accordance with 2 CFR 200.501(a), the recipient hereby agrees to obtain a single audit from an independent auditor, if their organization expends $750,000 or more in total Federal funds in their fiscal year beginning on or after December 26, 2014.

The recipient must submit the form SF-SAC and a Single Audit Report Package within 9 months of the end of the recipient's fiscal year or 30 days after receiving the report from an independent auditor. The SF-SAC and a Single Audit Report Package MUST be submitted using the Federal Audit Clearinghouse's Internet Data Entry System available at: https://facides.census.gov/.

For complete information on how to accomplish the single audit submissions, you will need to visit the Federal Audit Clearinghouse Web site: https://facweb.census.gov/

19. Closeout Requirements

Reports required for closeout of the assistance agreement must be submitted in accordance with this agreement. Submission requirements and frequently asked questions can also be found at: https://www.epa.gov/grants/frequent-questions-about-closeouts

20. Suspension and Debarment

Recipient shall fully comply with Subpart C of 2 C.F.R. Part 180 entitled, "Responsibilities of Participants Regarding Transactions Doing Business With Other Persons," as implemented and supplemented by 2 C.F.R. Part 1532. Recipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 C.F.R. Part 180, entitled "Covered Transactions," and 2 C.F.R. § 1532.220, includes a term or condition requiring compliance with 2 C.F.R. Part 180, Subpart C. Recipient is responsible for further requiring the inclusion of a similar term and condition in any subsequent lower tier covered transactions. Recipient acknowledges that failing to disclose the information required under 2 C.F.R. § 180.335 to the EPA office that is entering into the transaction with the recipient may result in the delay or negation of this assistance agreement, or pursuance of administrative remedies, including suspension and debarment. Recipients may access the System for Award Management (SAM) exclusion list at https://sam.gov/SAM/ to determine whether an entity or individual is presently excluded or disqualified.

21. Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law.

This award is subject to the provisions contained in an appropriations act(s) which prohibits the Federal Government from entering into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to any corporation having a delinquent Federal tax liability or a felony conviction under any Federal law, unless the agency has considered suspension or debarment of the corporation and has made a determination that this further action is not necessary to protect the interests of the Government. A "corporation" is a legal entity that is separate and distinct from the entities that own, manage, or control it. It is organized and incorporated under the jurisdictional authority of a governmental body, such as a State or the District of Columbia. A corporation may be a for-profit or non-profit organization.

As required by the appropriations act(s) prohibitions, the Government will not enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee with any corporation that — (1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or (2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

By accepting this award, the recipient represents that it is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and it is not a corporation that was convicted of a felony criminal violation under a Federal law within the preceding 24 months.

Alternatively, by accepting this award, the recipient represents that it disclosed unpaid Federal tax liability information and/or Federal felony conviction information to the EPA. The Recipient may accept this award if the EPA Suspension and Debarment Official has considered suspension or debarment of the corporation based on a tax liabilities and/or Federal felony convictions and determined that suspension or debarment is not necessary to protect the Government's interests.

If the recipient fails to comply with this term and condition, EPA will annul this agreement and may recover any funds the recipient has expended in violation of the appropriations act(s) prohibition(s). The EPA may also pursue other administrative remedies as outlined in 2 CFR 200.339 and 2 CFR 200.340, and may also pursue suspension and debarment.

22. Disclosing Conflict of Interests

22.1. For awards to Non-federal entities and individuals (other than states and fellowship recipients under 40 CFR Part 46).

As required by 2 CFR 200.112, EPA has established a policy (COI Policy) for disclosure of conflicts of interest (COI) that may affect EPA financial assistance awards. EPA's COI Policy is posted at https://www.epa.gov/grants/epas-financial-assistance-conflict-interest-policy. The posted version of EPA's COI Policy is applicable to new funding (initial awards, supplemental and incremental funding) awarded on or after October 1, 2015. This COI term and condition supersedes prior COI terms and conditions for this award based on either EPA's May 22, 2015 Revised Interim COI Policy or December 26, 2014 Interim COI Policy.

For competitive awards, recipients must disclose any competition related COI described in section 4.0(a) of the COI Policy that are discovered after award to the EPA Grants Specialist listed on the Assistance Agreement/Amendment within 30 calendar days of discovery of the COI. The Grants Specialist will respond to any such disclosure within 30 calendar days.

EPA's COI Policy requires that recipients have systems in place to address, resolve and disclose to EPA COIs described in sections 4.0(b), (c) and/or (d) of the COI Policy that affect any contract or subaward regardless of amount funded under this award. The recipient's COI Point of Contact for the award must disclose any COI to the EPA Grants Specialist listed on the Assistance Agreement/Amendment within 30 calendar days of the discovery of the potential COI and their approach for resolving the COI.

EPA's COI Policy requires that subrecipients have systems in place to address, resolve and disclose COI's described in section 4.0(b)(c) and (d) of the COI Policy regardless of the amount of the transaction. Recipients who are pass-through entities as defined at 2 CFR 200.1 must require that subrecipients being considered for or receiving subawards disclose COI to the pass-through entities in a manner that, at a minimum, is in accordance with sections 5.0(d) and 7.0(c) of EPA's COI Policy. Pass-through entities must disclose the subrecipient COI along with the approach for resolving the COI to the EPA Grants Specialist listed on the Assistance Agreement/Amendment within 30 calendar days of receiving notification of the COI by the subrecipient.

EPA only requires that recipients and subrecipients disclose COI's that are discovered under their systems for addressing and resolving COI. If recipients or subrecipients do not discover a COI, they do not need to advise EPA or the pass-through entity of the absence of a COI.

Upon notice from the recipient of a potential COI and the approach for resolving it, the Agency will then make a determination regarding the effectiveness of these measures within 30 days of receipt of the recipient's notice unless a longer period is necessary due to the complexity of the matter. Recipients may not request payment from EPA for costs for transactions subject to the COI pending notification of EPA's determination. Failure to disclose a COI may result in cost disallowances.

Disclosure of a potential COI will not necessarily result in EPA disallowing costs, with the exception of procurement contracts that the Agency determines violate 2 CFR 200.318(c)(1) or

(2), provided the recipient notifies EPA of measures the recipient or subrecipient has taken to eliminate, neutralize or mitigate the conflict of interest when making the disclosure.

22.2. For awards to states including state universities that are state agencies or instrumentalities

As required by 2 CFR 200.112, EPA has established a policy (COI Policy) for disclosure of conflicts of interest (COI) that may affect EPA financial assistance awards. EPA's COI Policy is posted at: https://www.epa.gov/grants/epas-financial-assistance-conflict-interest-policy. The posted version of EPA's COI Policy is applicable to new funding (initial awards, supplemental, incremental funding) awarded on or after October 1, 2015. This COI term and condition supersedes prior COI terms and conditions for this award based on either EPA's May 22, 2015 Revised Interim COI Policy or December 26, 2014 Interim COI Policy.

For competitive awards, recipients must disclose any competition related COI described in section 4.0(a) of the COI Policy that are discovered after award to the EPA Grants Specialist listed on the Assistance Agreement/Amendment within 30 calendar days of discovery of the COI. The Grants Specialist will respond to any such disclosure within 30 calendar days.

States including state universities that are state agencies and instrumentalities receiving funding from EPA are only required to disclose subrecipient COI as a pass-through entity as defined by 2 CFR 200.1. Any other COI are subject to state laws, regulations and policies. EPA's COI Policy requires that subrecipients have systems in place to address, resolve and disclose COIs described in section 4.0(b)(c) and (d) of the COI Policy that arise after EPA made the award regardless of the amount of the transaction. States who are pass-through entities as defined at 2 CFR 200.1 must require that subrecipients being considered for or receiving subawards disclose COI to the state in a manner that, as a minimum, in accordance with sections 5.0(d) and 7.0(c) of EPA's COI Policy. States must disclose the subrecipient COI along with the approach for resolving the COI to the EPA Grants Specialist listed on the Assistance Agreement/Amendment within 30 calendar days of receiving notification of the COI by the subrecipient.

EPA only requires that subrecipients disclose COI's to state pass-through entities that are discovered under their systems for addressing, resolving, and disclosing COI. If subrecipients do not discover a COI, they do not need to advise state pass-through entities of the absence of a COI.

Upon receiving notice of a potential COI and the approach for resolving it, the Agency will make a determination regarding the effectiveness of these measures within 30 days of receipt of the state's notice of a subrecipient COI unless a longer period is necessary due to the complexity of the matter. States may not request payment from EPA for costs for transactions subject to the COI pending notification of EPA's determination. A subrecipient's failure to disclose a COI to the state and EPA may result in cost disallowances.

Disclosure of a potential subrecipient COI will not necessarily result in EPA disallowing costs, with the exception of procurement contracts that the Agency determines violate 2 CFR 200.318(c)(1) or (2), provided the subrecipient has taken measures that EPA and the state agree eliminate, neutralize or mitigate the conflict of interest.

23. Transfer of Funds

Applicable to all assistance agreements other than Continuing Environmental Program Grants subject to 40 CFR 35.114 and 40 CFR 35.514 when EPA's share of the total project costs exceeds the Simplified Acquisition Threshold. Simplified Acquisition Threshold is defined at 2 CFR 200.1 and is currently set at $250,000 but the amount is subject to adjustment.

(1) As provided at 2 CFR 200.308(f), the recipient must obtain prior approval from EPA's Grants Management

Officer if the cumulative amount of funding transfers among direct budget categories or programs, functions and activities exceeds 10% of the total budget. Recipients must submit requests for prior approval to the Grant Specialist and Grants Management Officer with a copy to the Project Officer for this agreement.
(2) Recipients must notify EPA's Grant Specialist and Project Officer of cumulative funding transfers among direct budget categories or programs, functions and activities that do not exceed 10% of the total budget for the agreement. Recipients must also notify the EPA Grant Specialist and Project Officer when transferring funds from direct budget categories to the indirect cost category or from the indirect cost category to the direct cost category. Prior approval by EPA's Grant Management Officer is required if the transfer involves any of the items listed in 2 CFR 200.407 that EPA did not previously approve at time of award or in response to a previous post-award request by the recipient.

Applicable to Continuing Environmental Program Grants subject to 40 CFR 35.114 and 40 CFR 35.514. when EPA's share of the total project costs exceeds the Simplified Acquisition Threshold. Simplified Acquisition Threshold is defined at 2 CFR 200.1 and is currently set at $250,000 but the amount is subject to adjustment.

To determine if a post-award change in work plan commitments is significant and requires prior written approval for the purposes of 40 CFR §35.114(a) or 40 CFR §35.514(a), the recipient agrees to consult the EPA Project Officer (PO) before making the change. The term work plan commitments is defined at 40 CFR §35.102. If the PO determines the change is significant, the recipient cannot make the change without prior written approval by the EPA Award Official or Grants Management Officer.

The recipient must obtain written approval from the EPA Award Official prior to transferring funds from one budget category to another if the EPA Award Official determines that such transfer significantly changes work plan commitment(s). All transfers must be reported in required performance reports. In addition, unless approved with the budget at the time of award, Continuing Environmental Program (CEP) recipients must also obtain prior written approval from the EPA Award Official or Grants Management Officer to use EPA funds for directly charging compensation for administrative and clerical personnel under 2 CFR 200.413(c) and the General Provisions for Selected Items of Cost allowability at 2 CFR 200.420 through 200.476 as supplemented by EPA's Guidance on Selected Items of Cost. The recipient is not required to obtain prior written approval from the EPA Award Official for other items requiring prior EPA approval listed in 2 CFR §§ 200.407.

24. Electronic/Digital Signatures on Financial Assistance Agreement Form(s)/Document(s)

Throughout the life of this assistance agreement, the recipient agrees to ensure that any form(s)/document(s) required to be signed by the recipient and submitted to EPA through any means including but not limited to hard copy via U.S. mail or express mail, hand delivery or through electronic means such as e-mail are: (1) signed by the individual identified on the form/document, and (2) the signer has the authority to sign the form/document for the recipient. Submission of any signed form(s)/document(s) is subject to any provisions of law on making false statements (e.g., 18 U.S.C. 1001).

25. Extension of Project/Budget Period Expiration Date

EPA has not exercised the waiver option to allow automatic one-time extensions for non-research grants under 2 CFR 200.308(e)(2). Therefore, if a no-cost time extension is necessary to extend the period of availability of funds, the recipient must submit a written request to the EPA prior to the budget/project period expiration dates. **The written request must include:** a justification describing the need for additional time, an estimated date of completion, and a revised schedule for project completion including updated milestone target dates for the approved workplan activities. In addition, if there are overdue reports required by the general, administrative, and/or programmatic terms and conditions of this assistance agreement, the recipient must ensure that they are submitted along with or prior to submitting the no-cost time extension request.

26. Utilization of Disadvantaged Business Enterprises

GENERAL COMPLIANCE, 40 CFR, Part 33
The recipient agrees to comply with the requirements of EPA's Disadvantaged Business Enterprise (DBE) Program for procurement activities under assistance agreements, contained in 40 CFR, Part 33.

The following text either provides updates to 40 CFR, Part 33 based upon the associated class exception or highlights a requirement.

1. EPA MBE/WBE CERTIFICATION, 40 CFR, Part 33, Subpart B
EPA no longer certifies entities as Minority-Owned Business Entities (MBEs) or Women-Owned Business Entities (WBEs) pursuant to a class exception issued in October 2019. The class exception was authorized pursuant to the authority in 2 CFR, Section 1500.3(b).

2. SIX GOOD FAITH EFFORTS, 40 CFR, Part 33, Subpart C
Pursuant to 40 CFR Section 33.301, the recipient agrees to make good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, and to require that sub-recipients, loan recipients, and prime contractors also comply. Records documenting compliance with the six good faith efforts shall be retained. The specific six good faith efforts can be found at: 40 CFR Section 33.301 (a)-(f).

However, in EPA assistance agreements that are for the benefit of Native Americans, the recipient must solicit and recruit Native American organizations and Native American-owned economic enterprises and give them preference in the award process prior to undertaking the six good faith efforts (40 CFR Section 33.304). If recruiting efforts are unsuccessful, the recipient must follow the six good faith efforts.

3. CONTRACT ADMINISTRATION PROVISIONS, 40 CFR Section 33.302
The recipient agrees to comply with the contract administration provisions of 40 CFR Section 33.302 (a)-(d) and (i).

4. BIDDERS LIST, 40 CFR Section 33.501(b) and (c)
Recipients of a Continuing Environmental Program Grant or other annual reporting grant, agree to create and maintain a bidders list. Recipients of an EPA financial assistance agreement to capitalize a revolving loan fund also agree to require entities receiving identified loans to create and maintain a bidders list if the recipient of the loan is subject to, or chooses to follow, competitive bidding requirements. Please see 40 CFR Section 33.501 (b) and (c) for specific requirements and exemptions.

5. FAIR SHARE OBJECTIVES, 40 CFR, Part 33, Subpart D
In October 2019, a class exception to the entire Subpart D of 40 CFR, Part 33 has been authorized pursuant to the authority in 2 CFR Section 1500.3(b). Notwithstanding Subpart D of 40 CFR, Part 33, recipients are not required to negotiate or apply fair share objectives in procurements under assistance agreements.

6. MBE/WBE REPORTING, 40 CFR, Part 33, Subpart E
When required, the recipient agrees to complete and submit a "MBE/WBE Utilization Under Federal Grants and Cooperative Agreements" report (EPA Form 5700-52A) on an annual basis. The current EPA Form 5700-52A can be found at the EPA Grantee Forms Page at https://www.epa.gov/system/files/documents/2021-08/epa_form_5700_52a.pdf .

Reporting is required for assistance agreements where funds are budgeted for procuring construction, equipment, services and supplies (including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category) with a cumulative total that exceed the

Simplified Acquisition Threshold (SAT) (currently, $250,000 however the threshold will be automatically revised whenever the SAT is adjusted; See 2 CFR Section 200.1), including amendments and/or modifications. When reporting is required, all procurement actions are reportable, not just the portion which exceeds the SAT.

Annual reports are due by October 30th of each year. Final reports are due 120 days after the end of the project period.

This provision represents an approved exception from the MBE/WBE reporting requirements as described in 40 CFR Section 33.502.

7. MBE/WBE RECORDKEEPING, 40 CFR, Part 33, Subpart E
The recipient agrees to comply with all recordkeeping requirements as stipulated in 40 CFR, Part 33, Subpart E including creating and maintaining a bidders list, when required. Any document created as a record to demonstrate compliance with any requirement of 40 CFR, Part 33 must be maintained pursuant to the requirements stated in this Subpart.

Programmatic General Terms and Conditions

27. Sufficient Progress
EPA will measure sufficient progress by examining the performance required under the workplan in conjunction with the milestone schedule, the time remaining for performance within the project period and/or the availability of funds necessary to complete the project. EPA may terminate the assistance agreement for failure to ensure reasonable completion of the project within the project period.

28. Copyrighted Material and Data
In accordance with 2 CFR 200.315, EPA has the right to reproduce, publish, use and authorize others to reproduce, publish and use copyrighted works or other data developed under this assistance agreement for Federal purposes.

Examples of a Federal purpose include but are not limited to: (1) Use by EPA and other Federal employees for official Government purposes; (2) Use by Federal contractors performing specific tasks for [i.e., authorized by] the Government; (3) Publication in EPA documents provided the document does not disclose trade secrets (e.g. software codes) and the work is properly attributed to the recipient through citation or otherwise; (4) Reproduction of documents for inclusion in Federal depositories; (5) Use by State, tribal and local governments that carry out delegated Federal environmental programs as "co-regulators" or act as official partners with EPA to carry out a national environmental program within their jurisdiction and; (6) Limited use by other grantees to carry out Federal grants provided the use is consistent with the terms of EPA's authorization to the other grantee to use the copyrighted works or other data.

Under Item 6, the grantee acknowledges that EPA may authorize another grantee(s) to use the copyrighted works or other data developed under this grant as a result of:

- the selection of another grantee by EPA to perform a project that will involve the use of the copyrighted works or other data or;
- termination or expiration of this agreement.

In addition, EPA may authorize another grantee to use copyrighted works or other data developed with Agency funds provided under this grant to perform another grant when such use promotes efficient and effective use of Federal grant funds.

29. Patents and Inventions

Rights to inventions made under this assistance agreement are subject to federal patent and licensing regulations, which are codified at Title 37 CFR Part 401 and Title 35 USC Sections 200-212.

Pursuant to the Bayh-Dole Act (set forth in 35 USC 200-212), EPA retains the right to a worldwide, nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention owned by the assistance agreement holder, as defined in the Act. To streamline the invention reporting process and to facilitate compliance with the Bayh-Dole Act, the recipient must utilize the Interagency Edison extramural invention reporting system at https://www.nist.gov/iedison. Annual utilization reports must be submitted through the system. The recipient is required to notify the Project Officer identified on the award document when an invention report, patent report, or utilization report is filed at https://www.nist.gov/iedison. EPA elects not to require the recipient to provide a report prior to the close-out of a funding agreement listing all subject inventions or stating that there were none.

In accordance with Executive Order 12591, as amended, government owned and operated laboratories can enter into cooperative research and development agreements with other federal laboratories, state and local governments, universities, and the private sector, and license, assign, or waive rights to intellectual property "developed by the laboratory either under such cooperative research or development agreements and from within individual laboratories."

30. Acknowledgement Requirements for Non-ORD Assistance Agreements

The recipient agrees that any reports, documents, publications or other materials developed for public distribution supported by this assistance agreement shall contain the following statement:

"This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (number) to (recipient). The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document."

Recipients of EPA Office of Research Development (ORD) research awards must follow the acknowledgement requirements outlined in the research T&Cs available at: https://www.nsf.gov/awards/managing/rtc.jsp. A Federal-wide workgroup is currently updating the Federal-Wide Research Terms and Conditions Overlay to the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards and when completed recipients of EPA ORD research must abide by the research T&Cs.

31. Electronic and Information Technology Accessibility

Recipients are subject to the program accessibility provisions of Section 504 of the Rehabilitation Act, codified in 40 CFR Part 7, which includes an obligation to provide individuals with disabilities reasonable accommodations and an equal and effective opportunity to benefit from or participate in a program, including those offered through electronic and information technology ("EIT"). In compliance with Section 504, EIT systems or products funded by this award must be designed to meet the diverse needs of users (e.g., U.S. public, recipient personnel) without barriers or diminished function or quality. Systems shall include usability features or functions that accommodate the needs of persons with disabilities, including those who use assistive technology. At this time, the EPA will consider a recipient's websites, interactive tools, and other EIT as being in compliance with Section 504 if such technologies meet standards established under Section 508 of the Rehabilitation Act, codified at 36 CFR Part 1194. While Section 508 does not apply directly to grant recipients, we encourage recipients to follow either the 508 guidelines or other comparable guidelines that concern accessibility to EIT for individuals with disabilities.
Recipients may wish to consult the latest Section 508 guidelines issued by the U.S. Access Board or W3C's Web Content Accessibility Guidelines (WCAG) 2.0 (see https://www.access-board.gov/about/policy/accessibility.html).

32. Human Subjects

Human subjects research is any activity that meets the regulatory definitions of both research AND human subject. *Research* is a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. *Human subject* means a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information. [40 CFR 26.102 (d)(f)]

No research involving human subjects will be conducted under this agreement without prior written approval of the EPA to proceed with that research. If engaged in human subjects research as part of this agreement, the recipient agrees to comply with all applicable provisions of EPA Regulation 40 CFR 26 (Protection of Human Subjects). This includes, at Subpart A, the Basic Federal Policy for the Protection of Human Research Subjects, also known as the Common Rule. It also includes, at Subparts B, C, and D, prohibitions and additional protections for children, nursing women, pregnant women, and fetuses in research conducted or supported by EPA.

The recipient further agrees to comply with EPA's procedures for oversight of the recipient's compliance with 40 CFR 26, as given in EPA Order 1000.17 Change A1 (Policy and Procedures on Protection of Human Research Subjects in EPA Conducted or Supported Research). As per this order, no human subject may be involved in any research conducted under this assistance agreement, including recruitment, until the research has been approved or determined to be exempt by the EPA Human Subjects Research Review Official (HSRRO) after review of the approval or exemption determination of the Institutional Review Board(s) (IRB(s)) with jurisdiction over the research under 40 CFR 26.

For HSRRO approval, the recipient must forward to the Project Officer: (1) copies of all documents upon which the IRB(s) with jurisdiction based their approval(s) or exemption determination(s), (2) copies of the IRB approval or exemption determination letter(s), (3) copy of the IRB-approved consent forms and subject recruitment materials, if applicable, and (4) copies of all supplementary IRB correspondence.

Following the initial approvals indicated above, the recipient must, as part of the annual report(s), provide evidence of continuing review and approval of the research by the IRB(s) with jurisdiction, as required by 40 CFR 26.109(e). Materials submitted to the IRB(s) for their continuing review and approval are to be provided to the Project Officer upon IRB approval. During the course of the research, investigators must promptly report any unanticipated problems involving risk to subjects or others according to requirements set forth by the IRB. In addition, any event that is significant enough to result in the removal of the subject from the study should also be reported to the Project Officer, even if the event is not reportable to the IRB of record.

33. Animal Subjects

The recipient agrees to comply with the Animal Welfare Act of 1966 (P.L. 89-544), as amended, 7 USC 2131-2156. Recipient also agrees to abide by the "U.S. Government Principles for the Utilization and Care of Vertebrate Animals used in Testing, Research, and Training." (Federal Register 50(97): 20864-20865. May 20,1985). The nine principles can be viewed at https://olaw.nih.gov/policies-laws/phs-policy.htm. For additional information about the Principles, the recipient should consult the *Guide for the Care and Use of Laboratory Animals*, prepared by the Institute of Laboratory Animal Resources, National Research Council.

34. Light Refreshments and/or Meals

APPLICABLE TO ALL AGREEMENTS EXCEPT STATE CONTINUING ENVIRONMENTAL PROGRAMS (AS DESCRIBED BELOW):

Unless the event(s) and all of its components are described in the approved workplan, the recipient agrees to obtain prior approval from EPA for the use of grant funds for light refreshments and/or meals served at meetings, conferences, training workshops and outreach activities (events). The recipient must send requests for approval to the EPA Project Officer and include:

(1) An estimated budget and description for the light refreshments, meals, and/or beverages to be served at the event(s);
(2) A description of the purpose, agenda, location, length and timing for the event; and,
(3) An estimated number of participants in the event and a description of their roles.

Costs for light refreshments and meals for recipient staff meetings and similar day-to-day activities are not allowable under EPA assistance agreements.

Recipients may address questions about whether costs for light refreshments, and meals for events may be allowable to the recipient's EPA Project Officer; however, the Agency Award Official or Grant Management Officer will make final determinations on allowability. Agency policy prohibits the use of EPA funds for receptions, banquets and similar activities that take place after normal business hours unless the recipient has provided a justification that has been expressly approved by EPA's Award Official or Grants Management Officer.

EPA funding for meals, light refreshments, and space rental may not be used for any portion of an event where alcohol is served, purchased, or otherwise available as part of the event or meeting, even if EPA funds are not used to purchase the alcohol.

Note: U.S. General Services Administration regulations define light refreshments for morning, afternoon or evening breaks to include, but not be limited to, coffee, tea, milk, juice, soft drinks, donuts, bagels, fruit, pretzels, cookies, chips, or muffins. (41 CFR 301-74.7)

FOR STATE CONTINUING ENVIRONMENTAL PROGRAM GRANT RECIPIENTS EXCLUDING STATE UNIVERSITIES:
If the state maintains systems capable of complying with federal grant regulations at 2 CFR 200.432 and 200.438, EPA has waived the prior approval requirements for the use of EPA funds for light refreshments and/or meals served at meetings, conferences, and training, as described above. The state may follow its own procedures without requesting prior approval from EPA. However, notwithstanding state policies, EPA funds may not be used for (1) evening receptions, or (2) other evening events (with the exception of working meetings). Examples of working meetings include those evening events in which small groups discuss technical subjects on the basis of a structured agenda or there are presentations being conducted by experts. EPA funds for meals, light refreshments, and space rental may not be used for any portion of an event (including evening working meetings) where alcohol is served, purchased, or otherwise available as part of the event or meeting, even if EPA funds are not used to purchase the alcohol.

By accepting this award, the state is certifying that it has systems in place (including internal controls) to comply with the requirements described above.

35. Tangible Personal Property

35.1 Reporting Pursuant to 2 CFR 200.312 and 200.314, property reports, if applicable, are required for Federally-owned property in the custody of a non-Federal entity upon completion of the Federal award or when the property is no longer needed. Additionally, upon termination or completion of the project, residual unused supplies with a total aggregate fair market value exceeding $5,000 not needed for any other Federally-sponsored programs or projects must be reported. For Superfund awards under Subpart O, refer to 40 CFR 35.6340 and 35.6660 for property reporting requirements. Recipients should utilize the Tangible Personal Property Report form series (SF-428) to report tangible personal property.

35.2 Disposition

35.2.1 Most Recipients. Consistent with 2 CFR 200.313, unless instructed otherwise on the official award document, this award term, or at closeout, the recipient may keep the equipment and continue to use it on the project originally funded through this assistance agreement or on other federally funded projects

whether or not the project or program continues to be supported by Federal funds.

35.2.2 State Agencies. Per 2 CFR 200.313(b), state agencies may manage and dispose of equipment acquired under this assistance agreement in accordance with state laws and procedures.

35.2.3 Superfund Recipients. Equipment purchased under Superfund projects is subject to specific disposal options in accordance with 40 CFR Part 35.6345.

36. Dual Use Research of Concern (DURC)

The recipient agrees to conduct all life science research* in compliance with *EPA's Order on the Policy and Procedures for Managing Dual Use Research of Concern* (EPA DURC Order) and *United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern (iDURC Policy).* If the recipient is an institution within the United States that receives funding through this agreement, or from any other source, the recipient agrees to comply with the iDURC Policy if they conduct or sponsor research involving any of the agents or toxins identified in Section 6.2.1 of the iDURC Policy. If the institution is outside the United States and receives funding through this agreement to conduct or sponsor research involving any of those same agents or toxins, the recipient agrees to comply with the iDURC Policy. The recipient agrees to provide any additional information that may be requested by EPA regarding DURC and iDURC. The recipient agrees to immediately notify the EPA Project Officer should the project use or introduce use of any of the agents or toxins identified in the iDURC Policy. The recipient's Institution/Organization must also comply with USG iDURC policy and EPA DURC Order and will inform the appropriate government agency if funded by such agency of research with the agents or toxins identified in Section 6.2.1 of the iDURC Policy. If privately funded the recipient agrees to notify the National Institutes of Health at DURC@od.nih.gov.

* *"Life Sciences Research,"* for purposes of the EPA DURC Order, and based on the definition of research in 40 CFR §26.102(d), is a systematic investigation designed to develop or contribute to generalizable knowledge involving living organisms (e.g., microbes, human beings, animals, and plants) and their products. EPA does not consider the following activities to be research: routine product testing, quality control, mapping, collection of general-purpose statistics, routine monitoring and evaluation of an operational program, observational studies, and the training of scientific and technical personnel. [Note: This is consistent with Office of Management and Budget Circular A-11.]

37. Research Misconduct

In accordance with 2 CFR 200.329, the recipient agrees to notify the EPA Project Officer in writing about research misconduct involving research activities that are supported in whole or in part with EPA funds under this project. EPA defines research misconduct as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results [65 FR 76262. I], or ordering, advising or suggesting that subordinates engage in research misconduct. The recipient agrees to:

(1) Immediately notify the EPA Project Officer who will then inform the EPA Office of Inspector General (OIG) if, at any time, an allegation of research misconduct falls into one of the categories listed below:
A. Public health or safety is at risk.
B. Agency resources or interests are threatened.
C. Circumstances where research activities should be suspended.
D. There is a reasonable indication of possible violations of civil or criminal law.
E. Federal action is required to protect the interests of those involved in the investigation.
F. The research entity believes that the inquiry or investigation may be made public prematurely so that appropriate steps can be taken to safeguard evidence and protect the rights of those involved.
G. Circumstances where the research community or public should be informed. [65 FR 76263.III]

(2) Report other allegations to the OIG when they have conducted an inquiry and determined that there is sufficient evidence to proceed with an investigation. [65 FR 76263. III]

38. Scientific Integrity Terms and Conditions

The recipient agrees to comply with EPA's Scientific Integrity Policy when conducting, supervising, and communicating science and when using or applying the results of science. For purposes of this award condition scientific activities include, but are not limited to, computer modelling, economic analysis, field sampling, laboratory experimentation, demonstrating new technology, statistical analysis, and writing a review article on a scientific issue. The recipient agrees to:

38.1 Scientific Products

38.1.1 Produce scientific products of the highest quality, rigor, and objectivity, by adhering to applicable EPA information quality guidelines quality policy and peer review policy.

38.1.2 Prohibit all recipient employees, contractors, and program participants, including scientists, managers, and other recipient leadership, from suppressing, altering, or otherwise impeding the timely release of scientific findings or conclusions.

38.1.3 Adhere to EPA's Peer Review Handbook, 4th Edition, for the peer review of scientific and technical work products generated through EPA grants or cooperative agreements which, by definition, are not primarily for EPA's direct use or benefit.

38.2 Scientific Findings

38.2.1 Require that reviews regarding the content of a scientific product that are conducted by the project manager and other recipient managers and the broader management chain be based only on scientific quality considerations, e.g., the methods used are clear and appropriate, the presentation of results and conclusions is impartial.

38.2.2 Ensure scientific findings are generated and disseminated in a timely and transparent manner, including scientific research performed by employees, contractors, and program participants, who assist with developing or applying the results of scientific activities.

38.2.3 Include, when communicating scientific findings, an explication of underlying assumptions, accurate contextualization of uncertainties, and a description of the probabilities associated with both optimistic and pessimistic projections, if applicable.

38.2.4 Document the use of independent validation of scientific methods.

38.2.5 Document any independent review of the recipient's scientific facilities and testing activities, as occurs with accreditation by a nationally or internationally recognized sanctioning body.

38.2.6 Make scientific information available online in open formats in a timely manner, including access to data and non-proprietary models.

38.3 Scientific Misconduct

38.3.1 Prohibit intimidation or coercion of scientists to alter scientific data, findings, or professional opinions or non-scientific influence of scientific advisory boards. In addition, recipient employees, contractors, and program participants, including scientists, managers, and other leadership, shall not knowingly misrepresent, exaggerate, or downplay areas of scientific uncertainty.

38.3.2 Prohibit retaliation or other punitive actions toward recipient employees who uncover or report allegations of scientific and research misconduct, or who express a differing scientific opinion. Employees who have allegedly engaged in scientific or research misconduct shall be afforded the due process protections provided by law, regulation, and applicable collective bargaining agreements, prior to any action. Recipients shall ensure that all employees and contractors of the recipient shall be familiar with these protections and avoid the appearance of retaliatory actions.

38.3.3 Require all recipient employees, contractors, and program participants to act honestly and refrain from acts of research misconduct, including publication or reporting, as described in EPA's Policy and Procedures for Addressing Research Misconduct, Section 9.C. Research misconduct does not include honest error or differences of opinion. While EPA

retains the ultimate oversight authority for EPA-supported research, grant recipients conducting research bear primary responsibility for prevention and detection of research misconduct and for the inquiry, investigation, and adjudication of research misconduct alleged to have occurred in association with their own institution.

38.3.4 Take the actions required on the part of the recipient described in EPA's Policy and Procedures for Addressing Research Misconduct, Sections 6 through 9, when research misconduct is suspected or found.

38.4 Additional Resources

For more information about the Scientific Integrity Policy, an introductory video can be accessed at: https://youtu.be/FQJCy8BXXq8. A training video is available at: https://youtu.be/Zc0T7fooot8.

Public Policy Requirements

39. Civil Rights Obligations

This term and condition incorporates by reference the signed assurance provided by the recipient's authorized representative on: 1) EPA Form 4700-4, "Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance"; and 2) Certifications and Representations in Sam.gov or Standard Form 424D, as applicable.

These assurances and this term and condition obligate the recipient to comply fully with applicable civil rights statutes and implementing federal and EPA regulations.

a. Statutory Requirements

i. In carrying out this agreement, the recipient must comply with:
   1. Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP), by entities receiving Federal financial assistance.
   2. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities by entities receiving Federal financial assistance; and
   3. The Age Discrimination Act of 1975, which prohibits age discrimination by entities receiving Federal financial assistance.

ii. If the recipient is an education program or activity (e.g., school, college or university) or if the recipient is conducting an education program or activity under this agreement, it must also comply with:
   1. Title IX of the Education Amendments of 1972, which prohibits discrimination on the basis of sex in education programs and activities operated by entities receiving Federal financial assistance. For further information about your compliance obligations regarding Title IX, see 40 CFR Part 5 and https://www.justice.gov/crt/title-ix

iii. If this agreement is funded with financial assistance under the Clean Water Act (CWA), the recipient must also comply with:
   1. Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex in CWA-funded programs or activities.

b. Regulatory Requirements

i. The recipient agrees to comply with all applicable EPA civil rights regulations, including:
   1. For Title IX obligations, 40 C.F.R. Part 5; and
   2. For Title VI, Section 504, Age Discrimination Act, and Section 13 obligations, 40 CFR Part7.
   3. For statutory and national policy requirements, including those prohibiting discrimination and those described in Executive Order 13798 promoting free speech

and religious freedom, 2 CFR 200.300.

4. As noted on the EPA Form 4700-4 signed by the recipient's authorized representative, these regulations establish specific requirements including maintaining compliance information, establishing grievance procedures, designating a Civil Rights Coordinator and providing notices of non-discrimination.

c. TITLE VI – LEP, Public Participation and Affirmative Compliance Obligation

i. As a recipient of EPA financial assistance, you are required by Title VI of the Civil Rights Act to provide meaningful access to LEP individuals. In implementing that requirement, the recipient agrees to use as a guide the Office of Civil Rights (OCR) document entitled "Guidance to Environmental Protection Agency Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons." The guidance can be found at: https://www.federalregister.gov/documents/2004/06/25/04-14464/guidance-to-environmental-protection-agency-financial-assistance-recipients-regarding-title-vi

ii. If the recipient is administering permitting programs under this agreement, the recipient agrees to use as a guide OCR's Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs. The Guidance can be found at: https://www.govinfo.gov/content/pkg/FR-2006-03-21/pdf/06-2691.pdf

iii. In accepting this assistance agreement, the recipient acknowledges it has an affirmative obligation to implement effective Title VI compliance programs and ensure that its actions do not involve discriminatory treatment and do not have discriminatory effects even when facially neutral. The recipient must be prepared to demonstrate to EPA that such compliance programs exist and are being implemented or to otherwise demonstrate how it is meeting its Title VI obligations.

40. Drug-Free Workplace

The recipient organization of this EPA assistance agreement must make an ongoing, good faith effort to maintain a drug-free workplace pursuant to the specific requirements set forth in Title 2 CFR Part 1536 Subpart B. Additionally, in accordance with these regulations, the recipient organization must identify all known workplaces under its federal awards, and keep this information on file during the performance of the award.

Those recipients who are individuals must comply with the drug-free provisions set forth in Title 2 CFR Part 1536 Subpart C.

The consequences for violating this condition are detailed under Title 2 CFR Part 1536 Subpart E. Recipients can access the Code of Federal Regulations (CFR) Title 2 Part 1536 at www.ecfr.gov/.

41. Hotel-Motel Fire Safety

Pursuant to 15 USC 2225a, the recipient agrees to ensure that all space for conferences, meetings, conventions or training seminars funded in whole or in part with federal funds complies with the protection and control guidelines of the Hotel and Motel Fire Safety Act (PL 101-391, as amended). Recipients may search the Hotel-Motel National Master List at https://apps.usfa.fema.gov/hotel/ to see if a property is in compliance, or to find other information about the Act.

42. Lobbying Restrictions

a) This assistance agreement is subject to lobbying restrictions as described below. Applicable to all assistance agreements:

i) The chief executive officer of this recipient agency shall ensure that no grant funds awarded under this assistance agreement are used to engage in lobbying of the Federal Government or in litigation against the U.S. unless authorized under existing law. The recipient shall abide by the Cost Principles available at 2 CFR Part 200 which generally prohibits the use of federal grant funds for litigation against the U.S. or for lobbying or other political activities.

ii) The recipient agrees to comply with Title 40 CFR Part 34, New Restrictions on Lobbying. The recipient shall include the language of this provision in award documents for all subawards exceeding $100,000 and require that subrecipients submit certification and disclosure forms accordingly.

iii) In accordance with the Byrd Anti-Lobbying Amendment, any recipient who makes a prohibited expenditure under Title 40 CFR Part 34 or fails to file the required certification or lobbying forms shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure.

iv) Contracts awarded by a recipient shall contain, when applicable, the anti-lobbying provision as stipulated in the Appendix II to Part 200—Contract Provisions for Non-Federal Entity Contracts Under Federal Awards.

v) By accepting this award, the recipient affirms that it is not a nonprofit organization described in Section 501(c)(4) of the Internal Revenue Code of 1986 as required by Section 18 of the Lobbying Disclosure Act; or that it is a nonprofit organization described in Section 501(c)(4) of the Code but does not and will not engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act. Nonprofit organizations exempt from taxation under section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities are ineligible for EPA subawards.

b) Applicable to assistance agreements when the amount of the award is over $100,000:

i) By accepting this award, the recipient certifies, to the best of its knowledge and belief, that:

(1) No Federal appropriated funds have been or will be paid, by or on behalf of the recipient, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, or any employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the recipient shall complete and submit the linked Standard Form -- LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The recipient shall require that the language of this certification be included in the award documents for all subawards exceeding $100,000 at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

ii) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

43. Recycled Paper

When directed to provide paper documents, the recipient agrees to use recycled paper and double-sided printing for all reports which are prepared as a part of this agreement and delivered to EPA. This requirement does not apply to reports prepared on forms supplied by EPA.

44. Resource Conservation and Recovery Act

Consistent with goals of section 6002 of RCRA (42 U.S.C. 6962), State and local institutions of higher education, hospitals and non-profit organization recipients agree to give preference in procurement programs to the purchase of specific products containing recycled materials, as identified in 40 CFR Part 247.

Consistent with section 6002 of RCRA (42 U.S.C. 6962) and 2 CFR 200.323, State agencies or agencies of a political subdivision of a State and its contractors are required to purchase certain items made from recycled materials, as identified in 40 CFR Part 247, when the purchase price exceeds $10,000 during the course of a fiscal year or where the quantity of such items acquired in the course of the preceding fiscal year was $10,000 or more. Pursuant to 40 CFR 247.2 (d), the recipient may decide not to procure such items if they are not reasonably available in a reasonable period of time; fail to meet reasonable performance standards; or are only available at an unreasonable price.

45. Trafficking in Persons

a. Provisions applicable to a recipient that is a private entity.

i. The recipient, the recipient's employees, subrecipients under this award, and subrecipients' employees may not—
   1. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
   2. Procure a commercial sex act during the period of time that the award is in effect; or
   3. Use forced labor in the performance of the award or subawards under the award.

ii. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if the recipient or a subrecipient that is a private entity—
   1. Is determined to have violated a prohibition in paragraph a of this award term; or
   2. Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a of this award term through conduct that is either—
      a. Associated with performance under this award; or
      b. Imputed to the recipient or subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, ''OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),'' as implemented by our Agency at 2 CFR Part 1532.

b. Provision applicable to a recipient other than a private entity. EPA may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity—

i. Is determined to have violated an applicable prohibition in paragraph a. of this award term; or

ii. Has an employee who is determined by the agency official authorized to terminate the

award to have violated an applicable prohibition in paragraph a of this award term through conduct that is either—

1. Associated with performance under this award; or
2. Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, ''OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),'' as implemented by EPA at 2 CFR Part 1532.

c. Provisions applicable to any recipient.

i. The recipient must inform the EPA immediately of any information received from any source alleging a violation of a prohibition in paragraph a of this award term.

ii. Our right to terminate unilaterally that is described in paragraph a and b:

1. Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and
2. Is in addition to all other remedies for noncompliance that are available to us under this award.

iii. The recipient must include the requirements of paragraph a of this award term in any subaward made to a private entity.

d. Definitions. For purposes of this award term:

i. ''Employee'' means either:

1. An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or
2. Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

ii. ''Forced labor'' means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

iii. ''Private entity'':

1. Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.
2. Includes:
   a. A nonprofit organization, including any nonprofit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).
   b. A for-profit organization.

iv. ''Severe forms of trafficking in persons,'' ''commercial sex act,'' and ''coercion'' have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

46. Build America, Buy America (Effective May 14, 2022 and applicable to all funding that date forward; Clarifications added October 1, 2022)

a. The recipient is subject to the Buy America Sourcing requirements under the Build America, Buy America provisions of the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58, §§70911-70917) for the types of infrastructure projects under the EPA program and activities specified in the chart, "Environmental Protection Agency's Identification of Federal Financial Assistance Infrastructure Programs Subject to the Build America Buy America Provisions of the Infrastructure Investment and Jobs Act." None of the funds provided under this award may be used for a project of infrastructure unless all iron and steel, manufactured products, and construction materials that are consumed in, incorporated into, or affixed to an infrastructure project are produced in the United States. The Buy America preference requirement applies to an entire infrastructure project, even if it is funded by

both Federal and non-Federal funds. The recipient must implement these requirements in its procurements, and these requirements must flow down to all subawards and contracts at any tier. For legal definitions and sourcing requirements, the recipient must consult EPA's Build America, Buy America website and the Office of Management and Budget's (OMB) Memorandum M-22-11, Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure.

b. When supported by rationale provided in IIJA §70914, the recipient may submit a waiver request to EPA. Recipients should request guidance on the submission instructions of an EPA waiver request from the EPA Project Officer for this agreement. A list of approved EPA waivers (general applicability and project specific) is available on the EPA Build America, Buy America website.

c. For questions regarding the applicability of the Build America, Buy America Act requirements to this assistance agreement or if there is an approved waiver in place, please contact the EPA Project Officer for this agreement.

ATTACHMENT C

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

RELEASE OF CLAIMS

MDEQ MOA Number 23-00110

WHEREAS, pursuant to Section 7. (*Final Payment and Reports*) of the above-referenced Memorandum of Agreement (the "MOA"), entered into by the **Mississippi Department of Environmental Quality** ("MDEQ") and the **Jackson County School District ("Sub-Grantee"), wherein** it is provided that after completion of all work, and prior to final payment, the Sub-Grantee will furnish MDEQ with a release of all claims.

NOW, THEREFORE, in consideration of the above premises and the payments by MDEQ to the Sub-Grantee pursuant to the above referenced MOA, the receipt and sufficiency of which is hereby acknowledged, the Sub-Grantee hereby remises, releases, and forever discharges MDEQ, its officers, agents, and employees, of and from all manner of debts, dues, demands, damages, actions, causes of action or suits of any kind or nature whatsoever, whether known or unknown, fixed or contingent, and whether in law and equity, which the Sub-Grantee now has or may hereafter have arising out of or related to the MOA or any work performed pursuant to the MOA (collectively, all "Claims"), with the exception of only those Claims which are specifically exempted by Sub-Grantee as set forth below.

The following are all Claims specifically exempted by the Sub-Grantee:

_____

_____

_____

Jackson County School District

By: _____

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

ATTACHMENT D

RISK ASSESSMENT AND MONITORING ACTIVITIES

FOR DERA SUB-GRANTEES

The pre-award evaluation of the risk of noncompliance of the Diesel Emissions Reduction Act ("DERA") Sub-Grantees with Federal statutes, regulations, and the terms of conditions of the sub-award for purposes of determining the appropriate Sub-Recipient monitoring, has been determined by MDEQ to be very low risk.

MDEQ has determined that the DERA program Sub-Grantees, all school districts within the State of Mississippi, qualify for a determination of very low risk of noncompliance based upon the following factors:

Prior experience by MDEQ with school districts as the Sub-Grantees of DERA programs

Audit of school districts as done by the State of Mississippi, Office of the State Auditor

Method of reimbursement of costs, of a portion of the cost of a school bus, as stated in the sub-grant agreement, based upon submission of invoices and any supporting documentation to MDEQ

There appears to be very little chance of any possible deficiencies pertaining to the DERA Sub-Grantee awards.

Post-award monitoring activities of the Sub-Grantees shall include reports required to be submitted to MDEQ and following-up and ensuring that the Sub-Grantees take timely and appropriate action on all deficiencies pertaining to the sub-award identified through any audits and other means.

The Sub-Grantee agrees to provide MDEQ with any audit, assurance, attestation, or monitoring engagement report, if applicable, and the Sub-Grantee response and/or corrective action taken during the project period.

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Report Date: 3/13/2023 Claim Status: Open

Claim No.: ALL AP Dates: ALL

Claim No.	Claimant Name	Claim Amount	Fund	Description
222792	TOTAL EQUIPMENT MAINTENANCE CO	$2,392.20	2110	CN - EQUIPMENT REPAIR - ECM
223571	EXPRESS SERVICES INC	$5,455.89	2110	CN - CAFETERIA SUB SERVICES
223572	HERSHEY'S ICE CREAM	$3,533.28	2110	CN-ICE CREAM - FEBRUARY 2023
223573	MOBILE FIXTURE AND EQUIPMENT	$4,450.19	2110	CN-VMS ICE MACHINE
223574	PRAIRIE FARMS DAIRY	$15,921.80	2110	CN-MILK - FEBRUARY 2023
223575	PORTIONPAC/SFSPAC FOODSAFETY	$374.25	2110	CN- SFSPAC CHEMICALS
223576	CRUMBLEY PAPER CO.	($79.56)	2110	CN-CRUMBLEY FOOD 02/01/23
223577	CRUMBLEY PAPER CO.	$7,513.80	2110	CN-CRUMBLEY FOOD 02/08/23
223578	CRUMBLEY PAPER CO.	$2,705.55	2110	CN CRUMBLEY PAPER 02/08/23
223579	MERCHANTS FOODSERVICE	$105.00	2110	CN-MERCHANTS COMMODITIES
223580	CRUMBLEY PAPER CO.	$51.33	2110	CN- CRUMBLEY COMMODITIES
223581	MERCHANTS FOODSERVICE	$28,998.54	2110	CN-FROZEN FOOD 02/08/23
223582	SUNRISE FRESH PRODUCE	$3,948.10	2110	CN - PRODUCE 02/08/23
223583	CINTAS CORPORATION	$149.22	2110	CN - FOOD PRODUCTION SUPPLIES
223584	CINTAS CORPORATION	$94.32	2110	CN - FOOD PRODUCTION SUPPLIES
223585	CINTAS CORPORATION	$146.78	2110	CN - FOOD PRODUCTION SUPPLIES
223586	CINTAS CORPORATION	$113.24	2110	CN - FOOD PRODUCTION SUPPLIES
223587	CINTAS CORPORATION	$175.50	2110	CN - FOOD PRODUCTION SUPPLIES
223588	CINTAS CORPORATION	$85.26	2110	CN - FOOD PRODUCTION SUPPLIES
223589	CINTAS CORPORATION	$120.48	2110	CN - FOOD PRODUCTION SUPPLIES
223590	CINTAS CORPORATION	$93.08	2110	CN - FOOD PRODUCTION SUPPLIES
223591	CINTAS CORPORATION	$109.10	2110	CN - FOOD PRODUCTION SUPPLIES
223592	CINTAS CORPORATION	$107.21	2110	CN - FOOD PRODUCTION SUPPLIES
223593	CINTAS CORPORATION	$93.96	2110	CN - FOOD PRODUCTION SUPPLIES
223594	CINTAS CORPORATION	$71.78	2110	CN - FOOD PRODUCTION SUPPLIES
223595	BAY PEST CONTROL INC	$350.00	2110	CN-PEST CONTROL
223596	COASTAL HUMITECH	$767.00	2110	CN-HUMIDITY CONTROL
223597	CRUMBLEY PAPER CO.	$3,534.76	2110	CN CRUMBLEY PAPER 02/15/23
223598	CRUMBLEY PAPER CO.	$10,765.45	2110	CN-CRUMBLEY FOOD 02/15/23
223599	MERCHANTS FOODSERVICE	$38,935.89	2110	CN-FROZEN FOOD 02/15/23
223600	MERCHANTS FOODSERVICE	$644.00	2110	CN-MERCHANTS COMMODITIES
223601	SUNRISE FRESH PRODUCE	$4,316.40	2110	CN - PRODUCE 02/15/23
223602	TOTAL EQUIPMENT MAINTENANCE CO	$59.25	2110	CN - EQUIPMENT REPAIR - SMH
223603	CINTAS CORPORATION	$45.76	2110	CN - FOOD PRODUCTION SUPPLIES

JACKSON COUNTY SCHOOL DISTRICT
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Claim No.	Claimant Name	Claim Amount	Fund	Description
223604	WARDS SCIENCE - VWR INTNL LLC	$62.15	1120	VHS - Specimens
223605	VARSITY SPIRIT, LLC UCA/UDA	$2,301.00	1153	SM/Ath.--Reg. Cheer Nationals
223606	HINTONS PAINT SPECIALTY	$30.00	1120	SMAC paint thinner
223607	HOWARD TECHNOLOGY SOL. INC	$1,102.00	2711	JCTC-Desktop Computer
223608	AMAZON CAPITAL SERVICES	$833.78	1120	VHS - Ink for Office
223609	WARD INTERNATIONAL TRUCKS	$607.80	1120	VACT BUS20 Disc pad, absorber
223610	BILOXI PAPER COMPANY	$971.64	1120	SMAC--SMMS janitorial order
223611	LIGHTHOUSE ACADEMYFOR DYSLEXIA	$200.00	1120	ECU-Dyslexia Summit Fees
223612	PORTABLE SERVICES, INC	$110.00	1153	SMHSA Portable Toilet Rental
223613	WARING OIL COMPANY	$5,474.00	1120	EC-1400GAL DIESEL
223614	THYSSENKRUPP ELEVATOR	$463.81	1120	SMAC-SHMS Elevator Maintenance
223615	EPILOG LASER	$96.00	1156	FabLab-Cables for Laser
223616	AMAZON CAPITAL SERVICES	$175.68	1120	SMU - Speakers, binders, bell
223617	AMAZON CAPITAL SERVICES	$59.49	1120	SMU - labels,cards,pouches
223618	BILOXI PAPER COMPANY	$1,747.67	1120	SMAC paper towel, tissue
223620	TJ S CUSTOM APPAREL	$150.50	1154	VMS- BAND SHIRTS
223621	BSN SPORTS	$1,653.60	1154	VAC- G BASKETBALL JERSEYS
223622	LAKESHIRTS ZEPHYR LLC	$964.39	1154	VAC- BASEBALL HATS (x72)
223623	BSN SPORTS	$3,198.30	1153	SMHS - Boys BB shoes
223624	TJ S CUSTOM APPAREL	$820.00	1154	VHS- BAND SHIRTS
223625	BSN SPORTS	$763.20	1120	SMAC Ath BB Soccer Coach Shirt
223626	AMPCONTROL TECHNOLOGIES, INC	$200.00	1120	BO-PURCHASE OF EV CHARGING SOF
223627	AMAZON CAPITAL SERVICES	$297.87	1120	ECHS-Special Paper/Monitor Arm
223628	AMAZON CAPITAL SERVICES	$284.38	1120	ECHS-Guidance-File Storage
223629	AMAZON CAPITAL SERVICES	$527.86	2711	ECHS-Shelves/Stool
223630	AMAZON CAPITAL SERVICES	$1,257.80	1120	ECHS-Copy Paper (x30)
223631	SHED, THE	$122.00	1120	BOARD MEAL -January 9, 2023
223632	HURLEY FARM AND FEED	$72.00	1120	ECAC rye grass seed
223633	J.W. PEPPER & SON, INC.	$144.99	1154	VAC- SPRING BAND MUSIC
223634	RAYMOND GEDDES & COMPANY, INC.	$954.92	1154	VLE- STUDENT REWARDS
223635	SOUTHERN PRINTING & SILK	$409.00	1154	VAC- POWERLIFT HOODIES
223636	INZER ADVANCE DESIGNS	$392.00	1154	VAC- G POWERLIFT SUITS
223637	HURLEY FARM AND FEED	$465.00	1152	ECAC ballfield fertilizer
223638	MGCCC	$5,075.00	1152	ECHS Dual Credit Fees-fall
223639	HURLEY FARM AND FEED	$124.99	1120	ECAC 38 plus spray turf
223640	CHANCELLOR SUPPLY, INC	$2,210.89	1120	ECAC conduit sftball bseball
223641	THE EMPTY VASE FLORIST & GIFTS	$65.45	1152	ECHS senior recognition flower

JACKSON COUNTY SCHOOL DISTRICT
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Claim No.	Claimant Name	Claim Amount	Fund	Description
223642	HURLEY HARDWARE & BUILDING SUP	$8.99	1120	ECAC sink sprayer head
223643	ADVANCE AUTO PARTS HURLEY	$345.88	1120	ECAC oil filters, air filters
223644	PRO-LOCK	$34.00	1120	ECAC locks-rekeying
223645	HERSHEY'S ICE CREAM	$233.52	1152	ECUE concessions resale
223646	TECHNOLOGY STUDENT ASSOCIATION	$282.00	1152	ECHS TSA membership
223647	AMAZON CAPITAL SERVICES	$112.87	1120	ECAC flag, pole, tape
223648	WADE TIRE & WHEEL	$198.39	1120	ECAC bus tire 166
223649	RIDDELL/ALL AMERICAN	$1,008.80	1152	ECHS helmet decals
223650	SOUTHERN PEST CONTROL, INC.	$491.00	1120	ECAC extermination
223651	AMAZON CAPITAL SERVICES	$51.28	1120	ECAC--Envelopes, staples
223652	AMAZON CAPITAL SERVICES	$35.94	1120	ECHS choir cords
223653	AMAZON CAPITAL SERVICES	$378.86	1120	ECAC ink cartridge
223654	H&H CHEVRON	$220.23	1152	ECMS subway wellness fair
223655	BSN SPORTS	$3,271.16	1152	ECHS softball bats
223656	EXPLOREUM SCIENCE CENTER	$2,338.00	1152	ECMS field trip-6th grade
223657	LYNN MEADOWS DISCOVERY CENTER	$500.00	1153	SMHS Theatre rental Lynn Meado
223658	MGCCC	$5,000.00	1120	DO-DUAL CREDIT INSTRUCTOR FEES
223659	WARING OIL COMPANY	$3,520.00	1120	VC-1000GAL DIESEL
223660	WARING OIL COMPANY	$10,700.00	1120	SMM-2800GAL DIESEL/400GAL GAS
223661	WARING OIL COMPANY	$5,026.00	1120	EC-1400GAL DIESEL
223662	WARING OIL COMPANY	$3,450.00	1120	VC-1000GAL DIESEL
223663	JOHN FAYARD MOVING &	$30.48	1120	BO-MONTHLY STORAGE FEE
223664	CUNNINGHAM CPAS, PLLC	$17,000.00	1120	BO-AUDIT FEE-YEAR 3 OF 3
223665	AMAZON CAPITAL SERVICES	$17.62	1120	BO-FILE FOLDERS
223666	JACKSON COUNTY CHAMBER	$250.00	1120	DO-CHAMBER ANNUAL MEMBERSHIP
223667	CHANCERY CLERK	$34.00	1840	DO-FILING OF PINE GATE REAL ES
223668	CHANCERY CLERK	$52.00	1120	DO-FILING FEE FOR SURETY BONDS
223669	HURLEY HARDWARE & BUILDING SUP	$35.92	1120	ECAC plumbing supplies
223670	BSN SPORTS	$675.00	1120	ECAC pad for football goals
223671	GREERS FOOD TIGER	$49.06	1152	ECHS Home EC groceries
223672	JONES SCHOOL SUPPLY CO., INC.	$1,707.93	1152	ECUE student awards
223673	STANDARD PARTS OF JACKSON	$62.14	1120	ECAC bus belts
223674	ADVANCE AUTO PARTS HURLEY	$375.01	1120	ECAC hoses, brakes, filters
223675	AMAZON CAPITAL SERVICES	$196.60	1120	SMHS - Toner cartridges
223676	AMAZON CAPITAL SERVICES	$53.44	1120	SMHS - Mouse pad, pens,
223677	AMAZON CAPITAL SERVICES	$23.48	1120	SMHS - Transcript labels
223678	AMAZON CAPITAL SERVICES	$242.80	2986	SMHS - Skate tools

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223679	AMAZON CAPITAL SERVICES	$110.08	1120	SMHS - Facial tissue case
223680	SCHOOL NURSE SUPPLY INC.	$289.50	1120	SMHS - LifeVac
223681	BILOXI PAPER COMPANY	$798.72	1120	SMHS - Brown towel, tissue
223682	TIMOTHY ALEXANDER	$200.00	1120	SMHS - Guest speaker
223683	ANDYS MUSIC INC	$57.50	1153	SMHS - Sousaphone repair
223684	DICK BLICK	$2,028.41	1120	SMHS - Clay, pigma pens, paper
223685	WRISTBAND RESOURCES	$302.19	1153	SMHS - Wristbands
223686	SPORTABOUT	$211.50	1153	SMHS - Screen printing
223687	SPORTABOUT	$424.50	1153	SMHS - Screen printing
223688	SICILY S PIZZA	$108.00	1153	SMHS - Student of the Month
223689	SORG PRINTING	$70.00	1153	SMHS - Team banner
223690	AMAZON CAPITAL SERVICES	$82.98	1120	SMHS - Money Set, stand
223691	SORG PRINTING	$60.00	1153	SMHS - Artwork-golf team
223692	ODP BUSINESS SOLUTIONS, LLC	$71.70	1153	SMHS - Prom invitations
223693	STEVE WEISS MUSIC	$1,356.95	1153	SMHS - Drum head, toms
223694	NASP INC	$210.00	1153	SMHS - Repl cover for targets
223695	AMAZON CAPITAL SERVICES	$1,315.58	1153	SMHS - Prom feathers, statues
223696	PRO TUFF DECALS	$165.12	1153	SMHS - Locker tags/baseball
223697	ENVOG EVENTS, LLC	$500.00	1153	SMHS - Photo booth rental
223698	AMAZON CAPITAL SERVICES	$396.89	1154	VUE- STUDENT FIELD DAY ITEMS
223699	SORG PRINTING	$1,155.00	1120	DO Curr-Parent Read at home
223700	AMAZON CAPITAL SERVICES	$961.38	1153	SMEE Activity- Rugs for
223713	PLAYHOUSE IN THE PARK, INC	$80.00	1152	ECLE wings field trip
223714	COMPLETE SPORTS PRODUCTION	$300.00	1152	ECHS Mobile Challege of Champ.
223715	WARING OIL COMPANY	$3,690.00	1120	VC-1000GAL DIESEL
223718	ST MARTIN ACTIVITY FUND	$120.00	1152	ECHS Girls golf tournament
223719	RYCKI CHATMAN	$104.45	1153	Reimbursement hotel rooms Girl
223720	ANDYS MUSIC INC	$3,875.00	1120	VAC-Band-Double French Horn
223721	JCSD BUS MILEAGE REIMBURSEMENT	$89.00	1152	ECMS bus mileage reimb OCT.
223722	JCSD BUS DRIVER PAY	$284.87	1152	ECAC Bus driver wages Nov.
223723	TJ S CUSTOM APPAREL	$229.50	1154	VAC- DANCE SHIRTS
223724	DAHLS AUTOMOTIVE PARTS, INC.	$277.85	1120	VACT 42 Compressor Kit
223725	THYSSENKRUPP ELEVATOR	$500.73	1120	SMAC Elevator Repairs
223726	POPPS FERRY SALES AND SERVICE	$85.50	1120	SMAC Chain for pole saw
223727	VANCLEAVE OLD PLACE	$309.99	1120	SMACM inswing
223728	SOLIANT HEALTH	$8,880.00	1130	SPED- SLP Contract Service
223729	AMAZON CAPITAL SERVICES	$3,126.45	2711	JCTC - CPR Manikins,AEDT Plus

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223730	GOODGAMES PRINTING	$25.50	1120	ECU-teacher name signs
223731	OTC BRANDS INC.	$51.69	1120	SNE/K-Grad-Diplomas
223732	AMAZON CAPITAL SERVICES	$357.96	1120	SNE/1st grade tie dye kit
223733	RAINBOW SPRING WATER, INC.	$63.34	1120	SMACT Water for Feb 2023
223734	AMAZON CAPITAL SERVICES	$221.55	1120	ECMS Mail labels, tape, toner
223735	CAN'T BE BEAT FENCE	$4,475.00	1120	VACM- Softball MG-fence
223736	RAINBOW SPRING WATER, INC.	$27.09	1120	SMAC--Bottle Water Delivery
223737	PRESENCELEARNING, INC	$2,799.76	1130	SPED- SLP Contract
223738	PERMA-BOUND	$34.08	1120	SMEE Library- Books
223739	BILOXI SHUCKERS	$4,563.00	1153	SMU - 4th Biloxi Shuckers Trip
223742	SIEMENS INDUSTRY, INC.	$17,273.75	1120	CO-PATSP PROGRAM
223743	WARING OIL COMPANY	$788.70	1120	VACT fleet
223744	LEE TRACTOR CO.,INC.	$80.23	1120	VACM-tractor parts
223745	SUN SOUTH, LLC	$413.92	1120	VACM-tractor edger blade, mix
223746	VANCLEAVE OLD PLACE	$100.98	1120	VACM-knobs,keys
223747	BILOXI PAPER COMPANY	$53.75	1153	SMACA Toilet Paper Athletics
223748	WATERS INTERNATIONAL TRUCK	$4,000.76	1120	VACT fleet glass, mirror
223749	AMAZON CAPITAL SERVICES	$52.99	1925	IT/Wireless Keyboard
223750	AMAZON CAPITAL SERVICES	$348.80	1154	VMS- VETERAN'S DAY SUPPLY
223751	AMAZON CAPITAL SERVICES	$747.58	1925	IT/Toner, Webcam, Earphones
223752	POCKET NURSE ENTERPRISES,INC.	$3,152.36	2711	JCTC - Hospital Bed for SMHS
223753	AMAZON CAPITAL SERVICES	$239.11	1120	DO Cart for Testing Materials
223754	DEVON HAND JR.	$0.40	2110	CN-Student Lunch Refund
223755	PITNEY BOWES GLOBAL	$165.03	2110	CN - EQUIPMENT LEASING
223756	SOUTHERN FIRE SAFETY SYSTEMS	$1,150.00	2110	CN-FIRE SYSTEMS
223757	TOTAL EQUIPMENT MAINTENANCE CO	$138.25	2110	CN - EQUIPMENT REPAIR - SME
223758	AMAZON CAPITAL SERVICES	($186.88)	2211	ECLE--FLASH CARDS
223768	HEATHER MCCORMICK	$5.00	2110	CN-Student Lunch Refund
223769	AMANDA TUGGLE	$38.90	2110	CN-Student Lunch Refund
223770	ANGELINA POLITI	$15.25	2110	CN-Student Lunch Refund
223771	KELLI M HAZEN	$114.00	2110	CN-Student Lunch Refund
223772	KATRINA RUTLAND	$70.95	2110	CN-Student Lunch Refund
223773	EDITH PATRICIA WHITE	$75.50	2110	CN-Student Lunch Refund
223774	MS SCHOOL NUTRITION ASSOCIATIO	$1,050.00	2110	CN--MSNA NUTRITION ED SEMINAR
223775	MOBILE FIXTURE AND EQUIPMENT	$47,960.00	2110	CN- VLE COMBI OVEN
223776	PRAIRIE FARMS DAIRY	$2,398.05	2110	CN-MILK - FEBRUARY 2023
223780	HOLMES, RAINA	$124.16	1120	VHS - Hotel Room

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223786	TOTAL EQUIPMENT MAINTENANCE CO	$346.76	2110	CN - EQUIPMENT REPAIR - SMH
223787	TOTAL EQUIPMENT MAINTENANCE CO	$177.75	2110	CN - EQUIPMENT REPAIR - ECL
223788	AMAZON CAPITAL SERVICES	$121.66	2110	CN- OFFICE labels, hand soap
223789	FAMILY FROZEN FOODS	$479.00	2110	CN- Cookie Dough
223790	TOTAL EQUIPMENT MAINTENANCE CO	$393.10	2110	CN - EQUIPMENT REPAIR - SMN
223791	HOWARD TECHNOLOGY SOL. INC	$3,492.00	2598	FP-EII-Toughbook for Fac. Man.
223792	TOTAL EQUIPMENT MAINTENANCE CO	$601.99	2110	CN - EQUIPMENT REPAIR - ECM
223793	TOTAL EQUIPMENT MAINTENANCE CO	$625.99	2110	CN - EQUIPMENT REPAIR - SMU
223794	PORTIONPAC/SFSPAC FOODSAFETY	$3,317.60	2110	CN - SANITATION SERVICES
223795	JC BOARD OF SUPERVISORS	$1,362.50	1153	SMAC--Game Security
223796	AMAZON CAPITAL SERVICES	$241.19	1120	VUE Ely pads, peppermints, cup
223797	MSBA	$150.00	1120	HR-Hot Topics-Personnel
223798	BETTY JO PETERSON	$400.00	1120	HR- Bus Training
223799	BILOXI PAPER COMPANY	$306.25	1120	SMAC Paper towels and tissue
223800	DAHLS AUTOMOTIVE PARTS, INC.	$485.34	1120	VACT 96-34 and 0031-0032
223801	DAHLS AUTOMOTIVE PARTS, INC.	$269.88	1120	VACT Bar pump, oil pump,
223802	AMAZON CAPITAL SERVICES	$78.60	1120	SMU-rubberbands,folders,batter
223803	RAINBOW SPRING WATER, INC.	$19.84	1120	SMU - Spring Water for Meds
223804	AMAZON CAPITAL SERVICES	$180.59	1120	SMAC Cert/Holders/Off. Chai
223805	TURF MASTERS LAWN CARE INC	$623.22	1153	SMAC--Field Mainteance
223806	BROUSSARD PLUMBING, INC	$630.00	1120	SMAC Sewer Camera Rental
223807	SHERWIN-WILLIAMS OS	$1,358.00	1120	SMAC Paint
223808	DEPATMENT OF THE AIR FORCE	$2,238.62	1153	SMHS - Golf shirts/jackets
223809	CAROLINA BIOLOGICAL SUPPLY CO	$377.78	1120	SMHS - Crayfish, Squid, Pig
223810	SPORTABOUT	$897.00	1153	SMHS - Jerseys Baseball
223811	AMAZON CAPITAL SERVICES	$24.49	1120	ECMS Calendar nurse
223812	AMAZON CAPITAL SERVICES	$118.79	1901	SPED - TV Wall Mount
223813	AMAZON CAPITAL SERVICES	$2,399.98	1925	IT/VHS Monitors (x2)
223814	GULF HYDRAULICS & PNEUMATICS	$32.70	1120	SMAC-Hose, Fitting
223815	JOHNSTONE SUPPLY OF GULFPORT	$3,578.44	1120	HVAC- ECL Condenser, Heater
223816	JOHNSTONE SUPPLY OF GULFPORT	$2,760.71	1120	ECL HVAC condenser Rm 204
223817	AMAZON CAPITAL SERVICES	$1,067.53	1120	ECLE-Stapler, Tape, Toner
223818	GREERS FOOD TIGER	$96.62	1152	ECHS Home EC groceries
223819	THE EMPTY VASE FLORIST & GIFTS	$23.80	1152	ECHS senior recognition flower
223820	BAILEY EDUCATION GROUP, LLC	$725.00	2211	VUE--Professional Development
223821	AMAZON CAPITAL SERVICES	$279.96	1925	IT/VHS Digital Cameras (x4)
223822	ROCHESTER 100 INC.	$435.00	2211	VLE Nicky Folders

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223823	AMAZON CAPITAL SERVICES	$723.15	2811	FP-IV-VLE coding robots
223824	JC BOARD OF SUPERVISORS	$1,687.50	1154	VAC- SECURITY- FEBRUARY
223825	AMAZON CAPITAL SERVICES	$63.27	1120	VUE Pins, post its, book
223826	WARD INTERNATIONAL TRUCKS	$877.25	1120	SM/T- Camera Install Bus 42
223827	AMAZON CAPITAL SERVICES	$779.00	1120	BO-AMAZON PRIME MEMBERSHIP2023
223828	PDQ PRINTING, INC CUST#137	$575.00	1153	SM/Ath--Gate tickets
223829	BILOXI PAPER COMPANY	$1,660.25	1120	SMACM paper towel, liners, tis
223830	MS COAST SUPPLY INC	$2,907.90	1120	ECAC — PLUMBING REPAIR
223831	POCKET NURSE ENTERPRISES,INC.	$4,026.42	2711	JCTC - 4Rail Bed & Wheelchair
223832	AMAZON CAPITAL SERVICES	$1,987.84	1120	Curric DO ipad pro, keyboard
223833	OUTDOOR ALUMINUM, INC	$205,690.00	3027	EC-BASEBALL & SOFTBALL BLEACHE
223834	SMARTDEPLOY	$17,000.00	1925	IT/license support
223835	HURLEY HARDWARE & BUILDING SUP	$16.38	1120	ECHS-Keys
223836	NATIONAL SCHOOL FORMS	$120.39	1120	ECHS-Discipline Forms
223837	HURLEY HARDWARE & BUILDING SUP	$373.28	2711	ECHS-Plywood
223838	CRUM, ASHLYNN-PATHWAYS SPEECH	$1,175.38	2599	SPED SLP Contract
		$772.37	2610	SPED SLP Contract
223839	POCKET NURSE ENTERPRISES,INC.	$1,062.99	2711	JCTC - Human Skeleton
223840	AMAZON CAPITAL SERVICES	$1,538.24	1156	FabLab - DogTags
223841	BSN SPORTS	$4,433.63	1153	SMHS/SMMS Baseball helmets,
223842	AMAZON CAPITAL SERVICES	$239.85	1925	IT/ECL Headphones
223843	WARD INTERNATIONAL TRUCKS	$554.60	1120	SMAC-Ward-Left Base New Right
223844	WARING OIL COMPANY	$3,300.00	1120	EC-1000GAL DIESEL
223845	WARING OIL COMPANY	$8,601.00	1120	SMM-2300GAL DIESEL/400GAL GAS
223846	BXS INSURANCE-CADENCE INSU.	$350.00	1120	DO-SURETY BONDS-KATI EYRING
223847	JC BOARD OF SUPERVISORS	$120,000.00	1120	DO-SCHOOL RESOURCE OFFICERS
223848	PDQ PRINTING, INC CUST#137	$120.00	1153	SM/A--24 x 24 Turf Signs
223849	OFFICE OF THE STATE AUDITOR	$625.46	1120	BO-FY22 OSA COMPLIANCE AUDIT
223850	HOWARD TECHNOLOGY SOL. INC	$44,337.75	2598	FP-EIII-Technical Service Agre
223851	AMAZON CAPITAL SERVICES	$328.40	1925	IT/SMH Graphing Calculators
223852	CHANCERY CLERK	$26.00	1120	DO-SHERIE TANNER PRINCIPALBOND
223853	AMAZON CAPITAL SERVICES	$541.76	1120	VUE-Calculator, Mouse, Tape
223854	SHOPBOT TOOLS, INC	$464.25	1156	FabLab - Circuit Board
223855	HOWARD TECHNOLOGY SOL. INC	$624.00	1925	IT/SMH tablets (x3)
223856	WESTERN PSYCHOLOGICAL SERVICES	$431.20	2610	SPED-Testing Booklet, Question
223857	LOWES COMPANIES, INC.	$527.12	1156	FabLab-Saw,Sander,Wood,Glue
223858	T & N FEED AND PET SUPPLIES	$69.50	1120	SMAC Rat traps

JACKSON COUNTY SCHOOL DISTRICT
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THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
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Claim No.	Claimant Name	Claim Amount	Fund	Description
223859	AMAZON CAPITAL SERVICES	$198.50	1120	SMAC certificate paper, holder
223860	LOWES COMPANIES, INC.	$126.84	1120	SMACM Duck tape, quikrete
223861	MACHADO | PATANO, PLLC	$13,939.30	2598	ESSER II & III-Architect Fees
223862	AMAZON CAPITAL SERVICES	$1,123.95	1156	FabLab-Ink,SubPaper,Tape,Plywo
223863	AMAZON CAPITAL SERVICES	$34.02	1156	FabLab-Ink,SubPaper,Tape,Plywo
223864	WARD INTERNATIONAL TRUCKS	$1,399.12	1120	VACT Master Cylinder Bus 13
223865	BILOXI PAPER COMPANY	$360.00	1120	SM/T--JANITORIAL SUPPLIES
223866	BILOXI PAPER COMPANY	$161.25	1120	SMAC--janitorial for gifted
223867	AMAZON CAPITAL SERVICES	$95.50	1120	ECU-binders/markers/books
223868	AMAZON CAPITAL SERVICES	$220.24	2811	FP-IV-SMEE robot activity set
223869	AMAZON CAPITAL SERVICES	$888.18	2811	FP-IV-SMEE STEM coding robots
223870	DAHLS AUTOMOTIVE PARTS, INC.	$313.98	1120	VACT Bus 2 Battery
223871	DAHLS AUTOMOTIVE PARTS, INC.	$83.55	1120	VAC-3160XD OE Nonbracketed Cal
223872	AMAZON CAPITAL SERVICES	$189.89	1120	SMEE - Black toner
223873	ALLISTONS	$339.79	1153	SM/A--Embroidery-Tennis
223874	CPR SAVERS & FIRST AID SUPPLY	$5,033.95	2711	JCTC - ALS Trainer Full Body
223875	CENTRAL ACCESS CORP.	$250.00	1120	SS/SAM7 Webinar Training
223876	HOWARD TECHNOLOGY SOL. INC	$2,628.00	1925	IT/Access Control for DO
223877	AMAZON CAPITAL SERVICES	$309.26	1120	VMS-couch drops, gingerale
223878	AMAZON CAPITAL SERVICES	$640.47	1120	SMEE-Car building set, Slime
223879	OTC BRANDS INC.	$439.90	1153	SMU - Conversation hearts x 10
223880	WRISTBAND RESOURCES	$656.15	1153	SMU - Wristbands x 2250
223881	AMAZON CAPITAL SERVICES	$46.45	2711	JCTC - Bags & Tissue
223882	BILOXI PAPER COMPANY	$1,135.27	2711	JCTC-Tissue,Wax,Sealer,Towels
223883	ACOUSTI COMM	$4,775.00	2600	SPED-SLP Audiometers
223884	AMAZON CAPITAL SERVICES	$345.12	2211	VUE--Color Paper, pens
223885	AMAZON CAPITAL SERVICES	$411.69	1120	VUE Calendar, stapler, pens
223886	WARD INTERNATIONAL TRUCKS	$4,735.39	1120	SMACT - Turbocharge Kit Bus 58
223887	WARD INTERNATIONAL TRUCKS	($3,418.49)	1120	SMACT - Turbocharge Kit Bus 58
223888	WARDS SCIENCE - VWR INTNL LLC	$79.89	1120	VHS - Specimens
223889	AMAZON CAPITAL SERVICES	$499.42	2811	FP-IV-SMMS Stem supplies
223890	AMAZON CAPITAL SERVICES	$184.33	2811	FP-IV-STEM supplies
223891	AMAZON CAPITAL SERVICES	$169.25	2811	FP-IV-VLE STEM Supplies
223892	ATCO INTERNATIONAL	$1,393.46	1120	VACT Wipe off, Suk up jars
223893	AMAZON CAPITAL SERVICES	$54.78	1120	SMNE/peppermint, pencil pouch
223894	AMAZON CAPITAL SERVICES	$127.13	1120	ECMS Nurse-pens, meds, pads
223895	SOLIANT HEALTH	$2,760.00	1130	SPED- SLP Contract Service

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223896	AMAZON CAPITAL SERVICES	$2,948.06	2711	ECMS Filament,keyboard, toner,
223897	WARD INTERNATIONAL TRUCKS	$454.98	1120	Ward - Gasket Parts
223898	POCKET NURSE ENTERPRISES,INC.	$203.69	2711	SMHS - Tubes, dressing kit
223899	JC BOARD OF SUPERVISORS	$125.00	1152	ECAC Athletic security Feb
223900	SPORTS ENDEAVORS INC	$492.59	1152	ECMS Soccer uniforms
223901	JACKSON COUNTY SCHOOL DISTRICT	$30.00	1152	ECAC bus seat restoration fees
223902	APPLE INC	$3,745.00	2598	FP-EIII- 5 iPads -Counselors
223903	BSN SPORTS	$2,728.97	1153	Tennis uniforms #9483195
223904	AMAZON CAPITAL SERVICES	$153.48	1120	ECLE-Monthly Academic planner
223905	SCHOOL NURSE SUPPLY INC.	$830.57	1120	ECLE-Nurse supplies
223906	AMAZON CAPITAL SERVICES	$1,099.99	1925	IT/SMU Computer Monitor
223907	AMAZON CAPITAL SERVICES	$551.92	1925	IT/Docking Station x2
223908	AMAZON CAPITAL SERVICES	$27.30	1120	ECMS Library Discard Tape
223909	AMAZON CAPITAL SERVICES	$275.80	1120	ECMS Toner, pens, tape
223910	COASTAL FAMILY HEALTH CENTER	$1,175.00	1153	SM Athletics CPR/AED Training
223911	AMAZON CAPITAL SERVICES	$441.50	1925	IT/VUE printer and LT Chargers
223912	AMAZON CAPITAL SERVICES	$26.99	1120	VLE Tillman-Signature Stamp
223913	BILOXI PAPER COMPANY	$460.21	1153	SMHS Papertowels/Tissue/bleach
223914	AMAZON CAPITAL SERVICES	$492.17	1120	VLE Nurse-ice maker, toner
223915	AMAZON CAPITAL SERVICES	$274.67	2811	FP-IV-VUE STEM coding trains
223916	AMAZON CAPITAL SERVICES	$267.52	1120	VLE-Storage Bin, pens, picfram
223917	WARD INTERNATIONAL TRUCKS	$4,101.75	1120	SMACT Unit3 Fuel Pump Kit
223918	WARD INTERNATIONAL TRUCKS	$1,869.56	1120	SMACT - EGR Cooler & Gasket
223919	CHANCELLOR SUPPLY, INC	$8.09	1120	SMAC-receptacles
223920	CHANCELLOR SUPPLY, INC	$28.58	1120	SMACM-Circuit Breaker
223921	AMAZON CAPITAL SERVICES	$329.98	1120	DO Curric-Table
223922	ACE DATA STORAGE INC	$280.00	2610	SPED--SHREDDING SERVICES
223923	WARD INTERNATIONAL TRUCKS	$933.22	1120	VACT System Mirror, brake swit
223924	AMAZON CAPITAL SERVICES	$219.26	2711	VHS - Decision Day
223925	BICKNELL, SHAWNA	$93.78	1120	MILEAGE REIMBURSEMENT
223926	BAXTER, ALICIA	$44.41	2610	MILEAGE REIMBURSEMENT
223927	PETERSON, CHRISTIN	$65.50	2599	MILEAGE REIMBURSEMENT
223928	BERTOLINO, DODIE	$162.70	2610	MILEAGE REIMBURSEMENT
223929	CROCKER, HEATHER	$236.59	2599	MILEAGE REIMBURSEMENT
223930	TRITLEY, JOHN	$111.74	2610	MILEAGE REIMBURSEMENT
223931	SUMNER, DANA	$31.44	2610	MILEAGE REIMBURSEMENT
223932	ROBINSON, JAYME B	$91.70	2610	MILEAGE REIMBURSEMENT

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223933	SHAVERS, MAGGIE	$54.17	2610	MILEAGE REIMBURSEMENT
223934	RICHARDSON, DAVID	$130.41	2610	MILEAGE REIMBURSEMENT
223935	DAU, HANNAH	$28.30	2610	MILEAGE REIMBURSEMENT
223936	METZGER, WILLIAM	$61.44	1925	MILEAGE REIMBURSEMENT
223937	PEARSON, RUSTIN	$51.09	1925	MILEAGE REIMBURSEMENT
223938	KANODE, JESSE	$15.59	1153	MILEAGE REIMBURSEMENT
223939	JONES, SHANTA	$191.92	1925	MILEAGE REIMBURSEMENT
223940	CASE, BRANDON	$28.03	1925	MILEAGE REIMBURSEMENT
223941	SONNIER, TANYA	$136.50	1120	Mileage Reimbursement
223942	FINN, SARAH	$95.30	1925	MILEAGE REIMBURSEMENT
223943	MELISSA BOUCHER	$176.98	1120	Mileage Reimbursement
223944	FARRINGTON, MONIQUE	$272.48	1120	MILEAGE REIMBURSEMENT
223945	JOHNSON, BRANDY	$45.98	1925	MILEAGE REIMBURSEMENT
223946	HARRIS, ANASTASIA	$90.26	2211	MILEAGE REIMBURSEMENT
223947	TILLMAN, LESLIE	$46.11	2290	MILEAGE REIMBURSEMENT
223948	RAYNOR, AMBER	$110.04	1120	MILEAGE REIMBURSEMENT
223949	NECAISE, JENNIFER	$27.05	1120	MILEAGE REIMBURSEMENT
223950	BENNETT, DANIELLE M	$144.23	1120	MILEAGE REIMBURSEMENT
223951	INABINETTE, KAMANI	$52.14	1120	MILEAGE REIMBURSEMENT
223952	HARRIS, ASHLEY	$202.53	2110	MILEAGE REIMBURSEMENT
223953	HALL, TONYA L.	$66.02	2110	MILEAGE REIMBURSEMENT
223954	KEY, MICKIE	$65.31	2110	MILEAGE REIMBURSEMENT
223955	ROACH, ROBIN	$45.46	2110	MILEAGE REIMBURSEMENT
223956	YENNIE, KIMBERLY	$171.88	2110	MILEAGE REIMBURSEMENT
223957	REDMOND, CYNTHIA	$150.91	2110	MILEAGE REIMBURSEMENT
223958	SCHMIDT, ROSE	$4.19	2110	MILEAGE REIMBURSEMENT
223959	JONES, ALICIA	$200.17	2110	MILEAGE REIMBURSEMENT
223960	NACOL, MARLANA	$80.17	2110	MILEAGE REIMBURSEMENT
223961	MOREE, AMANDA LEANNE	$44.02	2110	MILEAGE REIMBURSEMENT
223962	OVERSTREET, AMBER	$66.68	2110	MILEAGE REIMBURSEMENT
223963	SMITH, YOLANDA	$25.94	2110	MILEAGE REIMBURSEMENT
223964	ODOM, LAVONDIA	$34.72	2110	MILEAGE REIMBURSEMENT
223965	JACKSON, JANINE	$9.82	2110	MILEAGE REIMBURSEMENT
223966	KELLY, KACI	$157.20	2110	MILEAGE REIMBURSEMENT
223967	WAGES, REBECCA	$52.79	2711	MILEAGE REIMBURSEMENT
223968	DOOLEY, ASHLEY	$273.11	1120	MILEAGE REIMBURSEMENT
223969	DAVIS, CURTIS	$94.84	2610	MILEAGE REIMBURSEMENT

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Claim No.	Claimant Name	Claim Amount	Fund	Description
223970	LEPOMA, DEAN	$155.18	1154	MILEAGE REIMBURSEMENT
223971	MORGAN, JERRY J	$74.10	2711	Mileage Reimbursement
223972	OVERSTREET, AMBER	$34.85	2110	MILEAGE REIMBURSEMENT
223973	SMITH, YOLANDA	$23.45	2110	MILEAGE REIMBURSEMENT
223974	NACOL, MARLANA	$61.31	2110	MILEAGE REIMBURSEMENT
223975	LONG, KAYLA	$6.42	2110	MILEAGE REIMBURSEMENT
223976	MOREE, AMANDA LEANNE	$45.78	2110	MILEAGE REIMBURSEMENT
223977	STRICKLER, JENNIFER	$143.71	2110	MILEAGE REIMBURSEMENT
223978	STRINGFELLOW, SHELIA KAREN	$49.13	2110	MILEAGE REIMBURSEMENT
223979	JACKSON, JANINE	$9.04	2110	MILEAGE REIMBURSEMENT
223980	KELLY, KACI	$37.07	2110	MILEAGE REIMBURSEMENT
223981	COLLINS, CHRIS	$111.35	1925	MILEAGE REIMBURSEMENT
223982	KENDRA COLE	$103.75	1935	MILEAGE REIMBURSEMENT
223983	HAMBURG, KATELYN	$36.16	2599	MILEAGE REIMBURSEMENT
223984	BAXTER, ALICIA	$15.72	2610	MILEAGE REIMBURSEMENT
223985	MONICA DOUGLAS	$165.85	1154	VUE- GIFTED FIELD TRIP MEALS
223986	COLLINS, CHRIS	$227.94	1925	TRAVEL REIMBURSEMENT
223987	LEE, KIMBERLEY	$209.69	1153	TRAVEL REIMBURSEMENT
223988	EARLEY, RYAN	$146.62	1120	TRAVEL REIMBURSEMENT
223989	HARRIS, ASHLEY	$247.42	2110	TRAVEL REIMBURSEMENT
223990	WAGES, REBECCA	$226.63	2711	TRAVEL REIMBURSEMENT
223991	KETNOR, ELIZABETH	$339.27	1902	TRAVEL REIMBURSEMENT
223992	HILL, JERRY	$158.98	1120	TRAVEL REIMBURSEMENT
223993	INABINETTE, KAMANI	$145.36	1120	TRAVEL REIMBURSEMENT
223994	MARKOS, MORGAN	$583.40	2811	FP-IV-ISTE plane ticket
223995	HOLMES, RAINA	$235.41	1120	TRAVEL REIMBURSEMENT
223996	CARTWRIGHT, MATTHEW	$533.40	2811	FP-IV-ISTE plane ticket
223997	JOHNSON, BRANDY	$537.40	2811	FP-IV-ISTE plane ticket
223998	JOHNSON, BRANDY	$266.88	1925	TRAVEL REIMBURSEMENT
223999	BAYLES, SARAH	$537.40	2811	FP-IV-ISTE plane ticket
224000	JOHNSON-NEWMAN, JENNY	$537.40	2811	FP-IV-ISTE plane ticket
224001	BARNETT, SHELLY	$728.40	2211	TRAVEL REIMBURSEMENT
224002	WILLIAMS, KIMBERLY	$266.29	2290	TRAVEL REIMBURSEMENT
224003	WILLIAMS, KIMBERLY	$258.46	2290	TRAVEL REIMBURSEMENT
224004	WILLIAMS, KIMBERLY	$238.42	1120	TRAVEL REIMBURSEMENT
224005	SONNIER, TANYA	$239.73	1120	TRAVEL REIMBURSEMENT
224006	HARRIS, ANASTASIA	$227.94	2211	TRAVEL REIMBURSEMENT

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Claim No.	Claimant Name	Claim Amount	Fund	Description
224007	RUSSELL, JENNIFER	$468.36	2211	TRAVEL REIMBURSEMENT
224008	CARROLL, JENNA	$116.04	2211	TRAVEL REIMBURSEMENT
224009	MAY, JOHNATHAN	$537.40	2811	FP-IV-ISTE plane ticket
224010	LEE, JOHN W, JR	$110.00	1120	CDL Medical Exam
224011	SHIELDS, MARK	$75.00	1120	CDL Medical Exam
224012	CURTIS, CARRIE	$110.00	1120	CDL Medical Exam
224013	BAKKER, ROBERT DEREK	$110.00	1120	CDL Medical Exam
224014	CASSIDY, J C	$175.00	1120	CDL Renewal
224015	REVERSE, LATACHIA	$110.00	1120	CDL Medical Exam
224016	STUBBS, ANGELA	$87.98	1120	CDL Medical Exam
224017	MCANNALLY, CYNTHIA	$100.00	1120	CDL Medical Exam
224018	ROY GOLDSMITH	$100.00	1120	CDL Medical Exam
224019	BAYGENTS, JOSEPH	$86.00	1120	CDL Medical Exam
224020	DOCK, KAREN	$150.00	1120	CDL Medical Exam
224021	GILBERT, CASEY	$175.00	1120	CDL Renewal
224022	LANDSTREET, ROBERT	$85.00	1120	CDL Medical Exam
224023	KROHN, MELISSA	$110.00	1120	CDL Medical Exam
224024	EWING, HETTIE	$110.00	1120	CDL Medical Exam
224025	REVERSE, LATACHIA	$110.00	1120	CDL Medical Exam
224026	LANE, SHANA	$110.00	1120	CDL Medical Exam
224027	NELSON, SHARON SUE	$86.80	1120	CDL Medical Exam
224028	STEPHEN FREDERIC	$181.00	1120	CDL Renewal
224029	JESSICA FLETCHER	$107.00	1120	CDL Renewal
224030	BREEDLOVE, TERRY	$437.00	1120	2022-23 Bus Driver Insurance
224031	DUNCAN, SANDRA	$213.00	1120	2022-23 Bus Driver Insurance
224032	GEISSINGER, MARK S.	$437.00	1120	2022-23 Bus Driver Insurance
224033	HOLLOWAY, DWIGHT	$213.00	1120	2022-23 Bus Driver Insurance
224034	MCANNALLY, CYNTHIA	$213.00	1120	2022-23 Bus Driver Insurance
224035	MIZELLE, REBECCA	$213.00	1120	2022-23 Bus Driver Insurance
224036	PERKINS, JAMES M.	$213.00	1120	2022-23 Bus Driver Insurance
224037	COX, JACKIE A.	$213.00	1120	2022-23 Bus Driver Insurance
224038	JACK C.PICKETT,ATTORNEY AT LAW	$4,290.48	1120	2022-23 LEGAL SERVICES
224039	ADAMS & REESE L.L.P.	$1,070.00	1120	2022-23 LEGAL SERVICES
224040	AMAZON CAPITAL SERVICES	$235.12	1120	Curr. DO folders, pencils
224041	C SPIRE WIRELESS #0001209996	$3,029.37	1120	2022-23 CELL PHONE SERVICES
224042	SOUTHERN LIGHT, LLC	$4,077.49	1120	2022-23 INTERNET SERVICES
224043	A T & T 228 826-1675 001 0595	$1,136.90	1120	2022-23 TELEPHONE SERVICES

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Claim No.	Claimant Name	Claim Amount	Fund	Description
224044	PELICAN WASTE AND DEBRIS, LLC	$16,069.06	1120	DO-WASTE MANAGEMENT FY-23
		$76.64	1935	DO-WASTE MANAGEMENT FY-23
		$178.83	2711	DO-WASTE MANAGEMENT FY-23
224045	SOUTHERN PEST CONTROL, INC.	$50.00	1935	FabLab - Pest Control
224046	SOUTHERN PEST CONTROL, INC.	$62.15	2711	JCTC - Pest Control
224047	COCA-COLA BOTTLING COMPANY	$403.50	1155	JCTC-Vending Supplies
224048	PRESENCELEARNING, INC	$2,600.00	1130	SPED- SLP Contract
224049	POCKET NURSE ENTERPRISES,INC.	$524.99	2711	JCTC - Skeleton Model
224050	AMAZON CAPITAL SERVICES	$179.63	1120	VUE Folders & Tape
224051	AMAZON CAPITAL SERVICES	$193.28	1120	ECMS Pens, erasers, card stock
224052	RAINBOW SPRING WATER, INC.	$70.59	1120	SMMS - 5 gallon water jugs
224053	SCHOOL NURSE SUPPLY INC.	$413.36	1120	SMMS - bandages, glucose gel
224054	AMAZON CAPITAL SERVICES	$232.94	1120	SMMS - file cabinet, hole punc
224055	AMAZON CAPITAL SERVICES	$2,934.75	1120	SMMS - copy paper
224056	AMAZON CAPITAL SERVICES	$855.00	1120	SMMS-calculator
224057	AMAZON CAPITAL SERVICES	$13.72	1120	SMMS - postage stamps
224058	AMAZON CAPITAL SERVICES	$559.32	1120	SMMS - mobile whiteboards
224059	MS TECHNOLOGY STUDENT ASSOC.	$308.00	1153	SMMS - registration
224060	JCSD BUS MILEAGE REIMBURSEMENT	$21.00	1153	SMMS - mileage for field trip
224061	JCSD BUS DRIVER PAY	$123.79	1153	SMMS - Bus driver - field trip
224062	AMAZON CAPITAL SERVICES	$67.99	1120	SMMS - toner cartridges
224063	HALLS ENGRAVING	$183.60	1153	SMMS - plaques for basketball
224064	NATIONAL SCHOOL FORMS	$301.94	1120	SMMS - behavior forms
224065	JCSD BUS DRIVER PAY	$61.44	1153	SMMS - Bus driver - field trip
224066	JCSD BUS MILEAGE REIMBURSEMENT	$11.00	1153	SMMS - mileage for field trip
224067	CHANCELLOR SUPPLY, INC	$561.73	1120	SMACM-wallplate, switch box
224068	CHANCELLOR SUPPLY, INC	$10.98	1120	SMAC-maintenence supplies/plug
224069	SUNBELT RENTALS, INC	$852.73	1120	SMAC excavator rental
224070	PRO-LOCK	$100.00	1120	SMACM Deadbolt for gym
224071	AMAZON CAPITAL SERVICES	$30.59	2811	FP-IV-ECU STEM Storage Bins
224072	BILOXI PAPER COMPANY	$86.65	1120	VACT Office tissue, soap
224073	SCHOOL NURSE SUPPLY INC.	$129.63	1120	SMNE/Splints, Bandages
224074	CDW GOVERNMENT, INC.	$18,287.10	2211	SMU - Galaxy Chromebooks x 28
224075	AMAZON CAPITAL SERVICES	$185.50	1120	VUE /sign decor, lamps, hooks
224076	HEATHER DAVIS	$576.00	1155	JCTC - HOSA Fundraiser
224077	AMAZON CAPITAL SERVICES	$95.80	1120	ECLE- Envelopes
224078	AMAZON CAPITAL SERVICES	$16.99	1120	ECUE-laminate paper/stickynote

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Claim No.	Claimant Name	Claim Amount	Fund	Description
224079	AMAZON CAPITAL SERVICES	$114.59	2290	FP-CP&EIII-iPadcases, toner
		$2,603.95	2598	FP-CP&EIII-iPadcases, toner
224080	HELWICK PRO AUDIO	$7,587.00	1925	IT/SMM Gym Sound System
224081	AUTOZONE OCEAN SPRINGS	$281.40	1120	SMACT-Brake Fluids
224082	DEMCO	$487.13	1120	SMMS - games, bookmarks
224083	AMAZON CAPITAL SERVICES	$32.46	1120	SMMS - glucose monitoring kit
224084	PERMA-BOUND	$3,604.30	1120	SMMS - library books
224085	SCHOLASTIC MAGAZINES	$401.06	1120	SMMS - periodicals
224086	OFFICE AUTOMATION	$444.96	2211	SMUE - Poster Paper
224087	AMAZON CAPITAL SERVICES	$559.77	1120	SM/T--Hand Truck, Batteries
224088	PERMA-BOUND	$1,314.05	1120	VUE--Library Books
224089	CHANCELLOR SUPPLY, INC	$8,446.48	3027	ECHS- BLEACHER Conduit, PVC
224090	NEWELL PAPER COMPANY	$45.70	1120	ECU-copy paper
224091	AMAZON CAPITAL SERVICES	$308.32	1120	ECU-desk chair/utility cart/
224092	WARD INTERNATIONAL TRUCKS	$1,295.34	1120	SMACT Ward- Turbo Actuator Kit
224093	WARD INTERNATIONAL TRUCKS	$2,580.04	1120	SMACT - Turbo Charge Kit
224094	WARING OIL COMPANY	$3,200.00	1120	VC-1000GAL DIESEL
224095	WARING OIL COMPANY	$6,070.00	1120	VC-1000GAL DIESEL, 900GAL GAS
224096	AMAZON CAPITAL SERVICES	$676.00	1925	IT/ECM Printer x4
224097	AUTOZONE OCEAN SPRINGS	$161.09	1120	SMAC Truck bed mat
224098	SUNBELT RENTALS, INC	$341.45	1120	SMAC Pipe camera,cable locator
224099	WARD INTERNATIONAL TRUCKS	$1,477.38	1120	SMACT - flywheel, jack, infla
224100	AMAZON CAPITAL SERVICES	$24.98	1120	SMUE - File Folders
224101	AMAZON CAPITAL SERVICES	$386.79	1154	VUE- Bounce Balls, fidget toy,
224102	HALLS ENGRAVING	$198.75	1154	VAC- DANCE AWARDS
224103	AMAZON CAPITAL SERVICES	$135.41	1120	SMNE/PBIS/Counselor toys, brac
224104	HURLEY FARM AND FEED	$72.00	1120	SMAC--Rye grass
224105	GREENPOINT AG HOLDINGS, LLC	$392.09	1120	SM/Ath--Fertilizer
224106	EAGLE ENERGY, INC.	$6,981.59	1120	SMM-1800GAL DIESEL/400GAL GAS
224107	LRP PUBLICATIONS, INC	$567.54	1120	ECM SPED teacher books
224108	ROUSES MARKET #40	$245.88	1153	SMMS-Attend Rewards king cake
224109	LOWES COMPANIES, INC.	$165.27	1120	SMACM-lattice, strap, cell sha
224110	SOUTHERN TIRE MART, LLC	$3,079.16	1120	SMAC - Sped and Reg Bus Tires
224111	WATERS INTERNATIONAL TRUCK	$2,965.42	1120	SMACT - Belt, Lamp, Filters
224112	TAPSPACE PUBLICATIONS, LLC	$145.68	1154	VMS- BAND MUSIC
224113	AMAZON CAPITAL SERVICES	$555.68	1154	VMS Popcorn, cereal bars,fruit
224114	CRAZY SISTER'S CATFISH CABIN,	$493.00	1154	VAC- DANCE BANQUET DINNER

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224115	COCA-COLA BOTTLING COMPANY	$574.50	1154	VHS- DECA STORE--CONCESSIONS
224116	AMAZON CAPITAL SERVICES	$27.99	1154	VAC- DANCE STORAGE BAGS
224117	WARING OIL COMPANY	$5,424.00	1120	EC-1600GAL DIESEL
224118	AUTOZONE GAUTIER	$149.90	2711	JCTC - Oil Absorbent
224119	AMAZON CAPITAL SERVICES	$148.55	1120	ECMErasers, Clipboards, Timers
224120	AMAZON CAPITAL SERVICES	$40.78	1154	VAC- DANCE FILE FOLDERS
224121	BSN SPORTS	$2,036.26	1154	VAC-G/ B GOLF APPAREL
224122	BSN SPORTS	$1,669.50	1154	VAC- TENNIS APPAREL
224123	CAROLINA BIOLOGICAL SUPPLY CO	$1,252.52	1154	VUE- STEM KITS/ GAMES
224124	AMAZON CAPITAL SERVICES	$526.69	1154	VUE- STEM KITS/GAMES
224125	ODP BUSINESS SOLUTIONS, LLC	$416.84	1154	VLE- LIBRARY SUPPLY
224126	JCSD BUS MILEAGE REIMBURSEMENT	$51.60	1154	VHS- MILEAGE REIMBURSEMENT
224127	COCA-COLA BOTTLING COMPANY	$363.50	1154	VHS- CONCESSION SUPPLY
224128	HALLS ENGRAVING	$13.00	1154	VHSA- AWARD PLAQUE
224129	FRANK P. CORSO, INC	$244.07	1154	VAC- HS CONCESSION SUPPLY
224130	AMAZON CAPITAL SERVICES	$354.23	1120	ECUE-library tablet, tape,head
224131	AMAZON CAPITAL SERVICES	$1,067.99	2290	FP-CP-Shredder
224132	CONSORTIUM FOR SCHOOL NETWORKI	$875.00	2811	FP-IV-Tech. COSN conference
224133	AUSTIN MARRIOTT DOWNTOWN	$2,417.93	2811	FP-IV-Tech. COSN conf. hotel
224134	AMAZON CAPITAL SERVICES	$722.62	1130	SPED Bag chair, wedge, easel
224135	AMAZON CAPITAL SERVICES	$97.56	1130	SPED Toner, Lam pouches
224136	AMAZON CAPITAL SERVICES	$53.30	1120	SMUE - Binding Covers
224137	AMAZON CAPITAL SERVICES	$658.19	1120	SMUE- paper,books,desk,bookend
224138	ROBOTICS EDUCATION & COMP	$40.00	1153	SMUE - Robotics Registration
224139	ROBOTICS EDUCATION & COMP	$40.00	1153	SMU - Robotics Registration
224140	SCHOOL MART	$894.76	1120	SMHS - 60 x Calculators
224141	TAYMARK	$997.51	1153	SMHS - Prom favors
224142	AMAZON CAPITAL SERVICES	$806.95	1120	SMHS - Metal detectors
224143	IXL LEARNING	$10,200.00	2213	SMHS - Renewal for IXL program
224144	DEPT OF PUBLIC SAFETY FINGERPR	$864.00	7310	HR--FINGERPRINTS
224145	TAD SHAW	$425.00	1120	HR- School Bus Training
224146	SINGING RIVER HEALTH-	$40.00	1120	HR-Pre Employment Drug Testing
224147	COURTYARD BY MARRIOTT	$399.18	2599	SPED Travel 3 nights
224148	AMAZON CAPITAL SERVICES	$1,046.00	1120	VHS - Tape Dispenser, Ink
224149	WARDS SCIENCE - VWR INTNL LLC	$264.26	1120	VHS - Worm Kit
224150	HOWARD TECHNOLOGY SOL. INC	$2,574.00	1925	IT-Thinkpad
224151	BOUND TO STAY BOUND BOOKS, INC	$693.61	1153	SMEE Activity Library - Books

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224152	MEDCO SUPPLY COMPANY	$234.24	1154	VAC- ATHLETIC Gauze, tape,wrap
224153	BOUND TO STAY BOUND BOOKS, INC	$447.59	1154	VLE- LIBRARY BOOK ORDER
224154	SOUTHERN PRINTING & SILK	$567.50	1154	VAC- ARCHERY SHIRTS
224155	AMAZON CAPITAL SERVICES	$39.53	1154	VACA FOLDERS, paper
224156	ROUSES MARKET #40	$48.02	1154	VAC- DANCE CLINIC SNACK BAGS
224157	NEXT LEVEL MAINTENANCE	$1,750.00	1154	VACM- BSB FIELD WORK
224158	FRANK P. CORSO, INC	$1,128.93	1154	VHS- DECA Candy, slim jim,zaps
224159	STEFANIE MCCAIN	$150.00	1153	SMHS Graph design/Ath. Sched
224160	SOUTHERN PEST CONTROL, INC.	$369.00	1120	VACM-Pest Control for Schools
224161	BILOXI PAPER COMPANY	$1,004.93	1120	VACM- VMS Custodial Supply
224162	BURNHAM ENTERPRISES	$6,400.65	1120	VHS Band Formal Wear
224163	FEED SACK, THE	$1,000.75	1120	VAC- Field enhancement
224164	ACE HARDWARE	$1,830.34	1120	VACM- trimmer,hedger, blower
224165	PRO-ED, INC	$206.80	2610	SPED- SLP Protocols
224166	AMAZON CAPITAL SERVICES	$590.79	1120	SMNE/batteries/keyboard
224167	GREERS FOOD TIGER	$114.62	2711	VHS - Food & Supplies
224168	GULF HYDRAULICS & PNEUMATICS	$172.73	1120	SMACM Hydraulic oil, wire hose
224170	AMAZON CAPITAL SERVICES	$107.94	2811	FP-IV-SMEE STEM Legos
224174	AMAZON CAPITAL SERVICES	$496.66	2811	FP-IV-ECMS STEM Dowels, cups
224179	BOUND TO STAY BOUND BOOKS, INC	$821.32	1120	ECMS - Library Books
224183	AMAZON CAPITAL SERVICES	$1,211.91	1925	IT-Hard drives(5),screwdrivers
224187	WEAVER ELECTRIC INC	$4,975.00	3027	ECHS - BLEACHER Risers
224189	AMAZON CAPITAL SERVICES	$999.95	2811	FP-IV- 5 Root iRobot
224191	EAGLE ENERGY, INC.	$3,159.59	1120	VUE-1000GAL DIESEL
224194	WARING OIL COMPANY	$3,150.00	1120	VC-1000GAL DIESEL
224195	PC PARTS PLUS, LLC	$45.98	1925	IT/ECM chromebook panel x2
224196	DAHLS AUTOMOTIVE PARTS, INC.	$162.15	1120	VACT Serp belts
224197	CHANCELLOR SUPPLY, INC	$38,108.95	1120	SMH-LED LIGHTS-SMH PARKINGLOT
224198	HOWARD TECHNOLOGY SOL. INC	$6,840.00	2211	ECLE-Chromebooks
224199	AMAZON CAPITAL SERVICES	$85.40	1120	VMS- Science Cookies
224200	AMAZON CAPITAL SERVICES	$107.09	1120	VMS-Principal Toner
224201	AMAZON CAPITAL SERVICES	$59.16	1120	VMS- Registrar / Coun
224202	NEWELL PAPER COMPANY	$1,269.60	1120	ECU-copy paper (24cases)
224204	MS ASSOCIATION OF FEDERAL	$435.00	2599	SPED MAFEPD Reg Fee
224205	CRISIS PREVENTION INSTITUTEINC	$4,249.00	2599	SPED- PBS CPI Training Fee
224206	SOUTHERN TIRE MART, LLC	$76.00	1120	VACT-Tire bal Bus 18 & Bus 20
224207	TURF MASTERS LAWN CARE INC	$623.22	1153	SMACA Turf Maint. Sb/Band/Socc

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224208	AMAZON CAPITAL SERVICES	$1,097.72	1120	ECLE-Scanner, toner, folders
224209	AMAZON CAPITAL SERVICES	$70.53	2711	JCTC - Binders/Calendar
224210	AMAZON CAPITAL SERVICES	$126.24	1156	FabLab - Power Adaptor
224211	MISSISSIPPI POWERLIFTING	$10.00	1153	SM-Powerlifting Assigning fee
224212	BILOXI PAPER COMPANY	$149.27	1153	SMAC-Paper towels/toilet paper
224213	LAMINATOR . COM	$264.46	1120	ECU-laminate rolls
224214	LUKE MCMILLAN MUSIC CO.	$620.00	1154	VAC- BAND MUSIC
224215	OMNI CHEER	$299.70	1154	VAC- DANCE POMS
224216	FRANK P. CORSO, INC	$1,298.15	1154	VHS- DECA STORE SUPPLY
224217	HALLS ENGRAVING	$202.00	1153	SMHS - trophies/engraving
224218	COASTAL FAMILY HEALTH CENTER	$450.00	1120	SMHS - CPR training
224219	BP ROUSE PLUMBING INC	$3,850.00	1120	SMACM pipe repair
224220	BILOXI PAPER COMPANY	$291.92	1120	SMACM towels, soap, liners
224221	AUTOZONE GAUTIER	$29.95	2711	JCTC - Wiper Blades
224222	AUTOZONE GAUTIER	$12.38	1935	FabLab - Wiper Blades
224223	SKILLSUSA STORE/CENTRICITY	$104.00	1155	JCTC - SkillsUSA Shirts
224224	SKILLSUSA STORE/CENTRICITY	$247.00	1155	JCTC-SkillsUSA Uniforms
224225	AMAZON CAPITAL SERVICES	$66.96	2711	JCTC - Belts for Const. Plaine
224226	POCKET NURSE ENTERPRISES,INC.	$415.99	2711	JCTC - Skeleton with Stand
224227	JOSTENS	$4,046.05	1153	SMNE/Yearbook deposit
224228	SOUTHERN TIRE MART, LLC	$8,750.00	1120	VACT fleet
224229	SOUTHERN TIRE MART, LLC	$13,110.68	1120	VAC Tires, valve stems
224230	ADVANCE AUTO PARTS HURLEY	$190.43	1120	ECAC hoses, brakes, filters
224231	HOSA - HEALTH OCCUPATION	$400.00	1152	ECHS HOSA conference
224232	WARING OIL COMPANY	$491.88	1120	ECACT DEF
224233	UNIVERSAL MEDICAL, INC	$167.46	1152	ECHS life skills food replicas
224234	HURLEY FARM AND FEED	$1,930.00	1152	ECACA clay, conditioner
224235	AMAZON CAPITAL SERVICES	$741.59	1120	ECLE-K tape, paper, sentence
224236	NASCO EDUCATION LLC	$552.50	1120	ECUE -owl pellets
224237	SOUTHERN TIRE MART, LLC	$1,130.00	1120	CO HVAC-NewTire Install, parts
224238	LOWES COMPANIES, INC.	$374.13	1120	VACM- ceiling tiles
224239	AMAZON CAPITAL SERVICES	$551.97	1120	VACM- ipad, cover, pen
224240	ASE	$1,595.00	2711	JCTC - ASE Renewal
224241	SCHOOL NURSE SUPPLY INC.	$727.67	1120	SMEE - Health supplies Bandage
224242	EAGLE ENERGY, INC.	$7,624.59	1120	SMM-2000GAL DIESEL/500GAL GAS
224243	AMAZON CAPITAL SERVICES	$733.65	1120	SMEE- Locking Cabinet,File Cab
224244	AMAZON CAPITAL SERVICES	($68.26)	1120	SMEE- Locking Cabinet,File Cab

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224245	WARING OIL COMPANY	$3,050.00	1120	VC-1000GAL DIESEL
224246	WARING OIL COMPANY	$9,570.00	1120	EC-1400GAL DIESEL/1600GAL GAS
224247	GOODGAMES PRINTING	$349.39	1120	VUE-Nurse / Dis.refferls
224248	DEMCO	$634.14	1153	SMEE Bookmarks, Stickers
224249	BAILEY EDUCATION GROUP, LLC	$725.00	2211	VLES - Title I 6-day PD coach
224250	GREERS FOOD TIGER	$69.30	1120	SS/Training Snacks
224251	MULTI-HEALTH SYSTEMS, INC.	$353.06	1120	Curric DO Gifted Rating Scales
224252	ELENA M. FAIRLEY	$4,840.00	2610	SPED- Behavior Mental Services
224253	PRESENCELEARNING, INC	$4,079.17	1130	SPED- SLP Contract
224254	HOSA - HEALTH OCCUPATION	$315.00	1155	JCTC - HOSA State Registration
224255	WATERS INTERNATIONAL TRUCK	$422.34	1120	VACT fleet actuator cable
224256	AMAZON CAPITAL SERVICES	$2,087.60	2211	SMUE-whiteboards,expos,pocket
224257	DAHLS AUTOMOTIVE PARTS, INC.	$31.19	1120	VACT truck 42 Pump
224258	BOUND TO STAY BOUND BOOKS, INC	$692.38	1120	ECU-library books
224259	AMBIT SOLUTIONS, LLC	$1,136.00	1925	IT/Replace intercom horns (x2)
224260	AMERICAN SCHOOL COUNSELOR ASSN	$3,500.00	1120	SS/Ramp Workshop
224261	JACKSON CO. TECHNOLOGY CENTER	$645.00	1153	SMHS - HOSA Hotel for comp
224262	JACKSON CO. TECHNOLOGY CENTER	$1,032.00	1152	ECHS HOSA hotel fees reimb
224263	OTC BRANDS INC.	$261.52	1120	SNE/K-Grad-Diplomas
224264	TRAFERA, LLC	$2,894.59	1925	IT/Promethean ECH
224265	TRAFERA, LLC	$2,749.00	1925	IT/ECH Promethean
224266	BEST BUY BUSINESS (FAX ONLY)	$1,249.95	2811	FP-IV-ECLE STEM SamsungTablets
224267	BILOXI PAPER COMPANY	$1,173.30	1120	SMAC Hand soap, trash bags
224268	APPLE INC	$1,718.00	1925	IT/VHS iMAc
224269	OL' MAGNOLIA PEST CONTROL	$20.00	1120	BO-PEST CONTROL
224270	JONES SCHOOL SUPPLY CO., INC.	$695.47	1154	VLE- PAW STUDENT AWARDS
224271	BILOXI PAPER COMPANY	$124.55	1154	VAC- MATS
224272	FRANK P. CORSO, INC	$280.23	1154	VAC- HS M&M, Nerds, Muffins
224273	AMPCONTROL TECHNOLOGIES, INC	$200.00	1120	BO-PURCHASE OF EV CHARGING SOF
224274	PIONEER ATHLETICS	$191.70	1120	VACA AD-field paint
224275	LAWSON PRODUCTS, INC.	$696.69	1120	VACM-Maint. Shop Supplies
224276	BLOSSMAN GAS, INC	$1,621.57	1120	VACM-ECAC Propane
224277	AMAZON CAPITAL SERVICES	$37.70	1120	ECMS- pens, markers
224278	AMAZON CAPITAL SERVICES	$15.98	1120	ECMS-sticky notes
224279	AMAZON CAPITAL SERVICES	$103.99	1120	ECLE- Pencils, monitor riser
224280	AMAZON CAPITAL SERVICES	$26.98	1120	ECLE Volcano Bubbler, folders
224281	SPORTABOUT	$132.00	1152	ECHS dance team awards

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.	Claimant Name	Claim Amount	Fund	Description
224282	AMAZON CAPITAL SERVICES	$927.99	1901	SPED Diagnostic Building
224283	AMAZON CAPITAL SERVICES	$343.70	1925	IT/iPad
224284	GOODGAMES PRINTING	$189.40	1120	ECLE-Student Emergency Cards
224285	PSAT/NMSQT	$444.00	1120	ECHS-PSAT TESTING - FY 23
224286	KELL, BETHANY	$150.04	1154	VHS- FUEL REIMBURSEMENT
224287	EAST CENTRAL STUDENT ACTIVITY	$20.00	1154	VAC- GIRLS GOLF TOURNAMENT FEE
224288	TIMOTHY ALEXANDER	$850.00	1153	SMHS - Guest speaker
224289	TIMOTHY ALEXANDER	$250.00	1153	SMHS - Guest speaker
224290	SOUTHERN PEST CONTROL, INC.	$62.15	2711	JCTC - Pest Control
224291	J & L DESPORTE, LLC	$40,454.54	1120	SMAC-JANITORIAL CONTRACT-FY23
224292	AMAZON CAPITAL SERVICES	$430.00	2711	JCTC - Toner for Medical
224293	AMAZON CAPITAL SERVICES	$117.76	1156	FabLab - Sublimation Ink
	Docket Total:	**$1,284,718.34**		

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Claim No.: ALL AP Dates: ALL

Claim Status: Open

Total Expenditures By Fund

Fund	Description	Claim Amount
1120	DISTRICT MAINTENANCE	$531,548.93
1130	SPECIAL EDUCATION	$21,939.11
1152	EAST CENTRAL ACTIVITY	$20,019.49
1153	ST MARTIN ACTIVITY	$43,205.70
1154	VANCLEAVE ACTIVITY	$25,174.22
1155	JCTC ACTIVITY	$1,645.50
1156	FABLAB ACTIVITY	$4,027.58
1840	16TH SECTION INTEREST	$34.00
1901	MEDICAID SBAC FUND	$1,046.78
1902	COMDATA NETWORK	$339.27
1925	TECHNOLOGY FUND	$48,410.28
1935	FAB LAB JACKSON COUNTY	$242.77
2110	SCHOOL FOOD SERVICE	$197,377.19
2211	TITLE I - A	$31,333.90
2213	TITLE I-1003(a) SCHOOL IMPROVEMENT	$10,200.00
2290	TITLE I COST POOL	$1,753.44
2598	ESSER III	$68,118.00
2599	IDEA B (ARP)	$6,596.81
2600	IDEA B (ARP-PRESCHOOL)	$4,775.00
2610	IDEA PART B	$7,295.80
2711	VOCATIONAL EDUCATION	$27,012.63
2811	TITLE IV, PART A	$12,403.66
2986	INGALLS GRANT	$242.80
3027	CONTRUCTION AND IMPROVEMENTS	$219,111.48
7310	PAYROLL CLEARING FUND	$864.00
	Total for Funds:	**$1,284,718.34**

Total Expenditures By Unit

Unit	Description	Claim Amount
00		$864.00
01	DISTRICT WIDE	$229,224.30
02	EAST CENTRAL UPPER ELEMENTARY	$17,427.65
04	EAST CENTRAL MIDDLE SCHOOL	$21,785.46

JACKSON COUNTY SCHOOL DISTRICT
Condensed By Claim
THE FOLLOWING CLAIMS AS LISTED ON THE DOCKET OF CLAIMS
ARE PRESENTED FOR PAYMENT ON THIS DATE3/13/2023

Total Expenditures By Unit

Unit	Description	Claim Amount
06	EAST CENTRAL HIGH SCHOOL	$249,595.73
10	ST. MARTIN NORTH ELEMENTARY	$19,836.20
11	ST. MARTIN HIGH SCHOOL	$103,114.85
13	ST. MARTIN UPPER ELEMENTARY	$40,307.80
14	ST. MARTIN EAST ELEMENTARY	$17,392.22
16	VANCLEAVE UPPER ELEMENTARY	$15,477.76
18	VANCLEAVE MIDDLE SCHOOL	$18,008.42
20	VANCLEAVE HIGH SCHOOL	$53,179.81
22	EAST CENTRAL LOWER ELEMENTARY	$23,804.88
24	ST.MARTIN MIDDLE SCHOOL	$41,470.47
26	VANCLEAVE LOWER ELEMENTARY	$65,265.19
30	VANCLEAVE ATTENDANCE CENTER	$110,503.83
50	EAST CENTRAL ATTENDANCE CENTER	$79,186.08
70	ST. MARTIN ATTENDANCE CENTER	$154,446.41
90	VOCATIONAL TECHNOLOGY CENTER	$19,799.70
92	FABLAB	$4,027.58
	Total for Units:	**$1,284,718.34**

APPROVED THIS THE _____ DAY OF _____ , _____

_____ PRESIDENT

_____ SECRETARY

_____ _____ _____

DRAFT #2 - 2023/02/03 07:45

District: Jackson County School District

Section: G - Personnel
Policy Code: GGBB - Salary Scale Supplement Scale

Position	Sport/Activity	Level		Days	0-2 yrs	3-5 yrs	6-8 yrs	9-11 yrs	12-14 yrs	15-17 yrs	18-20 yrs	21-23 yrs	24-26 yrs	27-29 yrs	30 yrs & >
Athletic Director	Athletic Director	High/Middle School	See Note 1												
Strength & Conditioning	All	High School			$8,650	$8,800	$8,950	$9,100	$9,250	$9,400	$9,550	$9,700	$9,850	$10,000	$10,150
Head Coach	Archery	High School		111	$1,450	$1,550	$1,650	$1,750	$1,850	$1,950	$2,050	$2,150	$2,250	$2,350	$2,450
Head Coach	Archery	Middle School			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Director	Band	High School	See Note 1	95	$15,045	$15,245	$15,445	$15,645	$15,845	$16,045	$16,245	$16,445	$16,645	$16,845	$17,045
Assistant Director	Band	High School		95	$3,300	$3,450	$3,600	$3,750	$3,900	$4,050	$4,200	$4,350	$4,500	$4,650	$4,800
Technical Assist.	Band	High School	See Note 2	95	$3,080	$3,180	$3,280	$3,380	$3,480	$3,580	$3,680	$3,780	$3,880	$3,980	$4,080
Director	Band	Middle School		N/A	$3,700	$3,800	$3,900	$4,000	$4,100	$4,200	$4,300	$4,400	$4,500	$4,600	$4,700
Assistant Director	Band	Middle School		N/A	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600
Head Coach	Baseball	High School	See Note 1	87	$12,100	$12,300	$12,500	$12,700	$12,900	$13,100	$13,300	$13,500	$13,700	$13,900	$14,100
Assistant Coach (3)	Baseball	High School		87	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300	$5,450	$5,600
Head Coach	Baseball	Middle School		N/A	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900
Assistant Coach	Baseball	Middle School		N/A	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050	$3,150
Head Coach	Basketball Boys	High School	See Note 1	116	$12,450	$12,650	$12,850	$13,050	$13,250	$13,450	$13,650	$13,850	$14,050	$14,250	$14,450
Assistant Coach	Basketball Boys	High School		116	$3,800	$3,950	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300
Head Coach	Basketball Boys	High School 9th		N/A	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900	$4,000
Head Coach	Basketball Boys	Middle School 8th		N/A	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600
Assistant Coach	Basketball Boys	Middle School 8th		N/A	$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Basketball Boys	Middle School 7th		N/A	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600
Assistant Coach	Basketball Boys	Middle School 7th		N/A	$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Basketball Girls	High School	See Note 1	116	$12,450	$12,650	$12,850	$13,050	$13,250	$13,450	$13,650	$13,850	$14,050	$14,250	$14,450
Assistant Coach	Basketball Girls	High School		116	$3,800	$3,950	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300
Head Coach	Basketball Girls	High School 9th		N/A	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900	$4,000
Head Coach	Basketball Girls	Middle School 8th		N/A	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600
Assistant Coach	Basketball Girls	Middle School 8th			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Basketball Girls	Middle School 7th		N/A	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600
Assistant Coach	Basketball Girls	Middle School 7th			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Bass Fishing	High School		N/A	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000
Head Coach	Bowling	High School		73	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000
Head Coach	Cheerleader	High School		95	$4,800	$4,950	$5,100	$5,250	$5,400	$5,550	$5,700	$5,850	$6,000	$6,150	$6,300
Assistant Coach	Cheerleader	High School		95	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300
Head Coach	Cheerleader	Middle School		N/A	$2,950	$3,050	$3,150	$3,250	$3,350	$3,450	$3,550	$3,650	$3,750	$3,850	$3,950
Director	Choral	High School			$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900	$4,000
Director	Choral	Middle School		N/A	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000
Head Coach	Cross Country Boys	High School		N/A	$2,200	$2,350	$2,500	$2,650	$2,800	$2,950	$3,100	$3,250	$3,400	$3,550	$3,700
Assistant Coach	Cross Country Boys	High School			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Cross Country Girls	High School		N/A	$2,200	$2,350	$2,500	$2,650	$2,800	$2,950	$3,100	$3,250	$3,400	$3,550	$3,700
Assistant Coach	Cross Country Girls	High School			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Dance	High School		95	$3,550	$3,700	$3,850	$4,000	$4,150	$4,300	$4,450	$4,600	$4,750	$4,900	$5,050
Assistant Coach	Dance	High School			$1,000	$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000
Head Coach	Dance	Middle School		N/A	$2,050	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050
Head Coach	eSports	High School		N/A	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900	$4,000
Position	**Sport/Activity**	**Level**		**Days**	**0-2 yrs**	**3-5 yrs**	**6-8 yrs**	**9-11 yrs**	**12-14 yrs**	**15-17 yrs**	**18-20 yrs**	**21-23 yrs**	**24-26 yrs**	**27-29 yrs**	**30 yrs & >**
Head Coach	Fast Pitch	High School	See Note 1	87	$12,100	$12,300	$12,500	$12,700	$12,900	$13,100	$13,300	$13,500	$13,700	$13,900	$14,100
Assistant Coach (3)	Fast Pitch	High School		87	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300	$5,450	$5,600
Head Coach	Fast Pitch	Middle School		N/A	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900
Assistant Coach	Fast Pitch	Middle School		N/A	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050	$3,150
Head Coach	Football	High School	See Note 1	95	$81,000	$81,200	$81,400	$81,600	$81,800	$82,000	$82,200	$82,400	$82,600	$82,800	$83,000
Offensive Coordinator	Football	High School	See Note 1	95	$11,200	$11,400	$11,600	$11,800	$12,000	$12,200	$12,400	$12,600	$12,800	$13,000	$13,200
Defensive Coordinator	Football	High School	See Note 1	95	$11,200	$11,400	$11,600	$11,800	$12,000	$12,200	$12,400	$12,600	$12,800	$13,000	$13,200
Assistant Coach (3) (4) 4A;	Football	High School		95	$8,650	$8,800	$8,950	$9,100	$9,250	$9,400	$9,550	$9,700	$9,850	$10,000	$10,150
Head Coach	Football	Middle School 8th		N/A	$5,700	$5,800	$5,900	$6,000	$6,100	$6,200	$6,300	$6,400	$6,500	$6,600	$6,700
Assistant Coach	Football	Middle School 8th		N/A	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800
Head Coach	Football	Middle School 7th		N/A	$4,300	$4,400	$4,500	$4,600	$4,700	$4,800	$4,900	$5,000	$5,100	$5,200	$5,300
Assistant Coach	Football	Middle School 7th		N/A	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300

Head Coach	Golf Boys	High School		84	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500
Head Coach	Golf Girls	High School		84	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500
Head Coach	Power Lifting Boys	High School		109	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900
Head Coach	Power Lifting Girls	High School		109	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900
Head Coach	Soccer Boys	High School		95	$3,950	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300	$5,450
Assistant Coach	Soccer Boys	High School		95	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050	$3,150	$3,250	$3,350	$3,450
Head Coach	Soccer Girls	High School		95	$3,950	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300	$5,450
Assistant Coach	Soccer Girls	High School		95	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050	$3,150	$3,250	$3,350	$3,450
Head Coach	Soccer Boys	Middle School		N/A	$1,950	$2,050	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950
Head Coach	Soccer Girls	Middle School		N/A	$1,950	$2,050	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950
Head Coach	Swim Coach	High School		84	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900
Assistant Coach	Swim Coach	High School			$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500
Head Coach	Tennis	High School		77	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400	$3,500
Assistant Coach	Tennis	High School			$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500
Head Coach	Track Boys	High School		81	$2,400	$2,550	$2,700	$2,850	$3,000	$3,150	$3,300	$3,450	$3,600	$3,750	$3,900
Assistant Coach	Track Boys	High School			$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500
Head Coach	Track Girls	High School		81	$2,400	$2,550	$2,700	$2,850	$3,000	$3,150	$3,300	$3,450	$3,600	$3,750	$3,900
Assistant Coach	Track Girls	High School			$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500
Head Coach	Track Boys	Middle School		N/A	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900
Head Coach	Track Girls	Middle School		N/A	$1,900	$2,000	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900
Head Coach	Volleyball	High School		88	$3,800	$3,950	$4,100	$4,250	$4,400	$4,550	$4,700	$4,850	$5,000	$5,150	$5,300
Assistant Coach	Volleyball	High School		88	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100	$3,200
Head Coach	Volleyball	Middle School		N/A	$2,050	$2,150	$2,250	$2,350	$2,450	$2,550	$2,650	$2,750	$2,850	$2,950	$3,050
Assistant Coach	Volleyball	Middle School			$1,100	$1,200	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100
Head Coach	Wrestling	High School		N/A	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600	$2,700	$2,800	$2,900	$3,000	$3,100

District Supplements		
Administrative Assistants	$700	
Curriculum Development	$28.00 per hr	
Distance Learning Teacher	$1000	
Fab Lab Community	$5000	
Lead Psychologist	$5000 plus 10 days	
Lead SLP	$2500 plus 10 days	
LSC Chairperson	$1000	
Mock Trial Team Sponsor (1	$500	
New Teacher Training	$100 per day	
Professional Development	$500	or 5 days of sick
Professional Development	$335	or 3 days of sick

District Supplements		
School Test Coordinator (Elementary,	$800	
School Test Coordinator (High School)	$1600	
Speech & Debate Sponsor (1 per High School)	$500	
STEM / Extra Curricula Coaches (5 per HS, 4 per MS, 3 per Elem)	$250	
Title I Facilitator (1 per Title I School)	$1000	
TST and Gifted Coordinator	$6000	
Tutoring (Certified Teacher)	$28.00 per hr	
Yearbook Elementary School	$1000	
Yearbook High School	$2500	
Yearbook Middle School	$1000	
Construction Manager	$27,500	

Note 1: Duties for select supplemental positions will be included in the employee's yearly teaching contract. Employee performance is these positions will be evaluated under the terms and conditions of the teaching contract. All other employees, who fill supplemental positions, will be considered "At Will Employees". Positions included in teaching contracts will be: (1) Athletic Director; (2) High School Head Football Coach; (3) High School Offensive Coordinator; (4) High School Defensive Coordinator; (5) High School Band Director; (6) High School Head Baseball Coach; (7) High School Head Softball Coach; (8) High School Head Boys Basketball Coach; (9) High School Head Girls Basketball Coach.

*Beginning with new employees hired for the 2016-2017 school year and after, all other employees not listed above understand that the coaching position may be contingent upon the employee's teaching position and the teaching position may be contingent upon the employee's coaching position. In the event that an employee is non-renewed, discharged, or released from either the coaching or teaching position, s/he may also be relieved from all positions in the district. If the employee elects to submit a resignation from either his/her teaching position or the new coaching position, the employee may be released from both positions.

Note 2: The Band Director shall be responsible for selecting/hiring Band Technical Assistants to target and improve specific skill sets as determined necessary by the Band Director. Individuals who fill these supplemental positions will be considered "At Will Employees." The number of Band Technical Assistants allocated for each attendance center will be based on the number of band members from the previous year in the following manner:

Number of Band Members	Band Technical Assistants Per Season
Up to 50	2
Up to 75	3
Up to 100	4
100+	5

For this policy the term "Band Member" includes both musicians and color guard members; "Season" is defined as Fall (marching/competition) and Spring (concert/indoor).

An assistant Band Director at the middle school will be allocated for 150 or more students.

Any supplement that decreases as a result of this policy revision will be frozen at current rate as long as the current coach remains in that position.

Athletic Director (AD)

Athletic Director salary will be in accordance to policy GGBA.

The AD will NOT receive the per diem playoff compensation.

The AD will be eligible for district academic performance pay.
NOTE: Any current athletic director adversely effected by this change will be frozen at the higher salary.

Head Football Coach
Additionally, the head football coach will receive the per diem playoff performance compensation.
The head football coach of a 6A team will receive an extra $1000 due to a longer regular season.
The head football coach will be eligible for district academic performance pay.
NOTE: Any current head football coach adversely effected by this change will be frozen at the higher salary.

High School Band Director
The high school band director will receive the per diem playoff performance compensation.
The high school band director will be eligible for the district academic performance pay.
An Assistant Band Director at the middle school will be allocated for 150 or more students.

PER DIEM
Coaches whose teams qualify for the playoffs will be compensated at a per diem rate of their supplement for the number of school/practice/game days they are in the playoffs. *See charts below.
The per diem amount will be determined by dividing the total amount of the supplement by the number of official days in the regular season (including the first day of practice is allowed) as set forth by the Mississippi High School Activities Association. Strength and conditioning coaches will receive the same playoff per diem for their level of experience as a HS Football Assistant Coach. HS Head Football coaches will receive a flat amount for each round of the playoffs.

PER DIEM SCALES

~~6A, 5A, Per Diem Football Playoffs~~	~~Round 3 x 2 x 6 days~~	~~Round 5 x 3 x 6 days~~
~~Round 2 x 1.5 x 6 days~~	~~Round 4 x 2.5 x 6 days~~	~~Round 5 x 3 x TBD~~

Per Diem Football Playoffs (Head Coach flat amount in parenthesis)~~**(6A only has 4 rounds in football and this makes it balance out in the end)**~~

Round 1 x 1.25 x 6 days ($1,250)	Round 3 x 3 x 6 days ($2,250)
Round 2 x 2 x 6 days ($1,750)	Round 4 x 3.75 x 6 days ($2,750)

All other eligible sports/activities based on Policy GGBB will receive the playoff per diem supplement using the following scale.

The number of days will vary per sport /activity based on the structure of that sport's /activity's playoff.

Round 1 x 1 x TBD days	Round 3 x 2 x TBD days	Round 5 x 3 x TBD
Round 2 x 1.5 x TBD days	Round 4 x 2.5 x TBD days	

Version approved 03/13/2023

Certified Employee Recommendations (all recommendations are subject to verified background checks and drug tests)

Employee	School/Dept.	Position	Replacing	Hire/Eff. Date	Fiscal Year
Baxter, Alicia	DO-Curriculum	Gifted Student Testing	N/A	3/4/2023	2022-2023
Buchanan, Robin	VMS	Long Term Substitute	Katelyn Hodges	2/13/2023	2022-2023
Clark, Russell	ECAC Athletics	HS Asst. Track Coach Boys & Girls	Vacant	2/5/2023	2022-2023
Dalton, Breanne	DO-SPED	Speech/Language Pathologist	Jaqueline Aultman	2/27/2023	2022-2023
Denmark, Tyler	VHS	Teacher- Pending License Renewal	Brayden Miles	7/24/2023	2023-2024
Hodgson, Rosemary	DO-Curriculum	Gifted Student Testing	N/A	3/4/2023	2022-2023
Huff, Chadley	ECAC Athletics	MS Track Coach Boys & Girls	Vacant	2/5/2023	2022-2023
Jackson, Nicole	DO-Curriculum	Gifted Student Testing	N/A	3/4/2023	2022-2023
Lancaster, Joshua	SMAC Athletics	HS Asst. Football Coach	Roy Goldsmith	2/14/2023	2022-2023
Ordahl, Kathleen	VLE	PT Tutor	N/A	2/14/2023	2022-2023
Thames, Katie	SMHS	After School Tutoring	N/A	2/13/2023	2022-2023
Tritley, Jonathan	DO-Curriculum	Gifted StudentTesting	N/A	3/4/2023	2022-2023
Willis, Derrick	SMHS	Teacher/Coach	Recommended with 0 years, verified with 4 years	8/1/2022	2022-2023
Zeringue, Patti	SMM	Nurse	New Position	3/14/2023	2022-2023

Certified Employee Resignations

Employee	School/Dept.	Position	Resignation/Retirement	Separation Date	Fiscal Year
Brownlee, Cynthia	VMS	Teacher	Resignation	5/25/2023	2022-2023
Buck, Amanda	DO-Curriculum	Positive Behavior Instructional Specialist	Resignation	5/25/2023	2022-2023
Buckley, Rita	ECMS	Teacher	Retirement	5/25/2023	2022-2023
Crump, Britney	ECUE	Teacher	Resignation	5/25/2023	2022-2023
Guy, Shirley	VHS	Teacher	Retirement	5/25/2023	2022-2023
Hermes, Kaitlyn	DO-SPED	Positive Behavior Specialist	Resignation	2/9/2023	2022-2023
Jackson, Holly	Federal Programs-SMUE	EL Teacher	Resignation	5/25/2023	2022-2023
Palm, Victoria	ECHS	Teacher	Resignation	5/25/2023	2022-2023
Patrick, Deborah	ECHS	College & Career Tech./ACT Instructor	Resignation	5/25/2023	2022-2023
Scott, Robert	SMHS	Teacher	Retirement	5/25/2023	2022-2023
Shoemaker, Heidi	ECUE	Teacher	Resignation	5/25/2023	2022-2023
Waller, Lee	SMHS	Teacher	Resignation	5/19/2023	2022-2023

Certified Employee Transfers (informational purposes only)

Employee	**School/Dept.** (From - To)	**Position** (From - To)	Effective Date	Replacing	Fiscal Year
Fayard, Heather	VHS-VHS	History Teacher to SPED Teacher	7/24/2023	Melissa Yates	2023-2024
Gasaway, Christina	SMHS to SMM	Teacher to Teacher	7/24/2023	Gerald Nix	2023-2024
Lee, Kimberly D.	SMM to SMHS	SPED Interventionist to Teacher	7/24/2023	Shelley Leyens	2023-2024
Leyens, Shelley	SMHS to SMHS	Teacher to Interventionist/TST (MTSS)	7/24/2023	Jessica Mickelson	2023-2024
Lipske, Jessica	ECLE to SMM	Positive Behavior Instructional Specialist	1/2/2023	N/A	2022-2023
Mickelson, Jessica	SMHS to VLE	PBIS to Teacher	3/7/2023	Sandra Bankston	2022-2023
Thomas, Amanda	VMS-VMS	SPED TST Interventionist to Lead Teacher	7/24/2023	N/A	2023-2024
Thrash, Mashawn	VUE-VUE	Science Teacher to Performing Arts/Music Teacher	7/24/2023	R. Becnel	2023-2024

Declare Certified Contract Null and Void in accordance with State Statute 37-9-23

Board Agenda Personnel Changes 3/13/23

Employee	School/Dept.	Position	Reason	Separation Date	Fiscal Year

Non-Certified Employee Recommendations (all recommendations are subject to verified background checks and drug tests)

Employee	School/Dept.	Position	Replacing	Hire Date	Fiscal Year
Cowart, Amber	ECUE	Custodian	Katie Tanner	2/27/2023	2022-2023
Carnley, Johnie	Operations- Vancleave	Maintenance II	Quinton Vallandingham	3/1/2023	2022-2023
Conger, Ashley	SPED Exceptional School	Teacher Assistant	Gloria Lambert	3/6/2023	2022-2023
Jarrett, Dana	SMMS Cafeteria	Child Nutrition Worker	Lindsey Menna	3/15/2023	2022-2023
Lee Jr. John	SMAC Athletics	Gate Keeper	N/A	3/14/2023	2022-2023

Non-Certified Employee Resignations

Employee	School/Dept.	Position	Resignation/Retirement	Separation Date	Fiscal Year
Daughtery, Erin	VMS	Teacher Assistant	Resignation	5/24/2023	2022-2023
Elliott, Shalanda	SMEE	Permanent COVID Substitute	Resignation	1/23/2023	2022-2023
Goff, Pamela	VMS	Teacher Assistant	Resignation	5/24/2023	2022-2023
Hammock, Brandi	ECMS	Permanent COVID Substitute	Resignation	5/24/2023	2022-2023
Munson, Deborah	VC Transportation	Bus Driver	Retirement	5/24/2023	2022-2023
Reimsnyder, Rachel	DO-SPED (Exceptional School)	Teacher Assistant	Resignation	2/17/2023	2022-2023
Smith, Sherie	DO-Human Resources	Secretary	Resignation	3/15/2023	2022-2023

Non-Certified Employee Transfers (informational purposes only)

Employee	**School/Dept.** (From - To)	**Position** (From - To)	Effective Date	Replacing	Fiscal Year
Collier, Connie	SMN Cafeteria to VLE Cafeteria	Cafeteria Manager to Child Nutrition Worker	3/6/2023	Kayla Long	2022-2023
Long, Kayla	VCLE Cafeteria to SMN Cafeteria	Child Nutrition Worker to Child Nutrition Worker	2/23/2023	Helen Gresham	2022-2023
Mills, Candie	ECUE to ECUE	SPED Teacher Asst. to Title I TA **(*Pending Federal Funding)**	7/27/2023	Sylvia Jones	2023-2024

Administrator Recommendations (all recommendations are subject to verified background checks and drug tests)

Employee	School/Dept.	Position	Replacing	Hire Date	Fiscal Year

Administrator Resignations

Employee	School/Dept.	Position	Resignation/Retirement	Separation Date	Fiscal Year
Holland, Regina	SMHS	Principal	Retirement	6/30/2023	2022-2023 2023-2024
Besancon, David	DO-Operations	Director of Operations	Retirement	2/28/2023	2022-2023
Suarez, Lisa	SMN	Principal	Retirement	6/30/2023	2022-2023 2023-2024

Administrator Transfers (informational purposes only)

Employee	**School/Dept.** (From - To)	**Position** (From - To)	Effective Date	Replacing	Fiscal Year
Sablich, Krista	SMM to VMS	Teacher to Interim Principal	2/14/2023	Karen Glass	2022-2023

Personnel Corrections					
Employee	**School**	**Board Date**	**Correction/Change**		
Substitutes (added to sub list since previous board meeting)					
Employee					
Franklin, Israel					

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024

Superintendent: Dr. John Strycker _____

Assistant Superintendent: David Baggett _____

East Central Attendance Center

Emp ID	Name (last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
6040	Southern, Lynda M. D.	All	Transportation Supervisor	AA	23	207		
	VACANT (Gary W. Long)	All	Athletic Director			217		

St. Martin Attendance Center

Emp ID	Name (last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
2144	Heise Jr., Michael D.	All	Transportation Supervisor	A	18	207		
6942	Kanode III, Jesse W.	All	Athletic Director	AA	E11	217		**(Level E1-GGBA)**

Vancleave Attendance Center

Emp ID	Name (last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
2165	Henry, Michael	All	Transportation Supervisor	A	23	207		
2890	Lepoma, Dean	All	Athletic Director	AA	E11	217		**(Level E1-GGBA)**

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Ashley Dooley **Assistant Superintendent: Dr. Todd Boucher**

School: East Central Lower Elementary 22 - Certified Teachers * Guidance Counselors listed under Student Services

5 - Enrichment Teachers 3 - Special Education Teachers 1 - MTSS Interventionist .5 - Nurse 2 (.5) - Gifted 1 - Preschool Teacher

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	7406	Bailey, Candice E.	2	All	A	13	187		
Tea02	6351	Callegan, Brandy N.	1	All	A	3	187		
Tea03	959	Clark, Jenna T.	K	All	AA	27	187		
Tea04	5624	Gray, Rachel L.	1	All	AA	14	187		
Tea05	2185	Hester, Jennifer L.	1	All	AA	11	187		
Tea06	2677	Killen, Colette	1	All	AA	29	187		
Tea07	2679	Killingsworth, Victoria L.	2	All	AA	26	187		
Tea08	2732	Koen, Lisa J.	1	All	AA	38	187		
Tea09	6066	Law, Christy D.	1	All	A	8	187		
Tea10	530	Lee, Mary D.	1	All	AAAA	14	187		
Tea11	2971	Long, Crystal E.	2	All	A	23	187		
Tea12	6752	McDuffie, Aaron A.	2	All	A	17	187		
Tea13	8108	Morrison, Tammy M.	K	All	AA	16	187		
Tea14	6642	Ogborn, Leah M.	1	All	AA	15	187		
Tea15	6220	Parker, Sabrina L.	2	All	AA	21	187		
Tea16	4123	Reynolds, Tanya M.	K	All	AA	23	187		
Tea17	5692	Richmond, Brittany S.	K	All	AA	11	187		
Tea18	7832	Roblin, Jane M.	2	All	AA	17	187		
Tea19	7558	Shows, Mallory R.	1	All	A	4	187		
Tea20	6534	Spencer, Elizabeth J.	K	All	A	4	187		
Tea21	4783	Stork, Cindy R.	2	All	AA	19	187		
Tea22	5920	Webb, Tiffany S.	K	All	A	4	187		
Enrich01	1013	Collins, Deanna K.	K-2	Music/Performing Arts	A	17	187		
Enrich02	1820	Goff, William H.	K-2	Art	A	30	187		
Enrich03	1886	Green, Mallissa A.	K-2	Computer	AA	20	187		
Enrich04	2598	Jordan, Renee P.	K-2	Librarian	A	2	187		
Enrich05	7368	Parker, Cody L.	K-2	Health/Physical/Safety Ed	A	7	187		

School: East Central Lower Elementary

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
MTSS01	1248	Davis, Donna M	K-2	Interventionist (Multi-Tier Support Spec	AA	19	187	Title I	***Pending funding"**
Gift01(.5)	1596	Fields, Monica Y.	2	Gifted **(1/2 LE, 1/2 UE) (Housed @ UE)**	AA	26	187		
Pre01	2291	Holden, Felicia D.	DD	Pre-school	A	4	187		
Nur0.5	8113	Owenby, Ashley B.	K-2	Nurse **(1/2 LE, 1/2 HS) (Housed @ LE)**	BSN	13	187		
Gift02(.5)	7635	Porter, Lindsey H.	3-5	Gifted **(1/2 LE, 1/2 UE) (Housed @ UE)**	A	13	187		
SpEd01	6218	Delk, Natalie B.	K-2	SPED (Self Contained)	A	21	187		
SpEd02	1366	Fletcher, Jessica D.	K-2	SPED (Inclusion)	A	12	187		
SpEd03	8251	Tanner, Rachel H.	K-2	SPED (Inclusion)	A	7	187		

(-2 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Donna Knight **Assistant Superintendent, Dr. Todd Boucher**

School: East Central Upper Elementary 22 - Certified Teachers * Guidance Counselors listed under Student Services

5 - Enrichment Teachers 5 - Special Education Teachers 1 - MTSS Interventionist 1 - Nurse 3 (.5) - Gifted Teachers

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	7349	Baker, Ashley A.	5	ELA/Social Studies	AA	32	187		
Tea02	657	Buckley, Kimberly K.	5	Math/Science	AA	18	187		
Tea03	2259	Champagne, Mary E.	4	Math/Science	AA	21	187		
Tea04	1006	Collier, Ginger W.	5	Math/Science	AA	16	187		
Tea05	8419	Conner, Brandie L.	5	ELA/Social Studies	AA	27	187		
Tea06	7771	Davis, Nicole L.	5	Math/Science	A	5	187		
Tea07	8256	Doebler, Logan M.	4	ELA/Social Studies	AA	3	187		
Tea08	6695	Grantham, Tammy J.	3	All Subjects	A	21	187		
Tea09	2440	Ingram, Malinda	4	Math/Science	AA	31	187		
Tea10	8656	Lilly, Heather L.	5	Math/Science	AA	14	187		
Tea11	3051	Magee, Aleen	3	All Subjects	A	21	187		
Tea12	6976	Mayfield, Brittany N.	5	ELA/Social Studies	A	9	187		
Tea13	3578	Nelson, Cheryl L.	4	ELA/Social Studies	A	25	187		
Tea14	6403	Nobles, Constance L.	5	ELA/Social Studies	AA	10	187		
Tea15	6722	Slider, Catherine C.	3	All Subjects	AA	12	187		
Tea16	7823	Slayter, Stephanie M.	3	All Subjects	AA	11	187		
Tea17	7116	Smith, Jerica L.	3	All Subjects	A	4	187		
Tea18	4674	Smith, Storrie M.	3	All Subjects	AA	18	187		
Tea19	5183	Walker, Kristi L.	4	ELA/Social Studies	A	19	187		
Tea20	5205	Walters, Tressa	4	Math/Science	AA	22	187		
Tea21	7570	White, Lea Anna	4	ELA/Social Studies	A	4	187		
Tea22	6310	Wien, Amanda L.	3	All Subjects	A	12	187		
Enrich01	7055	Criddle, Renee C.	3-5	Art	AAAA	32	187		
Enrich02	2388	Huff, Chadley R.	3-5	Health/Physical/Safety Ed	AA	18	187		
Enrich03	3900	Jones, Stephanie L.	3-5	Librarian	AA	29	187		
Enrich04	6995	Myrick, Angela L.	3-5	Music/Performing Arts	A	12	187		
Enrich05	5949	Sala, Kaci W.	3-5	Computer	AA	11	187		
Gift01(.5)	1420	Dunsford, Joanna M.	3-5	Gifted **(1/2 UE, 1/2 MS) (Housed @ UE)**	AA	26	187		
Gift02(.5)	1596	Fields, Monica Y.	3-5	Gifted **(1/2 LE, 1/2 UE) (Housed @ UE)**	AA	26	187		
MTSS01	7224	Jenne, Mari A.	3-5	Interventionist (Multi-Tier Support Spec.)	AAA	12	187	Title I	***Pending funding"***
Nur01	8504	Naramore, Meagan H.	3-5	Nurse	RN	3	187	***ESSER II***	
Gift03(.5)	7635	Porter, Lindsey H.	3-5	Gifted **(1/2 LE, 1/2 UE) (Housed @ UE)**	A	13	187		
SpEd01	5524	Cumbest, Amanda K.	3-5	SPED (Inclusion)	AA	25	187		
SpEd02	8413	Mocknick, Madison H.	3-5	SPED (Inclusion)	A	6	187		
SpEd03	4518	Shoemaker, Kathy D.	3-5	SPED (Self-Cont./Inclusion)	AA	12	187		
SpEd04	2428	Smith, Keely H.	3-5	SPED (Inclusion)	AA	8	187		
SpEd05	6048	Spring, Bailey A.	3-5	SPED (Inclusion)	AA	6	187		

(-2 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker** _____

Principal: Sherie Tanner **Assistant Superintendent, Dr. Todd Boucher** _____

School: East Central Middle School 34 - Certified Teachers 1 - Librarian 1 (.5) Gifted Teachers * Guidance Counselors listed under Student Services

6 - Special Education Teachers 1 - MTSS Interventionist 1 - Nurse 1 - Positive Behavior Specialist

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	100	Anderson, Shelley G.	7	Social Studies	A	8	187		
Tea02	8149	Bexley, Paulina C.	6	Math	A	3	187		
Tea03	5611	Brewer, Sarah M.	8	Science	AA	20	187		
Tea04	546	Brister, Heather L.	8	Math	AA	15	187		
Tea05	8205	Brown Jr., Frederick	6-8	Health/Physical/Safety Ed	AA	9	187		
Tea06	5866	Brown, Kerri D.	7	English/ELA	A	7	187		
Tea07	7649	Burgess, Winter G.	6-8	Health/Physical/Safety Ed	A	7	187		
Tea08	7657	Chavez, Brittney L.	7	Math	AA	12	187		
Tea09	4749	Davis, Stephanie M.	6	History/Social Studies	AA	8	187		
Tea10	1273	Dearman, Penny D.	7	Math	AA	22	187		
Tea11	8420	Fagan, Emily A.	6	Learning Strategies/Tutorial	A	7	187		
Tea12	7866	Gabrich, Alexis W.	8	Technology Foundation	A	5	187		
Tea13	5972	Garrard, Stephen O.	6-8	Health/Physical/Safety Ed	A	13	187		
Tea14	7131	Giacone, Kimberly B.	8	English/ELA	A	8	187		
Tea15	1957	Guyton, Samantha P.	7	Science	A	2	187		
Tea16	2104	Hawes, Alison R.	8	History/Social Studies	A	9	187		
Tea17	7820	Holland, Jennifer J.	6	Science	A	26	187		
Tea18	2855	Ledbetter, Lisa A.	6	Math	AA	19	187		*"Pending License Renewal"*
Tea19	8099	Mallette, Ashley N.	6	English/ELA	A	1	187		
Tea20	3167	May, Johnathan H.	6-8	Science/Project Lead The Way (PLTW)	AA	25	187		
Tea21	2924	McNease, Catherine L.	7	English/ELA	AA	15	187		
Tea22	6337	Murray, Courtney J.	8	English/ELA	AA	10	187		
Tea23	8263	Nelson, Scott T.	8	Science	AA	30	187		
Tea24	8318	Rawson, Heather R.	8	History/Social Studies	A	2	187		
Tea25	5750	Rhodes, Amy E. G.	6	Learning Strategies/Tutorial	A	14	187		
Tea26	4437	Settle, Teri D.	8	Technology Foundation	A	30	187		
Tea27	7691	Stewart, Susan V.	6	History/Social Studies	AA	21	187		
Tea28	8249	Templeton, Monika F.	7	Learning Strategies/Tutorial	A	15	187		
Tea29	4945	Terry, Lindsey N.	7	History/Social Studies	AA	12	187		
Tea30	5007	Tolar, Janna D.	6	English/ELA	AA	13	187		
Tea31	5227	Waltman, James M.	7	Science	A	18	187		
Tea32	5932	Williams, Amanda K.	6-8	Learning Strategies/Tutorial	AA	13	187		
Tea33	5470	Williams, Amanda S.	6	Science	AA	16	187		

School: East Central Middle School									
Units	**Emp ID**	**Name (Last, first, initial)**	**Grade**	**Subject**	**Class Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Tea34		**VACANT** (Rita Buckley)	6-8	Band			187		
Gift01(.5)	1420	Dunsford, Joanna M.	6	Gifted **(1/2 UE, 1/2 MS) (Housed @ UE)**	AA	26	187		
MTSS01	2270	Hodges, Marcia L.	6-8	Interventionist (MTSS)	AA	25	187		*Multi-Tier Support Specialist
PBIS01	2671	Kibby, Ashley	6-8	Positive Behavior Intervention Specialist (PBIS	A	16	187	***ESSER III***	***Pending License Renewal"**
Nur01	8477	Stewart, Tiffany D.	All	Nurse	RN	6	187	***ESSER II***	
Lib01	4838	Sutherland, Kimberly B.	6-8	Librarian	AA	22	187		
SpEd01	440	Bosarge, ReJina D.	6-8	SPED (Life Skills)	AA	16	187		
SpEd02	8043	Brooks, Carrie A.	6-8	SPED (Inclusion)	A	5	187		
SpEd03	7877	Davis, Marah A.	6-8	SPED (Inclusion)	A	8	187		
SpEd04	8361	Johnston, Jennifer L.	6-8	SPED (Inclusion)	AA	4	187		
SpEd05	4553	Simmons, Iris S.	6-8	SPED (Inclusion)	AA	11	187		
SpEd06	1503	Sherman, Andrea B.	6-8	SPED (Inclusion)	A	2	187		

(-2 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: James Hughey **Assistant Superintendent: Dr. Todd Boucher**

School: East Central High 43 - Certified Teachers 1 - Librarian * Guidance Counselors listed under Student Services

5 - Special Education Teachers 1 - MTSS Interventionist .5 - Nurse 1 - Alternative Teacher 1 - ACT Coach

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	8439	Arroyo Garcia, Olga L.	9-12	Foreign Language	AAAA	23	187		
Tea02	6251	Bayles, Sarah I.	9-12	Science	A	6	187		CTE
Tea03	6693	Brinkman, Christina G.	9-12	Health/Physical/Safety Ed	A	10	187		***"Pending License Renewal"***
Tea04	7415	Burlison, Christin	9-12	History/Social Studies	AA	12	187		
Tea05	714	Busby, Phillip H.	9-12	History/Social Studies	AA	21	187		
Tea06	925	Chesser, Shawn E.	9-12	Science	AA	18	187		
Tea07	8168	Clark, Russell W.	9-12	English/ELA	A	5	187		***"Pending License Renewal"***
Tea08	8020	Comeaux, Daniel J.	9-12	Music/Performing Arts	AA	6	187		
Tea09	7468	Dixon Jr., James T.	9-12	Driver's Education	A	37	187		
Tea10	5166	Dunton, Kerri M.	9-12	English/ELA	AA	9	187		
Tea11	1445	Edmonson, Thomas G.	9-12	History/Social Studies	AAA	12	187		
Tea12	7896	Glover, William C.	9-12	Math	A	33	187		
Tea13	1823	Goff, Michelle L.	9-12	English/ELA	AA	16	187		
Tea14	7457	Green, Lisa A.	9-12	Allied Health I & II (Vocational)	A	10	195		
Tea15	7207	Henry, Blakeli E.	9-12	English/ELA	A	10	187		
Tea16	6270	Hollinghead, Teresa A.	9-12	Science	A	21	187		
Tea17	6743	Hudson, David M.	9-12	History/Social Studies	A	9	187		
Tea18	2391	Huff, Samuel T.	9-12	Health/Physical/Safety Ed//Head Football HS	AA	17	187		
Tea19	8422	Jones, Katie B.	9-12	Math	AA	17	187		
Tea20	5748	Jones, Lindey F.	9-12	English/ELA	AA	16	187		
Tea21	2659	Kennedy, Suzanne R.	9-12	English/ELA	A	14	187		***"Pending License Renewal"***
Tea22	8301	Kerby, Alyssa K.	9-12	Art	AA	2	187		
Tea23	2726	Knight, Brian P.	9-12	Math	AA	21	187		
Tea24	2840	Law, Jason C.	9-12	Science	AA	14	187		
Tea25	2969	Long, Michael W.	9-12	Agriculture (Vocational)	AA	22	240		***"Pending License Renewal"***
Tea26	6985	Lott, Alyson B.	9-12	Math	AA	13	187		
Tea27	3053	Magee, Robert A.	9-12	History/Social Studies	AA	21	187		
Tea28	8131	Mangham, Jeannette R.	9-12	Math	A	29	187		
Tea29	7233	McMillen, Timothy L.	9-12	Band	AA	8	187		
Tea30	3294	McQueen, Keith G.	9-12	History/Social Studies	AA	38	187		
Tea31	7593	Mizell, Morgan A.	9-12	Math	A	5	187		
Tea32	7205	Morgan, Kevin M.	9-12	Science	AAA	16	187		
Tea33	8227	Patrick, Robert K.	9-12	Math	A	25	187		

School: East Central High

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea34	3861	Peterson, Leesa L.	9-12	Family & Consumer Science	AA	15	187		
Tea35	5743	Pierce, Nickie	9-12	English/ELA	AA	18	187		
Tea36	6688	Richards, Amy J.	9-12	Science	AA	10	187		***"Pending License Renewal"***
Tea37	4346	Sampson, Tammy	9-12	Business/Project Lead The Way (PLTW)	AA	22	187		***"Pending License Renewal"***
Tea38	4478	Sharpton, Melinda G.	9-12	Computer/Technology Foundations	AA	16	187		
Tea39	7825	Smith, Melissa A.	9-12	History/Social Studies	AA	11	187		
Tea40	8593	Trussell, Danielle L.	9-12	English/ELA	A	3	187		
Tea41	5134	Vice, Kelli L.	9-12	Science	A	30	187		
Tea42	6268	Wallace, Donald K.	9-12	History/Social Studies	AA	12	187		
Tea43		**VACANT** (Teresa Knowles	9-12	Math			187		
ALT01	6929	Brewer, Dan W.	9-12	Alternative	AAAA	12	187		
ACTCh01	6481	Fessler, Angie K.	9-12	ACT Instructional Coach-ECHS	A	11	232		***"Pending License Renewal"***
Lib01	2196	Higginbotham, Kelli C.	9-12	Librarian	AAA	26	187		
NRS.5	8113	Owenby, Ashley B.	9-12	Nurse **(1/2 LE, 1/2 HS) (Housed @ LE)**	BSN	13	187		
MTSS01	6777	Willis, Christine A.	9-12	Interventionist (MTSS)	A	5	187	At Risk	*Multi-Tier Support Specialist "Pending License Renewal"
SpEd01	7208	Barlow, Stacy L.	9-12	SPED (Inclusion)	A	11	187		
SpEd02	8115	Gautier, Sara M.	9-12	SPED (Life Skills)	A	2	187		***"Pending License Renewal"***
SpEd03	3307	Mears, Misty M.	9-12	SPED (Resource & Inclusion)	A	19	187		
SpEd04	6049	Page, Kaitlyn S.	9-12	SPED (Inclusion)	AA	6	187		
SpEd05	8622	Tillman, Jane	9-12	SPED (Inclusion)	AA	26	187		

(-2 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker** _____

Principal: Dr. Jillian Vallo **Assistant Superintendent: Dr. Todd Boucher** _____

School: St. Martin East Elementary 28 - Certified Teachers 1 - Nurse * Guidance Counselors listed under Student Services

6 - Enrichment Teachers 4 - Special Education Teachers 1 - MTSS Interventionis 1- Gifted Teacher 1 - Preschool Teacher 1- Positive Behavior Intervention Specialist

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	8556	Arguelles, Azlyn E.	1	All	A	1	187		
Tea02	770	Campbell, Ashley L.	1	All	A	13	187		
Tea03	144	Ellzey, Christie L.	K	All	A	0	187		
Tea04	4298	Guice, Ashley E.	3	All (Self Contained)	AA	11	187		
Tea05	1985	Hall, Bryana N.	2	All	A	1	187		
Tea06	7540	Hardy, Alyssa M.	K	All	A	1	187		
Tea07	7650	Harris, Rachel R.	1	All	A	9	187		
Tea08	8073	Jones, Kealey S.	K	All	A	2	187		
Tea09	7979	Kirkland, Lyn-Marie S.	3	Math	A	4	187		
Tea10	6710	Ladiner, Alyssa M.	K	All	A	8	187		
Tea11	3200	McClendon, Melissa G.	2	All	A	13	187		
Tea12	8056	McHugh, Abby K.	1	All	AA	7	187		
Tea13	3331	Meyer, Ivy N.	2	All	AA	16	187		
Tea14	7837	Mora, Amber N.	3	All	A	1	187		
Tea15	7673	Nguyen, Tran T.	1	All	AA	7	187		
Tea16	3905	Pigg, Keri L.	3	All	A	21	187		
Tea17	7901	Ramsay, Gabrielle A.	2	All	AA	5	187		
Tea18	7427	Richardson, Samantha M.	3	All	A	7	187		
Tea19	7269	Rosetti, Amanda R.	K	All	AA	5	187		
Tea20	5724	Serpas, Christy L.	1	All	AA	15	187		
Tea21	7661	Smith, Amy S.	3	All	AA	22	187		
Tea22	4707	Spratley, Jeanne M.	2	All	AA	26	187		
Tea23	7148	Vierling, Hailey R.	K	All	AA	8	187		
Tea24	8676	Warrick, Avery L.	2	All	A	1	187		
Tea25	5347	Wescovich, Tammy R.	3	All	AA	19	187		
Tea26	5418	Wilcox, Joy A.	1	All	A	10	187		*"Pending License Renewal"*
Tea27	6300	Williams, Ashley N.	K	All	A	9	187		
Tea28	8621	Young, Kyla V.	2	All	AA	4	187		

School: St. Martin East Elementary

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Enrich01	960	Clark, Joseph T.	All	Health/Physical/Safety Ed	AAA	22	187		
Enrich02	1161	Cummings, Lawana R.	All	Librarian	AAA	37	187		
Enrich03	7521	Groue, Kelsey B.	All	Art	A	7	187		
Enrich04		**VACANT** (Tina Johnston)	All	Music/Performing Arts			187		
Enrich05	4140	Richards, Michelle A.	All	Computer	AA	23	187		
Enrich06	6394	Rustin, John S.	All	Music/Performing Arts	A	17	187		
MTSS01	121	Asher, Tiffany A.	K-3	Interventionist (Multi-Tier Support Spec.)	AA	28	187	Title I	***Pending funding"**
Nur01	6284	Clark, Jennifer L.	All	Nurse	RN	23	187		
Gift01	6739	Hodgson, Rosemary H.	All	Gifted	AAA	12	187		
PBIS01	8615	Scruggs, Robert	K-2	Positive Behavior Intervention Specialist	AA	14	187	***ESSER III**	
Pre01	5876	Smith, Regina M.	Pre-K	Pre-School (SPED)	A	7	187		
SpEd01	2311	Holland, Cassie L.	K-3	SPED (Life Skills-SC)	A	1	187		
SpEd02	8272	Fantroy, Erin M.	All	SPED (Inclusion/Resource)	A	3	187		
SpEd03	6427	Fayard, Olivia D.	All	SPED (Inclusion/Resource)	A	2	187		
SpEd04	6716	Jackson, Nicole L.	All	SPED (Inclusion/Resource)	AA	17	187		

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LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Dr. Lisa Suarez **Assistant Superintendent: Dr. Todd Boucher**

School: St. Martin North Elementary 22 - Certified Teacher 1- PBIS * Guidance Counselors listed under Federal Programs

5 - Enrichment 5 - Special Education 1 - MTSS Interventioni **0 Nurse** 1 Gifted 0 - Preschool

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	6529	Acosta, Michelle L.	2	All	A	15	187		
Tea02	7492	Brown, Sarah	K	All	A	3	187		
Tea03	876	Cato, Kimberly A.	1	All	A	13	187		
Tea04	8070	Dunnam, Wanda R.	1	All	A	22	187		
Tea05	7615	Elmore, Jennifer E.	2	All	AA	16	187		
Tea06	1638	Forehand, Janet D.	2	All	AA	23	187		
Tea07	6639	Fountain, Kara W.	1	All	A	7	187		
Tea08	6538	Hedgepeth, JoAnna R.	2	All	A	20	187		
Tea09	8678	Jordan, Krystal	1	All	A	7	187		
Tea10	6927	Lawrence, Rachel L.	3	All	A	9	187		
Tea11	6224	Marshall, Stephanie S.	K	All	AA	19	187		
Tea12	6263	Mitzel, Alice D.	K	All	A	11	187		
Tea13	3491	Mott, Denise M.	3	All	AA	17	187		
Tea14	6281	Oatis, Erica M.	K	All	A	13	187		
Tea15	3761	Parker, Andria E.	K	All	A	23	187		
Tea16	6193	Peresich, Sharon M.	K	All	A	12	187		
Tea17	3964	Poulos, Amber	2	All	AA	19	187		
Tea18	6947	Raynore, Jessica K.	1	All	A	10	187		
Tea19	4251	Romero, Sandra S.	2	All	AA	21	187		
Tea20	7839	Scott, Kristi M.	3	All	A	8	187		
Tea21	5888	Tapper, Amy R.	1	All	A	13	187		
Tea22		**VACANT** (Dori M. Skrnich)	3	All			187		
Enrich01	1409	Dunkin, Erica	All	Librarian	A	10	187		***"Pending License Renewal"***
Enrich02	7531	Nguyen, Trinh	All	Music/Performing Arts	A	5	187		
Enrich03	5023	Torries, Loraine V.	All	Art	AA	18	187		
Enrich04		**VACANT** (Lisa G. Hebert)	All	Computer			187		
Enrich05		**VACANT** (Tyrrence J. Hollima	All	Health/Physical/Safety Ed			187		

School: St. Martin North Elementary				22 - Certified Teacher		1- PBIS		* Guidance Counselors listed under Federal Programs	
5 - Enrichment				5 - Special Education		1 - MTSS Interventioni 0 Nurse		1 Gifted	0 - Preschool
Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
MTSS01	5688	Bruffey, Ann E.	All	Interventionist (Multi-Tier Support Spe	A	25	187		
Gift01	7499	Payne, Traci N.	2-3	Gifted	AA	29	187		
SpEd01	7981	Bullard, Heather D.	Pre-K	SPED	AA	4	187		
SpEd02	8696	Balius, Kalyn	All	SPED	A	2	187		
SpEd03	2676	Montiforte, Tiffany N.	All	SPED	AA	14	187		
SpEd04	8388	Robbins, Jonathan R. L.	All	SPED (Life Skills)	AA	12	187		
SpEd05	7545	Yarborough, Christopher Z.	All	SPED	AA	5	187		
PBIS01	8220	Williams, Lisa S.	K-2	Positive Behavior Intervention Speciali	AA	31	187		

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Valerie Martino **Assistant Superintendent: Dr. Todd Boucher**

School: St. Martin Upper 25 - Certified Teachers * Guidance Counselors listed under Student Services

5 - Enrichment Teachers 7 - Special Education Teachers 1 - MTSS Interventionis 1 - Nurse 2 - Gifted Teachers 1 - Positive Behavior Intervention Specialist

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	36	Ainsworth, Jamie L.	5	All	A	10	187		
Tea02	68	Allen, Christopher B.	5	All	A	3	187		
Tea03	7876	Applewhite, Julie	4	All	AA	25	187		
Tea04	1201	Bellais, Debbie A.	5	All	A	21	187		
Tea05	4197	Broussard, Lisa M.	5	All	A	13	187		
Tea06	1117	Creel, Tracey A.	4	All	AA	15	187		
Tea07	8769	Cross, Caitlin N.	4	All	A	0	187		
Tea08	1134	Cross, Rebecca L.	5	All	AA	23	187		
Tea09	8668	Duvel, Ashley M.	4	All	AA	9	187		
Tea10	7706	Favors, Lindsey B.	4	All	A	5	187		***"Pending License Renewal"***
Tea11	8736	Ferguson, Rebecca L.	4	All	A	3	187		
Tea12	6271	Furlan, Brittany R.	5	All	A	17	187		
Tea13	6779	Glynn, Khrysthal M.	4	All	A	1	187		
Tea14	2213	Hill, Kristy D.	5	All	AA	6	187		
Tea15	8690	Kuns, Ashlee N.	4	All	A	2	187		
Tea16	8699	Livingston, Chelsea A.M.	4	All	AA	2	187		
Tea17	7262	McNabb, Dawn M.	4	All	A	16	187		
Tea18	3391	Mitchell, Christy R.	5	All	A	15	187		***"Pending License Renewal"***
Tea19	5640	Mudgett, Bridget L.	5	All	AA	14	187		***"Pending License Renewal"***
Tea20	8524	Newberry, Bethany L.	4	All	A	6	187		
Tea21	3605	Nitcavic, Francesca V.	4	All	A	21	187		
Tea22	8469	Oplotnik, Marissa S.	5	All	A	2	187		
Tea23	3923	Poelma, Adam J.	5	All	A	7	187		
Tea24	5519	Windham, Jeffrey M.	4	All	A	10	187		
Tea25		**VACANT** (Tammy Stauts)	5	All			187		
Enrich01	2895	Letort, Christopher G.	All	Health/Physical/Safety Ed	AA	15	187		
Enrich02	2937	Lizana, Cassandra	All	Librarian	AA	21	187		

School: St. Martin Upper

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Enrich03	4232	Rodriguez, Amy L.	All	Art	A	29	187		
Enrich04	4466	Seymour, Janice F.	All	Computer	AA	36	187		*"Pending License Renewal"*
Enrich05	4523	Steiner, Hope S.	All	Music/Performing Arts	A	19	187		
Nur01	7734	Chastain, Linda A.	All	Nurse	RN	5	187	**ESSER II*	
PBIS01	2463	Jalanivich, Valarie K.	4-5	Positive Behavior Intervention Specialist	AA	17	187	**ESSER III*	*"Pending License Renewal"*
MTSS01	4314	Rutland, Katrina L.	All	Interventionist (Multi-Tier Support Spec	A	19	187		*"Pending License Renewal" & *Pending funding"*
Gift01	647	Bryant, Lindsey A.	All	Gifted	AA	16	187		
Gift02	5509	Wilson, Shannon L.	All	Gifted	AA	13	187		*"Pending License Renewal"*
SpEd01	8062	Griffin, Yequila L.	All	SPED (Inclusion)	A	8	187		
SpEd02	8666	Riviere, Lisa S.	All	SPED (Inclusion)	A	16	187		*"Pending License Renewal"*
SpEd03	8708	Stephens, Joshua M.	All	SPED (Inclusion)	A	6	187		
SpEd04	4423	Swiney, Stacy L.	All	SPED (Inclusion)	AA	18	187		
SpEd05	7260	Wieniewitz, Olivia R.	All	SPED (Life Skills)	AA	2	187		
SpEd06	5417	Wiggins, Deborah S.	All	SPED	A	21	187		
SpEd07	5472	Williams, Tiffanie S.	All	SPED (Inclusion)	AA	22	187		

(-2 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker** _____

Principal: Jeannie Monique Farrington **Assistant Superintendent: Dr.Todd Boucher** _____

School: St. Martin Middle 59 - Certified Teacher 1 - Librarian * Guidance Counselors listed under Federal Programs

11 - Special Education 1 MTSS Interventionist 1 Nurse 1 Gifted 3- PBIS 1 - Alternative School

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	8559	Barnett, Wesley	All	Broadcast Journalism	A	1	187		
Tea02	8610	Baumgartner, Cassandra	7	English/ELA	A	3	187		
Tea03	6512	Beebe, Justina M.	All	Art	A	13	187		
Tea04	6269	Bell, Mark A.	All	Band	A	13	187		
Tea05	8456	Burke, Braeden V.	7	English/ELA	A	2	187		
Tea06	8563	Butler, Ouida C.	6	English/ELA	A	1	187		
Tea07	757	Callegari, Licia J.	6	History/Social Studies	A	8	187		
Tea08	7841	Cartwright, Matthew G.	8	Technology Foundation	AA	16	187		
Tea09	981	Cole, Penny L.	8	English/ELA	AA	17	187		
Tea10	2360	Cruthirds, Savannah H.	6	Math	A	7	187		
Tea11	1256	Davis, Elenora D.	6	History/Social Studies	A	16	187		
Tea12	8384	Decoteau Jr., Pete E.	6	Learning Strategies/Tutorial	AA	3	187		
Tea13	8688	DeGeorge,Shelley	7	Science	A	11	187		*"Pending License Renewal"*
Tea14	8219	Dent, Elaine B.	8	Science	AA	5	187		
Tea15	7509	Donaldson, Michael C.	6	Learning Strategies/Tutorial	A	5	187		
Tea16	8429	Ducharme, Leigh A.	7	Math	A	2	187		
Tea17	8550	Dunn, Taft	7	Science	A	1	187		
Tea18	8458	Dunnings, Jeremiah R.	All	Health/Physical/Safety Ed	A	2	187		
Tea19	8653	Eichelberger, Fabian	8	Science	AA	7	187		
Tea20	4521	Endt, Jennifer	All	Health/Physical/Safety Ed	AA	16	187		
Tea21	8215	Eubanks, Ashley R.	8	Science	A	5	187		
Tea22	6532	Fosnacht, Richard G.	All	Health/Physical/Safety Ed	AAA	20	187		
Tea23	3031	Foster, Martha N.	8	Technology Foundation	A	15	187		
Tea24	7204	Gasaway, Christina I.	7	Math	A	14	187		
Tea25	6508	Gemmill, Candace M.	6	English/ELA	AA	11	187		
Tea26	8024	Goldsmith Jr., Roy L.	All	Health/Physical/Safety Ed	AAA	15	187		
Tea27	257	Hart, Angela S.	8	History/Social Studies	AAA	22	187		
Tea28	6505	Hayden , Beth H.	7	History/Social Studies	AA	11	187		
Tea29	271	Hebert, Tina	8	Technology Foundation	A	18	187		
Tea30	2169	Henson, Kristy L.	8	Math	AA	16	187		

School: St. Martin Middle				59 - Certified Teacher 11 - Special Education	1 - Librarian 1 MTSS Interventionist 1 Nurse		1 Gifted	* Guidance Counselors listed under Federal Programs 3- PBIS 1 - Alternative School	
Units	**ID**	**(Last, first, initial)**	**Grade**	**Subject**	**Class Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Tea31	7515	Hodgson, Christopher E.	7	History/Social Studies	AA	6	187		
Tea32	2312	Holland, Mark J.	All	Health/Physical/Safety Ed	A	15	187		
Tea33	2328	Holman, Sindi E.	6	Science	AA	17	187		
Tea34	2420	Hust, Jessica D	8	English/ELA	A	10	187		***"Pending License Renewal"***
Tea35	7449	Jackson, Tricia L.	8	English/ELA	AA	24	187		
Tea36	7151	Jones, Tonia L.	6	Science	A	8	187		
Tea37	8662	Kennedy, David M.	6	History/Social Studies	AA	7	187		
Tea38	6483	Kosztur, Dana R.	7	Science	AA	23	187		
Tea39	8661	Lynn, Kaylin M.	8	Math	A	5	187		***"Pending License Renewal"***
Tea40	3197	McClellan, Bryan M.	6	Math	A	8	187		
Tea41	8266	McDougle, Olivia M.	All	World Languages	A	3	187		
Tea42	3312	Medley, Sharon R.	All	Learning Strategies/Tutorial	AAA	25	187		
Tea43	7892	Murphy Jr., Cecil L.	All	Science/Proj. Lead The Way (PLTW)	AA	31	187		***"Pending License Renewal"***
Tea44	7990	Parker, Angela A.	7	History/Social Studies	A	8	187		
Tea45	6272	Ponson, Stefanie D.	6	Science	AA	17	187		
Tea46	4114	Remillard, Aimee D.	7	Math	AA	21	187		
Tea47	8217	Richardson, Arnita T.	7	Learning Strategies/Tutorial	A	34	187		
Tea48	7829	Romero, Emily L.	All	Health/Physical/Safety Ed	AA	14	187		
Tea49	4256	Rosetti, Lori J.	6	Math	AAA	22	187		
Tea50	8406	Scrimpshire, Jennifer S.	All	Choral	AA	21	187		
Tea51	8726	Smith, Tiffany K.	7	Learning Strategies/Tutorial	A	1	187		
Tea52	8257	Spragio, Brianna S.	7	English/ELA	A	3	187		
Tea53	4951	Thibodeaux, Sherleen D.	8	History/Social Studies	AAA	10	187		
Tea54	8182	Ware, Michaela J.	8	History/Social Studies	A	3	187		
Tea55	8475	Wilbert, Wanesha S.	6	Learning Strategies/Tutorial	A	4	187		
Tea56	5501	Wilson, Justin T.	8	Math	A	11	147		
Tea57	5520	Windham Jr., Timothy P.	7	Learning Strategies/Tutorial	AA	15	187		
Tea58		**VACANT** (Thomas G.Burke)	7	English/ELA			187		
Tea59		**VACANT** (Krista E Sablich,)	7-8	English/ELA			187		
MTSS01	6726	Beam, Leslie G.	All	Spec.)	A	10	187		***"Pending License Renewal"***
Nur01	8799	Zeringue, Patti	ALL	Nurse	RN	10	187	ESSER	
Lib01	1965	Hagerty-Wilson, Lee A.	All	Librarian	AA	27	187		
Alt01	2170	Henson, Joshua	All	Alternative	AA	17	187		

School: St. Martin Middle				59 - Certified Teacher 11 - Special Education	1 - Librarian 1 MTSS Interventionist	1 Nurse	1 Gifted	* Guidance Counselors listed under Federal Programs 3- PBIS 1 - Alternative School	
Units	**Emp ID**	**Name (Last, first, initial)**	**Grade**	**Subject**	**Class Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Gift01	3266	McLaughlin, Virginia A.	All	Gifted	AA	35	187		
SpEd01	8411	Chatman, Rycki N.	All	SPED (Inclusion)	AA	3	187		
SpEd02	8681	Cook, Judene A.	All	SPED (Inclusion)	AA	18	187		
SpEd03	1514	Eriquezzo, Regina M.	All	SPED (Inclusion)	A	3	187		
SpEd04	2437	Hill, Stephanie B.	All	SPED (Inclusion)	A	15	187		***"Pending License Renewal"***
SpEd05	7277	Johns, Sarah M.	All	SPED (Inclusion)	A	6	187		
SpEd06	6879	Peterson, Alison G.	All	SPED (Inclusion)	AA	9	187		
SpEd07	8367	Ramsey, Rochelle M.	All	SPED (Inclusion)	A	2	187		
SpEd08	8633	Stamey, Angela R.	All	SPED	AA	22	187		
SpEd09	7960	Thone, Rachel N.	All	SPED (Inclusion)	AA	3	187		
SpEd10		**VACANT** (Kaitlyn R. Goff)	All	SPED (Life Skills)			187		
SpEd11		**VACANT** (Jalesa Rodgers)	All	SPED (Life Skills)			187		
PBIS01	8614	Coker, Erin	6-8	Positive Behavior Intervention Specia	A	10	187	***ESSER III**	
PBIS02	6170	Lipske, Jessica	6-8	Positive Behavior Intervention Specia	AA	5	187	***ESSER III**	
PBIS03	8390	Tyler, Andrew L.	6-8	Positive Behavior Intervention Specia	A	4	187	***ESSER III**	

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024

Superintendent: Dr. John Strycker

Principal: Regina Holland

Assistant Superintendent: Dr. Todd Boucher

School: St. Martin High 2 - ACT Coaches 1 - Librarian * Guidance Counselors listed under Student Services

71 - Certified Teachers 9 - Special Education Teachers 2 - Positive Behavior Interventiont Specialists 2 - MTSS Interventionist 1- Nurse 1 - Alternative Teacher

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	8440	Ahern, Ashley M.	9-12	Family and Consumer Science	AA	1	187		
Tea02	2111	Alvarez, Megan A.	9-12	History/Social Studies	AA	21	187		
Tea03	102	Anderson, Yennette D.	9-12	Science	A	15	187		*"Pending License Renewal"*
Tea04	7254	Antonini, James R.	9-12	History/Social Studies	AA	10	187		
Tea05	6689	Banks, Amber L.	9-12	Science	AA	13	187		
Tea06	6640	Barber, Danielle L.	9-12	English/ELA	A	9	187		
Tea07	7625	Barrett, Gwendolyn G.	9-12	English/ELA	AAAA	20	187		
Tea08	5911	Bartos, Sarah F.	9-12	Art	AA	13	187		
Tea09	5981	Bell, Katlin E.	9-12	Band	A	13	187		
Tea10	309	Bell, Regina K.	9-12	History/Social Studies	A	20	187		
Tea11	7572	Bennett, Martha	9-12	English/ELA	AA	6	187		*"Pending License Renewal"*
Tea12	5737	Bradford, Jennifer L.	9-12	English/ELA	A	25	187		
Tea13	7440	Breland, Cayla Y.	9-12	Math	AA	11	187		
Tea14	7442	Bridges, Catherine M.	9-12	English/ELA	AA	17	187		
Tea15	7510	Brown, Trae D.	9-12	History/Social Studies	A	7	187		*"Pending License Renewal"*
Tea16	6369	Calton, Megan R.	9-12	Science	A	1	187		*"Pending License Renewal"*
Tea17	890	Ceccorulli, Ryan C.	9-12	Health/Physical/Safety Ed	A	17	187		
Tea18	8457	Chouest, Alan	9-12	ROTC	AA	2	207		
Tea19	7198	Collier, Latisha D.	9-12	Medical Programs (Vocational)	A	11	195		
Tea20	1080	Cox, Steven H.	9-12	Drivers Education	AA	27	187		
Tea21	8500	Dizon Jr., Lawrence R.	9-12	ROTC	A	1	207		
Tea22	7430	Dunlap, John S.	9-12	Band	A	20	187		
Tea23	8214	Fairchild, James A.	9-12	History/Social Studies	A	13	187		
Tea24	1580	Fayard, Kevin E.	9-12	History/Social Studies	A	21	187		
Tea25	6761	Fincher, Brandy C.	9-12	Math	A	2	187		
Tea26	1631	Ford, Banita K.	9-12	Business	A	19	187		
Tea27	7665	Gabrich, Kyle L.	9-12	Math	AA	5	187		
Tea28	1741	Gartman, Cristina	9-12	Foreign Language	AA	22	187		
Tea29	1941	Guice III, John O.	9-12	Science	A	9	187		
Tea30	7886	Hackney, John A.	9-12	Health/Physical/Safety Ed	A	5	187		
Tea31	2027	Harkleroad, Crystal E.	9-12	English/ELA	AA	22	187		
Tea32	2079	Harvey, Royce D.	9-12	History/Social Studies	AA	30	187		
Tea33	2145	Heise, Angela S.	9-12	Art	AA	24	187		*"Pending License Renewal"*

School: St. Martin High

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea34	7156	Hinkle, Thomas W.	9-12	History/Social Studies	A	15	187		*"Pending License Renewal"*
Tea35	492	Hood, Haley N.	9-12	Math	AA	11	187		
Tea36	7533	Hopkins, Betty	9-12	Choral	AA	18	187		
Tea37	2404	Humphreys, Richard A.	9-12	Engineering (Vocational)	AAAA	20	195		
Tea38	458	Jackson, Kristina M.	9-12	English/ELA	A	21	187		
Tea39	8442	Jamieson, Janna R.	9-12	English/ELA	A	0	187		
Tea40	8608	Kennedy, Jason A.	9-12	Health/Physical/Safety Ed	A	17	187		
Tea41	2704	King, Bryan	9-12	Art	AA	22	187		
Tea42	2748	Kuehn, Kathryn W.	9-12	Math	AA	27	187		
Tea43	8594	Lancaster, Joshua W.	9-12	Physical Education	A	2	187		
Tea44	6574	Lee, Kimberly D.	9-12	English/ELA	AA	24	187		
Tea45	7601	Lince, William J.	9-12	Science	A	6	187		
Tea46	8081	Lopez, Maria A.	9-12	Foreign Language	AA	33	187		
Tea47	6669	McComas, Jennifer L.	9-12	Science	A	9	187		
Tea48	7435	McDonough, Annalisa	9-12	Foreign Language	A	11	187		
Tea49	7273	Mizell, Jeremy D.	9-12	History/Social Studies	A	8	187		
Tea50	8707	Moreland, Alexandra C.	9-12	Science	A	1	187		*"Pending License Renewal"*
Tea51	3776	Pate, Robin C.	9-12	Culinary (Vocational)	AA	28	195		
Tea52	3792	Pavlus, Charles H.	9-12	Health/Physical/Safety Ed	AA	17	187		
Tea53	8412	Rhodes, Olivia G.	9-12	Science	A	2	187		
Tea54	4177	Rivers, Christopher A.	9-12	Science	AA	15	187		
Tea55	7237	Scruggs, Amy E.	9-12	Math	AA	11	187		
Tea56	7251	Sema, Brandon M.	9-12	Science	A	8	187		
Tea57	4505	Shields, Carrie A.	9-12	English/ELA	AA	23	187		
Tea58	4565	Simpson, Kelly F.	9-12	Math	AA	23	187		
Tea59	8381	Smith, Ty	9-12	Technology Foundation/Head Football HS	AA	16	187		
Tea60	4754	Stewart, Lindsay M.	9-12	English/ELA	AA	8	187		
Tea61	1089	Strayham, Jamie E.	9-12	Science	A	9	187		
Tea62	7194	Talley, Amy D.	9-12	Math	A	29	187		
Tea63	6459	Talley, Bradley J.	9-12	Drivers Education	A	29	187		
Tea64	5843	Thompson, Melaney B.	9-12	Math	AAA	11	187		
Tea65	8732	Thames, Katie M.	9-12	Math	A	10	187		*"Pending License Renewal"*
Tea66	8252	Wegner, Hannah C.	9-12	Art	A	3	187		
Tea67		VACANT (Elizabeth Eriksen)	9-12	History/Social Studies			187		
Tea68		VACANT (Christina Gasaway)	9-12	Math			187		
Tea69		VACANT (Derrick Jenkins)	9-12	Health/Physical/Safety Ed			187		
Tea70		VACANT (Lee Waller)	9-12	Health/Physical/Safety Ed			187		
Tea71		VACANT (New Position)	9-12	Any Subject			187		

School: St. Martin High

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Alt01	7443	Bridges, William K.	9-12	Alternative	AA	18	187		
Lib01	1408	Dunkin, Leah A.	9-12	Librarian	A	19	187		
MTSS01	7163	Leyens, Shelley K.	9-12	Interventionist (Mutli-Tier Support Spec.)	AA	16	187	At Risk	
ACTCh01	1160	Markos, Morgan L.	9-12	ACT Instructional Coach-SMHS	AA	16	232		
PBIS01	3336	Mickelson, Jessica	9-12	Positive Behavior Intervention Specialist	AA	19	187	*ESSER III	
Nur01	739	Necaise, Jennifer R.	9-12	Nurse	BSN	24	187		
MTSS02	6303	Pavlus, Rita D.	9-12	Interventionist (Mutli-Tier Support Spec.)	A	9	187	At Risk	
ACTCh02	5731	Tootle, Stephanie L.	9-12	ACT Instructional Coach-SMHS	AAAA	14	232		
PBIS02	8343	Walker, Angela	9-12	Positive Behavior Intervention Specialist	A	1	187	*ESSER III	
SpEd01	502	Bristow, Jenny R.	9-12	SPED (Life Skills)	AA	19	187		
SpEd02	1315	Desporte, Breanna N.	9-12	SPED (Inclusion)	AA	7	187		
SpEd03	3520	Hogsten, Jamie L.	9-12	SPED (Resource/Inclusion)	AA	18	187		
SpEd04	8467	Huff, Cassidy N.	9-12	SPED (Inclusion)	A	2	187		*"Pending License Renewal"*
SpEd05	8655	Jenkins, Nykesha C.	9-12	SPED Inclusion	AA	3	187		
SpEd06	8212	Marsh, Joyce E.	9-12	SPED (Resource)	A	22	187		
SpEd07	7157	Priddy, Virginia L.	9-12	SPED (Inclusion)	A	10	187		
SpEd08	8078	Thornton, Caroline Y.	9-12	SPED (Inclusion)	AA	4	187		
SpEd09		**VACANT** (Robert Scott)	9-12	SPED (Life Skills)			187		

(+1 Enrollment)

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Dr. Kimberly Tillman **Assistant Superintendent: Dr. Todd Boucher**

School: Vancleave Lower Elementary 26 - Certified Teacher * Guidance Counselors listed under Federal Programs

5 - Enrichment 4 - Special Education 1- PBIS 1 - MTSS Interventionis **1 Nurse** **0 Gifted** 1 - Preschool

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	8455	Boles, Sandra M.	1	All	A	11	187		
Tea02	7404	Darby, Heather M.	K	All	A	10	187		***"Pending License Renewal"***
Tea03	6115	Davis, Angela D.	2	All	A	9	187		
Tea04	8128	Downs, Brittany N.	2	All	AAA	12	187		
Tea05	7817	Dunston, Morgan F.	1	All	AA	18	187		
Tea06	6915	Foto, Kati A.	1	All	A	9	187		
Tea07	8426	Glorioso, Tiffany N.	K	All	A	22	187		
Tea08	8547	Hines, Makayla	1	All	A	1	187		
Tea09	2538	Johnson, Amantha R.	2	All	A	35	187		***"Pending License Renewal"***
Tea10	7549	Ladner, Courtney	2	All	A	5	187		
Tea11	8195	Lowery, Jessica M.	1	All	A	8	187		
Tea12	8206	McGarity, Tammy A.	3	All	A	17	187		
Tea13	5910	McQueen, Paula B.	3	All	A	13	187		
Tea14	8194	Oliver, Andrea R.	K	All	A	12	187		
Tea15	3567	Parker, Alice M.	3	All	A	11	187		
Tea16	716	Poulos, Brittany N.	K	All	A	7	187		
Tea17	7671	Prouty, Kimberly D.	1	All	AA	21	187		
Tea18	4103	Reeves, Karen A.	3	All	A	30	187		***"Pending License Renewal"***
Tea19	8663	Riendeau, Jessica M	3	All	A	12	187		
Tea20	8691	Riley, Stacy A. M.	1	All	A	18	187		
Tea21	4590	Slaby, Deana K.	3	All	A	18	187		***"Pending License Renewal"***
Tea22	2439	Stork, Gina M.	K	All	A	22	187		
Tea23	8209	Thornton, Atalie L.	K	All	A	7	187		
Tea24	8598	Tristani, Melanie	2	All	A	17	187		
Tea25	2699	White, Katrina S.	3	All	AA	11	187		
Tea26	7899	Yennie, Sarah M.	K	All	A	1	187		
Enrich01	6962	Bonilla, Fabrizio	K-3	Health/Physical/Safety Ed	A	18	187		
Enrich02	291	Ditsworth, Lindsay N.	K-3	Music/Performing Arts	A	9	187		
Enrich03	2198	High, Rhonda H.	K-3	Librarian	AA	25	187		

School: Vancleave Lower Elementary				26 - Certified Teacher		* Guidance Counselors listed under Federal Programs			
		5 - Enrichment		4 - Special Education	1- PBIS	1 - MTSS Interventionis 1 Nurse		0 Gifted	1 - Preschool
Units	**Emp ID**	**(Last, first, initial)**	**Grade**	**Subject**	**Class Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Enrich04	2060	Harris, Ruby K.	K-3	Art	AA	16	187		
Enrich05		**VACANT** (Vikki DiStefano)	K-3	Computer			187		
MTSS01	7517	Dent, Tamela R.	K-3	Interventionist (Multi-Tier Support Spec.)	A	25	187		
Nur01	8268	Hodges, Lindsay P.	All	Nurse	BSN	11	187	*ESSER II	
Pre01	8418	Walsh, Rayelle M.	PreK	Pre-School (SPED)	A	2	187		*"Pending License Renewal"*
SpEd01	699	Burns, Harolyn	K-3	SPED (Inclusion)	A	24	187		
SpEd02	2980	Loreman, Christine	K-3	SPED (Self Contained)	AA	19	187		
SpEd03	7153	Wicker, Dana T.	K-3	SPED (Resource)	A	31	187		*"Pending License Renewal"*
SpEd04	8264	Williams, Rachel C.	K-3	SPED (Inclusion)	AA	3	187		
PBIS01	7133	Puzz, Amanda K.	K-5	Positive Behavior Intervention Specialists	AA	6	187	*ESSER III	

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Dr. Ashley Allred **Assistant Superintendent: Dr. Todd Boucher**

School: Vancleave Upper Elementary 13 - Certified Teacher * Guidance Counselors listed under Federal Programs

5 - Enrichment 5 - Special Education 1 - MTSS Interventioni 1 Nurse 3 Gifted

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	103	Anderson, Christie L.	5	ELA	AA	23	187		
Tea02	245	Barton, Cassie N.	5	All	AA	10	187		
Tea03	899	Champagne, Candy R.	5	Math	AA	25	187		*"Pending License Renewal"*
Tea04	905	Chandler, Nancy	4	Science/Math	AA	25	187		
Tea05	8626	Danner, Rebecca H.	4	ELA	AA	10	187		
Tea06	746	DeVitt, Ashley M.	4	Math/Science	A	19	187		
Tea07	8764	Massey, Alexis	4	ELA	A	0	187		
Tea08	3631	Nunez, Monica	4	ELA	A	24	187		
Tea09	3941	Poole, Tammy T.	5	All	AA	26	187		
Tea10	6921	Seay, Ashlee B.	5	Science	A	7	187		
Tea11	4766	Stewart, Susan L.	5	Math	AA	17	187		
Tea12	4987	Thrash, Gwendolynn T.	5	ELA	A	13	187		
Tea13		VACANT (Courtney E. Hiers)	4	Math			187		
Enrich01	2591	Jones, Cynthia S.	4-5	Computer	AA	29	187		
Enrich02	4989	Thrash, Mashawn	4-5	Music/Performing Arts	AA	16	187		
Enrich03	3542	Nabors, Amanda W.	4-5	Art	A	27	187		
Enrich04	3774	Price, Suzanne A.	4-5	Librarian	AA	11	187		
Enrich05	7718	Trussell, Joshua L.	4-5	Health/Physical/Safety Ed.	A	4	187		
MTSS01	7416	Jones, Frankie B.	4-5	Spec.)	A	12	187	District/Title I	
Nur01	8619	Ely, Haley	4-5	Nurse	RN	7	187	*ESSER II*	
Gift01	8054	Douglas, Monica	4-5	Gifted	AAA	30	187		
Gift02	3759	Parker, Melissa A.	4-5	Gifted	AA	19	187		
Gift03	1390	Ramsay, Karen E.	4-5	Gifted	AA	17	187		
SpEd01	8677	Davis, Rachel	5	SPED (Inclusion)	AA	11	187		
SpEd02	43	Murray, Teri D.	4-5	SPED (Life Skills)	A	13	187		
SpEd03	3926	Pearson, Jessica N.	4-5	SPED (Inclusion)	AA	13	187		
SpEd04	4747	Stewart, Alexandria S.	4-5	SPED (Inclusion)	AA	12	187		
SpEd05	4767	Stewart, Branda E.	5	SPED (Resource)	AA	10	187		

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker** _____

Interim Principal: Krista Sablich **Assistant Superintendent: Dr. Todd Boucher** _____

School: Vancleave Middle 33 - Certified Teacher 1 - Librarian * Guidance Counselors listed under Federal Programs

8 - Special Education 1/2 - MTSS Intervention 1 - Nurse 1- PBIS 0 - Alternative School

Units	Emp ID	(Last, first, initial)	Grade	Subject	Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	312	Bellman, Kristen F.	7	History/Social Studies	AA	22	187		
Tea02	335	Bertagnolli, Lisa D.	8	Science	AA	26	187		
Tea03	8596	Boddie, Cynthia	6	English/ELA	AA	25	187		
Tea04	517	Breeland, Kelly L.	7	Science	AA	23	187		
Tea05	857	Cassidy Jr., John F.	6-8	Health/Physical/Safety Ed	A	7	187		
Tea06	873	Cates, Melissia B.	7	Science	AA	24	187		
Tea07	6876	Chatfield, Jason M.	6	Art	AA	9	187		
Tea08	4527	Davies, Courtney	7	Math	A	7	187		
Tea09	7659	Davis IV, Clinton A.	8	English/ELA	A	6	187		
Tea10	8119	Davis, Kassandra L.	6	English/ ELA	A	1	187		
Tea11	8586	Dubose, Billy J.	6	Math	AA	26	187		***"Pending Licesne Renewal"***
Tea12	8191	Gilbert, Casey A.	6-8	Health/Physical/Safety Ed	A	16	187		
Tea13	1887	Green, Alicia B.	7	Math	A	28	187		
Tea14	1945	Guillotte, Vanessa R.	7	English/ELA	AA	23	187		
Tea15	8355	Hodges, Katelyn C.	6	History/Social Studies	A	8	187		
Tea16	2269	Hodges, Stephanie C.	6	Math	A	39	187		***"Pending License Renewal"***
Tea17	6991	Joosten, Laurence S.	8	Science	AA	35	187		
Tea18	8588	Lawler, Jonathan H.	6-8	Health/Physical/Safety Ed	AA	6	187		
Tea19	8672	Luker, Anthony R.	6-8	Music/Performing Arts	A	2	187		
Tea20	3419	Miller, Jodie D.	8	Math	AA	24	187		***"Pending License Renewal"***
Tea21	8144	Murphy, Daniel J.	8	History/Social Studies	AA	3	187		
Tea22	3603	Nicholson, Katherine E.	7	English/ELA	AA	21	187		
Tea23	8039	Otthofer, Elizabeth	8	Math	AA	16	187		
Tea24	7801	Owens, Cassidy L.	7	History/Social Studies	A	5	187		***"Pending License Renewal"***
Tea25	8170	Parker, Madeline	8	Technology Foundations	A	1	187		
Tea26	3858	Peterson, Kevin A.	8	History/Social Studies	A	3	187		
Tea27	341	Richmond, April D.	6	History/Social Studies	AA	24	187		
Tea28	4816	Suarez, Kristen L.	8	English/ELA	AAAA	14	187		
Tea29	7497	Suarez, Michael L.	6	Science	AAAA	16	187		
Tea30	2254	Thomas, Amanda	6-8	Lead Teacher	A	4	187		
Tea31	1527	Vuyovich, Rebecca	8	Technology Foundations	AA	6	187		

School: Vancleave Middle				33 - Certified Teacher	1 - Librarian		* Guidance Counselors listed under Federal Programs		
				8 - Special Education	1/2 - MTSS Intervention	1 - Nurse	1- PBIS	0 - Alternative School	
Units	**Emp ID**	**(Last, first, initial)**	**Grade**	**Subject**	**Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Tea32	5503	Wilson, Amy L.	6	Science	A	12	187		
Tea33		**VACANT**		New Position					
MTSS01	919	Chenault, Martha S.	6-8	Interventionist	AA	28	187	*Multi-Tier Support Spec.	
Nur01	8544	Nicholson, Jennifer	6-8	Nurse	MA	3	187		
Lib01	5683	Taylor, Amanda L.	6-8	Librarian	AA	16	187		
SpEd01	8025	Bosarge, Aubrey B.	6-8	SPED (Inclusion)	AAA	8	187		
SpEd02	7488	Brister, Robert	6-8	SPED (Inclusion)	AA	15	187		
SpEd03	7226	Burney, Megan E.	6-8	SPED (Life Skills)	AA	11	187		
SpEd04	2926	Forsman Daughdrill, Teresa A.	6-8	SPED (Inclusion)	AAAA	27	187		
SpEd05	8066	Frost, Julie B.	6-8	SPED (Resource)	AAA	26	187		
SpEd06	7893	Somers, Kimberly D.	6-8	SPED (Inclusion)	AA	25	187		
SpEd07	8589	St. Ledger, William F.	6-8	SPED (Inclusion)	AA	11	187		
SpEd08	8391	Wilson, Victoria L.	6-8	SPED (Inclusion)	A	2	187		
PBIS11		**VACANT** (Amanda C. Buck)	6-12	Positive Behavior Intervention Specialists(PBIS-VHS & VMS			187	***ESSER III***	

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Principal: Raina Holmes **Assistant Superintendent: Dr. Todd Boucher**

School: Vancleave High 39 - Certified Teacher 1 - Librarian * Guidance Counselors listed under Federal Programs

8 - Special Education 1/2 - MTSS Intervention 0 Nurse 1 - Alternati 1- ACT Coach

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Tea01	55	Alford, Todd	9-12	History/Social Studies	AAA	21	187		
Tea02	166	Bailus, Kimberly D.	9-12	English/ELA	AA	13	187		
Tea03	4472	Barnes, Laura A.	9-12	English/ELA	AA	13	187		
Tea04	6393	Bell, Britteny W.	9-12	Science	AA	11	187		
Tea05	8248	Blackmon, Derek K.	9-12	Science	AA	31	187		
Tea06	501	Bragg, Donna	9-12	Health/Physical/Safety Ed	AA	22	187		*"Pending License Renewal"*
Tea07	6940	Brown, Jessica P.	9-12	Science	AA	10	187		
Tea08	8427	Carver, LeAnn R.	9-12	English/ELA	AA	22	187		
Tea09	8012	Cochran, Matthew D.	9-12	Drivers Education	A	25	187		*"Pending License Renewal"*
Tea10	8793	Denmark, Tyler	9-12	History	A	8	187		*"Pending License Renewal"*
Tea11	6973	Dycus, Melissa E.	9-12	Math	AA	12	187		
Tea12	7885	Edwards, Justin M.	9-12	History/Social Studies	A	13	187		
Tea13	7168	Fant, Kevin D.	9-12	Health/Physical/Safety Ed/Head Football	AA	18	187		
Tea14	5985	Haarala, Zachary R.	9-12	Math	A A	7	187		
Tea15	1997	Hammonds, Kim A.	9-12	Family & Consumer Science	AA	12	187		
Tea16	2411	Hunt, Roberta B.	9-12	Science	AA	24	187		
Tea17	8483	Johnson-Newman, Jenny H.	9-12	English/ELA	A	1	187		
Tea18	2636	Kell, Bethany G.	10-12	Marketing (Vocational)	AA	20	195		
Tea19	8210	Lambes, Nicholas C.	9-12	Choral	A	9	187		
Tea20	7902	McDonald, Jason P.	9-12	History/Social Studies	AA	8	187		
Tea21	7196	McMurry, Deanna B.	9-12	English/ELA	AA	20	187		
Tea22	7451	Olier, Montserrat	9-12	Foreign Language	A	7	187		
Tea23	7830	Oliver, Matthew J.	9-12	History/Social Studies	AA	14	187		
Tea24	7405	Openshaw, Liam M.	9-12	Math	AA	11	187		
Tea25	3693	Overstreet, Brandi L.	9-12	Art	AA	25	187		
Tea27	8385	Pepper, Nathan A.	9-12	Music/Performing Arts	AA	18	187		
Tea28	856	Rainey, Ashley N.	9-12	English/ELA	AA	8	187		*"Pending License Renewal"*
Tea29	8308	Rauch, Michael L.	9-12	History/Social Studies	A	10	187		*"Pending License Renewal"*

School: Vancleave High				39 - Certified Teacher	1 - Librarian		* Guidance Counselors listed under Federal Programs		
				8 - Special Education	1/2 - MTSS Intervention 0 Nurse		1 - Alternati		1- ACT Coach
Units	**Emp ID**	**Name (Last, first, initial)**	**Grade**	**Subject**	**Class Cert**	**Yrs Exp**	**Days Emp**	**Funding**	**Comments**
Tea30	3641	Robbins, Amanda P.	9-12	Math	A	11	187		
Tea31	7819	Rogers, Katie	9-12	Math	A	15	187		***"Pending License Renewal"***
Tea32	6372	Sanderson, Jessica W.	9-12	English/ELA	A	7	187		
Tea33	8644	Steverson, Sean	9-12	Interventionist	AA	12	187		
Tea34	7056	Sherman, Amanda D.	9-12	Science	A	9	187		
Tea35	6054	Smith, Kristen M.	9-12	Science	A	9	187		
Tea36	5021	Tootle, Karen S.	9-12	Math	AAA	23	187		
Tea37	7776	Vining, Katie	9-12	English/ELA	AA	13	187		
Tea38	5350	West, Warren H.	9-12	History/Social Studies	AA	37	187		
Tea39		**VACANT** (Shirley B. Guy)	9-12	Math			187		
MTSS01	789	Capers, Tricia	9-12	Interventionist	AA	28	187		*Multi-Tier Support Spec.
Alt01	1819	Goff, Lanetta R.	9-12	Alternative	A	26	187		
Lib01	762	Henderson, Courtney C.	9-12	Librarian	AAA	18	187		
SpEd01	6299	Bell, Jeremy T.	9-12	SPED (Inclusion)	AA	12	187		***"Pending License Renewal"***
SpEd02	8768	Ellis, Wendell	9-12	SPED (Inclusion)	AA	9	187		
SpEd03	7864	Giles, Bryan A.	9-12	SPED (Inclusion)	AA	32	187		
SpEd04	3282	Miller, Tammie E.	9-12	SPED (Self-Contained)	A	23	187		
SpEd05	2257	Raynor, Lindsay H.	9-12	SPED (Inclusion)	AAA	10	187		
SpEd06	8428	Scoggins, Katelynn S.	9-12	SPED (Inclusion)	A	4	187		
SpEd07	4963	Thomas, Heather M.	9-12	SPED (Inclusion)	A	17	187		
SpEd08	8285	Fayard, Heather	9-12	SPED Inclusion	AAA	5	187		
ACTCh01	8208	Bonilla, Elizabeth M.	9-12	ACT Instructional Coach-VHS	AA	16	232		

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024

Director: Dr. Tanya Sonnier Tanya Sonnier

Superintendent: Dr. John Strycker

Assistant Superintendent: Dr. Todd Boucher Todd Boucher

Department: Curriculum

Unit	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
InstCh01	8620	Boucher, Melissa	9-12	Secondary Instructional Coach	AAAA	19	232	***ESSER II & III**	
InstCh02	8587	Finn, Sarah	K-5	Elementary Instructional Coach	AA	17	232	District Title II	
InstCh03	8050	Raynor, Amber L.	K-5	Elementary Instructional Coach	AA	22	232	***ESSER III**	
InstCh04		**VACANT**	K-5	Elementary Instructional Coach				**ESSER II & III**	

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Director: Dr. Kimberly Williams **Assistant Superintendent: Dr. Todd Boucher**

Department: Federal Programs 1 - EL Interventionist

4 - EL Teachers 2 - Part-Time EL Tutors

Unit	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
ELIntv01	2059	Harris, Anastasia S.	K-12	Certified EL Instructional Interventionist	A	23	187	Federal	
ELTea01	6058	Bourke, Anissa E. (SMN)	K-8	Certified EL Teacher	A	17	187	Federal	
ELTea02	7470	Brister, Miranda E.(SME)	K-8	Certified EL Teacher	AA	15	187	District	
ELTea03		**VACANT** (Holly Jackson) (SMUE)	K-12	Certified EL Teacher			187	District	
ELTea04	1221	LeBatard, Jessica R. (SMM/SMHS)	6-12	Certified EL Teacher	A	10	187	District	
ELTtr01	8432	Gill, Elizabeth (ECHS)	K-12	EL Tutor (Part-Time)	AA	29	180	Federal	
ELTtr02	3760	Parker, Deborah	K-12	EL Tutor (Part-Time)	AA	37	180	Federal	New Unit 19 hrs per week *PERS Retiree

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Director: Dr. Kimberly Williams **Assistant Superintendent Dr. Todd Boucher**

Department: Student Services 19 - Guidance Counselor

Unit	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
GC01	8590	Bailey, Katie (VHS)	9-12	Guidance Counselor	AA	13	207		
GC02	228	Baronich, Nicole L. (SMHS)	9-12	Guidance Counselor	AAA	22	207		
GC03	772	Campbell, Amy J. (VHS)	9-12	Guidance Counselor	AA	24	207		
GC04	1305	Denton, Cassandra (SMHS)	9-12	Guidance Counselor	AA	23	207		
GC05	8221	Fox, Karla A. (SMMS)	6-8	Guidance Counselor	AA	17	207		
GC06	6714	Guaggenti, Lauren M. (ECHS)	9 & 11	Guidance Counselor	AA	17	207		*"Pending License Renewal"*
GC07	8237	Hart, Sherry C. (ECHS)	10 & 12	Guidance Counselor	AAA	29	207		
GC08	6442	Hitt, Jackie T. (VCUE)	4-5	Guidance Counselor	AA	11	207		
GC09	8451	Holman, Cassandra (ECUE)	3-5	Guidance Counselor	AA	28	207		
GC10	8080	Jay, Sharon D. (SMM)	6-8	Guidance Counselor	AA	18	207		
GC11	8695	Jones, Tiffany A. (SMEE)	K-3	Guidance Counselor	AA	6	207		
GC12	8009	Langley, Brandilyn M. (ECLE)	K-2	Guidance Counselor	AA	3	207		
GC13	7859	Moran, Crystina H. (SMNE)	K-3	Guidance Counselor	AA	20	207		
GC14	4312	Russell, Jennifer D. (SMUE)	4-5	Guidance Counselor	AA	15	207		
GC15	4498	Sherwood, Melissa J. (SMHS)	9-12	Guidance Counselor	AA	17	207		
GC16	8064	Smith, Keasha M. (ECMS)	6-8	Guidance Counselor	AA	20	207		
GC17	5074	Twilbeck, Katryna H. (VCLE)	K-3	Guidance Counselor	AA	19	207		
GC18	6286	Wages, Rebecca J. (JCTC)	10-12	Guidance Counselor	AA	8	207		
GC19	8684	Wilkinson, Callie (VMS)	6-8	Guidance Counselor	AA	4	207		

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024

Superintendent: Dr. John Strycker _____

Director: Christopher Collins _____

Assistant Superintendent: David Baggett _____

Department: Technology

1 - Instructional Technology Coordinator

2 - Technology Coach

Unit	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp.	Days Emp	Funding	Comments
ITCrd01	2786	Johnson, Brandy L.	K-12	Instructional Technology Coordinator	AA	F12	232	District	**(Level F1-GGBA)**
TechCh01		**VACANT** (Shanta Jones)	K-12	Instructional Coach-Technologist			200	***District Title II***	
TechCh02		**VACANT** (Sarah H. Finn)	K-12	Instructional Coach-Technologist			200	***District Title II***	

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Director: Gwendolyn Stallworth **Assistant Superintendent: Dr. Todd Boucher**

Department: Special Education

3 - Case Managers 3 - Occupational Therapists
10 - Speech Language Pathologists

1 - Physical Therapist
1- Psychometrist/Gifted Coordinator
2 - Psychologists

6 - Therapeutic Specialist/PBS
2 - Psychometrists 1 - Any Subject Area
2 - Homebound Teachers

Unit	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
CSMgr01	6166	Baxter, Alicia L.	K-12	Case Manager	AAA	12	232		
CsMgr02	8578	Davis, Curtis H.	K-12	Case Manager	AAA	8	232		
CsMgr03	4831	Sumner, Dana M.	K-12	Case Manager	AAA	18	232		
OT01	6999	Bishop, Stephanie S.	K-12	Occupational Therapist	MA	25	187		
OT02	8660	Dau, Hannah R.	Pre-K-12	Occupational Therapist	PHD	1	187		
OT03	5740	Robinson, Jayme M.	Pre-K-12	Occupational Therapist	BA	20	187		
PT01	6222	Bertolino, Dodie A.	K-12	Physical Therapist	MA	24	187		
P/GCrd01		**VACANT** (Arthur Huckaby)	K-12	Psychometrist/Gifted Coordinator			192		
Psymet01	2750	Kuhn, Shannon L.	K-12	Psychometrist	AA	15	197		***"Pending License Renewal"***
Psymet02	8733	McKinley, Jodie K.	K-12	Psychometrist	AA	23	192		
Psych01	3791	Pavlov, Michael G.	K-12	Psychologist	AAAA	44	202		
Psych02	8669	Tritley, Jonathan P.	K-12	Psychologist	AAA	5	207		
SLP01	7460	Bailey, Alesha R.	K-12	Speech/Language Pathologist	AA	7	187		
SLP02	8603	Crocker, Heather R.	K-12	Speech/Language Pathologist	AA	16	187		
SLP03	8485	Dalton, Breanne D.	K-12	Speech/Language Pathologist	AA	0	187		
SLP04	7520	Hamburg, Katelyn E.	K-12	Speech/Language Pathologist (Therapist)	A	7	187		
SLP05	6665	Mixon, Holly A.	K-12	Speech/Language Pathologist	AAA	22	187		
SLP06	8232	Peterson, Christin M.	K-12	Speech/Language Pathologist	AA	8	187		
SLP07		**VACANT** (Elizabeth E. King Shereck)	Pre-K-12	Speech/Language Pathologist			187		
SLP08		**VACANT** (Katlyn Green)	K-12	Speech/Language Pathologist			187		
SLP09		**VACANT** (New Position)	K-12	Speech/Language Pathologist			187		
SLP10		**VACANT** (Annette Fertitta)	K-12	Speech/Language Pathologist			187		
PBS01	6803	Boudreaux, Syreeta K.	K-12	Therapeutic Specialist/PBS	AA	1	187		
PBS02	1505	Endt Jr., Robert H.	K-12	Therapeutic Specialist/PBS	A	19	187		
PBS03	8002	Jacobs, Gerald J.	K-12	Therapeutic Specialist/PBS	AA	18	187		***"Pending License Renewal"***
PBS04	7909	Richardson Jr. David N.	K-12	Therapeutic Specialist/PBS	AA	5	187		
PBS05		**VACANT** (Kristen Sims 2016-17)	K-12	Therapeutic Specialist/PBS			187		
PBS06		**VACANT** (Kaitlin Hermes)	K-12	Therapeutic Specialist/PBS			187		
HMBD01	7894	Mason, Ryan L.	9-12	SPED Teacher (MGCCC/Homebound)	AA	13	187		
HMBD02		**VACANT** (Kristin N.Hoffman) (SME)	K-12	Homebound Teacher					
		VACANT (New Position)	K-12	Any Subject Area					

LICENSED/CERTIFIED RECOMMENDATIONS 2023-2024 **Superintendent: Dr. John Strycker**

Director: Dr. Jerry Morgan **Assistant Superintendent Dr. Todd Boucher**

Department: Technology Center 8 - Vocational Teacher 2 - Fab Lab Instructional Specialist

Units	Emp ID	Name (Last, first, initial)	Grade	Subject	Class Cert	Yrs Exp	Days Emp	Funding	Comments
Vtech01	69	Allen, Heather E.	10-12	Student Services Coord. (Vocational)	AA	12	195		
Vtech02	643	Bean, Brieanna K.	10-12	Medical Programs (Vocational)	A	11	195		***"Pending License Renewal"***
Vtech03	5662	Heffner, Paul A.	10-12	Welding (Vocational)	A	14	195		
Vtech04	2634	Keleher Jr., Richard P.	10-12	Construction (Vocational)	A	20	195		
Vtech05	7878	Phillips, Dustin	10-12	Information Technology (Vocational)	A	2	195		
Vtech06	4464	Seymour, Beth A.	10-12	Teacher Academy (Vocational)	AA	13	195		
Vtech07	5159	Wages, Nicholas A.	10-12	Automotive Service Technology (Vocational)	A	21	195		
Vtech08	7227	Walton, Frederick L.	10-12	Instrumentation and Controls (Vocational)	A	11	195		***"Pending License Renewal"***
FLInst01	6738	Mundy, John J.	All	Fab Lab Manager/Instruc. Spec.	AAAA	26	200		
FLInst02		**VACANT** (Mai Coursey)	All	Fab Lab STEM Instructional Spec.			200		

Deleted Date	Title	Author	Publishe	Call Number	Barcode	Price	Acquisition Date
2/23/2023	The complete just so stories	Kipling, Rudyard, 18	1993	F Kipling	96005430	17.47	8/7/1996
2/23/2023	The Easter egg artists	Adams, Adrienne.	1976	E Adams	78000006	6.85	8/24/1978
2/23/2023	Ghost town : seven ghostly stories	Nixon, Joan Lowery	2000	F Nixon	00002784	14.63	10/14/2002
2/23/2023	Horses on the farm	Carraway, Rose.	2013	636.1 CAR	12002040	16.95	1/30/2013
2/23/2023	The king's equal	Paterson, Katherine	1992	F Paterson	98005706	8.63	6/8/1999
2/23/2023	Neptune	Stille, Darlene R.	2004	523.48 STI	05002013	17.05	7/23/2008
2/10/2023	The Inuit	Santella, Andrew.	2001	971.90049712	04003494	9.99	5/5/2005
2/9/2023	882 1/2 amazing answers to your questi	Brewster, Hugh.	1998	910 Brewster	98060140	10.75	5/1/1999
2/9/2023	The arctic patrol mystery	Dixon, Franklin W.	1969	F Dixon	00006096	8.93	2/5/2002
2/9/2023	Arthur and the big blow-up	Brown, Marc Tolon.	2000	F Bro	00002711	8.09	10/14/2002
2/9/2023	Arthur and the perfect brother	Brown, Marc Tolon.	2000	F Bro	00002712	8.09	10/14/2002
2/9/2023	Attack of apollyon	Jenkins, Jerry B.	2002	F Jen	03006416	9.34	7/23/2008
2/9/2023	Battling the commander	Jenkins, Jerry B.	2001	F Jen	03006418	9.34	7/23/2008
2/9/2023	The beast arises	Jenkins, Jerry B.	2003	F Jen	03006417	9.34	7/23/2008
2/9/2023	Breakout!	Jenkins, Jerry B.	2003	F Jen	03006415	9.34	7/23/2008
2/9/2023	Busted	Jenkins, Jerry B.	2000	F Jenkins	00006277	8.93	3/12/2002
2/9/2023	Charlie and the chocolate factory	Dahl, Roald.	1964	F Dahl	73001346	9.30	9/1/1973
2/9/2023	The clue in the crumbling wall	Keene, Carolyn.	1973	F Keene	98060085	8.49	5/1/1999
2/9/2023	The clue in the embers	Dixon, Franklin W.	1972	F Dixon	00006098	8.93	2/5/2002
2/9/2023	The clue of the broken blade	Dixon, Franklin W.	1970	F Dixon	00006099	8.93	2/5/2002
2/9/2023	The clue of the dancing puppet	Keene, Carolyn.	1962	F Keene	98060087	8.49	5/1/1999
2/9/2023	The clue of the hissing serpent	Dixon, Franklin W.	1974	F Dixon	00006100	8.93	2/5/2002
2/9/2023	The clue of the leaning chimney.	Keene, Carolyn.	1967	F Keene	98060088	7.95	5/1/1999
2/9/2023	The clue of the screeching owl.	Dixon, Franklin W.	1962	F Dixon	00006101	8.93	2/5/2002
2/9/2023	The clue of the tapping heels.	Keene, Carolyn.	1969	F Keene	98060089	8.49	5/1/1999
2/9/2023	The clue of the whistling bagpipes	Keene, Carolyn.	1992	F Keene	98060090	8.49	5/1/1999
2/9/2023	The crisscross shadow	Dixon, Franklin W.	1969	F Dixon	00006102	8.93	2/5/2002
2/9/2023	The crooked banister	Keene, Carolyn.	1971	F Keene	98060091	8.47	5/1/1999
2/9/2023	Danger on Vampire Trail	Dixon, Franklin W.	1971	F Dixon	00006258	8.93	3/12/2002
2/9/2023	A dangerous plan	Jenkins, Jerry B.	2002	F Jen	03006421	9.34	7/23/2008
2/9/2023	Darkening skies	Jenkins, Jerry B.	2001	F Jen	03006420	9.34	7/23/2008
2/9/2023	Death at the gala	Jenkins, Jerry B.	2003	F Jen	03006419	9.34	7/23/2008
2/9/2023	Death strike	Jenkins, Jerry B.	2000	F Jenkins	00006306	8.93	5/22/2000

Donna Knight Jodd Bowker

2/9/2023	The disappearing floor.	Dixon, Franklin W.	1964	F Dixon	00006259	8.93	3/12/2002
2/9/2023	Doll bones	Black, Holly.	2013	F BLA	14002054	17.99	2/19/2015
2/9/2023	The double jinx mystery	Keene, Carolyn.	1973	F Keene	98060092	8.49	5/1/1999
2/9/2023	Earthquake!	Jenkins, Jerry B.	2000	F Jenkins	00006278	8.93	3/12/2002
2/9/2023	Emily's runaway imagination	Cleary, Beverly.	1961	F Cleary	91001264	14.51	10/18/1991
2/9/2023	Escape from New Babylon	Jenkins, Jerry B.	2002	F Jen	03006423	9.34	7/23/2008
2/9/2023	Escape to Masada	Jenkins, Jerry B.	2003	F Jen	03006543	9.34	7/23/2008
2/9/2023	Facing the future	Jenkins, Jerry B.	1998	F Jenkins	00006280	8.93	3/12/2002
2/9/2023	Fast families : racing together through lif	Brock, Ted.	2003	920 Bro	03600453	24.21	7/23/2008
2/9/2023	A figure in hiding,	Dixon, Franklin W.	1965	F dixon	00006260	8.93	3/12/2002
2/9/2023	Fire from heaven	Jenkins, Jerry B.	2001	F Jen	03006422	9.34	7/23/2008
2/9/2023	The firebird rocket	Dixon, Franklin W.	1978	F Dix	05006902	8.91	7/23/2008
2/9/2023	The flickering torch mystery	Dixon, Franklin W.	1971	F Dixon	00006103	8.93	2/5/2002
2/9/2023	The haunted bridge	Keene, Carolyn.	1972	F Kee	05006904	8.91	7/23/2008
2/9/2023	The haunted bridge	Keene, Carolyn.	1972	F Keene	98060093	8.49	5/1/1999
2/9/2023	The haunted fort.	Dixon, Franklin W.	1965	F Dixon	00006107	8.93	2/5/2002
2/9/2023	The haunted showboat	Keene, Carolyn.	1992	F Keene	98060094	8.49	5/1/1999
2/9/2023	Henry and Ribsy	Cleary, Beverly.	1954	F Cleary	86001272	11.19	1/7/1987
2/9/2023	Henry and the paper route.	Cleary, Beverly. [fro	1957	F Cleary	81001271	8.59	3/17/1982
2/9/2023	The hooded hawk mystery	Dixon, Franklin W.	1971	F Dixon	00006109	8.93	2/5/2002
2/9/2023	Horsemen of terror	Jenkins, Jerry B.	2002	F Jen	03006424	9.34	7/23/2008
2/9/2023	Hot wheels : the newest stock car stars	Woods, Bob.	2003	920 Woo	03600640	24.21	7/23/2008
2/9/2023	Into the storm	Jenkins, Jerry B.	2000	F Jenkins	00006283	8.93	3/12/2002
2/9/2023	Judgment day	Jenkins, Jerry B.	2001	F Jenkins	00006182	8.93	2/5/2002
2/9/2023	The kid coach	Bowen, Fred.	1996	F Bow	04006554	8.92	7/23/2008
2/9/2023	The mark of the Beast	Jenkins, Jerry B.	2003	F Jen	03006425	9.34	7/23/2008
2/9/2023	The masked monkey	Dixon, Franklin W.	1972	F Dixon	00006113	8.93	2/5/2002
2/9/2023	The melted coins	Dixon, Franklin W.	1970	F Dixon	00006114	8.93	2/5/2002
2/9/2023	The message in the hollow oak	Keene, Carolyn.	1972	F Keene	98060095	8.49	5/1/1999
2/9/2023	Mississippi Delta	Cooper, Jason, 1942	1995	917.7 Cooper	96600437	9.95	9/12/1997
2/9/2023	Mitch and Amy.	Cleary, Beverly.	1967	F Cleary	98005767	9.70	6/1/1999
2/9/2023	Murder in the holy place	Jenkins, Jerry B.	2003	F Jen	03006427	9.34	7/23/2008
2/9/2023	The mysterious caravan	Dixon, Franklin W.	1975	F Dixon	00006115	8.93	2/5/2002
2/9/2023	The mysterious mannequin.	Keene, Carolyn.	1970	F Keene	97005496	7.75	7/14/1997

2/9/2023	The mysterious mannequin.	Keene, Carolyn.	1970	F Keene	98060096	8.49	5/1/1999
2/9/2023	Mystery at Devil's Paw	Dixon, Franklin W.	1973	F Dixon	00006116	8.93	2/5/2002
2/9/2023	The mystery of the Aztec warrior.	Dixon, Franklin W.	1964	F Dixon	00006117	8.93	2/5/2002
2/9/2023	The mystery of the Chinese junk	Dixon, Franklin W.	1960	F Dixon	00006118	8.93	2/5/2002
2/9/2023	Mystery of the desert giant.	Dixon, Franklin W.	1961	F Dixon	00006264	8.93	3/12/2002
2/9/2023	The mystery of the fire dragon	Keene, Carolyn.	1989	F keene	98060098	8.49	5/1/1999
2/9/2023	Mystery of the flying express	Dixon, Franklin W.	1970	F Dixon	00006119	8.93	2/5/2002
2/9/2023	The mystery of the stolen bike	Brown, Marc Tolon.	1998	F Brown	98060146	7.47	5/1/1999
2/9/2023	Mystery of the tolling bell	Keene, Carolyn.	1992	F Keene	98060099	8.49	5/1/1999
2/9/2023	Mystery of the whale tattoo.	Dixon, Franklin W.	1968	F Dixon	00006121	8.93	2/5/2002
2/9/2023	Nicolae High	Jenkins, Jerry B.	1999	F Jenkins	00006284	8.93	3/12/2002
2/9/2023	On the run	Jenkins, Jerry B.	2000	F Jenkins	00006308	8.93	5/22/2000
2/9/2023	Password to Larkspur Lane	Keene, Carolyn.	1992	F Kee	05006905	8.91	7/23/2008
2/9/2023	The phantom freighter	Dixon, Franklin W.	1970	F Dixon	00006122	8.93	2/5/2002
2/9/2023	The phantom of Pine Hill	Keene, Carolyn.	1992	F Keene	98060102	8.47	5/1/1999
2/9/2023	Pirates! : raiders of the high seas	Maynard, Christoph	1998	910.4 Maynarc	98060187	7.47	5/1/1999
2/9/2023	The quest of the missing map.	Keene, Carolyn.	1969	F Keene	98060103	8.49	5/1/1999
2/9/2023	Ramona and her father	Cleary, Beverly.	1977	F Cleary	77001284	6.60	4/4/1978
2/9/2023	Ramona and her mother	Cleary, Beverly.	2006	F Cle	08001039	17.54	11/7/2008
2/9/2023	Ramona forever	Cleary, Beverly.	1984	F Cleary	98005631	14.96	6/8/1999
2/9/2023	Ramona's world	Cleary, Beverly.	1999	F CLE	11007010	15.00	8/15/2011
2/9/2023	The ringmaster's secret	Keene, Carolyn.	1974	F Keene	98060104	8.49	5/1/1999
2/9/2023	The scarlet slipper mystery	Keene, Carolyn.	1974	F Keene	98060105	8.47	5/1/1999
2/9/2023	The search	Jenkins, Jerry B.	2000	F Jenkins	00006287	8.93	3/12/2002
2/9/2023	The search for delicious	Babbitt, Natalie.	1985	F Babbitt	00002373	8.21	4/17/2001
2/9/2023	The secret agent on flight 101	Dixon, Franklin W.	1967	F Dix	00006123	8.93	2/5/2002
2/9/2023	The secret in the old attic	Keene, Carolyn.	1970	F Keene	98060106	8.49	5/1/1999
2/9/2023	The secret of Mirror Bay	Keene, Carolyn.	1992	F Keene	98060107	8.49	5/1/1999
2/9/2023	The secret of Pirates' Hill	Dixon, Franklin W.	1972	F Dixon	97001457	7.75	9/4/1997
2/9/2023	The secret of Skull Mountain.	Dixon, Franklin W.	1966	F dixon	00006125	8.93	2/5/2002
2/9/2023	The secret of the forgotten city.	Keene, Carolyn,	1975	F Keene	98060110	8.49	5/1/1999
2/9/2023	The secret of the Indian	Banks, Lynne Reid,	1989	F Banks	96001070	14.65	8/7/1996
2/9/2023	The secret of the lost tunnel,	Dixon, Franklin W.	1968	F Dixon	00006127	8.93	2/5/2002
2/9/2023	The secret of Wildcat Swamp	Dixon, Franklin W.	1969	F Dixon	00006129	8.93	2/5/2002

2/9/2023	The secret panel,	Dixon, Franklin W.	1969	F Dixon	00006265	8.93	3/12/2002
2/9/2023	The secret warning	Dixon, Franklin W.	1966	F Dixon	00006130	8.93	2/5/2002
2/9/2023	Secrets of New Babylon	Jenkins, Jerry B.	2002	F Jen	03006428	9.34	7/23/2008
2/9/2023	The shattered helmet	Dixon, Franklin W.	1973	F Dixon	00006131	8.93	2/5/2002
2/9/2023	The short-wave mystery	Dixon, Franklin W.	1966	F Dixon	00006133	8.93	2/5/2002
2/9/2023	The showdown	Jenkins, Jerry B.	2001	F Jenkins	00006184	8.93	2/5/2002
2/9/2023	The sign of the crooked arrow	Dixon, Franklin W.	1970	F Dixon	00006134	8.93	2/5/2002
2/9/2023	Snarf attack, underfoodle, and the secre	Amato, Mary.	2004	F Ama	05006909	16.59	7/23/2008
2/9/2023	Snowize & Snitch : highly effective defec	Briner, K. H. (Karen	2016	F Bri	17001028	19.26	11/13/2017
2/9/2023	Socks	Cleary, Beverly.	1973	F Cleary	98005632	14.96	6/8/1999
2/9/2023	The sting of the scorpion	Dixon, Franklin W.	1979	F Dix	05006901	8.91	7/23/2008
2/9/2023	Terror in the stadium	Jenkins, Jerry B.	2001	F Jen	03006429	9.34	7/23/2008
2/9/2023	The thirteenth pearl	Keene, Carolyn.	1979	F Keene	98060115	8.49	5/1/1999
2/9/2023	Through the flames	Jenkins, Jerry B.	1998	F Jen	03006430	9.34	7/23/2008
2/9/2023	The twisted claw.	Dixon, Franklin W.	1969	F Dixon	00006137	8.93	2/5/2002
2/9/2023	The underground	Jenkins, Jerry B.	1999	F Jennkins	00006310	8.93	5/22/2000
2/9/2023	Uplink from the underground	Jenkins, Jerry B.	2002	F Jen	03006431	9.34	7/23/2008
2/9/2023	The vanishings	Jenkins, Jerry B.	1998	F Jenkins	00006290	8.93	3/12/2002
2/9/2023	The Viking symbol mystery	Dixon, Franklin W.	1963	F Dixon	00006138	8.93	2/5/2002
2/9/2023	The wailing siren mystery,	Dixon, Franklin W.	1968	F Dixon	00006139	8.93	2/5/2002
2/9/2023	War of the dragon	Jenkins, Jerry B.	2003	F Jen	03006544	9.34	7/23/2008
2/9/2023	The whispering statue	Keene, Carolyn.	1970	F Keene	98060114	8.49	5/1/1999
2/9/2023	Wilbur and Orville Wright : the flight to a	Sabin, Louis.	1983	920 Sabin	88003025	9.79	2/16/1987
2/9/2023	Wildfire!	Jenkins, Jerry B.	2003	F Jen	03006432	9.34	7/23/2008
2/9/2023	The witchmaster's key	Dixon, Franklin W.	1976	F Dixon	00006266	8.93	3/12/2002
2/9/2023	The yellow feather mystery	Dixon, Franklin W.	1971	F Dixon	00006142	8.93	2/5/2002
2/8/2023	Aliens for lunch	Etra, Jonathan.	1991	F Etra	97005242	8.24	8/20/1997
2/8/2023	Babe, the gallant pig	King-Smith, Dick.	1993	F King-Smith	00006186	14.70	2/5/2002
2/8/2023	Black Gold	Henry, Marguerite,	1957	F Henry	86002884	9.85	8/28/1986
2/8/2023	Born to trot	Henry, Marguerite,	1950	F Henry	84005358	9.02	3/19/1985
2/8/2023	Catwings	Le Guin, Ursula K. 1	1988	F LeGuin	97005480	15.15	8/20/1997
2/8/2023	Catwings return	Le Guin, Ursula K.	1989	F Le Guin	00002469	14.47	4/17/2001
2/8/2023	Hank the cowdog and monkey business	Erickson, John R.	1999	F Erickson	99060330	7.99	6/30/2000
2/8/2023	Hank the Cowdog, every dog has his day	Erickson, John R.	1999	F Erickson	99060312	7.99	6/12/2000

2/8/2023	Hank the Cowdog, faded love	Erickson, John R.	1999	F Erickson	99060327	7.99	6/30/2000
2/8/2023	Hank the Cowdog, it's a dog's life	Erickson, John R.	1999	F Erickson	99060316	7.99	6/12/2000
2/8/2023	Hank the Cowdog, let sleeping dogs lie	Erickson, John R.	1989	F Erickson	98060182	8.63	5/1/1999
2/8/2023	Hank the Cowdog : let sleeping dogs lie	Erickson, John R., 19	1989	F Erickson	91005228	9.55	6/1/1992
2/8/2023	Hank the Cowdog, lost in the blinded bliz	Erickson, John R.	1991	F Erickson	99060318	7.99	6/12/2000
2/8/2023	Hank the Cowdog, moonlight madness	Erickson, John R.	1999	F Erickson	99060319	7.99	6/12/2000
2/8/2023	Hank the Cowdog, murder in the middle	Erickson, John R.	1988	F Erickson	99060320	7.99	6/12/2000
2/8/2023	Hank the Cowdog, phantom in the mirro	Erickson, John R.	1999	F Erickson	99060321	7.99	6/12/2000
2/8/2023	Hank the Cowdog Slim's goodbye	Erickson, John R., 19	2000	F Eri	99600322	7.99	7/23/2008
2/8/2023	Hank the Cowdog, the case of the black-l	Erickson, John R.	1999	F Erickson	99060326	7.99	6/30/2000
2/8/2023	Hank the Cowdog, the case of the doubl	Erickson, John R.	1999	F Erickson	99060331	7.99	6/30/2000
2/8/2023	Hank the Cowdog, the case of the Hallow	Erickson, John R.	1999	F Erickson	99060308	7.99	6/12/2000
2/8/2023	Hank the Cowdog, the case of the night-:	Erickson, John R.	1996	F Erickson	98005653	8.63	6/8/1999
2/8/2023	Hank the Cowdog, the case of the one-e	Erickson, John R.	1999	F Erickson	99060328	7.99	6/30/2000
2/8/2023	Hank the Cowdog, the case of the swirlir	Erickson, John R.	1999	F Erickson	99060317	7.99	6/12/2000
2/8/2023	Hank the Cowdog, the case of the the fid	Erickson, John R.	1999	F Erickson	99060307	7.99	6/12/2000
2/8/2023	Hank the Cowdog, the case of the vampi	Erickson, John R.	1999	F Erickson	99060309	7.99	6/12/2000
2/8/2023	Hank the Cowdog, the case of the vampi	Erickson, John R.	1999	F Erickson	99060310	7.99	6/12/2000
2/8/2023	Hank the Cowdog, the curse of the incre	Erickson, John R.	1999	F Erickson	99060311	7.99	6/12/2000
2/8/2023	Justin Morgan had a horse	Henry, Marguerite,	1954	F Henry	86005362	11.25	10/8/1986
2/8/2023	King of the Wind	Henry, Marguerite,	1948	F Henry	84005363	9.58	9/4/1984
2/8/2023	Misty of Chincoteague	Henry, Marguerite,	1947	F henry	66005366	4.44	9/1/1966
2/8/2023	The mopwater files	Erickson, John R., 19	1997	F Erickson	97005218	8.45	9/9/1997
2/8/2023	Our first pony	Henry, Marguerite,	1984	F henry	86005367	9.85	10/8/1986
2/8/2023	Sea Star, orphan of Chincoteague	Henry, Marguerite,	1949	F Henry	49005368	3.00	9/1/2049
2/8/2023	White stallion of Lipizza	Henry, Marguerite,	1964	F Henry	86005372	11.95	10/8/1986
2/7/2023	1996 U.S. women's Olympic gymnastics t	Rambeck, Richard.	1998	920 Ram	03600571	22.79	7/23/2008
2/7/2023	Abigail takes the wheel	Avi, 1937-	1999	F Avi	00002701	14.63	10/14/2002
2/7/2023	Alabama	Thompson, Kathlee	1996	976.1 Thomps	00002551	9.69	6/1/2002
2/7/2023	Alabama : the Heart of Dixie	Martin, Michael A.	2002	976.1 Mar	03006444	12.06	7/23/2008
2/7/2023	Alaska	Thompson, Kathlee	1996	979.8 Thomps	00002552	9.69	6/1/2002
2/7/2023	Alaska : the Last Frontier	Seder, Isaac.	2003	979.8 Sed	03006511	12.06	7/23/2008
2/7/2023	Arizona	Thompson, Kathlee	1996	979.1 Thomps	00002553	9.69	6/1/2002
2/7/2023	Arizona : the Grand Canyon State	Martin, Michael A.	2002	979.1 Mar	03006445	12.06	7/23/2008

2/7/2023	Arkansas	Thompson, Kathlee	1996	976.7 Thomps	00002554	9.69	6/1/2002
2/7/2023	Arkansas : the Natural State	Bailer, Darice.	2002	976.7 Bai	03006338	12.06	7/23/2008
2/7/2023	Babysitting rules : a guide for when you'	Browning, Leah.	2007	649 Bro	06004049	25.26	7/23/2008
2/7/2023	California	Thompson, Kathlee	1996	979.4 Thomps	00002555	9.69	6/1/2002
2/7/2023	California : the Golden State	Ingram, Scott (Willi	2002	979.4 Ing	03006409	12.06	7/23/2008
2/7/2023	Charlie Muffin's miracle mouse	King-Smith, Dick.	1999	F King-Smith	00006187	15.40	2/5/2002
2/7/2023	Cheer essentials : uniforms and equipme	Jones, Jen.	2006	791.6 Jon	05006762	25.26	7/23/2008
2/7/2023	Cheer skills : beginning tumbling and stu	Jones, Jen.	2006	791.6 Jon	05006760	25.26	7/23/2008
2/7/2023	Cheer spirit : revving up the crowd	Jones, Jen.	2006	791.6 Jon	05006764	25.26	7/23/2008
2/7/2023	Cheer squad : building spirit and getting	Jones, Jen.	2006	791.6 Jon	05006765	25.26	7/23/2008
2/7/2023	The cheerleaders	Maurer, Tracy.	2006	791.6 MAU	05002055	18.30	7/23/2008
2/7/2023	Cheerleading gear	Maurer, Tracy.	2006	791.6 MAU	05002050	18.30	7/23/2008
2/7/2023	Cheerleading practice	Maurer, Tracy, 196	2006	791.64 Mau	05002051	18.30	7/23/2008
2/7/2023	Colorado	Thompson, Kathlee	1996	978.8 Thomps	00002556	9.69	6/1/2002
2/7/2023	Colorado : the Centennial State	Elias, Megan.	2002	978.8 Eli	03006380	12.06	7/23/2008
2/7/2023	Competitive cheerleading	Maurer, Tracy.	2006	791.6 MAU	05002054	18.30	7/23/2008
2/7/2023	Connecticut	Thompson, Kathlee	1996	974.6 Tho	00002557	9.69	6/1/2002
2/7/2023	Connecticut : the Constitution State	Bailer, Darice.	2002	974.6 Bai	03006339	12.06	7/23/2008
2/7/2023	Counting in the wetlands	McKissack, Fredrick	2009	578.768 McK	08001204	5.99	10/26/2009
2/7/2023	A day in the life of a musician	Hayward, Linda, 19	2001	780 Hay	09001227	9.55	12/14/2009
2/7/2023	Delaware	Thompson, Kathlee	1996	975.1 Thomps	00002558	9.69	6/1/2002
2/7/2023	Delaware : the First State	Fontes, Justine.	2003	975.1 Fon	03006392	12.06	7/23/2008
2/7/2023	Drake Bell and Josh Peck	Franks, Katie.	2009	920 FRA	08002013	15.95	2/26/2009
2/7/2023	Dylan and Cole Sprouse	Franks, Katie.	2009	920 FRA	08002014	15.95	2/26/2009
2/7/2023	Florida	Thompson, Kathlee	1996	975.9 Thomps	00002559	8.83	6/1/2002
2/7/2023	Florida : the Sunshine State	Chui, Patricia.	2002	975.9 Chu	03006355	12.06	7/23/2008
2/7/2023	Frog went-a-courting : a musical play in s	Catalano, Dominic.	1998	782.42 Cat	98060149	14.23	7/23/2008
2/7/2023	Funny Frank	King-Smith, Dick.	2001	F Kin	03006436	14.86	7/23/2008
2/7/2023	Georgia	Thompson, Kathlee	1996	975.8 Thomps	00002560	9.69	6/1/2002
2/7/2023	Georgia : the Peach State	Holtz, Eric Siegfried	2002	975.8 Hol	03006407	12.06	7/23/2008
2/7/2023	Harriet's hare	King-Smith, Dick.	1995	F King-Smith	00006190	8.43	2/5/2002
2/7/2023	Idaho	Thompson, Kathlee	1996	979.6 Thomps	00002562	9.69	6/1/2002
2/7/2023	Idaho : the Gem State	Edwards, Karen.	2003	979.6 Edw	03006379	12.06	7/23/2008
2/7/2023	Illinois	Thompson, Kathlee	1996	977.3 Thomps	00002563	9.69	6/1/2002

2/7/2023	Illinois : the Prairie State	Feeley, Kathleen, 1!	2002	977.3 Fee	03006386	12.06	7/23/2008
2/7/2023	Indiana	Thompson, Kathleei	1996	977.2 Thomps	00002564	9.69	6/1/2002
2/7/2023	Indiana : the Hoosier State	Brunelle, Lynn.	2002	977.2 Bru	03006350	12.06	7/23/2008
2/7/2023	Iowa	Thompson, Kathleei	1996	977.7 Thomps	00002565	9.69	6/1/2002
2/7/2023	Iowa : the Hawkeye State	Martin, Michael A.	2002	977.7 Mar	03006446	12.06	7/23/2008
2/7/2023	Kansas	Thompson, Kathleei	1996	978.1 Thomps	00002566	9.69	6/1/2002
2/7/2023	Kansas : the Sunflower State	Ingram, Scott (Willi	2002	978.1 Ing	03006410	12.06	7/23/2008
2/7/2023	Kentucky	Thompson, Kathleei	1996	976.9 Thomps	00002567	9.69	6/1/2002
2/7/2023	Kentucky : the Bluegrass State	Pollock, Miriam Hec	2002	976.9 Pol	03006489	12.06	7/23/2008
2/7/2023	Louisiana : the Pelican State	Gildart, Leslie S.	2002	976.3 Gil	03006399	12.06	7/23/2008
2/7/2023	Maine	Thompson, Kathleei	1996	974.1 Thomps	00002568	9.69	6/1/2002
2/7/2023	Maine : the Pine Tree State	DeFord, Deborah H.	2003	974.1 DeF	03006376	12.06	7/23/2008
2/7/2023	Maryland	Thompson, Kathleei	1996	975.2 Thomps	00002569	9.69	6/1/2002
2/7/2023	Maryland : the Old Line State	Martin, Michael A.	2002	975.2 Mar	03006447	12.06	7/23/2008
2/7/2023	Massachusetts	Thompson, Kathleei	1996	974.4 Thomps	00002570	9.69	6/1/2002
2/7/2023	Massachusetts : the Bay State	Barenblat, Rachel.	2002	974.4 Bar	03006342	12.06	7/23/2008
2/7/2023	Michigan	Thompson, Kathleei	1996	977.4 Thomps	00002571	9.69	6/1/2002
2/7/2023	Michigan : the Wolverine State	Barenblat, Rachel.	2002	977.4 Bar	03006343	12.06	7/23/2008
2/7/2023	Minnesota	Thompson, Kathleei	1996	977.6 Thomps	00002572	9.69	6/1/2002
2/7/2023	Minnesota : Land of 10,000 Lakes	Pollock, Miriam Hec	2002	977.6 Pol	03006490	12.06	7/23/2008
2/7/2023	Mississippi : the Magnolia State	Figueroa, Acton.	2003	976.2 Fig	03006388	12.06	7/23/2008
2/7/2023	Missouri : the Show-Me State	Ingram, Scott (Willi	2002	977.8 Ing	03006411	12.06	7/23/2008
2/7/2023	Montana	Thompson, Kathleei	1996	978.6 Thomps	00002575	9.69	6/1/2002
2/7/2023	Montana : the Treasure State	Hirschmann, Kris, 1!	2003	978.6 Hir	03006404	12.06	7/23/2008
2/7/2023	A mouse called Wolf	King-Smith, Dick.	1997	F King-Smith	00006195	15.40	2/5/2002
2/7/2023	Nebraska	Thompson, Kathleei	1996	978.2 Thomps	00002576	9.69	6/1/2002
2/7/2023	Nebraska : the Cornhusker State	Flocker, Michael.	2002	978.2 Flo	03006390	12.06	7/23/2008
2/7/2023	Nevada	Thompson, Kathleei	1996	979.3 Thomps	00002577	9.69	6/1/2002
2/7/2023	Nevada : the Silver State	Hana, Jon.	2003	979.3 Han	03006403	12.06	7/23/2008
2/7/2023	New Hampshire	Thompson, Kathleei	1996	974.2 Thomps	00002578	9.69	6/1/2002
2/7/2023	New Hampshire : the Granite State	Mattern, Joanne, 1!	2003	974.2 Mat	03006450	12.06	7/23/2008
2/7/2023	New Jersey	Thompson, Kathleei	1996	974.9 Thomps	00002579	9.69	6/1/2002
2/7/2023	New Jersey : the Garden State	Holtz, Eric Siegfried.	2002	974.9 Hol	03006408	12.06	7/23/2008
2/7/2023	New Mexico	Thompson, Kathleei	1996	978.9 Thomps	00002580	9.69	6/1/2002

2/7/2023	New Mexico : Land of Enchantment	Burgan, Michael.	2003	978.9 Bur	03006354	12.06	7/23/2008
2/7/2023	New York : the Empire State	Ball, Jacqueline A.,	2002	974.7 Bal	03006340	12.06	7/23/2008
2/7/2023	North Carolina	Thompson, Kathlee	1996	975.6 Thomps	00002581	9.69	6/1/2002
2/7/2023	North Carolina : the Tar Heel State	Rafle, Sarah.	2002	975.6 Raf	03006492	12.06	7/23/2008
2/7/2023	North Dakota	Thompson, Kathlee	1996	978.4 Thomps	00002582	9.69	6/1/2002
2/7/2023	North Dakota : the Peace Garden State	Fontes, Justine.	2003	978.4 Fon	03006393	12.06	7/23/2008
2/7/2023	Ohio	Thompson, Kathlee	1996	977.1 Thomps	00002583	8.83	6/1/2002
2/7/2023	Ohio : the Buckeye State	Martin, Michael A.	2002	977.1 Mar	03006448	12.06	7/23/2008
2/7/2023	Oklahoma	Thompson, Kathlee	1996	976.6 Thomps	00002584	8.83	6/1/2002
2/7/2023	Oklahoma : the Sooner State	Martin, Michael A.	2002	976.6 Mar	03006449	12.06	7/23/2008
2/7/2023	Oregon	Thompson, Kathlee	1996	979.5 Thomps	00002585	9.69	6/1/2002
2/7/2023	Oregon : the Beaver State	Ingram, Scott (Willi	2002	979.5 Ing	03006412	12.06	7/23/2008
2/7/2023	Pacific Islands	Kristen, Katherine.	1996	996.7 kristen	00002550	9.69	6/1/2002
2/7/2023	Pennsylvania	Thompson, Kathlee	1996	974.8 Thomps	00002586	9.69	6/1/2002
2/7/2023	Pennsylvania : the Keystone State	Ingram, Scott (Willi	2002	974.8 Ing	03006413	12.06	7/23/2008
2/7/2023	Puerto Rico	Thompson, Kathlee	1996	972.95 Thomp	00002587	9.69	6/1/2002
2/7/2023	Puerto Rico : and other outlying areas	Burgan, Michael.	2003	972.95 Bur	03006353	12.06	7/23/2008
2/7/2023	Rhode Island	Thompson, Kathlee	1996	974.5 Thomps	00002588	9.69	6/1/2002
2/7/2023	Rhode Island : the Ocean State	Mattern, Joanne, 1	2003	974.5 Mat	03006451	12.06	7/23/2008
2/7/2023	Room decorating : make your space uniq	Hufford, Deborah.	2006	747.7 Huf	06004008	25.26	7/23/2008
2/7/2023	School cheerleading	Maurer, Tracy.	2006	791.6 MAU	05002052	18.30	7/23/2008
2/7/2023	Smasher	King-Smith, Dick.	1997	F King-Smith	00006199	7.93	2/5/2002
2/7/2023	South Carolina	Thompson, Kathlee	1996	975.7 Thomps	00002589	9.69	6/1/2002
2/7/2023	South Carolina : the Palmetto State	Volkwein, Ann.	2002	975.7 Vol	03006529	12.06	7/23/2008
2/7/2023	South Dakota	Thompson, Kathlee	1996	978.3 Thomps	00002590	9.69	6/1/2002
2/7/2023	South Dakota : the Mount Rushmore Sta	Hirschmann, Kris, 1	2003	978.3 Hir	03006405	12.06	7/23/2008
2/7/2023	Stunt performer	Gordon, Nick.	2013	791.43 GOR	14002035	17.95	2/4/2015
2/7/2023	Tennessee	Thompson, Kathlee	1996	976.8 Thomps	00002591	9.69	6/1/2002
2/7/2023	Tennessee : the Volunteer State	Peck, Barbara.	2002	976.8 Pec	03006486	12.06	7/23/2008
2/7/2023	Texas	Thompson, Kathlee	1996	976.4 Thomps	00002592	8.83	6/1/2002
2/7/2023	Texas : the Lone Star State	Barenblat, Rachel.	2002	976.4 Bar	03006344	12.06	7/23/2008
2/7/2023	There was an old lady who swallowed a	Taback, Simms.	1997	782.42 Taback	00002537	15.19	4/17/2001
2/7/2023	Twins on toes : a ballet debut	Anderson, Joan, 19	1993	792.8 Anderso	96002683	13.97	8/7/1996
2/7/2023	Under the mishmash trees	King-Smith, Dick.	2008	F Kin	10001028	5.99	10/21/2010

2/7/2023	Utah	Thompson, Kathleei	1996	979.2 Thomps	00002593	9.69	6/1/2002
2/7/2023	Utah : the Beehive State	Hirschmann, Kris, 1!	2003	979.2 Hir	03006406	12.06	7/23/2008
2/7/2023	Venus and Serena Williams	Flynn, Gabriel.	2001	920 Fly	03600465	22.79	7/23/2008
2/7/2023	Vermont	Thompson, Kathleei	1996	974.3 Thomps	00002594	9.69	6/1/2002
2/7/2023	Vermont : the Green Mountain State	Flocker, Michael.	2003	974.3 Flo	03006391	12.06	7/23/2008
2/7/2023	Virginia	Thompson, Kathleei	1996	975.5 Thomps	00002595	9.69	6/1/2002
2/7/2023	Virginia : the Old Dominion	Pollack, Pamela.	2002	975.5 Pol	03006549	12.06	7/23/2008
2/7/2023	Washington	Thompson, Kathleei	1996	979.7 Thomps	00002596	9.69	6/1/2002
2/7/2023	Washington, D.C	Figueroa, Acton.	2003	975.3 Fig	03006389	12.06	7/23/2008
2/7/2023	Washington, D.C	Thompson, Kathleei	1996	975.3 Thomps	00002597	9.69	6/1/2002
2/7/2023	Washington : the Evergreen State	Barenblat, Rachel.	2002	979.7 Bar	03006345	12.06	7/23/2008
2/7/2023	West Virginia	Thompson, Kathleei	1996	975.4 Thomps	00002598	9.69	6/1/2002
2/7/2023	West Virginia : the Mountain State	Fontes, Justine.	2003	975.4 Fon	03006394	12.06	7/23/2008
2/7/2023	Wisconsin	Thompson, Kathleei	1996	977.5 Thomps	00002599	9.69	6/1/2002
2/7/2023	Wisconsin : the Badger State	Barenblat, Rachel.	2002	977.5 Bar	03006346	12.06	7/23/2008
2/7/2023	Wyoming	Thompson, Kathleei	1996	978.7 Thomps	00002600	9.69	6/1/2002
2/7/2023	Wyoming : the Equality State	Fontes, Justine.	2003	978.7 Fon	03006395	12.06	7/23/2008
2/7/2023	Zombies	Morgan, Kathryn, 1!	2016	791.43	15007007	12.99	1/20/2016
2/1/2023	The ABC book of American homes	Shoulders, Michael.	2008	728.0973 Sho	09001271	11.13	12/14/2009
2/1/2023	Action Jackson	Greenberg, Jan, 194	2002	759.13 Gre	09001222	11.22	12/14/2009
2/1/2023	Aerial gunners of world war II	Hoppenstedt, Elber	2005	940.544 Hop	11080037	18.00	11/17/2011
2/1/2023	Architect	Cohn, Jessica.	2010	720.23 Coh	09001280	12.17	2/11/2010
2/1/2023	Arlington National Cemetery : where her	Temple, Bob.	2001	975.5 Tem	03600626	24.21	7/23/2008
2/1/2023	Australia.	Gray, Shirley W.	2001	994 Gray	00001957	8.95	12/5/2001
2/1/2023	Ballet of the elephants	Schubert, Leda.	2006	796.8 Sch	07001117	17.64	7/23/2008
2/1/2023	Baseball in action	Dann, Sarah, 1970-	2000	796.357 Dan	09001237	11.43	12/14/2009
2/1/2023	Battles of World War II	Taylor, Mike, 1965-	1998	940.53 Tay	11080002	18.95	10/31/2011
2/1/2023	Bowling in action	Walker, Niki, 1972-	2003	794.6 Wal	09001201	11.43	12/14/2009
2/1/2023	The Chicago Bears football team	O'Shei, Tim.	2001	796.332	09007003	8.99	4/13/2010
2/1/2023	The Creek	Hahn, Elizabeth, 19	1992	976.1 Hahn	94003162	9.50	9/1/1994
2/1/2023	Danger on the mountain : scaling the wo	Donkin, Andrew.	2001	796.52 Don	09001208	9.55	12/14/2009
2/1/2023	The Declaration of Independence : founc	Wilson, Jon.	1999	973.3 Wil	03600637	24.21	7/23/2008
2/1/2023	Don't know much about the fifty states	Davis, Kenneth C.	2001	973 Dav	04003295	15.99	8/26/2004
2/1/2023	Don't know much about the presidents	Davis, Kenneth C.	2002	973 Dav	04003294	15.99	8/26/2004

2/1/2023	Ethanol and other new fuels	Benduhn, Tea.	2009	662 Ben	09001172	10.93	12/14/2009
2/1/2023	The history of hockey	Helmer, Diana Star.	1999	796.962 Helm	00002324	11.64	2/20/2001
2/1/2023	The holy twins : Benedict and Scholastic	Norris, Kathleen.	2001	920 Nor	03006456	4.39	7/23/2008
2/1/2023	The Hopi	Rosinsky, Natalie M	2005	979.1004 Ros	05006975	20.54	7/23/2008
2/1/2023	I see the rhythm	Igus, Toyomi.	1998	780 Igu	09001236	17.77	12/14/2009
2/1/2023	The Laura Ingalls Wilder songbook.	Wilder, Laura Ingall	1968	784 Wilder	76002672	6.95	5/5/1975
2/1/2023	The magic school bus makes a rainbow :	Bloom, George Arth	1997	752 Blo	09001192	10.20	12/14/2009
2/1/2023	Math potatoes : more mind-stretching b	Tang, Greg.	2005	793.74 Tan	06006042	16.95	1/5/2007
2/1/2023	Meet my neighbor, the artist	Crabtree, Marc.	2009	750 Cra	09001200	11.43	12/14/2009
2/1/2023	Mount Rushmore : from mountain to mc	Gabriel, Luke S.	2001	978.3 Gab	03600463	24.21	7/23/2008
2/1/2023	NASCAR	Eagen, Rachel, 197	2007	796.72 Eag	09001209	12.17	12/14/2009
2/1/2023	Natural or man-made?	Hicks, Kelli L.	2012	670 Hic	13001033	12.88	10/4/2013
2/1/2023	The Pawnee	Hahn, Elizabeth, 19	1992	978 Hahn	94003200	9.50	9/1/1994
2/1/2023	Pecorino : inspiring animals	Tait, Leia.	2009	636.709 TAI	08002074	15.40	2/26/2009
2/1/2023	Penciling, inking, and coloring your graph	Lee, Frank, 1980-	2012	741.5/1	13006047	9.99	2/20/2014
2/1/2023	Plumbers	Simon, Charnan.	2003	696 Sim	03600608	21.36	7/23/2008
2/1/2023	The Pueblo Indians	Burby, Liza N.	1994	973 Burby	96003113	15.64	8/20/1996
2/1/2023	The quilting bee	Gibbons, Gail.	2004	746.46 Gib	09001216	18.49	12/14/2009
2/1/2023	Scholastic encyclopedia of the Civil War	Clinton, Catherine,	1999	973.7 Clinton	00000737	18.95	3/8/2001
2/1/2023	Scholastic encyclopedia of the North Am	Ciment, James.	1996	970.1 CIM	00001948	18.95	2/14/2002
2/1/2023	Scholastic Encyclopedia of the President	Rubel, David	1994	973.099 Rubel	00001904	18.95	2/14/2002
2/1/2023	The Scholastic encyclopedia of the presi	Rubel, David.	1994	973.099 Rubel	00001934	18.95	2/14/2002
2/1/2023	The Seminole	Brooks, Barbara, 19	1989	975.9 Brooks	94003161	9.50	9/1/1994
2/1/2023	The Seminole Indians	Koslow, Philip.	1994	975.8 Koslow	96003160	15.64	8/20/1996
2/1/2023	The story of the incredible orchestra : an	Koscielniak, Bruce.	2000	784.2 Kos	09001245	11.43	12/14/2009
2/1/2023	The story of Wounded Knee	Stein, R. Conrad.	1983	973.8 Stein	92003177	8.94	10/1/1992
2/1/2023	Super simple magnets : fun and easy-to-	Kenney, Karen Latcl	2010	745.59	10007011	14.95	12/9/2010
2/1/2023	Talkin' NASCAR	Woods, Bob.	2008	796.72 Woo	08001234	5.99	10/26/2009
2/1/2023	Too much kissing! : and other silly dilly s	Katz, Alan.	2010	782.42 Kat	11001131	5.99	8/8/2012
2/1/2023	Triathlons	Schindler, John E.	2005	796.42 Sch	09001269	10.21	12/14/2009
2/1/2023	The United States from A to Z	Kalman, Bobbie.	1999	973 Kalman	99005881	16.38	1/18/2000
2/1/2023	The U.S. Civil War and Reconstruction	Howell, Brian, 1974	2012	973.8 How	11001043	19.52	10/19/2011
2/1/2023	Vincent's colors	Gogh, Vincent van,	2005	759.9492 Gog	09001277	17.09	12/14/2009
2/1/2023	The White House : 1600 Pennsylvania Av	Wilson, Jon.	1998	975.3 WIL	99005892	14.95	1/31/2000

2/1/2023	World War I	Ross, Stewart.	2010	940.3/072	11007013	9.99	10/5/2011
2/1/2023	World War II	Langley, Andrew.	2010	940.53/072	11007014	9.99	10/5/2011
1/31/2023	The magic school bus plants seeds : a bo	Cole, Joanna.	1995	582 Cole	00002403	7.48	4/17/2001
11/18/2022	Library lion	Knudsen, Michelle.	2006	E Knu	07001145	16.26	7/23/2008
11/18/2022	Quarterback rush	Bowen, Carl.	2015	741.5/973	14006002	9.99	10/2/2014
10/28/2022	The Appaloosa horse	Maass, Sarah.	2006	636.1 Maa	05006759	22.60	7/23/2008
10/28/2022	Astronaut : living in space	Hayden, Kate.	2000	629.47 Hay	09001224	9.95	12/14/2009
10/28/2022	Basset hounds	Gray, Susan Heinrici	2007	636.753 GRA	07002008	17.95	7/23/2008
10/28/2022	Beagle : a howling good time	Searl, Duncan.	2009	636.753 Sea	08001218	19.17	10/26/2009
10/28/2022	The Berenstain Bears trick or treat	Berenstain, Stan, 19	1989	E Ber	07001164	8.82	7/23/2008
10/28/2022	Border collies	Gray, Susan Heinrici	2007	636.737 GRA	07002011	17.95	7/23/2008
10/28/2022	Canoes & kayaks	Cooper, Jason, 194	1999	623.829 Coo	05007010	9.95	7/23/2008
10/28/2022	Choppers!	Goodman, Susan E.,	2004	629.133 Goo	09001220	9.75	12/14/2009
10/28/2022	The Clydesdale horse	Diedrich, John.	2005	636.1 Die	05006787	22.60	7/23/2008
10/28/2022	Cool construction vehicles	MacAulay, Kelley.	2007	629.225 Mac	09001252	12.17	12/14/2009
10/28/2022	Custom cars : the ins and outs of tuners,	McCollum, Sean.	2010	629.228 McC	09001258	19.61	12/14/2009
10/28/2022	The Exotic cat	Mattern, Joanne.	2002	636.8 Mat	05006774	22.60	7/23/2008
10/28/2022	German shepherds	Gagne, Tammy.	2009	636.737 GAG	09006031		12/17/2009
10/28/2022	Golden retrievers	Larrew, Brekka Hen	2009	636.752 LAR	09006033		12/17/2009
10/28/2022	Health and growth	Llewellyn, Claire.	2005	612.6 LLE	05002037	15.15	7/23/2008
10/28/2022	The Hoover Dam : a monument of ingen	Gabriel, Luke S.	2001	627 Gab	03600466	24.21	7/23/2008
10/28/2022	Hot and bright : a book about the sun	Rau, Dana Meacher	2006	523.7 Rau	05006729	22.60	7/23/2008
10/28/2022	Jaguars : world's strongest cats	Zumbusch, Amelie \	2007	599.755 ZUM	07002041	15.95	7/23/2008
10/28/2022	The labrador retriever	Wilcox, Charlotte.	1996	636.7 Wil	05006816	22.60	7/23/2008
10/28/2022	Ladybug Girl	Davis, Jacky, 1966-	2008	E Dav	09006085	9.99	4/14/2010
10/28/2022	Leopards	Squire, Ann.	2005	599.75 Squ	09001148	11.08	11/9/2009
10/28/2022	Llama farms	Stone, Lynn M.	1999	636.2966 Sto	04003363	9.95	7/23/2008
10/28/2022	The magic school bus at the waterworks	Cole, Joanna.	1986	628.1 Cole	94005225	8.50	9/1/1994
10/28/2022	The magic school bus gets eaten : a book	Relf, Patricia.	1996	577 Rel	07001030	8.82	7/23/2008
10/28/2022	The magic school bus in the time of the c	Cole, Joanna.	1994	567.9 Col	09001188	10.65	12/14/2009
10/28/2022	The magic school bus sees stars : a book	White, Nancy, 1942	1999	523.8 Whi	09001194	9.75	12/14/2009
10/28/2022	Measuring at the fire station	Irving, Dianne.	2010	628.9	11007029	9.99	5/16/2012
10/28/2022	Mercedes	Stacy, Lee.	2005	629.222 STA	04006754	17.34	7/23/2008
10/28/2022	Muscle cars	Bailey, Katharine, 1	2007	629.222 Bai	09001168	12.17	12/14/2009

10/28/2022	The Persian cat	Mattern, Joanne.	2001	636.8 Mat	05006772	22.60	7/23/2008
10/28/2022	Poodles	Gagne, Tammy.	2010	636.72 GAG	09006039		12/17/2009
10/28/2022	Racecars : the ins and outs of stock cars,	McCollum, Sean.	2010	629.228 McC	09001259	19.61	12/14/2009
10/28/2022	Recycle! : a handbook for kids	Gibbons, Gail.	1992	628.4 Gib	09001212	11.15	12/14/2009
10/28/2022	Satellites and space probes	Walker, Niki.	1998	629.43 WAL	99005994	14.35	1/31/2000
10/28/2022	Snowmobiles	Von Finn, Denny.	2009	629.22 VON	09006044		12/17/2009
10/28/2022	Solar power	Rooney, Anne.	2008	621.31 Roo	09001267	12.87	12/14/2009
10/28/2022	Spacecraft	Kortenkamp, Steve.	2009	629.4 Kor	09001247	17.00	12/14/2009
10/28/2022	The Spanish Mustang	Parise-Peterson, An	2006	636.1 Par	05006756	22.60	7/23/2008
10/28/2022	Sprint cars	Von Finn, Denny.	2009	629.228 VON	09006046	9.99	12/17/2009
10/28/2022	Stealth attack fighters : the F-117A Night	Green, Michael, 19	2003	623.7 Gre	09001221	18.47	12/14/2009
10/28/2022	Submarines	Kramer, Sydelle.	2005	623.825 Kra	09001248	9.75	12/14/2009
10/28/2022	Sunshine makes the seasons	Branley, Franklyn M	2005	508.2 Bra	09001024	10.95	11/9/2009
10/28/2022	Sweet rides	Bailey, Katharine, 1	2007	629.222 Bai	09001169	12.17	12/14/2009
10/28/2022	The thoroughbred horse	Diedrich, John.	2005	636.1 Die	05006789	22.60	7/23/2008
10/28/2022	Tractors	Stille, Darlene R.	2003	629.225 Sti	06004030	21.26	7/23/2008
10/28/2022	Trucksgiving	Scieszka, Jon,	2014	E Sci	11001107	17.44	10/19/2011
10/28/2022	Where does the garbage go?	Showers, Paul.	1994	628.4 Sho	09001273	10.95	12/14/2009
10/28/2022	Wild about lowriders	Poolos, Jamie.	2008	629.222 POO	07002051	15.95	7/23/2008
10/28/2022	Wild about monster trucks	Poolos, Jamie.	2008	629.224 POO	07002080	15.95	7/23/2008
10/28/2022	Winged and toothless : the adventures o	Dahl, Michael.	2004	567.918 Dah	05006746	22.60	7/23/2008
10/28/2022	Yorkshire terriers	Gagne, Tammy.	2010	636.76 GAG	09006054		12/17/2009
10/28/2022	Yorkshire terriers	Gray, Susan Heinric	2007	636.76 GRA	07002081	17.95	7/23/2008
10/28/2022	You can't smell a flower with your ear : a	Cole, Joanna.	1994	612.8 Col	09001197	9.55	12/14/2009
10/28/2022	Your pet dog	Landau, Elaine.	2007	636.7 Lan	09001073	23.40	11/9/2009
10/28/2022	Your pet gerbil	Landau, Elaine.	2007	636.935 Lan	09001074	23.40	11/9/2009
10/24/2022	Diary of a wimpy kid [3] : the last straw	Kinney, Jeff.	2009	F Kin	18001071	17.16	11/1/2018
10/20/2022	The American eagle : the symbol of Ame	Wilson, Jon.	1999	306.4 Wil	03600635	24.21	7/23/2008
10/20/2022	The American quarter horse	Parise-Peterson, An	2005	636.1 Par	05006785	22.60	7/23/2008
10/20/2022	Beastly tales : Yeti, Bigfoot, and the Loch	Yorke, Malcolm.	1998	001.944 Yor	08001127	9.20	11/7/2008
10/20/2022	The Belgian horse	Maass, Sarah.	2006	636.1 Maa	05006758	22.60	7/23/2008
10/20/2022	Bread and jam for Frances.	Hoban, Russell.	1964	E Hoban	90000461	6.71	10/23/1990
10/20/2022	Check it out! : the book about libraries	Gibbons, Gail.	1985	027 Gib	09001281	10.75	2/11/2010
10/20/2022	The Chihuahua	Wilcox, Charlotte.	1999	636.76 Wil	05006820	22.60	7/23/2008

10/20/2022	Chihuahua : senor tiny	Lunis, Natalie.	2009	636.76 Lun	08001201	19.17	10/26/2009
10/20/2022	Cookies : bite-size life lessons	Rosenthal, Amy Kro	2006	179 Ros	10001057	15.14	10/21/2010
10/20/2022	Cordially invited : have you got what it ta	Thompson, Lisa, 19(	2008	394.2	10007010	14.95	12/9/2010
10/20/2022	Dachshund : the hot dogger	Lunis, Natalie.	2009	636.753 Lun	08001200	19.17	10/26/2009
10/20/2022	Did dinosaurs have feathers?	Zoehfeld, Kathleen '	2004	568 Zoe	09001159	10.95	11/9/2009
10/20/2022	Digging up dinosaurs	Aliki.	1988	567.9 Ali	09001001	10.95	11/9/2009
10/20/2022	Dinosaur bones	Aliki.	1988	567.9 Ali	09001002	10.95	11/9/2009
10/20/2022	Dinosaurs are different	Aliki.	1985	567.9 Ali	09001003	10.65	11/9/2009
10/20/2022	Earth	Stille, Darlene R.	2004	525 STI	05002008	17.05	7/23/2008
10/20/2022	Earthquakes	Branley, Franklyn M	2005	551.22 Bra	09001021	10.95	11/9/2009
10/20/2022	Ellis Island	Klingel, Cynthia.	2001	304.8 Kli	03600483	21.36	7/23/2008
10/20/2022	Emi the Sumatran rhino : inspiring anima	Tait, Leia.	2009	639.979 TAI	08002015	15.40	2/26/2009
10/20/2022	Energy makes things happen	Bradley, Kimberly B	2003	531 Bra	09001020	10.95	11/9/2009
10/20/2022	Farm animals : Dogs	Minden, Cecilia.	2010	636.7 MIN	09002032	16.95	2/10/2010
10/20/2022	Farm animals : Horses	Minden, Cecilia.	2010	636.1 MIN	09002043	16.95	2/10/2010
10/20/2022	Feel the wind	Dorros, Arthur.	1989	551.5 Dor	09001056	10.95	11/9/2009
10/20/2022	Flash, crash, rumble, and roll	Branley, Franklyn M	1999	551.55 Bra	09001022	10.95	11/9/2009
10/20/2022	Fluffy, flat, and wet : a book about cloud	Rau, Dana Meacher	2006	551.57 Rau	05006728	22.60	7/23/2008
10/20/2022	The golden retriever	Wilcox, Charlotte.	1996	636.7 Wil	05006817	22.60	7/23/2008
10/20/2022	Hadrosaurus	Stille, Darlene R.	2007	567.914 STI	06002040	15.45	7/23/2008
10/20/2022	Horse and pony basics	Curry, Marion.	2007	636.1 CUR	06002060	16.25	7/23/2008
10/20/2022	Horse and pony care	Curry, Marion.	2007	636.1 CUR	06002062	16.25	7/23/2008
10/20/2022	How is a government elected?	Bright-Moore, Susai	2009	324.6097 Bri	10001003	12.58	10/21/2010
10/20/2022	How is a law passed?	Bright-Moore, Susai	2009	328.73 Bri	10001002	12.58	10/21/2010
10/20/2022	Liberty	Collins, Terry.	2009	323.4409 Col	12001099	6.25	10/23/2012
10/20/2022	The magic school bus blows its top : a bo	Herman, Gail, 1959-	1996	551.21 Her	09001185	9.75	12/14/2009
10/20/2022	The magic school bus butterfly and the b	Krulik, Nancy E.	1996	595.789 Kru	09001184	9.53	12/14/2009
10/20/2022	The magic school bus gets cold feet : a bi	West, Tracey, 1965-	1997	591.5 Wes	07001032	8.60	7/23/2008
10/20/2022	The magic school bus gets programmed :	White, Nancy, 1942	1999	004 Whi	07001034	8.60	7/23/2008
10/20/2022	The magic school bus in the Arctic : a bo	Schreiber, Anne.	1998	536 Sch	09001193	9.75	12/14/2009
10/20/2022	The magic school bus kicks up a storm : a	White, Nancy, 1942	2000	551.5 Whi	09001195	9.75	12/14/2009
10/20/2022	The magic school bus ups and downs : a	Mason, Jane B.	1997	532 Mas	09001191	9.67	12/14/2009
10/20/2022	Mercury	Stille, Darlene R.	2004	523.41 STI	05002014	17.05	7/23/2008
10/20/2022	My visit to the dinosaurs	Aliki.	1985	567.9 Ali	05006908	9.17	7/23/2008

10/20/2022	Night light : a book about the moon	Rau, Dana Meacher	2006	523.3 Rau	05006730	22.60	7/23/2008
10/20/2022	Nuclear submariners	Loveless, Antony.	2010	359.9 Lov	11001136	12.78	8/8/2012
10/20/2022	On beyond a million : an amazing math j	Schwartz, David M.	1999	513.2 Sch	03006507	15.56	7/23/2008
10/20/2022	Police officers	Simon, Charnan.	2003	363.2 Sim	03600609	21.36	7/23/2008
10/20/2022	Rottweilers	Gagne, Tammy.	2010	636.73 GAG	09006041		12/17/2009
10/20/2022	Spots of light : a book about stars	Rau, Dana Meacher	2006	523.8 Rau	05006733	22.60	7/23/2008
10/20/2022	The sun	Stille, Darlene R.	2004	523.7 STI	05002009	17.05	7/23/2008
10/20/2022	Teachers	Simon, Charnan.	2003	371.1 Sim	03600610	21.36	7/23/2008
10/20/2022	Terrible tyrannosaurs	Zoehfeld, Kathleen	2001	567.912 Zoe	09001160	10.95	11/9/2009
10/20/2022	Thumbelina : inspiring animals	Hudak, Heather C.,	2009	636.109 HUD	08002084	15.40	2/26/2009
10/20/2022	Toy poodle : oodles of fun	Goldish, Meish.	2009	636.76 Gol	08001181	19.17	10/26/2009
10/20/2022	The U.S. Coast Guard	Braulick, Carrie A.	2005	363.28 Bra	06004013	19.93	7/23/2008
10/20/2022	Venus	Simon, Charnan.	2004	523.42 SIM	05002006	17.05	7/23/2008
10/20/2022	Veterinarians	Simon, Charnan.	2003	636.089 Sim	03600611	21.36	7/23/2008
10/20/2022	What you never knew about beds, bedrc	Lauber, Patricia.	2006	392.3 Lau	10001032	18.64	10/21/2010
10/20/2022	Whoever you are	Fox, Mem, 1946-	1997	305.8 Fox	10001017	10.90	10/21/2010
10/20/2022	Wild about hot rods	Poolos, Jamie.	2008	629.222 POO	07002037	15.95	7/23/2008
10/20/2022	Your pet cat	Landau, Elaine.	2007	636.8 Lan	09001072	23.40	11/9/2009
10/20/2022	Your pet hamster	Landau, Elaine.	2007	636.935 Lan	09001075	23.40	11/9/2009
10/20/2022	Your pet pony	Landau, Elaine.	2007	636.1 Lan	09001076	23.40	11/9/2009
10/19/2022	4 x 4 trucks	Von Finn, Denny.	2009	629.223 VON	09006022		12/17/2009
10/19/2022	Alligators and crocodiles	Trueit, Trudi Strain.	2003	597.98 Tru	09001153	11.08	11/9/2009
10/19/2022	Amazing crocodiles & reptiles	Ling, Mary.	1991	597.9 Ling	98060213	10.75	5/1/1999
10/19/2022	Bateman's backyard birds	Bateman, Robert, 1	2005	598 Bat	05007062	14.99	7/23/2008
10/19/2022	Bats : nature's night flyers	Stout, Frankie.	2009	599.4 STO	08002001	15.95	2/26/2009
10/19/2022	Beluga whales	Squire, Ann.	2007	599.5 Squ	09001142	23.40	11/9/2009
10/19/2022	Big machines	Wallace, Karen.	2000	624 Wal	09001278	9.55	12/14/2009
10/19/2022	Birds	Hibbert, Clare, 197(	2011	598	11007034	9.99	5/16/2012
10/19/2022	Cane toad	Somervill, Barbara A	2008	597.8 Som	08001225	19.17	10/26/2009
10/19/2022	Construction Forces.	Whitehouse, Patty	2007	621 WHI	06002076	9.99	4/20/2007
10/19/2022	A day in the life of a doctor	Hayward, Linda, 19	2001	610.69 Hay	09001226	9.55	12/14/2009
10/19/2022	Deadly fish	McFee, Shane.	2008	597.16 Mcf	11080010	15.94	10/31/2011
10/19/2022	The deer family	Biel, Timothy L.	2002	599.65 Bie	08001134	17.09	10/26/2009
10/19/2022	Dentists	Simon, Charnan.	2003	617.6 Sim	03600606	21.36	7/23/2008

10/19/2022	Discover sharks	Sengupta, Monalisa	2009	597.3 Sen	11001109	17.31	10/19/2011
10/19/2022	Doves	McDonald, Mary An	2000	598.6 McD	03600507	25.64	7/23/2008
10/19/2022	Drinks	Dalgleish, Sharon.	2006	613.2 DAL	06002058	18.00	7/23/2008
10/19/2022	A drop of blood	Showers, Paul.	1989	612 Sho	09001272	10.95	12/14/2009
10/19/2022	The dynamic digestive system : how doe	Burstein, John.	2009	612.3 Bur	09001180	12.17	12/14/2009
10/19/2022	Elephants	Stewart, Melissa.	2002	599.67 Ste	09001152	11.43	11/9/2009
10/19/2022	Elephants : from trunk to tail	Smith, Lucy Sackett.	2010	599.67 SMI	09002033	15.95	2/10/2010
10/19/2022	Exercise	Gogerly, Liz.	2009	612 Gog	09001217	12.17	12/14/2009
10/19/2022	Exercise and rest	Dalgleish, Sharon.	2006	613.7 DAL	06002037	18.00	7/23/2008
10/19/2022	Fast food : slowing us all down	Burstein, John.	2008	613.2 Bur	09001218	12.17	12/14/2009
10/19/2022	Fighter planes	Zuehlke, Jeffrey, 19	2006	623.74 Zue	09001279	21.72	12/14/2009
10/19/2022	Food, teeth, and eating	Knapp, Brian J.	2003	613.2 KNA	06006015	19.99	7/23/2008
10/19/2022	Forests	Stone, Lynn M.	2004	577.3 STO	04006743	12.12	7/23/2008
10/19/2022	Freight trains	Stille, Darlene R.	2002	625.1 Sti	06004029	21.26	7/23/2008
10/19/2022	Funny cars	Von Finn, Denny.	2009	629.228 VON	09006030		12/17/2009
10/19/2022	Germs make me sick!	Berger, Melvin.	1995	616.9 Ber	09001016	10.65	11/9/2009
10/19/2022	Get to know pulleys	Volpe, Karen.	2009	621.8 Vol	13001101	13.38	10/4/2013
10/19/2022	Giant snakes	Simon, Seymour.	2006	597.96 Sim	08001106	9.58	11/7/2008
10/19/2022	Giraffes	Bodden, Valerie.	2009	599.638 Bod	08001137	17.77	10/26/2009
10/19/2022	Giraffes : towering tall	Smith, Lucy Sackett.	2010	599.638 SMI	09002037	15.95	2/10/2010
10/19/2022	The great shark escape	Johnston, Jennifer.	2000	597.3 Joh	08001091	9.90	11/7/2008
10/19/2022	Grocery shopping : it's in the bag	Burstein, John.	2008	613.2 Bur	09001219	12.17	12/14/2009
10/19/2022	Hawks	Lundgren, Julie K.	2010	598.9 Lun	11001067	5.99	10/19/2011
10/19/2022	Hippos : huge and hungry	Smith, Lucy Sackett.	2010	599.635 SMI	09002042	15.95	2/10/2010
10/19/2022	Horse heroes : true stories of amazing hc	Petty, Kate.	1999	636.1 Pet	09001262	9.55	12/14/2009
10/19/2022	How do birds find their way?	Gans, Roma.	1996	598.2 Gan	09001058	10.95	11/9/2009
10/19/2022	Hungry, hungry sharks	Cole, Joanna.	2003	597.3 Col	08001051	9.60	11/7/2008
10/19/2022	Inventions and inventors	Sechrist, Darren.	2009	609.73 Sec	09001270	12.87	12/14/2009
10/19/2022	Keeping healthy	Knapp, Brian J.	2003	613 KNA	06006022	19.99	7/23/2008
10/19/2022	Keeping warm and cool	Knapp, Brian J.	2003	612.01426 KN/	06006023	19.99	7/23/2008
10/19/2022	Keith Urban	Hakit, Ruben.	2010	92 URB	10002048	18.50	2/23/2011
10/19/2022	Lemmings	Squire, Ann.	2007	599.35 Squ	09001147	23.40	11/9/2009
10/19/2022	Lice	Merrick, Patrick.	2001	616.5 Mer	03600536	25.64	7/23/2008
10/19/2022	Lions	Squire, Ann.	2005	599.757 Squ	09001149	11.08	11/9/2009

10/19/2022	Lions : king of the beasts	Zumbusch, Amelie \	2007	599.757 ZUM	07002049	15.95	7/23/2008
10/19/2022	Little Draggin' Bear : inspiring animals	Tait, Leia.	2009	636.809 TAI	08002029	15.40	2/26/2009
10/19/2022	Lizards	Trueit, Trudi Strain.	2003	597.95 Tru	09001154	11.43	11/9/2009
10/19/2022	The magic school bus and the electric fie	Cole, Joanna.	1997	621.3 Col	07001031	9.72	7/23/2008
10/19/2022	The magic school bus explores the sense	Cole, Joanna.	2001	612.8 Col	07001033	9.72	7/23/2008
10/19/2022	The Magic School Bus inside the human I	Cole, Joanna.	1989	612 Col	09001190	10.53	12/14/2009
10/19/2022	The magic school bus lost in the solar sys	Cole, Joanna.	1990	523.3 Col	09001187	11.10	12/14/2009
10/19/2022	Materials	Llewellyn, Claire.	2005	620.1 LLE	05002038	15.15	7/23/2008
10/19/2022	Mighty Machines.	Levine, Shar		621.8 LEV	04003298	12.95	7/23/2008
10/19/2022	Miraculous medicines	Boudreau, Helene.	2009	610 Bou	09001176	12.17	12/14/2009
10/19/2022	Moose	Squire, Ann.	2007	599.65 Squ	09001150	23.40	11/9/2009
10/19/2022	Moving and growing	Knapp, Brian J.	2003	612 KNA	06006027	19.99	7/23/2008
10/19/2022	Muscle cars	Von Finn, Denny.	2010	629.222 VON	09006038		12/17/2009
10/19/2022	Nuclear power	Benduhn, Tea.	2009	621.48 Ben	09001173	10.93	12/14/2009
10/19/2022	Obesity	Glaser, Jason.	2007	616.3 Gla	08001073	5.49	11/7/2008
10/19/2022	Open wide : tooth school inside	Keller, Laurie.	2000	617.6 Kel	09001244	11.69	12/14/2009
10/19/2022	Penguins	Squire, Ann.	2006	598.47 Squ	09001143	23.40	11/9/2009
10/19/2022	Polar bears	Squire, Ann.	2007	599.786 Squ	09001144	23.40	11/9/2009
10/19/2022	Pufferfish	Miller, Tori.	2009	597 Mil	11001081	5.99	10/19/2011
10/19/2022	Pumas : lone hunters	Zumbusch, Amelie \	2007	599.752 ZUM	07002062	15.95	7/23/2008
10/19/2022	Ramps	Manolis, Kay.	2010	621.8 Man	09001255	16.37	12/14/2009
10/19/2022	Scholastic encyclopedia of the North Am	Ciment, James.	1996	970.1 CIM	00001947	18.95	2/14/2002
10/19/2022	The science of a spring	Stringer, John.	2000	621.8 Stringer	00001924	17.95	1/14/2002
10/19/2022	Sea lamprey	Somervill, Barbara A	2009	597 Som	08001226	19.17	10/26/2009
10/19/2022	The search for the missing bones	Moore, Eva.	1999	611 Moo	09001261	10.20	12/14/2009
10/19/2022	Sensational human body science project:	Benbow, Ann.	2010	612 Ben	09001171	16.96	12/14/2009
10/19/2022	Shark attack!	Dubowski, Cathy Ea	1998	597.3 Dubowsl	98060167	7.47	5/1/1999
10/19/2022	Simple machines	Fowler, Allan.	2001	621.81 Fow	09001211	10.43	12/14/2009
10/19/2022	The skeleton inside you	Balestrino, Philip.	1989	611 Bal	09001005	10.95	11/9/2009
10/19/2022	Snakes	Trueit, Trudi Strain.	2003	597.96 Tru	08001123	11.08	11/7/2008
10/19/2022	Snakes	Trueit, Trudi Strain.	2003	597.96 Tru	09001155	11.43	11/9/2009
10/19/2022	Sports cars	Von Finn, Denny.	2010	629.222 VON	09006045	9.99	12/17/2009
10/19/2022	Springs and magnets	Knapp, Brian J.	2003	621.824 KNA	06006032	19.99	7/23/2008
10/19/2022	Super cool science experiments levers ar	Rau, Dana Meacher	2010	621.807 RAU	09002047	18.95	2/10/2010

10/19/2022	Super senses	Levine, Shar, 1953-	2003	612.8 LEV	04003296	12.95	7/23/2008
10/19/2022	Surprising sharks	Davies, Nicola, 195	2005	597.3 Dav	08001053	10.75	11/7/2008
10/19/2022	Swallow	Savage, Stephen, 1	2009	598.8 Sav	08001216	5.99	10/26/2009
10/19/2022	Swans	Bodden, Valerie.	2009	598.4 Bod	08001139	17.77	10/26/2009
10/19/2022	Tigers	Squire, Ann.	2005	599.756 Squ	09001151	11.08	11/9/2009
10/19/2022	Tigers : prowling predators	Smith, Lucy Sackett.	2010	599.756 SMI	09002061	15.95	2/10/2010
10/19/2022	Tigers : world's largest cats	Zumbusch, Amelie \	2007	599.756 ZUM	07002079	15.95	7/23/2008
10/19/2022	Tools and gadgets	Kalman, Bobbie, 19	1993	621.9 Kalman	94002168	12.50	9/1/1994
10/19/2022	U.S. Marine Corps combat jets	Rustad, Martha E. H	2007	623.74 Rus	09001268	17.00	12/14/2009
10/19/2022	Vampire bats	Merrick, Patrick.	2001	599.4 Mer	03600539	25.64	7/23/2008
10/19/2022	Weapons of World War I	Doeden, Matt.	2009	623.409 Doe	08001061	16.72	11/7/2008
10/19/2022	What do sharks eat for dinner? : questio	Berger, Melvin.	2000	597.3 Ber	08001018	10.75	11/7/2008
10/19/2022	Where the bald eagles gather	Patent, Dorothy Hin	1984	598 Patent	91001805	7.14	10/18/1991
10/19/2022	Why I sneeze, shiver, hiccup, and yawn	Berger, Melvin.	2000	612.7 Ber	09001018	10.95	11/9/2009
10/19/2022	Wild about wildlife : have you got what i	Thompson, Lisa, 19	2008	636.088	09007001	14.99	10/23/2009
10/19/2022	Workshop	Clements, Andrew,	1999	621.9 Cle	07001029	16.27	7/23/2008
10/19/2022	Your brain	DeGezelle, Terri.	2002	612.8 DeG	06004020	21.26	7/23/2008
10/19/2022	Your heart	DeGezelle, Terri.	2002	612.1 DeG	06004021	21.26	7/23/2008
10/19/2022	Your lungs	Ylvisaker, Anne.	2002	612.2 Ylv	06004022	21.26	7/23/2008
10/19/2022	Your muscles	Ylvisaker, Anne.	2002	612.7 Ylv	06004023	21.26	7/23/2008
10/19/2022	Your stomach	Ylvisaker, Anne.	2002	612.3 Ylv	06004024	21.26	7/23/2008
10/13/2022	100 first-prize make-it-yourself science f	Vecchione, Glen.	1998	507.8 Vecchior	98060284	17.73	5/1/1999
10/13/2022	Aladdin : and other tales from the Arabia	Kerven, Rosalind.	1998	398.22 Kerven	00002465	14.47	4/17/2001
10/13/2022	Almost gone : the world's rarest animals	Jenkins, Steve, 195	2006	591.68 Jen	09001065	10.95	11/9/2009
10/13/2022	Ankylosaurus.	Olliver, Rupert	2001	567.915 Oliver	00600380	7.50	2/15/2002
10/13/2022	Ankylosaurus	Owens, L. L.	2007	567.915 OWE	06002039	15.45	7/23/2008
10/13/2022	Asian carp	Somervill, Barbara A	2008	597 Som	08001224	5.99	10/26/2009
10/13/2022	Bless us all : a child's yearbook of blessin	Rylant, Cynthia.	1998	291.4 Rylant	98060259	13.56	5/1/1999
10/13/2022	Brachiosaurus.	Rupert, Oliver	2001	567.913 Oliver	00600381	7.50	2/15/2002
10/13/2022	Bubble homes and fish farts	Bayrock, Fiona.	2009	590 Bay	11001010	11.88	10/19/2011
10/13/2022	Bugs	Creese, Sarah.	2011	595.7	16007012	9.99	1/5/2017
10/13/2022	Bugs in flight	Stout, Frankie.	2009	595.714 STO	08002004	15.95	2/26/2009
10/13/2022	Can you see the wind?	Fowler, Allan.	1999	551.51 Fow	03006396	17.69	7/23/2008
10/13/2022	The captive temple	Watson, Jude.	2000	F Wat	04006672	12.95	7/23/2008

10/13/2022	Celebrating Kwanzaa	Hoyt-Goldsmith, Di	1993	394.2 Hoyt-Go	95001668	14.65	8/7/1996
10/13/2022	Charlie Brown's second super book of qu		1977	500 Schulz	84001892	8.32	10/19/1984
10/13/2022	Chasmosaurus.	Oliver, Rupert	2001	567.915 Oliver	00600377	7.50	2/15/2002
10/13/2022	Crocodiles : on the hunt	Polydoros, Lori, 196	2009	597.98 Pol	11080008	18.99	10/31/2011
10/13/2022	The day of reckoning	Watson, Jude.	2000	F Wat	04006673	12.95	7/23/2008
10/13/2022	The deadly hunter	Watson, Jude.	2000	F Wat	04006676	12.95	7/23/2008
10/13/2022	The death of hope	Watson, Jude.	2001	F Wat	04006678	12.95	7/23/2008
10/13/2022	Deceptions	Watson, Jude.	2001	F Wat	04006677	12.95	7/23/2008
10/13/2022	The defenders of the dead	Watson, Jude.	1999	F Wat	04006675	12.95	7/23/2008
10/13/2022	Dilophosaurus.	Oliver, Rupert	2001	567.912 Oliver	00600382	7.50	2/15/2002
10/13/2022	Division	Becker, Ann.	2010	513.214 BEC	09002018	15.95	1/29/2010
10/13/2022	Earthquakes	Gentle, Victor.	2001	551.22 Gen	05007012	9.95	7/23/2008
10/13/2022	Electricity	Chevat, Richie.	2003	537 Ele	03003255	5.99	10/10/2003
10/13/2022	Electricity	Llewellyn, Claire.	2005	537 LLE	05002034	15.15	7/23/2008
10/13/2022	Ellis Island : gateway to freedom	Temple, Bob.	2001	304.8 Tem	03600627	24.21	7/23/2008
10/13/2022	Estimation	Dowdy, Penny.	2009	519.544 DOW	09002019	15.95	1/29/2010
10/13/2022	The evil experiment	Watson, Jude.	2001	F Wat	04006681	12.95	7/23/2008
10/13/2022	The fight for truth	Watson, Jude.	2000	F Wat	04006680	12.95	7/23/2008
10/13/2022	Fire ant	Somervill, Barbara A	2009	595.79 Som	08001223	19.17	10/26/2009
10/13/2022	The followers	Watson, Jude.	2002	F Wat	04006689	12.95	7/23/2008
10/13/2022	Forces and movement	Llewellyn, Claire.	2005	531 LLE	05002035	15.15	7/23/2008
10/13/2022	Get to the right site	Truesdell, Ann.	2012	025.042 Tru	13001099	19.97	10/4/2013
10/13/2022	Getting around online	Fontichiaro, Kristin.	2012	025.042 Fon	13001026	19.97	10/4/2013
10/13/2022	The go-around dollar	Adams, Barbara Joh	1992	332.4 Adams	00002352	15.20	4/17/2001
10/13/2022	The hidden past	Watson, Jude.	1999	F Wat	04006682	12.95	7/23/2008
10/13/2022	How much is a million?	Schwartz, David M.	1985	513.2 Sch	03006505	9.84	7/23/2008
10/13/2022	How we see things	Knapp, Brian J.	2003	152.14 KNA	06006021	19.99	7/23/2008
10/13/2022	Hurricanes	Olson, Nathan.	2006	551.55 Ols	06004031	21.26	7/23/2008
10/13/2022	If you made a million	Schwartz, David M.	1994	332.024 Schwa	00002521	8.71	4/17/2001
10/13/2022	King Arthur	Kerven, Rosalind.	1998	398.2 Kerven	00002466	14.47	4/17/2001
10/13/2022	Light and dark	Llewellyn, Claire.	2005	535 LLE	05002036	15.15	7/23/2008
10/13/2022	The magic school bus gets baked in a cak	Cole, Joanna.	1995	540 Cole	00002402	7.23	4/17/2001
10/13/2022	The Magic School Bus hops home : a boo	Cole, Joanna.	1995	591.5 Cole	00002400	7.48	4/17/2001
10/13/2022	The Magic School Bus inside a beehive	Cole, Joanna.	1998	595.79 Col	98005637	7.99	6/8/1999

10/13/2022	The magic school bus inside a hurricane	Cole, Joanna.	1995	551.55 Cole	00002401	15.17	4/17/2001
10/13/2022	The magic school bus inside the Earth	Cole, Joanna.	1995	551 Col	09001189	11.10	12/14/2009
10/13/2022	The magic school bus on the ocean floor	Cole, Joanna.	1992	591.92 Col	09001186	10.65	12/14/2009
10/13/2022	The mark of the crown	Watson, Jude.	1999	F Wat	04006679	12.95	7/23/2008
10/13/2022	Measuring Penny	Leedy, Loreen.	1997	530.8 Leedy	98005788	16.95	3/1/1999
10/13/2022	Mighty Maddie	Murphy, Stuart J., 1	2004	389 Mur	10001042	11.10	10/21/2010
10/13/2022	Monster fish : the adventure of the Ichth	Dahl, Michael.	2005	567.9 Dah	05006741	22.60	7/23/2008
10/13/2022	The moon	Walker, Niki.	1998	523.3 WAL	99005992	14.35	1/31/2000
10/13/2022	Mummies made in Egypt	Aliki.	1979	393 Aliki	90000285	12.04	9/24/1990
10/13/2022	Museums	Cooper, Jason, 1942	1992	069 Cooper	96060024	9.95	9/15/1997
10/13/2022	The only witness	Watson, Jude.	2002	F Wat	04006687	12.95	7/23/2008
10/13/2022	Parasaurolophus.	White, David	2001	567.914 White	00600379	7.50	2/15/2002
10/13/2022	Scary sea monsters	Jackson, Tom, 1972	2011	591.65 JAC	11002026	19.95	1/30/2012
10/13/2022	The science of gravity	Stringer, John.	2000	531 Stringer	00001918	17.95	1/14/2002
10/13/2022	The science of noise	Wright, Lynne.	2000	534 Wright	00001925	17.95	1/14/2002
10/13/2022	Sharks	Creese, Sarah.	2011	597.3	16007013	9.99	1/5/2017
10/13/2022	Shocking, slimy, stinky, shiny science exp	Parker, Steve.	1998	507.8 Parker	98060240	17.73	5/1/1999
10/13/2022	Sound and hearing	Llewellyn, Claire.	2005	534 LLE	05002039	15.15	7/23/2008
10/13/2022	Space life	Kortenkamp, Steve.	2009	576.8 Kor	09001246	17.00	12/14/2009
10/13/2022	Spiders up close	Franks, Katie.	2008	595.4 Franks	09007010	9.99	4/13/2010
10/13/2022	Spinning spiders	Berger, Melvin.	2003	595.4 Ber	09001017	10.95	11/9/2009
10/13/2022	Star wars, the clone wars : what is a sith	Dakin, Glenn.	2013	F Dak	13001090	15.79	10/4/2013
10/13/2022	Star wars, the clone wars : who are the J	Dakin, Glenn.	2013	F Dak	12001147	15.64	8/7/2013
10/13/2022	The story of money	Maestro, Betsy.	1993	332.4 Maestro	96001578	14.65	8/7/1996
10/13/2022	Super science projects about energy and	Cobb, Allan B.	2000	531 Cobb	00002331	17.95	2/20/2001
10/13/2022	Super science projects about light and o	Cobb, Allan B.	2000	535 Cobb	00002335	17.95	2/20/2001
10/13/2022	Super science projects about oceans	Cobb, Allan B.	2000	551.46 Cobb	00002332	17.95	2/20/2001
10/13/2022	Super science projects about sound	Cobb, Allan B.	1999	534 Cobb	00002334	17.95	2/20/2001
10/13/2022	T. rex : the adventure of Tyrannosaurus	Dahl, Michael.	2004	567.912 Dah	05006748	22.60	7/23/2008
10/13/2022	Three-horn : the adventure of Triceratop	Dahl, Michael.	2004	567.9158 Dah	04003364	14.95	7/23/2008
10/13/2022	The ties that bind	Watson, Jude.	2001	F Wat	04006685	12.95	7/23/2008
10/13/2022	Triceratops	Lorbiecki, Marybeth	2007	567.915 LOR	06002041	15.45	7/23/2008
10/13/2022	Tyrannosaurus rex	Suen, Anastasia.	2007	567.912 SUE	06002043	15.45	7/23/2008
10/13/2022	The uncertain path	Watson, Jude.	2000	F Wat	04006683	12.95	7/23/2008

10/13/2022	Volcanoes	Gentle, Victor.	2001	551.21 Gentle	00000379	10.00	4/27/2001
10/13/2022	Walt Disney's Sleeping Beauty	Singer, A. L.	1993	398.2 SIN	99006004	10.95	1/31/2000
10/13/2022	When birds could talk & bats could sing :	Hamilton, Virginia.	1996	398.24 Hamilt	98005795	17.95	3/1/1999
10/13/2022	Wild weather : Blizzards!	Hopping, Lorraine J	1998	551.55 Hoppin	99005882	12.81	1/18/2000
10/13/2022	Wild weather : lightning!	Hopping, Lorraine J	1999	551.56 Hoppin	99005883	12.81	1/18/2000
10/13/2022	Wonderful Weather.	Levine, Shar	2003	551.5 LEV	04003297	12.95	7/23/2008
10/13/2022	Zebra mussel	Gray, Susan Heinric	2008	594 Gra	08001182	5.99	10/26/2009

RED – DELETE

GREEN - ADD

Section: G Personnel

Policy Code: GBRC Professional Personnel Work Load

Policy:

Professional Personnel Work Load

~~The academic year provides a minimum of 180 teaching days which meet the following criteria: (MS Code 37-13-61 through 69 and 37-19-1[h])~~

The local school board shall have the power and authority to fix the date for the opening and closing of the school term, subject to the minimum number of days which schools must be in session during a scholastic year, as prescribed under Section 37-13-63. However, local school boards are authorized to keep school in session in excess of the minimum number of days prescribed in Section 37-13-63. ' 37-13-61

Except as otherwise provided, all public schools in the state shall be kept in session for at least one hundred eighty (180) days in each scholastic year. ' 37-13-63

TEACHING DAY

1. A day in which a minimum of ~~The teaching day must provide at~~ 330 minutes of instruction ~~per day or 27.5 hours per five-day week~~ and/or evaluation and/or district approved group testing is provided. Exceptions are days with fewer than 330 instructional minutes that are part of an instructional week of at least 27.5 hours. ~~The school district must ensure that during the academic school year a minimum of 140 hours of instruction for each Carnegie unit of credit is offered.~~

~~2. Two of the 180 days may be 60% days provided that there are 198 minutes of actual instruction or testing, and the remainder of each day is used for professional development or other related activities or related to instruction.~~
~~3. The opening date of the school year is scheduled no earlier than August 1 and the closing date no later than June 15. (MS Code 37-13-61)~~
~~4. The district superintendent may close any school because of an emergency prevailing in the school district. All such schools so closed shall operate for the required full time after being reopened during the scholastic year. (MS Code 37-13-65)~~

~~**NOTE: Exceptions to the full term requirement are defined in MS Code 37-19-35(e).**~~

~~The school district complies with state law and State Board of Education policy on residency requirements of students enrolled. (MS Code 37-15-29) (State Board Policy JBCA)~~

~~All students enrolled in kindergarten and first grade in each school are in compliance with age of entry requirements. (MS Code 37-15-9)~~ **~~EXCEPTION:~~** ~~Any child who transfers from an out-of-state school whose state law provides for a first grade enrollment date subsequent to September 1 may be enrolled if specific provisions of this statute are met.~~

~~Any transfer student from a school or program (correspondence, tutorial or home study) not accredited by a regional or state agency is given either a standardized achievement test(s) or teacher-made special subject test(s) to determine the appropriate classification of the student.~~ ~~**Note: The administrative head of each public school shall ensure that each pupil applying for transfer shall be tested within thirty days after the filing of such application for transfer. Notice of the administering of such test(s) shall be given to the applicant not less than five days prior to the date of the administration of such test.**~~ ~~(MS Code 37-15-33)~~

~~All students enrolled in the school district comply with immunization requirements. (MS Code 37-7-301(I), 37-15-1, and 41-23-37)~~

Exhibits:

Regulations:

References:
37-11-5 - Instruction in fire drills, emergency management, and active shooter drills.
37-13-63 - Minimum length of school term.
MPSAS - Public School Accountability Standards

Last Updated:	3/13/2020 11:34:41 AM	Status: Adopted Record I
Original Adopted Date:	5/22/2000	
Approved/Revised Date:		

GREEN – Add
RED – Delete

Section: A School District Organization
Policy Code: AE School Year (Academic Year)
Policy:

School Year (Academic Year)

Except as otherwise provided, all public schools in the state shall be kept in session for at least one hundred eighty (180) days in each scholastic year. ' 37-13-63 ~~(1992)~~

DISASTER EMERGENCY

If this school board determines that it is not economically feasible or practicable to operate any school within the district for the full one hundred eighty (180) days required for a scholastic year as contemplated due to an enemy attack, a manmade, technological or natural disaster, or extreme weather emergency in which the Governor has declared a disaster or state of emergency or the U.S. President has declared an emergency or major disaster to exist in this state, the school board may notify the State Department of Education of the disaster or weather emergency and submit a plan for altering the school term.

If the State Board of Education finds the disaster or extreme weather emergency to be the cause of the school not operating for the contemplated school term and that such school was in a school district covered by the Governor's or President's disaster or state of emergency declaration, it may permit that school board to operate the schools in its district for less than one hundred eighty (180) days; however, in no instance of a declared disaster or state of emergency under the provisions of this subsection shall a school board receive payment from the State Department of Education for per pupil expenditure for pupils in average daily attendance in excess of ten (10) days. ' 37-13-63

MINIMUM SCHOOL TERM

"Minimum school term" shall mean a term of at least one hundred eighty (180) days of school in which both teachers and pupils are in regular attendance for scheduled classroom instruction for not less than sixty percent (60%) of the normal school day. It is the intent of the Legislature that any tax levies generated to produce additional local funds required by any school district to operate school terms in excess of one hundred seventy-five (175) days shall not be construed to constitute a new program for the purposes of exemption from the limitation on tax revenues as allowed under Sections 27-39-321 and 37-57-107 for new programs mandated by the Legislature. ' 37-151-5 (j)

The Mississippi Public School Accountability Process Standard for this policy is standard 13.

The academic year provides a minimum of 180 teaching days which meet the following criteria: (MS Code 37-13-63 and state Board Policy)

1. The teaching day must provide at least 330 minutes of instruction per day.
2. Two of the 180 days may be 60% days provided that there are 198 minutes of actual instruction or testing and the remainder of each day is used for professional development or other activities related to instruction.
3. ~~In the event that an emergency situation results in the school district not meeting the minimum instructional time specified, the State Superintendent may declare a state of emergency and allow the school district to make up actual time lost in increments of no less than 150 minutes, it will be made up during one teaching day.~~
4. ~~3. The opening date of the school year for students is scheduled no earlier than August 1 and the closing date no later than June 15. (MS Code 37-13-61)~~ The local school board shall have the power and authority to fix the date for the opening and closing of the school term, subject to the minimum number of days which schools must be in session during a scholastic year, as prescribed under Section 37-13-63. However, local school boards are authorized to keep school in session in excess of the minimum number of days prescribed in Section 37-13-63.

LEGAL REF: MS Code (as cited above) Mississippi Public School Accountability Standards

Last Review Date:_____
Review History:[ ]

Exhibits:

Regulations:

References:

37-13-61 Date of opening and closing of school term; length of school term
37-13-63 - Minimum length of school term.
37-13-64 - Exemption from minimum school term length requirement for certain schools under certain circumstances

Section 37-13-67 - Length of school day
37-151-5 - Definitions.
MPSAS - Public School Accountability Standards

Original Adopted Date:	5/22/2000	Status:	Adopted
Last Update:	11/16/2015	Record Id:	271572
Approved/Revised Date:			

JCSD Calendar 2023/2024 Draft

July 2023						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August 2023						
Su	Mo	Tu	We	Th	Fr	Sa
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20	21	22	23	24	25	26
27	28	29	30	31		

September 2023						
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October 2023						
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15	16	17	18	19	20	21
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29	30	31				

November 2023						
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19	20	21	22	23	24	25
26	27	28	29	30		

December 2023						
Su	Mo	Tu	We	Th	Fr	Sa
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
Su	Mo	Tu	We	Th	Fr	Sa
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February 2024						
Su	Mo	Tu	We	Th	Fr	Sa
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

March 2024						
Su	Mo	Tu	We	Th	Fr	Sa
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April 2024						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May 2024						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June 2024						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

	School Holiday
	Teacher Work Day/No students
	Quarter Begins
	Quarter Ends
	Report Cards
	Progress Reports

05/20/2024– SMHS Graduation
05/21/2024– VHS Graduation
05/23/2024– ECHS Graduation

*12/15/23 & 5/24/24 will be 60% days

Inclement weather make up days:
First semester – 12/18/23 & 12/19/23
Second semester – 5/28/24 & 5/29/24

Summer Break – May 28 – July 26

REGISTRATION INFORMATION

Active Codes will be sent out on July 5, 2023

Dates & Times: 7/18/23 – 8:00am – 4:00pm
7/19/23 – 7:00am – 3:00pm
7/20/23 – 10:00am – 6:00pm

Approved:

Monthly School Board Update
2022 – 2023

MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Date of School Board Meeting:	**Marh 13, 2023**								
District Name:	Jackson County								
School Name:	St. Martin High School			**School Identification:**	☐ CSI	X☐ TSI	☐ ATSI	☐ SAR	
Current Accountability	**Points Earned: 789**			**Letter Grade: A**		**Graduation Rate: 90.29**			
Name of Benchmark Assessment: Mastery Connect									

Overall School Goal

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	55%	86%	82%	83%
% Growth of all	65%	90%	Participation Rate 95%	
% Growth of bottom 25%	56%	90%		

1st Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	48%	50%	42%	70%
% Growth of all	na	na	Participation Rate 97%	
% Growth of bottom 25%	na	na		

2nd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	67%	60%	50%	67%
% Growth of all	na	na	Participation Rate 95%	
% Growth of bottom 25%	na	na		

3rd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	57.30	90.63	87.68	81.8
% Growth of all	77.91	94	Participation Rate	
% Growth of bottom 25%	na	na		

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Ensuring a bright future for every child

	Jan 2023	Feb 2023	March 2023	April 2023	May 2023	June 2023
Total School Enrollment	**1290**	**1210**	**1206**			
Student ADA	**83.31**	**93.01**	**91.93**			
% of students with 2 or more absences for the month (*chronic absences*)	**38**	**26**	**29.4**			
Teacher attendance rate	**96.05**	**97.32**	**92.57**			
# of discipline referrals	**43**	**91**	**77**			

	Describe how the school is addressing areas of challenge presented by the data noted within this document (CSI,TSI, ATSI,SAR).	**Describe what the district is doing to support the school's principal and/or SLT.**
1st Benchmark Assessment	SMHS hired a sped interventionist to work with students in the classroom setting as well as individually. In addition, 2 additional interventionist have been utilized to work with students to bridge gap and build upon strengths. Teachers are tracking data to individualize instruction. SPED inclusion teachers are co-teaching to further strengthen skills.	The district has made funds available to hire a sped interventionist. Mastery Connect was purchased to administer benchmarks that track student progress identifying weaknesses and strengths. Curriculum specialists have been hired to support teachers regarding curriculum and instruction.
2nd Benchmark Assessment	SMHS hired a sped interventionist to work with students in the classroom setting as well as individually. In addition, 2 additional interventionist have been utilized to work with students to bridge gap and build upon strengths. Teachers are tracking data to individualize instruction. SPED inclusion teachers are co-teaching to further strengthen skills.	The curriculum specialist from the district office has been conducting data chats with the state tested teachers. Each are collaborating as to how to move forward to grow the students.

	Pull-out tutoring has begun for those bubble students.	
3rd Benchmark Assessment	SMHS hired a sped interventionist to work with students in the classroom setting as well as individually. In addition, 2 additional interventionist have been utilized to work with students to bridge gap and build upon strengths. Teachers are tracking data to individualize instruction. SPED inclusion teachers are co-teaching to further strengthen skills. In addition to the pull-out tutoring, early bird tutoring was implemented for all students.	After the state test results from semester 1 are in, the district will participate in data analysis with SMHS to identify strengths and weaknesses of the curriculum. Support will continue in the form of Mastery Connect, SPED interventionists, funds for before school and after school tutoring.

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Allocation of Resources: School Improvement Funding 1003

FY23 Total Allocation: $ 77, 550.00

	Benchmark 1	Benchmark 2	Benchmark 3
FY23 Remaining Balance	**$**	**$**	**$**

FY22 Total Allocation: $ 77, 738.00

	Benchmark 1	Benchmark 2	Benchmark 3
FY22 Remaining Balance	**$18,693.93**	**$18,693.93**	**$18,693.93**

FY21 Total Allocation: $

	Benchmark 1	Benchmark 2	Benchmark 3
FY21 Remaining Balance	**$0**	**$0**	**$0**

Monthly School Board Update
2022 – 2023

Monthly School Board Update
2022 – 2023

MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Date of School Board Meeting: March 13, 2023

District Name: Jackson County School District

School Name: St. Martin Upper Elementary **School Identification:** ☐ CSI ☐ TSI ☐ ATSI ☐ SAR

Current Accountability	Points Earned:	Letter Grade:	Graduation Rate:

Name of Benchmark Assessment: iReady Diagnostic (1st: Fall, 2nd: Winter, 3rd: Spring)

Overall School Goal

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	Increase ≥5%	Increase ≥5%	Increase ≥5%	N/A
% Growth of all	≥65%	≥65%	Participation Rate 100%	
% Growth of bottom 25%	Increase ≥5%	Increase ≥5%		

1st Benchmark Assessment Results (Fall)

Total Points/Grade	Reading SPED	Reading SMU	Math SPED	Math SMU	Science/ Biology	US History
% Proficient (≥ grade level)	7%	40%	5%	35%		N/A 184
% of Students (1 Grade Level Below)	20%	37%	30%	46%	Participation Rate SPED: 95% SMU: 94%	
% of Students (≥2 Grade Levels Below)	69%	23%	61%	19%		

2nd Benchmark Assessment Results (Winter)

Total Points/Grade	Reading SPED	Reading SMU	Math SPED	Math SMU	Science/ Biology	US History
% Proficient (≥ grade level)	8%	50%	12%	53%		N/A
% of Students (1 Grade Level Below)	36%	36%	42%	38%	Participation Rate SPED: 99% SMU: 94%	

3rd Benchmark Assessment Results (PENDING: Spring)

Total Points/Grade	Reading SPED	Reading SMU	Math SPED	Math SMU	Science/ Biology	US History
% Proficient (≥ grade level)						N/A
% of Students (1 Grade Level Below)					Participation Rate	

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% of Students (≥2 Grade Levels Below)	55%	14%	46%	9%			% of Students (≥2 Grade Levels Below)			

	Jan (Dec) 2023	Feb 2023	March 2023	April 2023	May 2023	June 2023
Total School Enrollment	632	629	628			
Student ADA	94%	93.6%	94%			
% of students with 2 or more absences for the month (*chronic absences*)	15%	31%	25%			
Teacher attendance rate	96.48%	94.66%	94.97%			
# of discipline referrals	7	16	13			

	Describe how the school is addressing areas of challenge presented by the data noted within this document (CSI,TSI, ATSI,SAR).	Describe what the district is doing to support the school's principal and/or SLT.
1st Benchmark Assessment	SMUE has established an RTI time in every student's schedule where face-to-face remediation will take place daily.	Principals attend monthly meetings to discuss any concerns that they may have.
2nd Benchmark Assessment	Students have continued to attend RTI time with face-to-face remediation with an additional emphasis on objective deficiencies as well as one on one instruction for students that need more support.	

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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

3rd Benchmark Assessment		

Allocation of Resources: School Improvement Funding 1003			
FY23 Total Allocation: $ {Amount Unknown as of Benchmark 1 and 2}			
	Benchmark 1 (September)	Benchmark 2 (December)	Benchmark 3 (March)
FY23 Remaining Balance	Funds not allocated at this point	Funds not allocated at this point	$ Amount Unknown
FY22 Total Allocation: $ 59,755.00			
	Benchmark 1 (September)	Benchmark 2 (December)	Benchmark 3 (March)
FY22 Remaining Balance	$ 16,428.53	$ 16,428.53	$ Amount Unknown
FY21 Total Allocation: $ 54,503.00			
	Benchmark 1 (September)	Benchmark 2 (December)	Benchmark 3 (March)
FY21 Remaining Balance	$ 0	$ 0	$ 0

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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Date of School Board Meeting: March 13, 2023									
District Name: Jackson County									
School Name: Vancleave Middle School				**School Identification:** ☐ CSI ☐ TSI X ☐ ATSI ☐ SAR					
Current Accountability A	**Points Earned: 411**			**Letter Grade: A**	**Graduation Rate: N/A**				
Name of Benchmark Assessment: Mastery View Predicted Assessment									
Overall School Goal						**1st Benchmark Assessment Results (October 2022)**				
Total Points/Grade	**Reading**	**Math**	**Science/ Biology**	**US History**		**Total Points/Grade**	**Reading**	**Math**	**Science/ Biology**	**US History**
% Proficient	**60% 20% Sped on MAAP**	**65% 25% Sped on MAAP**	**75% 40% Sped on MAAP**	**N/A**		**% Proficient**	**51.6%**	**56.6%**	**74%**	
% Growth of all	**60%**	**50%**	**Participation Rate 100%**			**% Growth of all**	**NA**	**NA**	**Participation Rate**	188
% Growth of bottom 25%	**60%**	**55%**				**% Growth of bottom 25%**				
2nd Benchmark Assessment Results (January, 2023)						**3rd Benchmark Assessment Results**				
Total Points/Grade	**Reading**	**Math**	**Science**	**US History**		**Total Points/Grade**	**Reading**	**Math**	**Science/ Biology**	**US History**
% Proficient	**53.6%**	**67.6%**	**73%**	**NA**		**% Proficient**				
% Growth of all %Growth Sped	**45.6% 43.6%**	**45.6% 36%**	**Participation Rate 100%**			**% Growth of all**			**Participation Rate**	
% Growth of bottom 25%	**47.3%**	**38.6%**				**% Growth of bottom 25%**				

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Ensuring a bright future for every child

	Jan 2023	Feb 2023	March 2023	April 2023	May 2023	June 2023
Total School Enrollment (December 2022)	533	539	536			
Student ADA	89.52%	93.97%	92.98%			
% of students with 2 or more absences for the month (*chronic absences*)	5.62%	3.76%	12.68%			
Teacher attendance rate	94%	94.8%	94.65%			
# of discipline referrals	34	69	54			

	Describe how the school is addressing areas of challenge presented by the data noted within this document (CSI,TSI, ATSI,SAR).	Describe what the district is doing to support the school's principal and/or SLT.
1st Benchmark Assessment	VMS is analyzing the data above and prescribing individualized paths of learning to address academic needs.	SPED Department has provided a certified interventionist position at VMS to provide intensive support to struggling students.
2nd Benchmark Assessment	VMS is using the data from the assessments to drive instruction to prepare for the upcoming MAAP Assessments this Spring	VMS is utilizing the interventionist, learning strategies classes, after school tutoring, and other supports for struggling students.
3rd Benchmark Assessment		

Allocation of Resources: School Improvement Funding 1003			
FY23 Total Allocation: $56,003.00			
	Benchmark 1 **N/A**	**Benchmark 2** **Pending Plan Approval: $56,003.00**	**Benchmark 3**
FY23 Remaining Balance	**$**	**$**	**$**
FY22 Total Allocation: $ 61,538.58			
	Benchmark 1 **Remaining Balance: $ 38.40**	**Benchmark 2** **Remaining Balance: $38.40**	**Benchmark 3**
FY22 Remaining Balance		**$**	**$**
FY21 Total Allocation: $ 52,270.00			
	Benchmark 1 **Remaining Balance: $0**	**Benchmark 2**	**Benchmark 3**
FY21 Remaining Balance		**$**	**$**

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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Date of School Board Meeting:	**March 13, 2023**				
District Name:	Jackson County School District				
School Name:	St. Martin Middle School	**School Identification:**	☐ CSI	☐ TSI	x☐ ATSI ☐ SAR

Current Accountability	**Points Earned: 374**	**Letter Grade: C**	**Graduation Rate:**

Name of Benchmark Assessment: Mastery View Predicted Assessment

Overall School Goal

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	52%	57%	80%*	
% Growth of all	67.4%	71.3%	Participation Rate	
% Growth of bottom 25%	62%*	51%		

1st Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	40.6%	52%	63%	
% Growth of all			Participation Rate	
% Growth of bottom 25%				

2nd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	42%	47%	71	
% Growth of all	All 50% IDEA 57%	All 30% IDEA 30%	Participation Rate	
% Growth of bottom 25%	57%	25%		

3rd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient				
% Growth of all			Participation Rate	
% Growth of bottom 25%				

Monthly School Board Update
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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

	Jan 2023	Feb 2023	March 2023	April 2023	May 2023	June 2023
Total School Enrollment	989	976	968			
Student ADA	89%	92.7%	93%			
% of students with 2 or more absences for the month (*chronic absences*)	13%	32%	27%			
Teacher attendance rate	97.3%	95%	97%			
# of discipline referrals	97	112	133			

	Describe how the school is addressing areas of challenge presented by the data noted within this document (CSI,TSI, ATSI,SAR).	Describe what the district is doing to support the school's principal and/or SLT.
1st Benchmark Assessment		
2nd Benchmark Assessment	*RTI time built into the daily schedule *More focused, intentional intervention	* Increase in personnel * Extra support and resources for intervention
3rd Benchmark Assessment		

Monthly School Board Update
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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Allocation of Resources: School Improvement Funding 1003			
FY23 Total Allocation: $		**$69,468.00**	
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY23 Remaining Balance	**$**	**$ 69,468.00**	**$**
FY22 Total Allocation:	**$71,564.00**		
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY22 Remaining Balance	**$ $54,470.83**	**$ 54,470.83**	**$**
FY21 Total Allocation:	**$ 66,027.00**		
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY21 Remaining Balance	**$ $ 0**	**$ 0**	**$**

Monthly School Board Update
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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

Date of School Board Meeting:	**January 9, 2023**		
District Name:	Jackson County		
School Name:	East Central MIddle	**School Identification:**	☐ CSI X ☐ TSI ☐ ATSI ☐ SAR

Current Accountability	**Points Earned:470**	**Letter Grade: A**	**Graduation Rate: N/A**

Name of Benchmark Assessment: Mastery View Predicted Assessment

Overall School Goal

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	58%	70%	75%	N/A
% Growth of all	76%	80%	Participation Rate 100%	
% Growth of bottom 25%	65%	58%		

1st Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	43.3%	52.3%	69%	N/A
% Growth of all	N/A	N/A	Participation Rate	
% Growth of bottom 25%	N/A	N/A		

2nd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	Pending	Pending	Pending	N/A
% Growth of all	Pending	Pending	Participation Rate	
% Growth of bottom 25%	Pending	Pending		

3rd Benchmark Assessment Results

Total Points/Grade	Reading	Math	Science/ Biology	US History
% Proficient	Pending	Pending	Pending	N/A
% Growth of all	Pending	Pending	Participation Rate	
% Growth of bottom 25%	Pending	Pending		

Monthly School Board Update
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MISSISSIPPI DEPARTMENT OF EDUCATION
Ensuring a bright future for every child

	Jan 2023	Feb 2023	March 2023	April 2023	May 2023	June 2023
Total School Enrollment	603	603	603			
Student ADA	92.59%	93.36%	93.19%			
% of students with 2 or more absences for the month (*chronic absences*)	45.7%	35%	27%			
Teacher attendance rate	93.39%	96.99%	95.19%			
# of discipline referrals	36	72	71			

	Describe how the school is addressing areas of challenge presented by the data noted within this document (CSI,TSI, ATSI,SAR).	Describe what the district is doing to support the school's principal and/or SLT.
1st Benchmark Assessment	**ECMS analyzes data and prescribes individualized intervention and remediation to address academic needs of each student. This is accomplished through tutorial and through RTI time which has been built into each student's schedule.**	**District SPED department has provided ECMS with a full-time certified interventionist. This person provides interventions and remediation to our special education students.**
2nd Benchmark Assessment		
3rd Benchmark Assessment		

Allocation of Resources: School Improvement Funding 1003			
FY23 Total Allocation: $			
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY23 Remaining Balance	**$**	**$**	**$**
FY22 Total Allocation: $ 59,125.00			
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY22 Remaining Balance	**$59,125.00**	**$**	**$**
FY21 Total Allocation: $54,200.00			
	Benchmark 1	**Benchmark 2**	**Benchmark 3**
FY21 Remaining Balance	**$0**	**$0**	**$0**

RJ Young Company - Nashville
P.O. Box 40623 Nashville, TN 37204
(615)255-8551
(800)347-1955

Order # HKV200

Purchase Agreement

Customer Purchase Order

Sales Rep #

Billing Location	*Install Location*
Full Customer Name – Include Inc., Corp., LLC etc. The Fab Lab	Customer Name The Fab Lab
	Department / County
Street Address 12004 MS-57	Street Address 12004 MS-57
City / State / Zip+4 Vancleave / MS / 39565	City / State / Zip+4 Vancleave / MS / 39565
Contact Name / Phone # / Fax # John Mundy / 228-283-3951 /	Meter Contact / Phone # / Fax # John Mundy / 228-283-3951 /
Email john.mundy@jcsd.ms	Email john.mundy@jcsd.ms

Qty.	Manufacturer	Equip. ID	Model	Serial Number	Unit Price	Amount
1	HP		E47528f			
						197

Trade-In/Buyout (Items to be picked up)	Total This Page	
	Total From Add'l Equipment List	900.00
	Sales Tax	
Tax Exempt ■ Yes □ No (Attach Exemption Certificate)	Total	900.00

1) The equipment specified above will be provided at the following rates:

Commencement Date	SMP/Maintenance	Total Minimum Payment	Minimum Billing Frequency	Overage Billing Frequency
	SMP	$25.00	Monthly	Monthly

Monthly Minimum Number of B&W Copies: 401	Overage Rate per B&W Copy: 0.021300	Monthly Minimum Number of Color Copies: 153	Overage Rate per Color Copy: 0.010760
Monthly Minimum Number of Square Feet	Overage Rate per Square Foot	Monthly Minimum Number of Linear Feet	Overage Rate per Linear Foot
Monthly Minimum Number of B&W Prints	Overage Rate per B&W Print	Monthly Minimum Number of Color Prints	Overage Rate per Color Print
Monthly Minimum Number of Misc	Overage Rate per Misc	Monthly Minimum Number of Misc 2	Overage Rate per Misc 2

Agreement Includes

■ Yes	□ No	Master Unit
■ Yes	□ No	Color Supplies
■ Yes	□ No	Drum/Photo Conductor
■ Yes	□ No	Imaging Units
■ Yes	□ No	Parts/Labor
■ Yes	□ No	Toner/Dispersant
□ Yes	■ No	Developer
□ Yes	■ No	Other

■ New Account ■ New Equipment
□ Upgrade □ Remanufactured Equipment
□ Additional Unit
□ MAM □ Used

□ Yes ■ No MICR Toner

Remarks:
this is a 12 Month SMP agreement

Additional terms and conditions on page 2.

Signature: _____
Print Name: _____
Title: _____ Date: _____

Sales Rep: _____ Date: _____

Sales Manager: _____ Date: _____

2. The title to any and all products listed on the Sales Order remain with RJ Young Company (RJY) until full payment is received from you. Invoices are payable upon receipt unless prior written approval is received from the RJY corporate offices.

3. Without prior written approval of RJY you may not assign any of your rights or obligations under this Agreement or allow a lien or encumbrance of any kind to be placed upon any products for which you have not received title free and clear.

4. If payment is not paid when due, you will pay us a late charge of up to 15% of the amount of the payment or $15.00 whichever is greater (or such lesser rate as is maximum rate allowed under applicable law). You also agree to pay $35.00 for each returned check. Restrictive endorsements or additional terms on checks you send to us will not reduce your obligations to us.

5. If payment is not paid when due, we will have the right to take ONE OR MORE of the following actions, in addition to any and all other remedies that may be available to us under the law: (a) cancel this agreement without prior notice or warning to you; (b) file a law suit against you to collect all past due amounts, plus all our reasonable legal costs, including but not limited to reasonable attorneys' fees, reasonable overhead for employee time spent on preparing for suit or attempting to collect payments and mitigate our damages; (c) repossess the Equipment or apply to a court for an order allowing repossession for any Equipment for which you have not received title free and clear.

6. This Agreement, and other terms and conditions that you have acknowledged receipt of by signing this Sales Order, constitute the entire Agreement.

7. As a convenience to you and to further expedite this transaction for you, you agree that a photocopy, electronic image or facsimile of this Agreement which includes a photocopy, electronic image or facsimile of the signatures of both parties shall be as valid, authentic and legally binding as the original version for all purposes and shall be admissible in court as final and conclusive evidence of this transaction and of the execution of this document.

SMP AND/OR MAINTENANCE AGREEMENT

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The following terms and conditions are in addition to the General Terms and Conditions above.

8. Service includes both labor and material for adjustments, repairs and replacement of parts as necessitated by normal equipment usage. Also included are regularly scheduled preventive maintenance and emergency service subject to provisions. The charge is based on the original geographic installation location of the machine and RJY must be notified whenever the geographical location of the equipment is changed. If the equipment has been moved to a new RJY service zone, a new agreement must be reached. For efficient and electronic meter reading, RJY utilizes specialized software that reports current meter readings on all print devices connected to your Network. Customer agrees that meters may be accessed and reported in this manner. Should the number of scans exceed the total of all prints and copies, we reserve the right to invoice these excess scans at $.0025 per scan. This agreement does not cover overhauls on the machine.

9. Service calls will be made during normal business hours at the specified installation address. (Business hours are 8:00 a.m. to 5:00 p.m., Monday to Friday). Travel and labor time on calls made other than during normal business hours will be charged to Customer at established overtime rates.

10. Meter cards or fax forms will be provided to the Customer for monthly or quarterly billings. If forms are not received by the required date, an estimated meter will be used for billing purposes.

11. Customer agrees to make available a Meter Contact for training purposes in the use of the equipment and agrees to notify RJY of any change in the Meter Contact assignment.

12. Service will not be provided on equipment upon which there has been used unauthorized parts or supplies or that has been modified or used by unauthorized personnel to repair or change said equipment. Master or drums will not be replaced under this agreement when damage is caused by operator abuse or error. An initial master or drum charge may be required on older equipment.

13. This agreement shall be effective on the date of delivery of equipment if new equipment, otherwise on the commencement date listed on the contract and shall continue for a period of 12 months from the date and will automatically renew for consecutive 12 month periods unless written cancellation notice is given by either party 30 days prior to the end of the then current term. In the event of cancellation of this agreement for any reason, unused supplies shall be the property of RJY, although Customer may purchase the supplies at the then prevailing retail rates. Customer agrees to pay the periodic charges and upon failure to do so RJY may (1) terminate the agreement, (2) refuse to service the equipment or furnish supplies, (3) recover damages as a result thereof.

14. At the end of each contract anniversary date, the rate charge can increase without written notice to allow for cost increases.

15. This agreement is not refundable or transferrable to a third party. If the equipment is traded in on new equipment, any unused portion of the contract period charge shall be prorated and credited to the Customer.

16. This agreement may not be assigned by Customer without the written consent of RJY. This instrument contains the entire agreement between the parties and cannot be altered or amended except by an instrument in writing signed by the parties hereto. Any agreement containing variations from the printed terms set forth herein must be accepted and counter-signed by an officer of RJY at its offices in Nashville, Tennessee.

17. Sales or use tax shall be added where applicable.

Project Name **SMAC Dugout Drainage Mitigation**

District New Construction

Board Date *March 2022*

- Project requested from the Board

Board Date *May 2022*

- We are developing a master plan to address a stepwise construction process for the facility

Project Name **ECAC Bleachers**

District New Construction

Board Date *November 2022*

- Accepted bids on 11/1/2022 and awarded outdoor aluminum the project. We advertised for the foundation on 11/9/2022. We will open bids on December 12. We are on track to complete this project by March 1st. Existing bleachers have been removed.

Board Date *January 2023*

- Demolition of existing bleachers, buildings, and concrete is complete. In process of forming and pouring foundation and walkways. Colors for the bleachers have been selected and returned to Outdoor Aluminum and the project is on schedule to be complete by March pending no weather delays.

Board Date *February 2023*

- Bleacher construction should start on Feb 17th. They should be complete by March 1st. Pressboxes are held up due to material setbacks.

Board Date *March 2023*

- Bleachers have arrived and have been installed.We are still waiting on the press boxes.

Project Name **JCTC HVAC Renovation**

ESSER II

Board Date *May 2022*

- Precon meeting on May 6

Board Date *June 2022*

- At the construction on June 1st, HVAC systems were on a 42 week lead time. Contractor did express this may be sped up.

Board Date *September 2022*

- Still waiting on units to arrive.

Board Date *November 2022*

- HVAC should be delivered by the End of the Month

Board Date *January 2023*

- Still waiting on HVAC to arrive. They are in route and work should beging shortly.

Board Date *February 2023*

- Project is complete.

Project Name **SMAC Baseball Restrooms**

District New Construction

Board Date *March 2022*

- Project requested from Board to replace SMAC Baseball Restrooms

Board Date *April 2022*

- Initial designs were received. We are requesting modifications.

Board Date *May 2022*

- Working to develop a master plan for the baseball facility

Board Date *September 2022*

- We are working with the county to see if a joint venture is a possibility

Board Date *March 2023*

- Project is on hold.

Project Name **VMS Build outdoor classrooms**

ESSER II

Board Date *February 2023*

- Furniture is being installed

Board Date *March 2023*

- Furniture has been installed waiting on invoice.

Project Name **VLE Build outdoor classrooms**

ESSER II

Board Date *November 2022*

- Waiting on furniture to arrive. Installers are not in SAM.GOV. We may have to find different installers.

Board Date *January 2023*

- Furniture has arrived, we are seeking installers.

Board Date *February 2023*

- Furniture being installed

Project Name **ECHS/ECMS Replace carpet with Tile**

ESSER II

Board Date *February 2023*

- Being awarded on tonight's agenda

Board Date *March 2023*

- Contracts have arrived will be signed on 3/13/23

Project Name **ECAC Canopies**

District New Construction

Board Date *September 2022*

- Contracts were delivered. There is an 8 month lead time on materials currently.

Board Date *November 2022*

- Material ETA is April.

Project Name **VUE Demolition of A Building**

District New Construction

Board Date *June 2022*

- Project on hold pending authorization to continue

Project Name **SMMS HVAC Rejuvenation**

ESSER II

Board Date *November 2022*

- Contracts have been received and signed. M|P will be issuing a notice to proceed shortly.

Board Date *January 2023*

- Bid Awarded to DNP and Precon Meeting is on Jan 11 2023

Project Name **SMHS Chiller Replacement**

ESSER II

Board Date *January 2023*

- Demo, plumbing, and electrical should begin within a couple of weeks. Project completetion expected by the end of February

Board Date *February 2023*

- Chiller is set. Plumbing is underway. Electrical underway. No issues exist currently.

Board Date *March 2023*

- Doing a final walkthrough on 3/13/23

Project Name **VHS Build outdoor classrooms**

ESSER II

Board Date *August 2022*

- We are ordering Furniture currently

Board Date *November 2022*

- Waiting on furniture to arrive. Installers are not in SAM.GOV. We may have to find different installers.

Board Date *January 2023*

- Furniture has arrived, we are seeking an installer.

Board Date *February 2023*

- Currently Installing Furniture

Board Date *March 2023*

- Project is completing waiting on invoice.

Jackson County School District
Office of Operations and Support
Buildings and Grounds

Project Name **ECUE Demolitions**

District New Construction

Board Date *June 2022*

- Project on Hold pending authorization to proceed

Project Name **SMAC Baseball Drainage**

District New Construction

Board Date *January 2023*

- All work is completed except final grading for the artificial turf, artificial turf installation, and puchlist. Project is expect to be complete before first home game excepting weather events.

Board Date *February 2023*

- Artificial Turf is installed. Outfield needs airiating Pitcher's mound clay was wrong and is being addressed. Gate locks need to be installed.

Board Date *March 2023*

- Pictures mound clay has been changed out.

Project Name **ECUE Window Replacement**

ESSER II

Board Date *January 2023*

- Designs have been approved and the project is with Machado | Patano

Board Date *February 2023*

- Project is on the agenda tonight to award

Board Date *March 2023*

- Project has been approved and is in the process of being scheduled by M|P

Project Name **SMUE HVAC Rejuvenation**

ESSER III

Board Date *March 2022*

- St. Martin Upper will need to wait until other projects have been budgeted to create a final plan.

Board Date *November 2022*

- M|P is designing scope of work around SMEE and SMUE for targeted replacements.

Jackson County School District

St. Martin Attendance Center

David Baggett, Assistant Superintendent
10700 Yellowjacket Blvd. St. Martin, MS 39564
Phone: 228.283-3400 Fax: 228.872.0258

Dr. John Strycker
Superintendent of Education
Jackson County School District

February, 14, 2023

204

Dear Jackson County School Board Memebers,

John Owens would like to donate 4 metal detectors, 2 for St. Martin Middle School and 2 for St. Martin High School. They are Garrett 1165190 Super Scanner V Metal Detectors. The cost is $155.95 per detector. I recommend approval for the donations from John Owens to St. Martin Middle School and St. Martin High School.

Sincerely,

David Baggett
Assistant Superintendent

205

Enhance your purchase

AIA® Document G701® – 2017

Change Order

PROJECT: *(Name and address)*	CONTRACT INFORMATION:	CHANGE ORDER INFORMATION:
St. Martin High School Chiller Replacement St. Martin High School	Contract For: General Construction Date: February 21, 2022	Change Order Number: 001 Date: February 16, 2023
OWNER: *(Name and address)* Jackson County School District 4700 Colonel Vickrey Road Vancleave, MS 39565	**ARCHITECT:** *(Name and address)* MP Design Group 918 Howard Avenue, Suite F Biloxi, MS 39530	**CONTRACTOR:** *(Name and address)* D.N.P., Inc P.O. Box 6399 D'Iberville, MS 39540

THE CONTRACT IS CHANGED AS FOLLOWS:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)
The Contract amount will be decreased by the amount of the unused Contingency Allowance.

The original Contract Sum was	$	257,200.00
The net change by previously authorized Change Orders	$	0.00
The Contract Sum prior to this Change Order was	$	257,200.00
The Contract Sum will be decreased by this Change Order in the amount of	$	10,000.00
The new Contract Sum including this Change Order will be	$	247,200.00

The Contract Time will be unchanged by Zero (0) days.
The new date of Substantial Completion will be NA

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

ARCHITECT *(Firm name)*	CONTRACTOR *(Firm name)*	OWNER *(Firm name)*
Brad Patano SIGNATURE	SIGNATURE	SIGNATURE
Brad Patano, PE, Principal PRINTED NAME AND TITLE	Darren Quave, President PRINTED NAME AND TITLE	Dr. John Strycker, Superintendent PRINTED NAME AND TITLE
February 16, 2023 DATE	2-17-23 DATE	2-27-23 DATE

Matching Grant Application

1. Statement of Need:
   - A. Group Applying for Grant: Vancleave Girls & Boys Soccer Booster Club
   - B. School: Vancleave High School
   - C. Who Benefits: Players & Coaches

2. Capital Project Design/Description:
   - A. Goals and Objectives: To construct a building to house both male and female soccer athletes to be used for locker/dressing rooms, restrooms and common meeting/workout area.
   - B. Participants: Vancleave Girls & Boys Soccer Booster Club
   - C. Capital Project: Build on site 20 x 60 x 10 Facility
   - D. Project Management: Dean Lepoma, Boosters, Fabrizio Bonilla, Jessica Maddox
   - E. Building Permit Documentation: To be obtained by Operations & Support

3. Project Resources:
   - A. Completion Date: TBD
   - B. Budget:
     - i. District: $ 10, 232.00
     - ii. Group: $ 10,232.00
   - C. Matching Money Documentation: Banks Statements, Quotes, COI

Assistant Superintendent: _____

Superintendent: _____

JCSD Board of Education President: _____

Celebrity Structures LLC SHEDGIRLS
48019 highway 51, Tickfaw Louisiana
info@shedgirls.com
(504) 565-7467
shedgirls.com

Sales: Hailey Owens
48019 highway 51, Tickfaw Louisiana
hailey.lauren@shedgirls.com
(228) 861-9818

Building Quote
QTE-009148
Date
03/01/2023
Total
$20,464.00

CUSTOMER DETAILS

Dean Lepoma

Billing Address
Jackson County Schools, 4700 Colonel Vickery RD Vancleave, Jackson, Mississippi 39565

Shipping Address
Jackson County Schools, 4700 Colonel Vickery RD Vancleave, Jackson, Mississippi 39565

DLJ211@jcsd.ms
(228) 297-2540

Standard Garages - 20 x 60 x 10

- Roof Color: Slate Blue
- Trim Color: White
- Sides/Ends Color: Slate Blue
- Wainscot Color: NA

Ready for Installation? No | Jobsite Level? Yes | Permit Required? Customer To Verify | Inside City Limit? No | Electricity Available? Yes | Installation Surface? Concrete

Building Dimension	Roof Style	Gauge	Wind/Snow Rating	Distance on Center
20'W x60'L x10'H	Vertical	14 Gauge	140 MPH + 35 PSF Certified	5 Feet

20X60' Vertical Roof	1	$8,680.00
10' Height	1	$1,040.00
140 MPH + 35 PSF Certified	1	$0.00
3/12' Roof Pitch	1	$0.00
Front Wall Closed Horizontal	1	$1,360.00
Back Wall Closed Horizontal	1	$1,360.00
Left Closed Horizontal	1	$1,560.00
Right Closed Horizontal	1	$1,560.00
6x7ft Garage Door on Left Wall	1	$655.00
36x80in Walk-in Door on Right Wall	1	$360.00
36x80in Walk-in Door on Right Wall	1	$360.00
36x80in Walk-in Door on Right Wall	1	$360.00
Flush Mount Kit	1	$510.00
No Balance Collected	1	$0.00
Full Balance Due At Install	1	$0.00
Full Insulation Type 2" Fiber Glass	1	$7,450.00
Ends Connection Fees	1	$325.00
Manufacturer Discount	1	$5,116.00
Inside City Limit : No		
Installation Ready : No		
Installation Surface Leveled : Yes		

5-2-23

Electricity : Yes

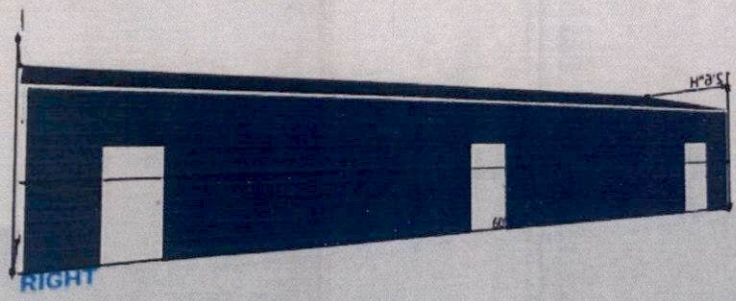
Permit Required : Customer To Verify

NOTES
Installing for public school, will be inspected

Sub Total:	$20,464.00
Tax	$0.00
Additional Charges	$0.00
Grand Total	**$20,464.00**
Pay Now	
Downpayment	$0.00
Balance Due	**$20,464.00**

3-2-23

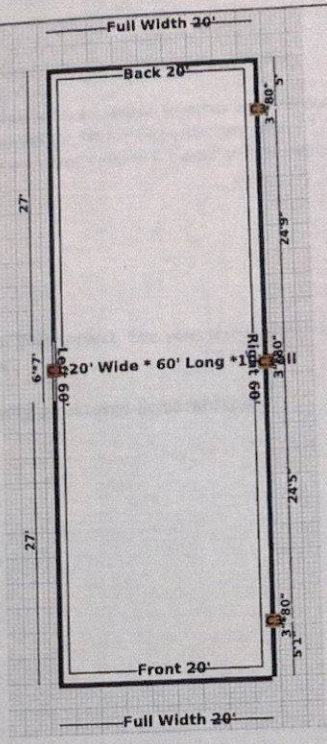
BUILDING VIEW



RIGHT

3-2-23

2D DRAWING-1



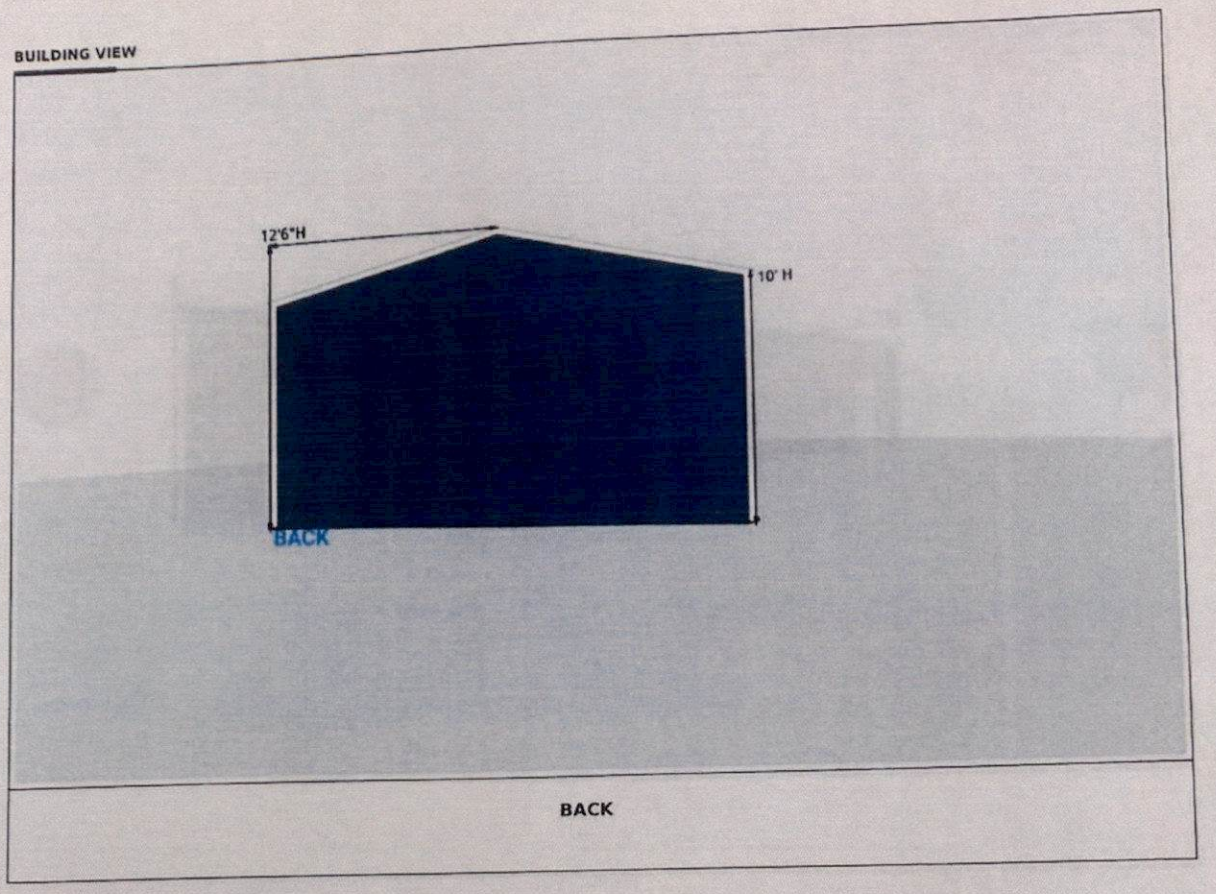
LEGENDS

Garage Door | Garage Door Frameout | Walk in Door | Walk in Door Frameout | Windows | C6 Windows Frameout | Open Wall

C8 Close Wall | C9 Distance | Storage Length (Utility) | C Cupola

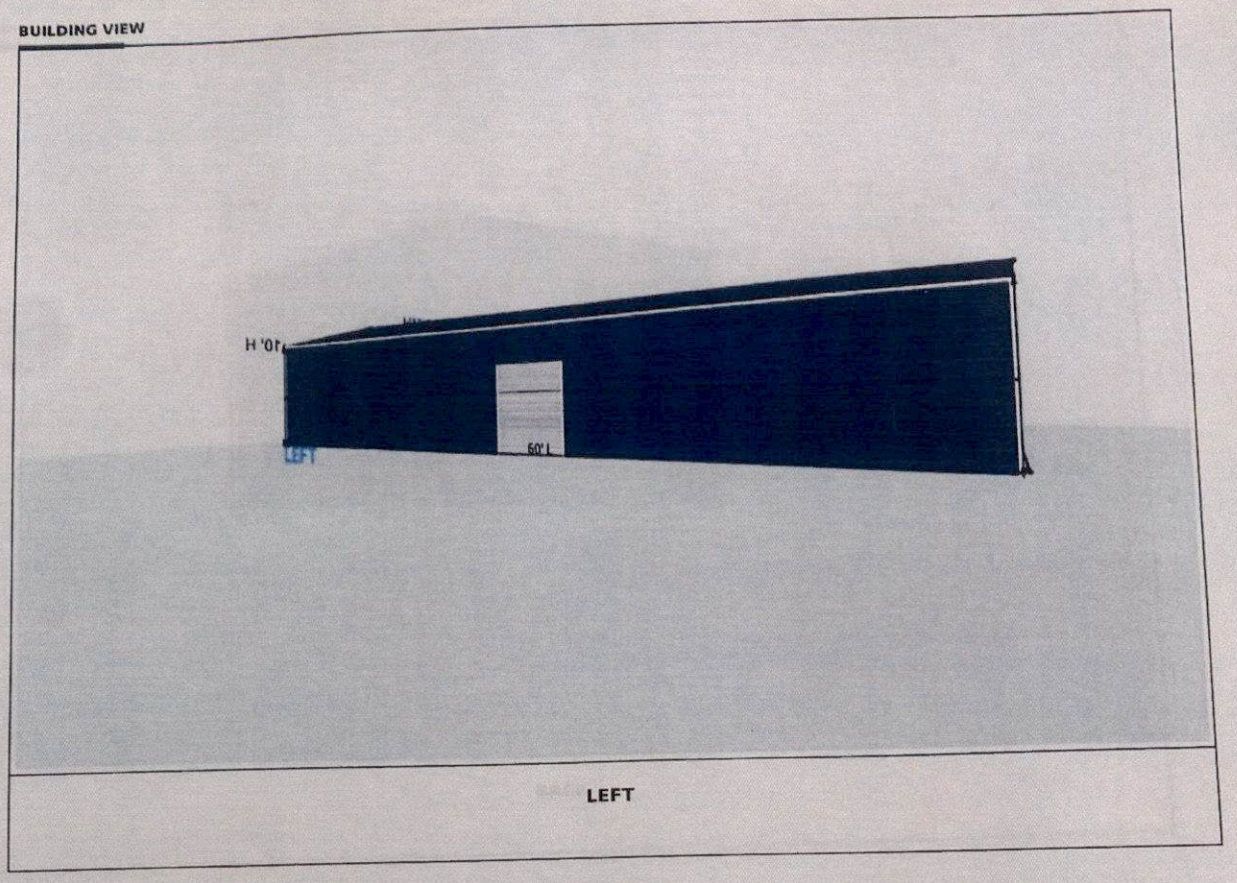
12-23

BUILDING VIEW

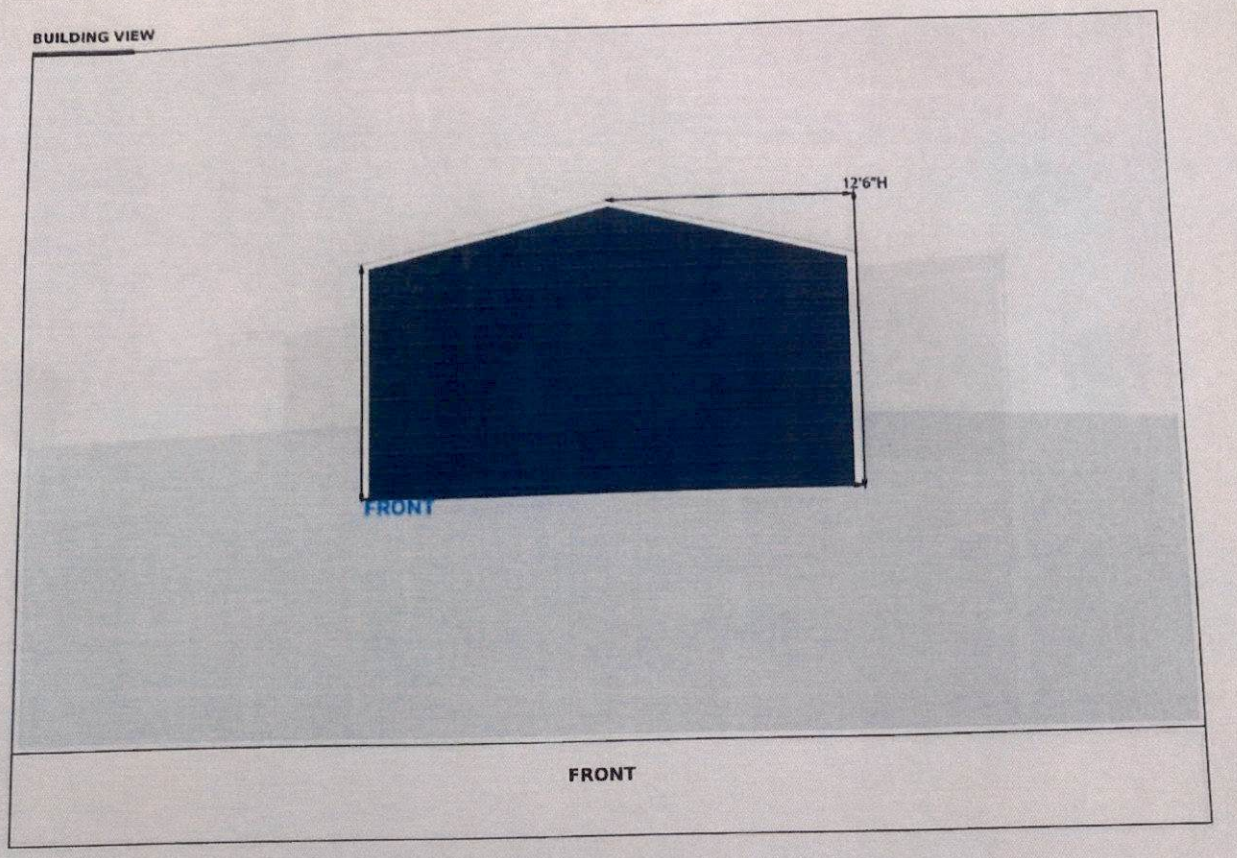


3-2-23

BUILDING VIEW



13-2-23



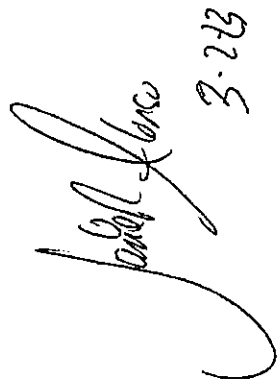
3-2-23

TERMS & CONDITIONS

- We have Rent to Own options up to 20k (No Credit Check) or Financing available:

  You can see your personalized monthly payment options within minutes and without affecting your credit score. No prepayment penalties. No home equity required.
- Hearth makes it easy for you to find monthly payment options for your project, with:
  - Loan amounts up to $100,000
  - Affordable monthly payment options
  - Funding within 1-3 days
  - No prepayment penalties
  - No home equity required
- Find convenient monthly payment options for your project. See your personalized payment plans without affecting your credit score now

  https://app.gethearth.com/partners/celebrity-structures-llc/sarah/apply



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 08/09/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Next First Insurance Agency, Inc. PO Box 60787 Palo Alto, CA 94306	CONTACT NAME: PHONE (A/C, No, Ext): (855) 222-5919 FAX (A/C, No): E-MAIL ADDRESS: support@nextinsurance.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A: Next Insurance US Company	16285
INSURED New Vision Carports LLC 5900 Old Lufkin Rd Nacogdoches, TX 75964	INSURER B: National Specialty Insurance Company	22608
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 364367114 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC OTHER:			NXTQFHPFRL-00-GL	03/16/2022	03/16/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$300,000.00 $100,000.00 $5,000.00 $300,000.00 $300,000.00 $300,000.00
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ $ $ $ $
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE $	$ $ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: Y If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		NXTLPLJQCH-00-WC	03/16/2022	03/16/2023	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$100,000.00 $100,000.00 $500,000.00

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Proof of Insurance.

3-2-23

CERTIFICATE HOLDER

New Vision Carports LLC
5900 Old Lufkin Rd
Nacogdoches, TX 75964

LIVE CERTIFICATE
Click or scan to view

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Anderson Enterprises

1828 Hwy. 49 Wiggins, MS 39577 - Phone: 601-928-0030

Quote Prepared For: **Vancleave High School**

Contact: Dean Lepoma

Date: 03/01/2023

(1) 20'x60'x10' Fully Enclosed CCI

29 Gauge Painted Panels

14 Gauge Frame

(1) 8'x8' Chain Hoist / Certified / White Roll Up Door Side Wall Mounted

(3) 36"x80" Walk In Doors

Woven R-17 Roof and Walls

Total Delivered and Installed on your level surface: $ 24,139.50

(Note: Permits needed. Customer is responsible for sight prep and pulling permits.)

Thank you for your business.

Please Make Payable To:

Anderson Enterprises

If you have any questions, please don't hesitate to call.

Sincerely,

Stephen Sherman

PO Box 4019
Gulfport, MS 39502-4019
Return Service Requested

EQUAL HOUSING LENDER

FDIC

Statements Dates
02/01/2023 - 02/28/2023

Account Number:
48162247

Images:
0

***ZERO CHECKS* E0**

1 000000 001
VANCLEAVE SOCCER BOOSTER CLUB
11801 JOHNS BAYOU RD
VANCLEAVE MS 39565

A 45.00 FEE APPLIES TO DEBIT CARDS ORDERED TO BE SHIPPED WITHIN 3 BUSINESS DAYS. ASK FOR DETAILS ON DELIVERY OPTIONS.

Checking Account Summary

PREVIOUS BALANCE		6,924.63	AVERAGE BALANCE
+	5 CREDITS	1,602.77	7,354.53
-	0 DEBITS	.00	YTD INTEREST PAID
-	SERVICE CHARGES	.00	.00
+	INTEREST PAID	.00	
ENDING BALANCE		8,527.40	

*** * * * * * * * * CHECKING ACCOUNT TRANSACTIONS * * * * * * * * ***

- **Deposits and Other Credits**

Date	Amount	Description
02/21	60.00	CASHOUT VENMO 023052000321529PPD
02/21	90.00	CASHOUT VENMO 023052000378968PPD
02/21	728.02	CASHOUT VENMO 023052000321519PPD
02/22	664.75	DEPOSIT
02/23	60.00	CASHOUT VENMO 023054001008144PPD

- **Balance By Date**

Date	Balance	Date	Balance	Date	Balance
01/31	6,924.63	02/22	8,467.40		
02/21	7,802.65	02/23	8,527.40		

In case of errors or questions about your electronic transfers, telephone or write us at the address listed as soon as you can if you think your statement or receipt is wrong or if you need more information about a transfer on the statement or receipt. We must hear from you no later than 60 days after we send you the FIRST statement on which the error or problem appeared.

1. Tell us your name and account number (if any).
2. Describe the error or the transfer you are unsure about and explain as clearly as you can why you believe it is an error or why you need more information.
3. Tell us the dollar amount of the suspected error.

Hancock Whitney
Attn: Deposit Services
P.O. Box 4019
Gulfport, MS 39502
1-800-448-8812

We will investigate your complaint and will correct any error promptly. If we take more than 10 business days to do this, we will credit your account for the amount you think is in error, so that you will have use of the money during the time it takes us to complete our investigation.

Notice About Electronic Check Conversion
When you provide a check payment, you authorize us either to use information from your check to make a one-time electronic fund transfer from your account or to process the payment as a check transaction.

Handyline Information

Interest Charges: Interest Charges have been computed on your Handyline Account by applying each Daily Periodic Rate disclosed on the face of this statement to the Daily Balance of your Account over the current billing cycle, and then multiplying the resulting product by the number of days in the billing cycle. The Daily Balance of your Account has been computed by totaling the "Closing Principal Balance" of your Account for each day of your billing cycle and dividing the resulting total by the number of days in the billing cycle.

The closing Principal Balance of your Account for each day of the billing cycle was computed by taking into consideration payments, credits, loan advances and other debits posted to your Account over the billing cycle, but disregarding any unpaid Interest Charges. Interest Charges have been assessed on new loans and other debits under your Account from date of posting, and there is not a time period within which payments may be made in order to completely avoid Interest Charges.

Provided you have not made at least the minimum payment due within fourteen days of the statement date:

1. If you have an unsecured Handyline Account, your checking account has been charged with a minimum payment equal to 1/20th of the disclosed New Balance on the face of this statement (less any amount disputed by you), or $25.00, whichever is greater. If the New Balance of your Account was less than $25.00, your checking account has been charged for the entire New Balance (less any amount disputed by you).
2. If you have a secured Handyline Account, your checking account has been charged with a minimum payment equal to 1/50th of the disclosed New Balance on the face of this statement (less any amount disputed by you), or $100.00, whichever is greator. If the New Balance of your Account was less than $100.00, your checking account has been charged for the entire New Balance (less any amount disputed by you).

You have the option to make additional payments in excess of the minimum payment on your Handyline Account in any amount and at any time, thus reducing your exposure to additional Interest Charges. Payments should be mailed to: Lending Services, P.O. Box 4020, Gulfport, MS 39502, Attn: Handyline. Payments we receive at the above address by 10:00 A.M. will be credited to your Handyline Account as of the date of receipt. Handyline payments made at other bank locations will be promptly credited to your Account, but in no event longer than five (5) days after receipt.

What To Do If You Think You Find A Mistake On Your Statement

If you think there is an error on your statement, write to us at Hancock Whitney Lending Services, P.O. Box 4019, Gulfport, MS 39502-0420 and include the following information:

- Account information: Your name and account number.
- Dollar amount: The dollar amount of suspected error.
- Description of Problem: If you think there is an error on your bill, describe what you believe is wrong and why you believe it is a mistake.

You must contact us within 60 days after the error appeared on your statement. You must notify us of any potential errors in writing. Hancock Whitney clients may call us at 1-800-448-8812, but if you do, we are not required to investigate any potential errors and you may have to pay the amount in question.

While we investigate whether or not there has been an error, the following are true:
- We cannot try to collect the amount in question, or report you as delinquent on that amount.
- The charge in question may remain on your statement, and we may continue to charge you interest on that amount. But, if we determine that we made a mistake, you will not have to pay the amount in question or any interest or other fees related to that amount.
- While you do not have to pay the amount in question, you are responsible for the remainder of your balance.
- We can apply any unpaid amount against your credit limit.

THIS FORM IS PROVIDED TO HELP YOU BALANCE YOUR BANK STATEMENT

CHECK / DEBIT TRANSACTIONS OUTSTANDING THIS MONTH
(Not charged to your account as of statement date)

Check # or Transaction Type	$	
TOTAL		

BANK BALANCE AS SHOWN ON THIS STATEMENT $_____

Deposits Not Credited In This Statement Cycle (If Any) $_____

_____

_____

_____

Add Total of Deposits Not Credited +$_____

Subtract Total Outstanding Checks/Debits -$_____

BALANCE =$_____

This balance should agree with your checkbook balance. Remember to deduct service charges/fees (if any) shown on your statement this month.

KeeslerFederal
CREDIT UNION

Current Month's Activity for: xxxxxx 5802
VANCLEAVE SOCCER BOOSTER CLUB
11895 OAK HOLW
VANCLEAVE, MS 39565-3715

POST	EFF	TRANSACTION DESCRIPTION	AMOUNT	NEW BALANCE
02/01		ID 0090 - **Basic Business Checking** Balance Forward		20,630.49
02/07		Withdrawal: BUSINESS DEBIT	- 27.77	20,602.72
02/07		HALLS ENGRAVING 10470 DIBERVILLE BLV DIBER		
02/07		Date 02/06/23 3037DBPE167Y 2791		
02/07		%% Card 25 #7594		
03/02		Ending Balance		20,602.72

Keesler Federal
CREDIT UNION
PO BOX 7001 | Biloxi, MS 39534-7001
www.kfcu.org | 1-888-KEESLER (533-7537)
TONI 1-800-272-8664

ACCOUNT NUMBER	STATEMENT DATE From	To	PAGE
XXXXXX5802	01/01/23	01/31/23	1 of 2

OZ 01 RETURN SERVICE REQUESTED
VANCLEAVE SOCCER BOOSTER CLUB
10420 ELLIS RD
VANCLEAVE MS 39565-5560
07199
tuf4d

ACCOUNT SUMMARY

Savings	$5.00
Checking	$20,630.49
Club	$0.00
Certificates	$0.00
IRA	$0.00
Loans	$0.00

TurboTax

Save up to $15 on your federal tax return.
Visit kfcu.org and click the TurboTax ad to get started.

SAVINGS

ID : 0001 BUSINESS PRIMARY SHARE

Starting Balance	=	Ending Balance
$5.00		$5.00

Trans	Eff	Transaction Description	Amount	Balance
	01/01	**Starting Balance**		**$5.00**
	01/31	**Ending Balance for BUSINESS PRIMARY SHARE**		**$5.00**

CHECKING

ID : 0090 BASIC BUSINESS CHECKING

Starting Balance	+	1 Total Deposit	+	2 Total Withdrawals	=	Ending Balance
$20,545.64		$306.25		$-221.40		$20,630.49

Trans	Eff	Transaction Description	Amount	Balance
	01/01	**Starting Balance**		**$20,545.64**
01/03	01/03	Deposit	306.25	20,851.89
01/06	01/06	Withdrawal Debit Card BUSINESS DEBIT	-179.71	20,672.18
		REF#: 300638679399 5300 - WAL-MART SAMSCLUB #8236 322468 10431 OLD HWY 49 01/06		

7199-14397

Trans	Eff	Transaction Description	Amount	Balance
01/12	01/12	Withdrawal Debit Card BUSINESS DEBIT	-41.69	20,630.49
		REF#: 301200326689 5411 - WM SUPERCENTER #1346 Wal-Mart Super Cen OC 01/12		
	01/31	**Your BASIC BUSINESS CHECKING Ending Balance**		**$20,630.49**

INFORMATION SUMMARY

Dividends Earned Year To Date	$0.00

Matching Grant Application

1. Statement of Need:
   - A. Group Applying for Grant: Vancleave Girls & Boys Soccer Booster Club
   - B. School: Vancleave High School
   - C. Who Benefits: Players & Coaches

2. Capital Project Design/Description:
   - A. Goals and Objectives: For the construction of a foundation for the placement of a 20 x 60 x 10 facility that will be constructed on site
   - B. Participants: Vancleave Girls & Boys Soccer Booster Clubs
   - C. Capital Project: Construct slab foundation for 20 x 60 x 10 soccer facility
   - D. Project Management: Dean Lepoma, Boosters, Fabrizio Bonilla, Jessica Maddox
   - E. Building Permit Documentation: To be obtained by the Operations & Support

3. Project Resources:
   - A. Completion Date: TBD
   - B. Budget:
     - i. District: $3,174.58
     - ii. Group: $12,200.42
   - C. Matching Money Documentation: Banks Statements, Quotes, COI on file

Assistant Superintendent: _____

Superintendent: _____

JCSD Board of Education President: _____

COMPLETE CONTRACTING

2100 14TH STREET PASCAGOULA, MS 39567
Ph.# 228.202.5542
info@completeroofco.com
rob@completeroofco.com

ATTN: Duane Jones

DATE: 02/21/2023

RE: 20x60 Building Slab

Estimate good for 30 days, please contact the office to check for any necessary updates.

Complete Contracting, LLC will form, pour and finish a 20x60 building slab for building installed by others.

POSSIBLE ADDITIONAL COSTS

N/A

Warranty

N/A

Job Overview

Install new 20x60 building slab 4" with perimeter footing with 2 #4 rebars, 6x6 wire mesh, 6 mil vapor barrier, 3000 psi concrete, placement and finished smooth. Includes cut and or fill as necessary.

For the sum of: $ 15,375.00

Thank You,

Respectfully

Rob Blackman

Jennifer Cox <jcj824@jcsd.ms>

Re: COI

Kamani Inabinette <kij2220@jcsd.ms> Mon, Mar 6, 2023 at 9:24 AM
To: Jennifer Cox <jcj824@jcsd.ms>

Good morning Ms. Jennifer,
Yes, we have a current COI for them.
Thanks,
Kamani

On Mon, Mar 6, 2023 at 8:31 AM Jennifer Cox <jcj824@jcsd.ms> wrote:
Good Morning Ms. Kamani,
Do you have a COI on file for Complete Contracting. vendor #: 15516?

--
Sincerely,

Jennifer Cox
Bookkeeper/Payroll
Jackson County School District
Central Office Maintenance/HVAC
4700 Colonel Vickery Rd.
Vancleave, MS 39565

Phone: 228-283-3000 Ext 1115
Email: jcj824@jcsd.ms

Withstand him; be firm in faith!
WALK BY FAITH- BE A VOICE; NOT AN ECHO!

Coastal Concrete Design

Vancleave Soccer Fieldhouse
New Slab Proposal
Vancleave, MS

20'x60' New building, concrete slab.
Setup, layout and form slab. Bring in additional fill material, grade/compact and prep. Slab will be 4" thick with an exterior footer and 2 interior footers (for partition walls) with (2) #4 rebar cont, 3000psi concrete with 6mil vapor barrier and welded wire reinforcement. Machine trowel finish.

Proposed Project Total.....$15,450.00

***All materials, labor and equipment will be provided by**

3/1/2023

PO Box 4019
Gulfport, MS 39502-4019
Return Service Requested

EQUAL HOUSING LENDER

FDIC

Statements Dates
02/01/2023 - 02/28/2023

Account Number:
48162247

Images:
0

***ZERO CHECKS* E0**

1 000000 001
VANCLEAVE SOCCER BOOSTER CLUB
11801 JOHNS BAYOU RD
VANCLEAVE MS 39565

A 45.00 FEE APPLIES TO DEBIT CARDS ORDERED TO BE SHIPPED WITHIN 3 BUSINESS DAYS. ASK FOR DETAILS ON DELIVERY OPTIONS.

Checking Account Summary

PREVIOUS BALANCE		6,924.63	AVERAGE BALANCE
+	5 CREDITS	1,602.77	7,354.53
-	0 DEBITS	.00	YTD INTEREST PAID
-	SERVICE CHARGES	.00	.00
+	INTEREST PAID	.00	
ENDING BALANCE		8,527.40	

*** * * * * * * * * CHECKING ACCOUNT TRANSACTIONS * * * * * * * * ***

- **Deposits and Other Credits**

Date	Amount	Description
02/21	60.00	CASHOUT VENMO 023052000321529PPD
02/21	90.00	CASHOUT VENMO 023052000378968PPD
02/21	728.02	CASHOUT VENMO 023052000321519PPD
02/22	664.75	DEPOSIT
02/23	60.00	CASHOUT VENMO 023054001008144PPD

- **Balance By Date**

Date	Balance	Date	Balance	Date	Balance
01/31	6,924.63	02/22	8,467.40		
02/21	7,802.65	02/23	8,527.40		

In case of errors or questions about your electronic transfers, telephone or write us at the address listed as soon as you can if you think your statement or receipt is wrong or if you need more information about a transfer on the statement or receipt. We must hear from you no later than 60 days after we send you the FIRST statement on which the error or problem appeared.

1. Tell us your name and account number (if any).
2. Describe the error or the transfer you are unsure about and explain as clearly as you can why you believe it is an error or why you need more information.
3. Tell us the dollar amount of the suspected error.

Hancock Whitney
Attn: Deposit Services
P.O. Box 4019
Gulfport, MS 39502
1-800-448-8812

We will investigate your complaint and will correct any error promptly. If we take more than 10 business days to do this, we will credit your account for the amount you think is in error, so that you will have use of the money during the time it takes us to complete our investigation.

Notice About Electronic Check Conversion
When you provide a check payment, you authorize us either to use information from your check to make a one-time electronic fund transfer from your account or to process the payment as a check transaction.

Handyline Information

Interest Charges: Interest Charges have been computed on your Handyline Account by applying each Daily Periodic Rate disclosed on the face of this statement to the Daily Balance of your Account over the current billing cycle, and then multiplying the resulting product by the number of days in the billing cycle. The Daily Balance of your Account has been computed by totaling the "Closing Principal Balance" of your Account for each day of your billing cycle and dividing the resulting total by the number of days in the billing cycle.

The closing Principal Balance of your Account for each day of the billing cycle was computed by taking into consideration payments, credits, loan advances and other debits posted to your Account over the billing cycle, but disregarding any unpaid Interest Charges. Interest Charges have been assessed on new loans and other debits under your Account from date of posting, and there is not a time period within which payments may be made in order to completely avoid Interest Charges.

Provided you have not made at least the minimum payment due within fourteen days of the statement date:

1. If you have an unsecured Handyline Account, your checking account has been charged with a minimum payment equal to 1/20th of the disclosed New Balance on the face of this statement (less any amount disputed by you), or $25.00, whichever is greater. If the New Balance of your Account was less than $25.00, your checking account has been charged for the entire New Balance (less any amount disputed by you).
2. If you have a secured Handyline Account, your checking account has been charged with a minimum payment equal to 1/50th of the disclosed New Balance on the face of this statement (less any amount disputed by you), or $100.00, whichever is greater. If the New Balance of your Account was less than $100.00, your checking account has been charged for the entire New Balance (less any amount disputed by you).

You have the option to make additional payments in excess of the minimum payment on your Handyline Account in any amount and at any time, thus reducing your exposure to additional Interest Charges. Payments should be mailed to: Lending Services, P.O. Box 4020, Gulfport, MS 39502, Attn: Handyline. Payments we receive at the above address by 10:00 A.M. will be credited to your Handyline Account as of the date of receipt. Handyline payments made at other bank locations will be promptly credited to your Account, but in no event longer than five (5) days after receipt.

What To Do If You Think You Find A Mistake On Your Statement

If you think there is an error on your statement, write to us at Hancock Whitney Lending Services, P.O. Box 4019, Gulfport, MS 39502-0420 and include the following information:

- Account information: Your name and account number.
- Dollar amount: The dollar amount of suspected error.
- Description of Problem: If you think there is an error on your bill, describe what you believe is wrong and why you believe it is a mistake.

You must contact us within 60 days after the error appeared on your statement. You must notify us of any potential errors in writing. Hancock Whitney clients may call us at 1-800-448-8812, but if you do, we are not required to investigate any potential errors and you may have to pay the amount in question.

While we investigate whether or not there has been an error, the following are true:
- We cannot try to collect the amount in question, or report you as delinquent on that amount.
- The charge in question may remain on your statement, and we may continue to charge you interest on that amount. But, if we determine that we made a mistake, you will not have to pay the amount in question or any interest or other fees related to that amount.
- While you do not have to pay the amount in question, you are responsible for the remainder of your balance.
- We can apply any unpaid amount against your credit limit.

THIS FORM IS PROVIDED TO HELP YOU BALANCE YOUR BANK STATEMENT

CHECK / DEBIT TRANSACTIONS OUTSTANDING THIS MONTH
(Not charged to your account as of statement date)

Check # or Transaction Type	$	
TOTAL		

BANK BALANCE AS SHOWN ON THIS STATEMENT $_____

Deposits Not Credited In This Statement Cycle (If Any) $_____
_____
_____
_____

Add Total of Deposits Not Credited +$_____

Subtract Total Outstanding Checks/Debits -$_____

BALANCE =$_____

This balance should agree with your checkbook balance. Remember to deduct service charges/fees (if any) shown on your statement this month.

KeeslerFederal
CREDIT UNION

Current Month's Activity for: xxxxxx 5802
VANCLEAVE SOCCER BOOSTER CLUB
11895 OAK HOLW
VANCLEAVE, MS 39565-3715

POST	EFF	TRANSACTION DESCRIPTION	AMOUNT	NEW BALANCE
02/01		ID 0090 - **Basic Business Checking** Balance Forward		20,630.49
02/07		Withdrawal: BUSINESS DEBIT	- 27.77	20,602.72
02/07		HALLS ENGRAVING 10470 DIBERVILLE BLV DIBER		
02/07		Date 02/06/23 3037DBPE167Y 2791		
02/07		%% Card 25 #7594		
03/02		Ending Balance		20,602.72

KeeslerFederal
CREDIT UNION
PO BOX 7001 | Biloxi, MS 39534-7001
www.kfcu.org | 1-888-KEESLER (533-7537)
TONI 1-800-272-8664

ACCOUNT NUMBER	STATEMENT DATE From	To	PAGE
XXXXXX5802	01/01/23	01/31/23	1 of 2

oz 01 RETURN SERVICE REQUESTED

VANCLEAVE SOCCER BOOSTER CLUB
10420 ELLIS RD
VANCLEAVE MS 39565-5560

07199
tuf4d

ACCOUNT SUMMARY

Savings	**$5.00**
Checking	**$20,630.49**
Club	**$0.00**
Certificates	**$0.00**
IRA	**$0.00**
Loans	**$0.00**

TurboTax

Save up to $15 on your federal tax return.
Visit kfcu.org and click the TurboTax ad to get started.

SAVINGS

ID : 0001 BUSINESS PRIMARY SHARE

Starting Balance				Ending Balance
$5.00			=	$5.00

Trans	Eff	Transaction Description	Amount	Balance
	01/01	**Starting Balance**		**$5.00**
	01/31	**Ending Balance for BUSINESS PRIMARY SHARE**		**$5.00**

CHECKING

ID : 0090 BASIC BUSINESS CHECKING

Starting Balance		1 Total Deposit		2 Total Withdrawals		Ending Balance
$20,545.64	+	$306.25	+	$-221.40	=	$20,630.49

Trans	Eff	Transaction Description	Amount	Balance
	01/01	**Starting Balance**		**$20,545.64**
01/03	01/03	Deposit	306.25	20,851.89
01/06	01/06	Withdrawal Debit Card BUSINESS DEBIT	-179.71	20,672.18
		REF#: 300638679399 5300 - WAL SAMSCLUB #8236 322468 10431 OLD HWY 49 01/06		

7199-14397

3046

KeeslerFederal
CREDIT UNION

ACCOUNT NUMBER	STATEMENT DATE From	To	PAGE
XXXXXX5802	01/01/23	01/31/23	2 of 2

Trans	Eff	Transaction Description	Amount	Balance
01/12	01/12	Withdrawal Debit Card BUSINESS DEBIT	-41.69	20,630.49
		REF#: 301200326689 5411 - WM SUPERCENTER #1346 Wal-Mart Super Cen OC 01/12		
	01/31	**Your BASIC BUSINESS CHECKING Ending Balance**		**$20,630.49**

INFORMATION SUMMARY

Dividends Earned Year To Date	$0.00

7189-14398

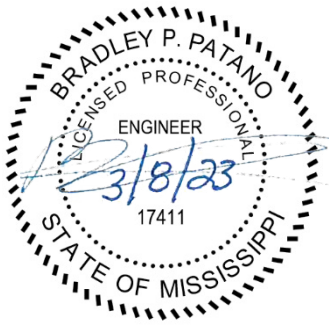
3047

PROJECT MANUAL

ST. MARTIN UPPER AND EAST ELEMENTARY SCHOOLS HVAC UPGRADES

11000 Yellow Jacket Rd., Ocean Springs, MS 39564

Jackson County School District
4700 Colonel Vickery Rd. | Vancleave, Mississippi 39565



MP DESIGN GROUP
ARCHITECTURE + ENGINEERING

MP Design Group Project # 0155.22.008
REV 0: ISSUED FOR CONSTRUCTION 03.08.2023

ARCHITECTURE | ENGINEERING | SURVEYING | CONSTRUCTION MGMT
918 Howard Avenue | Suite F | Biloxi | MS 39530 | P: 228.388.1950 | mpdesigngroup.us

SECTION 000102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: St Martin Upper & East Elementary Schools HVAC Upgrades, located at the following addresses:

St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, MS 39564

St. Martin East Elementary - 7508 Rose Farm Rd. Ocean Springs, MS 39564

B. The Owner, hereinafter referred to as Owner: Jackson County School District

C. Owner's Project Manager: Engineer/Architect.

1.02 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to General Contractors for the construction of the project described below.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: This project will consist of the following general scope of work. This description is provided for convenience purposes only and shall not be considered all inclusive. It is the general contractor's responsibility to become fully famliar with the existing conditions, review all of the construction document drawings, specifications, and any additional information documents in their entirety and bring forth any and all questions regarding scope confusion, misinterpretations, and/or possible errors and omissions to the Architect and/or Engineer prior to bid submission and/or start of construction.
   1. This project consists of hvac replacement and associated electrical work as described in the Construction Documents and Specifications.

B. Contract Terms: Lump sum (fixed price, stipulated sum).

C. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

D. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8:00 AM to 5:00 PM.

1.04 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Engineer/Architect: MP Design Group.
   1. Address: 918 Howard Avenue, Suite F.
   2. City, State, Zip: Biloxi, MS 39530.
   3. Phone: 228-388-1950.
   4. Fax: 228-388-1971
   5. Website: www.mpdesigngroup.us
   6. Plan Room: www.mpengplans.us
   7. E-mail: bpatano@mpdesigngroup.us, micah@mpdesigngroup.us.

1.05 PROCUREMENT TIMETABLE

A. A non-mandatory Pre-Bid Meeting and site walk: Tuesday, April 4, 2023 at 11:00AM local time at the front entry lobby of District's Central Office Building at 4700 Col Vickrey Rd., Vancleave,

MS 39564. Followed the meeting, a site walkthrough will be conducted.

B. Last Request for Substitution Due: 7 days prior to due date of bids.

C. Last Request for Information Due: 7 days prior to due date of bids.

D. Bid Due Date: As described in Document 001113 - Advertisement For Bids.

E. Bid Opening: Same day, after the bids are due at the descretion of the Onwer and a time that is best determined by the Owner.

F. Notice to Proceed: Will be issued after contract award with anticipated starts dates as shown below.

G. Bids May Not Be Withdrawn Until: 60 days after due date.

H. Contract Time: As described in Document 004100 - Bid Form.

I. Anticipated Construction Start: Not later than Monday, October 4, 2021.

J. Completion date is critical due to requirements of Owner's operations.

K. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.06 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained:
   1. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.
   2. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

B. Documents may be viewed at Office of the Architect.

1.07 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 000110
TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

SPECIFICATIONS

2.01 DIVISION 01 -- GENERAL REQUIREMENTS

D. 260519 - Low-Voltage Electrical Power Conductors and Cables
E. 260526 - Grounding and Bonding for Electrical Systems
F. 260529 - Hangers and Supports for Electrical Systems
G. 260533.13 - Conduit for Electrical Systems
H. 260533.16 - Boxes for Electrical Systems
I. 260553 - Identification for Electrical Systems
J. 262726 - Wiring Devices

2.20 DIVISION 27 -- COMMUNICATIONS

2.21 DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY

2.22 DIVISION 31 -- EARTHWORK

2.23 DIVISION 32 -- EXTERIOR IMPROVEMENTS

2.24 DIVISION 33 -- UTILITIES

2.25 DIVISION 34 -- TRANSPORTATION

2.26 DIVISION 40 -- PROCESS INTEGRATION

2.27 DIVISION 46 -- WATER AND WASTEWATER EQUIPMENT

END OF SECTION

"General Decision Number: MS20230052 02/10/2023

Superseded General Decision Number: MS20220052

State: Mississippi

Construction Type: Building
BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

County: Jackson County in Mississippi.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2023
1	01/27/2023

CARP0318-001 09/01/2016

	Rates	Fringes
CARPENTER (Includes Drywall Hanging, Finishing/Taping and Form Work)	$ 24.11	10.60

ELEC0903-012 01/01/2022

	Rates	Fringes
ELECTRICIAN (Includes Low Voltage Wiring)	$ 29.20	6.68+9.50%

ENGI0624-007 01/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Crane	$ 26.20	12.30
Forklift	$ 26.20	12.30

IRON0798-009 10/01/2022

	Rates	Fringes
IRONWORKER, REINFORCING	$ 28.50	17.02

PLUM0568-007 11/01/2022

	Rates	Fringes
PIPEFITTER (Includes HVAC Unit Installation (Excludes HVAC Pipe Installation))	$ 28.41	10.57
PLUMBER (Includes HVAC Pipe Installation (Excludes HVAC Unit Installation))	$ 27.11	10.02

* SFMS0669-001 01/01/2023

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinkler)	$ 27.15	22.38

SHEE0441-006 07/01/2014

	Rates	Fringes
SHEET METAL WORKER (Includes HVAC Duct Installation)	$ 20.00	11.72

* SUMS2015-013 04/03/2017

	Rates	Fringes
BRICKLAYER	$ 20.29	0.00
CEMENT MASON/CONCRETE FINISHER	$ 18.37	0.00
IRONWORKER, STRUCTURAL	$ 18.05	0.00

LABORER: Common or General.....$ 13.57 ** 0.00

LABORER: Mason Tender -
Cement/Concrete.....$ 12.50 ** 0.00

OPERATOR:
Backhoe/Excavator/Trackhoe.....$ 17.89 1.62

OPERATOR: Bulldozer.....$ 15.14 ** 1.03

PAINTER (Brush and Roller).....$ 17.00 0.00

ROOFER.....$ 14.50 ** 0.00

TILE SETTER.....$ 18.00 0.00

TRUCK DRIVER: Dump Truck.....$ 14.11 ** 0.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate

(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

SECTION 000820
FEDERAL REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

A. This project is a federally funded project and must comply with federal construction and related laws, including, but not limited to, the Davis Bacon Act, Buy American Act, Clean Air Act, Occupational Safety and Health Act (OSHA), as well as Preservation of Historical Sites and Buildings. All energy conservation must be considered using American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards.

B. In addition, the contractor will be required to comply with the requirements below, but not limited to Sections 34 CFR Section 76.600 (Where to Find Construction Regulations), 34 CFR Sections 75.600-75.617, 2 Section 200.321 Contracting with Small and Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms, 2 Section 200.322 Domestic Preference for Procurements, 2 Section 200.324 Contract Cost and Price, 2 Section 200.325 Federal Awarding Agency or Pass-Through Entity Review, 2 Section 200.326 Bonding Requirements, 2 Section 200.327 Contract Provisions, 2 Section 200.329(d) Construction Performance Reports, as well as Appendix II to Part 200- Contract Provision for Non-Federal Entity Contract under Federal awards, including Equal Employment Opportunity, Davis Bacon Act, as amended (40 U.S.C. 3141-3148), Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708), Rights to Inventions Made Under Contract or Agreement, Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387) as amended, Debarment and Suspension (Executive Orders 12549 and 12689) and the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)

PART 2 EQUAL OPPORTUNITY

2.01 REQUIREMENTS

A. The contractor will maintain policies of employment as follows:
   1. The Contractor and all Subcontractors will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, or age. Such action will include, but not limited to the following employment, upgrading, demotion or transfer, recruitment, or recruitment advertisement, layoff or termination, rates of pay or other forms of compensation, selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.
   2. The Contractor and all Subcontractors will, in all solicitations or advertisements for employees' places by them or their behalf, state that all qualified applicants receive consideration for employment without regard to race, religion, color, sex, national origin or age.

PART 3 DAVIS-BACON ACT REGULATIONS

3.01 CONTRACT PROVISIONS AND RELATED MATTERS

A. Every employer performing work covered by the labor standards of The Davis-Bacon and related Acts shall post the notice *WH-1321 attached in Appendix A* (including any applicable wage determination) at the site of the work in a prominent and accessible place where it may be easily seen by employees.

B. Under the Davis-Bacon and related Acts, covered contractors must maintain payroll and basic records for all covered laborers and mechanics during the course of the work and for a period of the three years thereafter. Records to be maintained include:

1. Name, address, and social security number of each worker
2. Each worker's work classifications
3. Hourly rates of pay, including rates of contributions or costs anticipated for fringe benefits or their cash equivalents
4. Daily and weekly numbers of hours worked
5. Deductions made
6. Actual wages paid
7. Detailed information regarding bona fide fringe benefit plans and programs, including records that show that the plan or program has been communicated in writing to the laborers and mechanics affected
8. If applicable, detailed information regarding approved apprenticeship or trainee programs
9. See *Fact sheet #21*: Recordkeeping requirements under the Fair Labor Standards Act attached in Appendix *A*.

C. Each covered contractor and subcontractor must, on a weekly basis, provide the contracting agency a copy of all payrolls providing the information listed above under “Recordkeeping” for the preceding weekly payroll period, except that that full social security numbers and home addresses shall not be included on weekly transmittals, and instead the payrolls only need to include an individually identifying number for each worker (e.g., the last four digits of the worker’s social security number). Each payroll submitted must be accompanied by a “Statement of Compliance” using page 2 of *Form WH-347 Payroll attached in Appendix A* (For Contractors Optional Use), or any form with identical wording, certifying compliance with applicable requirements. The statement is to be signed by the contractor or subcontractor, or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and delivered to a representative of the federal or state agency in charge. This must be submitted within seven days after the regular pay date for the pay period

D. Minimum Wages:
1. (i) All mechanics and laborers employed or working upon the site of the work, will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account (except such payroll deductions as permitted by regulations, issued by the Secretary of Labor under the Copeland Act, 29 CFR Part 3), the full amounts due at time of payment computed at wages rates not less than those contained in the wage determination decision of the Secretary of Labor which is attached hereto and made part of hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics, and the wage determination decision will be posted by the Contractor at the site of the work in a prominent place where can be easily seen by workers. For the purpose of this clause, contributions made costs reasonably anticipated under Section 1 (b) (2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 28 CFR 5.5 (a) (1) (iv). Also, for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds or programs, but covering the particular weekly period are deemed to be constructively made or incurred during such weekly periods.
2. (ii) The contracting officer will require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination and which is to be employed under the contract, will be classified or reclassified conformably to wage determination and a report of the action taken will be sent by the State Agency to the Secretary of Labor in the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics, including apprentices and trainees to be used, the question, accompanied by the recommendation of the contracting officer, will be referred to the Secretary for final determination.
3. (iii) The contracting officer will require, whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not

expressed as an hourly wage rate and the contractor is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon a cash equivalent of the fringe benefit the question, accompanied by the recommendation of the contracting officer, shall be referred to the Secretary of Labor for determination.

4. (iv) If the Contractor does not make payments to a trustee or other third person, he may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing benefits under a plan or program of a type expressly listed in the wage determination decision of the Secretary of Labor is a part of this Contract. Provide, however, the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan, or program.

E. Withholding: The State may withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to laborers and mechanics, including apprentices and trainees, employed by the Contractor or any Subcontractor on the work the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice of the Project, all or part of the wages required by the Contract, the State may, after written notice to the Contractor, sponsor, applicant of Owner, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds until such violations have ceased.

F. Payroll and Basic Records:

1. (i) Payrolls and basic record relating thereto will be maintained during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work in the construction or development of the Project. Such record will contain the name and address of each employee, his correct classification, rates of pay (including rates of contributions or costs anticipated of the types described in Section 1 (b) (2) of the Davis-Bacon Act, daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a) (1) (iv) the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1 (b) (2) (b) of the Davis-Bacon Act, the Contractor will maintain record which show that the commitment to provide such benefits is enforceable that the plan or program is financially responsible and that the plan or program has been communicated in writing to the laborers or mechanics affected and records which show the costs anticipated or the actual cost incurred in providing such benefits.
2. (ii) The Contractor will submit weekly a copy of all payrolls to the Project Architect/Engineer or will submit payrolls to the applicant, sponsor or Using Agency as the case may be, for transmission to the State. The copy will be accompanied by a statement signed by the employer or his agent indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor and that the classifications set forth for each laborer or mechanic conform with the work he performed. A submission of a “Weekly Statement of Compliance” which is required under this Contract and the Copeland regulations of the Secretary of Labor (29 DFR, Part 3) and the filing with the initial payroll or any subsequent payroll of a copy of any findings by the Secretary of Labor under 29 CFR 5.5 (a) (1) (iv) will satisfy this requirement. The Prime Contractor will be responsible for submission of copies of payrolls of all Subcontractors. The Contractor will make the records required under the labor standards clauses of the Contract available for inspection by authorized representatives to interview employees during working hours on the job.

G. Apprentices and Trainees:

1. (i) Apprentices: Apprentices will be permitted to work as such only when they are registered individually under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U. S. Department of Labor or, if no such recognized agency exists in a State, under a program registered with the Bureau of Apprenticeship and Training, U.S., Department of Labor. The allowable ratio of apprentices to journeymen in any craft classification will not be greater than the ratio of permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trained as defined in subdivision (kk) of this subparagraph or is not registered as above, will be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or Subcontractor will be required to furnish to the contracting officer written evidence of the registration of his program and apprentices, as well as of the appropriate ratios and wage rates, for the area of construction prior to using any apprentices on the contract work.
2. (ii) Trainees: Trainees will be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U. S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and training, and where subdivision (iii) of this subparagraph is applicable, in accordance with the provisions of Part 5a of this subtitle.
3. (iii) Application of 29 CFR part 5a: On Contracts in excess of $10,000, the employment of all laborers and mechanics, including apprentices and trainees, as defined in 5.2 ©, will also be subject to the provisions of Part 5a of this subtitle. Apprentices and trainees will be hire in accordance with the requirements of Part 5a of this subtitle.

H. Compliance with Copeland Regulations 29CFR Part 3: The Contractor will comply with the Copeland Regulations (29 CFR Part 3) of the Secretary of Labor which are herein incorporated by reference.

I. Subcontractors: The contractor will insert in any subcontracts the clauses contained in 29 DFR 5.5 (a) (1) through (5) and (7) and such other clauses as the State may, by appropriate instructions, require and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that they may in turn be made.

J. Contract Termination, Debarment: A breach of clauses (1) through (6) may be grounds for termination of the Contract for debarment as provided in 29 CFR 5.6.

K. PART 5A – LABOR STANDARDS FOR RATIOS OF APPRENTICES AND TRAINEES TO JOURNEYMEN ON FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION.

L. 5a.3 APPRENTICE AND TRAINEE EMPLOYMENT REQUIREMENTS:
1. The following Contract clauses will be conditions of each Federal or Federally assisted construction Contract in excess of $10,000 and each Federal agency concerned will include the clauses or provide for their inclusion in each such Contract.
2. The contractors agree:
   a. (i) That he will make a diligent effort to hire for the performance of the Contract a number of apprentices or trainees, or both, in each occupation, which bears to the average number of the journeymen in that occupation to be employed in the performance of the Contract the applicable ratio as determined by the Secretary of Labor.
   b. (ii) That he will assure that twenty-five percent (25%) of such apprentices or trained in each occupation are in their first year of training, where feasible. Feasibility here involves a consideration of: (a) the availability of training opportunities for first year apprentices; (b) the hazardous nature of the work for beginning workers; and (c) excessive unemployment of apprentices in their second and subsequent years of training.

c. (iii) That during the performance of the Contract, he will, to the greatest extent possible, employ the number of apprentices or trainees necessary to meet currently the requirements of subdivisions (i) and (ii) of this subparagraph.
d. The contractor agrees to maintain records of employment by trade of the number of apprentices and trainees, apprentices and trainees by first year of training, and of journeymen and the wages paid and hours of work of such apprentices, trainees and journeymen. The contractor agrees to make these records available for inspection upon request of the Department of Labor and the Federal agency concerned.
e. The Contractor who claims compliance based on the criterion stated in 5a.4(a) agrees to maintain records of employment, as described in 5a3(a) (2), on non-Federal and Non-federally assisted construction work done during the performance of this Contract in the same labor area. The contractor agrees to make these record available for inspection upon request of the Department of Labor and the Federal agency concerned.

3. CRITERIA FOR MEASURING DILIGENT EFFORT
   a. (A) The Contractor employs, on all his public and private construction work combined in the labor market area of his Project, an average number of apprentices and trainees by craft as required by the contract clauses, at least equal to the ratios established in accordance with 5a.5.
4. DETERMINATION OF RATIOS OF APPRENTICES OR TRAINEES TO JOURNEYMEN
   a. The Secretary of Labor has determined that the applicable ratios of apprentices and trainees to journeymen in an occupation will be as follow:
      1) (a) In any occupation the applicable ratio of apprentices and trainees to journeymen will be equal to the predominant ratio for the occupation in the area where the construction is to be undertaken, set forth in collective bargaining agreements or other employment agreements and available through the regional Manager for the Bureau of Apprenticeship and Training for the applicable area.
      2) (b) For any occupation for which no such ratio is found, the ratio of apprentices and trainees to journeymen will be determined by the Contractor in accordance with the recommendations set forth in the standards of the National Joint Apprentice Committee for the occupation, which are field with the U. S. Department of Labor’s Bureau of Apprenticeship and Training.
      3) (c) For any occupation for which no such recommendations are found, the ratio of apprentices and trainees to journeymen will be at least (1) apprentice or trainee for every five (5) journeymen.

PART 3 – FEDERAL AQUISITION REGULATIONS

4.01 25.1102(A) BUY AMERICAN-CONSTRUCTION MATERIALS (FEB 2021)

(a) Definitions. As used in this clause - Commercially available off-the-shelf (COTS) item

(1) Means any item of supply (including construction material) that is

(i) A commercial item (as defined in paragraph (1) of the definition at Federal Acquisition Regulation (FAR) 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and

that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means—

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

Domestic construction material means—

(1) For construction material that does not consist wholly or predominantly of iron or steel or a combination of both-

(i) An unmanufactured construction material mined or produced in the United States; or

(ii) A construction material manufactured in the United States, if–

(A) The cost of its components mined, produced, or manufactured in the United States exceeds 55 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic. Components of unknown origin are treated as foreign; or

(B) The construction material is a COTS item; or

(2) For construction material that consists wholly or predominantly of iron or steel or a combination of both, a construction material manufactured in the United States if the cost of foreign iron and steel constitutes less than 5 percent of the cost of all components used in such construction material. The cost of foreign iron and steel includes but is not limited to the cost of foreign iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the construction material and a good faith estimate of the cost of all foreign iron or steel components excluding COTS fasteners. Iron or steel components of unknown origin are treated as foreign. If the construction material contains multiple components, the cost of all the materials used in such construction material is calculated in accordance with the definition of "cost of components".

Fastener means a hardware device that mechanically joins or affixes two or more objects together. Examples of fasteners are nuts, bolts, pins, rivets, nails, clips, and screws.

Foreign construction material means a construction material other than a domestic construction material.

Foreign iron and steel means iron or steel products not produced in the United States.

Produced in the United States means that all manufacturing processes of the iron or steel must take place in the United States, from the initial melting stage through the application of coatings, except metallurgical processes involving refinement of steel additives. The origin of the elements of the iron or steel is not relevant to the determination of whether it is domestic or foreign.

Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components excluding COTS fasteners.

Steel means an alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements.
"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements 41 U.S.C.chapter 83, Buy American, by providing a preference for domestic construction material. In accordance with 41 U.S.C. 1907, the domestic content test of the Buy American statute is waived for construction material that is a COTS item, except that for construction material that consists wholly or predominantly of iron or steel or a combination of both, the domestic content test is applied only to the iron and steel content of the construction materials, excluding COTS fasteners. (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to information technology that is a commercial item or to the construction materials or components listed by the Government as follows:
_____[Contracting Officer to list applicable excepted materials or indicate "none"]

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that-

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American statute is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent;

(ii) The application of the restriction of the Buy American statute to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American statute.

(1) (i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including-

(A) A description of the foreign and domestic construction materials;
(B) Unit of measure;
(C) Quantity;
(D) Price;
(E) Time of delivery or availability;
(F) Location of the construction project;
(G) Name and address of the proposed supplier; and
(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.
(3) Unless the Government determines that an exception to the Buy American statute applies, use of foreign construction material is noncompliant with the Buy American statute.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

4.02 52.225-10 NOTICE OF BUY AMERICAN REQUIREMENT-CONSTRUCTION MATERIALS

(a) Definitions. "Commercially available off-the-shelf (COTS) item," "construction material," "domestic construction material," and "foreign construction material," as used in this provision, are defined in the clause of this solicitation entitled "Buy American-Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American statute should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American statute before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American statute, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.
(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.
(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.
(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested-

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

PART 5 - COMPLIANCE DOCUMENTS

5.01 ATTACHEMENTS

A. Refer to attachment General Decision Number: *MS20230052 04/02/2021*.

B. Refer to Appendix A - Required Davis-Bacon and Related Acts Compliance Documents

END OF SECTION

SECTION 001113
ADVERTISEMENT FOR BIDS

FROM:

1.01 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

A. Jackson County School District

B. Address:
4700 Col Vickrey Road
Vnacleave, MS, 39565

1.02 AND THE ENGINEER/ARCHITECT (HEREINAFTER REFERRED TO AS ENGINEER/ARCHITECT):

A. MP Design Group, PLLC

B. Address:
918 Howard Avenue, Suite F
Biloxi, MS 39530
Phone: 228-388-1950
1. Fax: 228-388-1971
2. Web Site: www.mpdesigngroup.us
3. Plan Room: www.mpengplans.us

1.03 TO: POTENTIAL BIDDERS

A. Your firm is invited to submit an offer under seal to Owner for renovations to existing buildings HVAC Systems located at Jackson County School District Schools and indicated below:
St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, MS 39564
St. Martin East Elementary - 7508 Rose Farm Rd. Ocean Springs, MS 39564

Before 10:00 am local standard time on the 18th day of April, 2023, for:

B. Project Name: St Martin Upper & East Elementary Schools HVAC Upgrades

C. Project Number: 0155.22.008

D. Project Description: This project consists of hvac replacement and associated electrical work as described in the Construction Documents and Specifications.

E. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a non-refundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in electronic PDF format.

F. Bidders will be required to provide Bid security in the form of a certified check in the amount of $ [_____] or a certified check for a sum no less than 5 percent of the Bid Amount.

G. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders and Document 003100 - Available Project Information.

H. Submit your offer on the Bid Form provided. Bidders may supplement this form as appropriate.

I. If Bids are mailed or hand delivered, then they must be contained in a sealed envelope marked on the outside with the project name. They must be on file as received or delivered by the time stated above to the address of the Owner stated above. Do not deliver Bids to the project address or the Architect's address.

J. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must be included and must be clearly indicated as such in the file name.

K. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi certificate of responsibility number as issued by the Mississippi Board of Contractors.

L. Your offer will be required to be submitted under a condition of irrevocability for a period of 60 days after submission.

M. This is a federally funded project and shall comply with all State and Federal requirements, including but not limited to compliance with any applicable Davis-Bacon Act requirements and other laws and regulations as referenced in the Construction Documents and Specifications.

N. The Owner reserves the right to accept or reject any or all offers.

END OF SECTION

SECTION 002113
INSTRUCTIONS TO BIDDERS

INVITATION

1.01 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner as Described in Document 001113 - Advertisement for Bids.

B. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

C. Offers submitted after the above time will be returned to the bidder unopened.

D. Offers will be opened publicly after the time for receipt of bids.

1.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete a hvac replacement and associated electrical work located at Ocean Springs, Mississippi for a Stipulated Sum contract, in accordance with the Contract Documents.

1.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises remodeling and demolition, including general construction, mechanical, and electrical Work.

B. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor’s responsibility to bring any and all discrepancies to the architect’s attention for further clarity prior to submitting a formal bid.

1.04 BUILDING PERMITS AND PLAN REVIEW

A. Refer to 011000 Summary

1.05 CONTRACT TIME

A. Perform the Work in time as described in Document 000102 - Project Information.

B. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additioinal request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for addtional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

BID DOCUMENTS AND CONTRACT DOCUMENTS

2.01 DEFINITIONS

A. Bid Documents include the Advertisement for Bids, Instructions to Bidders, Bid Form, Information Available to Bidders, Supplements To Bid Forms and Appendices, other sample bidding and contract forms, and the proposed Contract Documents including any Addenda issued prior to receipt of bid. The Contract Documents proposed for the Work consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary, and other Conditions), the Drawings, the Specifications, and all Addenda issued prior to and all

Modifications issued after execution of the Contract.

B. All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

C. Addenda are written or graphic instructions issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

D. A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

E. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added or from which work may be deleted for sums stated in Alternate Bids.

F. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

G. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Document.

H. A bidder is a person or entity who submits a Bid.

I. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials or labor for a portion of the work.

2.02 CONTRACT DOCUMENTS IDENTIFICATION

A. The Contract Documents are identified as St Martin Upper & East Elementary Schools HVAC Upgrades; Number 0155.22.008, as prepared by Engineer/Architect , and with contents as identified in the Project Manual.

2.03 AVAILABILITY

A. Bid Documents can also be obtained from the Plan Room website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.

B. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

C. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

2.04 EXAMINATION

A. Bid Documents may be viewed at the office of Engineer/Architect .

B. Upon receipt of Bid Documents verify that documents are complete. Notify Engineer/Architect should the documents be incomplete.

C. Immediately notify Engineer/Architect upon finding discrepancies or omissions in the Bid Documents.

2.05 INQUIRIES/ADDENDA AND INTERPRETATIONS

A. Direct questions to Brad Patano or Micah van Duijvendijk, at email: bpatano@mpdesigngroup.us and micah@mpdesigngroup.us respectively.

B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

C. Verbal answers are not binding on any party.

D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients .

E. Any interpretation, correction or change of the Bidding Documents will be made by Addendum issued during the bidding period. All Addenda become part of the Contract Documents. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding.

F. Failure of any bidder to receive addendum issued, or to acknowledge receipt on the bid form, shall not relieve such bidder from any obligation under this bid as submitted.

G. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid. No other method of estimating shall be used in preparing the bid proposal, unless contrary instructions are issued in the form of an Addendum before bid proposal due date.

H. Any claim by the Contractor or Subcontractors that they, in submitting their respective bid proposals, did not include all items as shown in the Contract Documents will be given no consideration for an adjustment of any kind. If any item is specified in a Section which would not normally furnish this item, it shall be the responsibility of the Contractor to provide the work in question, without any additional cost to the Owner.

2.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:

B. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 7 days before receipt of bids.

C. Substitution Request Form:
   1. Submit substitution requests by completing the form in Section 004325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

D. Review and Acceptance of Request:
   1. When a request to substitute a product is made, Engineer/Architect may approve the proposed substitution and will issue an Addendum to known bidders.
   2. The submission shall provide sufficient information to determine acceptability of such products.
   3. Provide complete information on required revisions to other work to accomodate each proposed substitution.
   4. Provide products as specified unless substitutions are submitted in this manner and accepted.

E. Submit substitution requests by completing the form in Section 004325 - Substitution Request Form - During Procurement; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable. If this form is not completed in its entirety, then it will be rejected and will have to be resubmitted.

F. See Section 012500 - Substitution Procedures for additional requirements.

SITE ASSESSMENT

3.01 SITE EXAMINATION

A. Examine the project site before submitting a bid.

B. A visit to the project site has been arranged for bidders as follows: Immediately following the Pre-Bid Conference

C. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8 AM to 5 PM.
   2. Contractor will be require to contact the Owner prior to arriving to schedule a time for exmination.

3.02 PREBID CONFERENCE

A. A bidders conference has been scheduled as described in Document 000102 - Project Information. Meet in the main lobby of the Building. We will then relocate to a designated area as directed by the staff for the formal meeting. After the Pre-Bid Meeting we will tour the site as a group.

B. All general contract bidders and suppliers are invited.

C. Representatives of Engineer/Architect will be in attendance.

D. Summarized minutes of this meeting may be circulated to all known bidders. These minutes will not form part of the Contract Documents.

E. No verbal answers during this meeting are binding nor do they become a part of the Bid Documents. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

QUALIFICATIONS

4.01 SUBCONTRACTORS/SUPPLIERS/OTHERS

A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

B. Refer to General Conditions.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealedwith the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Owner's name on the outside. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must be included and must be clearly indicated as such in the file name (i.e. "open first," or "Envelope Information," etc...), so that it will to be the first item opened.

C. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi Certificate of Responsibility Number as issued by the Mississippi Board of Contractors along with a copy of the General Contractor's proof of Mississippi license.

D. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

5.02 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.

C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Owner, invalidate the bid.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amounton AIA A310 Bid Bond Form.
      -OR-
   2. Certified check in the amount of a sum no less than 5 percent of the Bid Amount.

B. Endorse the certified check in the name of the Owner.

C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

D. Include the cost of bid security in the Bid Amount.

E. If no contract is awarded, all security deposits will be returned.

6.02 PERFORMANCE ASSURANCE

A. Accepted Bidder:
   1. Provide a Performace Bond
   2. Provide a Payment Bond
   3. Provide a Schedule of Values
   4. Provide a Construction Schedule

B. Include the cost of Performance and Payment Bonds in the Bid Amount.

6.03 INSURANCE

A. Provide an executed "Undertaking of Insurance" letter on official letterhead provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents. This is nothing more than a letter. There is no special form required. The intent is to assure the Owner that the Bidder is capable of obtaining insurance coverage requirements set forth herein for this specific project.

6.04 NON COLLUSIVE AFFIDAVITT

A. Bids shall be accompanied with 004105 Form of Non Collusive Affidavit.

6.05 NON DEBARMENT

A. Bids shall be accompanied with 004106 Statement of Non Debarment.

6.06 ESSER ACKNOWLEDGE AFFIDAVIT

A. Bids shall be accompanied with 004110 ESSER Acknowledge Affidavit.

6.07 CONTRACTOR'S LICENSE

A. Bids shall be accompanied with a current proof of contractor's state license.

6.08 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

6.09 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows:
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.

2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature.
3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.

6.10 ADDITIONAL BID INFORMATION

A. Upon request by the Architect, the selected Bidder shall within seven days thereafter submit the following:
1. A schedule of values for each major item of work included in the bid.
2. A list of the work to be performed by the Bidder with his own work forces.
3. A list of Subcontractors or other persons or organizations proposed for use on this project. The Bidder will be required to establish to the Architect, Owner and the Owner's Representative the reliability and responsibility of the proposed Subcontractors to furnish and perform the work. Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner, Architect, and the Owner's Representative must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner, Architect and Owner's Representative.

6.11 SELECTION AND AWARD OF ALTERNATES

A. Bids will be evaluated on the total of the base bid price and any combination of the Alternates. After determination of the successful bidder, consideration will be given to which Alternates will be included in the Work.

6.12 QUALIFICATION OF BIDDERS

A. If required, a Bidder shall submit to the Architect a properly executed Contractor's Qualification Statement AIA Document A305, within five (5) days from request.

B. The successful low bidder(s) will have to meet the following criteria to the Owners' satisfaction, prior to award of bid. Failure to do so may result in the rejection of the defaulting Contractors' Bid.
1. The Contracting Company's ability to perform the designated scope of work.
2. Qualified personnel and adequate work force capable of completing the specified project Work.
3. Satisfactory construction plan.
4. Satisfactory safety plan and work history related to safety and reportable OSHA related incidences.
5. Successful completion of a similar project and no documented letters of dissatisfaction from similar owners.

C. Independent Contractor Status: It is understood and agreed that the contractor is an independent Contractor and not an employee of the Owner and that the Contractor shall be responsible for all necessary licenses, federal and state taxes, liability insurance, worker's compensation coverage and other obligations imposed upon him and his employees as an independent Contractor under applicable laws, rules and regulations.

D. Indemnity to the Owner: It is understood and agreed that the Contractor shall hold the Owner harmless and indemnify the Owner against any losses, damages, or liabilities resulting from the performance of the aforesaid services by said Contractor. Contractor shall be responsible for all employee withholding, payroll and FICA taxes, and shall maintain any and all Worker's Compensation Insurance on its laborers as required by law and shall hold the Owner harmless

from all claims, if any, concerning Contractor's employees or subcontractors.

E. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the scope of Work. Conditional bids will not be accepted. The Owner may consider either of the following reasons as being sufficient for the disqualification of a bidder and the rejection of the bidder's proposal:
   1. Submission of more than one proposal for the same work from an individual, partnership, firm or corporation under the same or different name(s),
   2. Evidence of collusion among bidders. Participants of such collusion may be disqualified for future Work of the Owner, and
   3. If the Bidder has been placed in default on another project with the Owner.

6.13 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

6.14 ACCEPTANCE/ REJECTION OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. The Bidder acknowledges the right right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to furnish required bid security or to submit the data required by the bidding documents, or if the bid is in any way incomplete or irregular. Each actual or prospective bidder agrees to waive any claim it has or may have against the Owner, or against the Architect, or against the Owner's Representative, and their respective employees and agents, arising out of or in connection with the bidding process specifically including the receipt, evaluation, recommendation, and administration of any bid.

C. The Owner intends to award a Contract to the lowest and best Bidder within available funds, based on the sum of the base bid plus accepted alternates, if any. A bidder may be disqualified for any legally permissible reason. In making award, the Owner reserves the right to consider a bidder's experience, quality of previous work, availability of appropriate financial, material, facility, managerial or personal resources, warranties, life cycle cost and any other legal factors related to evaluating the bidder's capability to perform contract requirements in a timely and proper manner.

D. The Owner reserves the right to cancel the award of a contract any time prior to the execution by all parties without liability against the Owner.

E. Any protest from any bidder must be delivered to the Owner in writing within seventy-two (72) hours of bid opening.

F. Any claim of error and request to be released from the bid by any bidder must be delivered to the Owner within twenty-four (24) hours of bid opening. Sufficient documentation and proof must accompany this written request clearly showing an error was made by the bidder.

G. The Contract will provide for Liquidated Damages in the amounts indicated on the Bid Form. Amounts indicated are to be paid per day by the Contractor for this Project to the Owner for each calendar day after the date of substantial completion.

H. After acceptance by Owner, Engineer/Architect on behalf of Owner, will issue to the successful bidder, a written Notice To Proceed.

6.15 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

A. The successful Bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within seven (7) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the difference between his bid and the next acceptable bid, up to the maximum amount of the Bid Security.

B. Refer to the Bid Form for the Amount and Time Frame for the Liquidated Damages.

6.16 TIME OF COMPLETION

A. Bidder must agree to commence work on a date to be specified in a written "Notice to Proceed" and to substantially complete the Work within the number of calendar days indicated on the bid form.

B. Bidders shall substantially complete all the work involved in its contract within the calendar days stated and shall be subject to damages for each calendar day of delay thereafter in accordance with the General Conditions of the Contract for Construction.

END OF SECTION

SECTION 004000
PROCUREMENT FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the procurement requirements.

B. Bid Form: Section 004100 - Bid Form.

C. Procurement Form Supplements:
   1. Certificate of Responsibilty Number: Required on the Outside of the Envelope
   2. Bid Bond Form: AIA A310. Required to be submitted with the Bid.
   3. Proposed Schedule of Values Form: AIA G703. This does not have to be submitted with the bid, but must be provided to the Architect within seven (7) if so requested.
   4. Form of Non Collusive Affidavit: 004105 Form of Non Collusive Affidavit. Required to be submitted with the Bid.

1.02 REFERENCE STANDARDS

A. AIA A310 - Bid Bond 2010.

B. AIA G703 - Continuation Sheet 1992.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. Jackson County School District (Owner)
4700 Colonel Vickrey Rd.
Vancleave, Mississippi 39565

1.02 FOR:

A. Project Name: St Martin Upper & East Elementary Schools HVAC Upgrades

B. Architect's Project Number: 0155.22.008

C. Project Address:
St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, MS 39564
Ocean Springs, Mississippi39564

1.03 DATE: _____

1.04 CERTIFICATE OF RESPONSIBILITY NUMBER: _____

1.05 SUBMITTED BY:

A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip _____

1.06 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by MP Design Group for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work, within the time set forth herein for the Sum of:

B. **BASE BID LUMP SUM PRICE:**

_____
_____ dollars
($_____), in lawful money of the United States of America.

C. We have included the required security Bid Bond as required by the Instruction to Bidders.

D. We have included the required Non Collusive Affidavit Form as required by the Instructions to Bidders.

E. We have included the cost of the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.

F. We have included the cost of all local jurisdiction building permits required to complete the construction of this project in our Base Bid amount unless specifically called for otherwise in Section 012100 Allowances.

G. All applicable federal taxes are included and State of Mississippi taxes are included in the Bid Sum.

H. All Cash and Contingency Allowances described in Section 012100 - Allowances are included in the Bid Sum.

1.07 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we will:
   1. Furnish the required bonds within seven days of receipt of Notice of Award.
   2. Commence work within seven days after written Notice to Proceed of this bid.

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.08 CONTRACT TIME

A. Complete the Work in 365 calendar days from Notice to Proceed.

B. If the Substantial Completion date falls beyond the above date based on days, we will pay to the Owner the following amount as liquidated damages, not as a penalty, for each calendar day of delay for the Project until the actual date of Substantial Completion of the Project:

   ***** UP TO $500.00 PER CALENDAR DAY *****

1.09 CHANGES TO THE WORK

A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
   1. Ten percent overhead and profit on the net cost of our own Work;
   2. Ten percent on the cost of work done by any Subcontractor.

1.10 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.
   3. Addendum # _____ Dated _____.
   4. Addendum # _____ Dated _____.
   5. Addendum # _____ Dated _____.

1.11 BID FORM SUPPLEMENTS

A. The following information is to be included with Bid submission:
   1. Non Collusive Affidavit
   2. Bid Bond: Form AIA Document A310
   3. Letter from Insurance Company
   4. Statement of Non Debarment
   5. Esser Acknowledgement Affidavit
   6. Proof of Contractor's state license

B. If so requested by the Architect, we agree to submit the following Supplements to Bid Forms within 7 days after submission of this bid for additional bid information:
   1. Proposed Schedule of Values Form

1.12 BID FORM SIGNATURE(S)

A. The Corporate Seal of

B. _____

C. (Bidder - print the full name of your firm)

D. was hereunto affixed in the presence of:

E. _____

F. (Authorized signing officer, Title)

G. (Seal)

H. _____

I. (Authorized signing officer, Title)

1.13 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

SECTION 004105
FORM OF NON COLLUSIVE AFFIDAVIT

PART 1 GENERAL

1.01 FORM OF NON-COLLUSION AFFIDAVIT IS AS FOLLOWS:

A. A copy of the Non-Collusion Affidavit is attached to the end of this Section. It will be the General Contractor's (Bidders) responsibility to complete this form in its entirety and submit it with and in his bid package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

NON-COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he/she has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He/She further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee gift, commission or thing of value on account of such sale.

OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated this ____ day of _____, _____

_____
General Contractor (GC) Company Name

_____ _____
Printed Name and Title of GC's Representative Signature of GC's Representative

NOTARY PUBLIC ACKNOWLEDGEMENT

STATE OF _____ COUNTY OF _____

Before me, a Notary Public, personally appeared the above named and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to me this _____ day of _____, _____.

SEAL

_____
Signature

My Commission Expires: _____

SECTION 004106
STATEMENT OF NON-DEBARMENT

PART 1 GENERAL

1.01 FORM OF STATEMENT OF NON-DEBARMENT IS AS FOLLOWS:

A. A copy of the Statement of Non-Debarment is attached to the end of this Section. It will be the General Contractor's (Bidders) responsibility to complete this form in its entirety and submit it with and in his bid package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

STATEMENT OF NON-DEBARMENT

Debarment:

I _____, representing_____,
(Company Official) (Company)

do hereby state that _____ is not debarred,
(Company)

suspended, or otherwise prohibited from providing construction services by any Federal,

State or local agency

Contract Completion:

I _____, representing_____,
(Company Official) (Company)

do hereby state that _____ has not been stopped
(Company)

by any Owner from completing a contracted project for cause.

_____ _____
Company Official Signature Date

NOTARY PUBLIC SEAL

Witnessed this day, _____ By _____

My commission expires on _____

SECTION 004110
ESSER ACKNOWLEDGEMENT AFFIDAVIT

PART 1 GENERAL

1.01 FORM OF ESSER ACKNOWLEDGEMENT AFFIDAVIT IS AS FOLLOWS:

A. A copy of the ESSER Acknowledgement Affidavit is attached to the end of this Section. It will be the General Contractor's (Bidders) responsibility to complete this form in its entirety and submit it with and in his bid package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

ESSER ACKNOWLEDGEMENT AFFIDAVIT

TO:

Jackson County School District
4700 Colonel Vickrey Rd.
Vancleave Mississippi 39565

FOR:

St Martin Upper & East Elementary Schools Hvac Upgrades
0155.22.008
St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, Ms 39564
St. Martin East Elementary - 7508 Rose Farm Rd. Ocean Springs, Ms 39564

I, the undersigned contractor, have reviewed the Section 00 08 20 of these specifications and do hereby acknowledge the following with the reference to this project:

This project will result in a contract being issued that will use funds from the sources referenced in this specification, specifically funds from the Elementary and Secondary School Emergency Relief (ESSER) Fund.

I will, to the extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the US (including, but not limited to iron, aluminum, steel, cement, and other manufactured products).

I will abide by and comply with all requirements and provisions of the Elementary and Secondary School Emergency Relief (ESSER) Fund.

Equal Employment Opportunity: I will abide by and comply with all requirements of the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

Davis-Bacon Act, as amended (40 U.S.C. 3141-3148): I will abide by and comply with all requirements of the Davis-Bacon Act as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). I understand that, in accordance with the statute, I will be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, I will be required to pay wages not less than once a week. I acknowledge the current prevailing wage determination issued by the Department of Labor as shown in Appendix “A” of these specifications.

Copeland “Anti-Kickback” Act (40 U.S.C. 3145): I will abide by and comply with the Copeland “Anti-Kickback” Act as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). Each contractor or subrecipient is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

Byrd Anti-Lobbying Amendment (31 U.S.C. 1352): I will abide by and comply with the Byrd Anti-Lobbying Amendment. As a contractor applying or bidding for an award exceeding $100,000.00, I acknowledge that I must file the required certification. I understand that each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352 and that each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures shall be forwarded from tier to tier up to the non-Federal award.

Debarment and Suspension (Executive Orders 12549 and 12689): I will abide by and comply with Executive Orders 12549 and 12689 as it pertains to debarment and suspension. I acknowledge that a contract award (see 2 CFR 180.220) shall not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended: I will abide by and comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act. I acknowledge that violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708) as supplemented by Department of Labor regulations (29 CFR Part 5): I will abide by and comply with the Contract Work Hours and Safety Standards Act as supplemented by Department of Labor regulations. I acknowledge that I shall be required to compute the wages of every mechanic and laborer on the basis of a standard work week of forty (40) hours. I acknowledge that work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of forty (40) hours in the work week. The requirements also provide that no laborer or mechanic may be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous (these requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market or to contracts for transportation or transmission of intelligence).

Rights to Inventions Made Under a Contract or Agreement (37 CFR 401): I acknowledge that, if the Federal award meets the definition of “funding agreement” under 37 CFR 401.2 (a) and if the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

Bidder’s Name and Title:
_____
Bidder’s Certificate of Responsibility Number:_____
Bidder’s Signature:_____Date_____

STATE OF_____

COUNTY OF_____

SWORN AND SUBSCRIBED BEFORE ME, the undersigned notary public, this the _____ day of _____, 20__.

_____
NOTARY PUBLIC

My commission expires: _____

END OF SECTION

SECTION 004325
SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

PART 1 GENERAL

1.01 SUBSTITUTION REQUEST FORM IS AS FOLLOWS:

A. A copy of the Substitution Request Form that must be used is attached at the end of this section.
   1. No other forms will be allowed.
   2. Any additional information that can be provided to substantiate the substitution request will be gladly accepted.
   3. An incomplete Substitution Request Form will be immediately rejected.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DESIGN GROUP
ARCHITECTURE + ENGINEERING

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project:_____

Specification Section Number and Paragraph: _____

Contract Drawings Affected: _____

Proposed Manufacturer: _____

Proposed Product Substitution:_____

Proposed Product Description: _____

EFFECTS OF PROPOSED PRODUCT SUBSTITUTION

PROVIDE THE FOLLOWING:

1. Attach list of at least 3 projects where proposed substitution has been used within past 6 to 12 months include name, address, and telephone number of Owner and Architect.

2. Does substitution affect dimensions indicated on Drawings? (Y/N) _____

3. Does substitution affect Work of other Specification Sections? (Y/N) _____

4. Does substitution require modifications to design, changes to Drawings, or revisions to specifications? (Y/N) _____

CONTRACTOR'S / BIDDER'S RESPONSIBILITY

Undersigned accepts responsibility for coordination of proposed substitution and accepts all additional costs resulting from the incorporation of proposed substitution into the Project per Section 01600. The only response to this Request for Substitution will be by Addendum.

SUBMITTED BY

(Include name, address, telephone, and contract person of manufacturer/supplier of proposed substitution)

Contact Name:_____

Contact Address:_____

Contact Telephone:_____

Signature and date:_____

ARCHITECT / ENGINEER REVIEW

Reviewed by:_____ Date: _____

Comments:_____
_____
_____
_____

_____

SECTION 005000
CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 005200 - Agreement Form for the Agreement form to be executed.

B. See Section 007200 - General Conditions for the General Conditions.

C. The Agreement is based on AIA A101.

D. The General Conditions are based on AIA A201.

1.02 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in Contract Documents.

B. Bond Forms:
   1. Bid Bond Form: AIA A310.
      a. Must be submitted with the Bid Form.
   2. Performance and Payment Bond Form: AIA A312.
      a. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.
      b. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3 l 2.
      c. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.
      d. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.
      e. All bonds must be accompanied by an appropriate Power of Attorney.

C. Post-Award Certificates and Other Forms:
   1. Architect's Submittal Transmittal Letter Form: Attached at the end of this section.
   2. Schedule of Values Form: AIA G703.
   3. Application for Payment Forms: AIA G702 with AIA G703 (for Contractors).

D. Clarification and Modification Forms:
   1. Architect's Request for Interpretation Form: Attached to the end of this section.
   2. Architect's Substitution Request Form (During the Bidding/Negotiating Stage): Attached at the end of this section.
   3. Architect's Supplemental Instructions Form: AIA G710.
   4. Construction Change Directive Form: AIA G714.
   5. Change Order Form: AIA G701.

E. Closeout Forms:
   1. Certificate of Substantial Completion Form: AIA G704.
   2. Affidavit of Release of Liens Form: AIA 706A.

1.03 REFERENCE STANDARDS

A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum 2017.

B. AIA A201 - General Conditions of the Contract for Construction 2017.
C. AIA A310 - Bid Bond 2010.
D. AIA A312 - Performance Bond and Payment Bond 2010.
E. AIA G701 - Change Order 2017.
F. AIA G702 - Application and Certificate for Payment 1992.
G. AIA G703 - Continuation Sheet 1992.
H. AIA G704 - Certificate of Substantial Completion 2017.
I. AIA G710 - Architect's Supplemental Instructions 2017.
J. AIA G714 - Construction Change Directive 2017.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project Name:

Project Number:

RFI Number	Submitted To	Submitted By	Copies To
Date			

Subject	Discipline	Co-Author

Specification Section	Drawing Reference	

Information Requested (suggest solution, if possible):	Date Requested:

Response

By responding to the RFI, we do not agree to any additional costs and/or time. Any additional costs and/or time shall be submitted in accordance with the Contract Documents.

Date Answered: Answered By:

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

SUBMITTAL IDENTIFICATION

Submittal No. _____

Contractor to Complete

Project Name: Biloxi Misc. Athletic Projects

MP Project Number: 0148.21.002

General Contractor: Starks Contracting Co., Inc.

Submittal Subcontractor: _____

Date Submitted to MP: _____

Specification Number: _____

Specification Description: _____

_____

Architect/Engineer to Complete

Date Returned: _____

Method Returned: Online Via Procore

Returned To: Chistopher Gutterrez; Starks Construction Co., Inc.

SECTION 005200
AGREEMENT FORM

PART 1 GENERAL

1.01 FORM OF AGREEMENTS ARE AS FOLLOWS:

A. Standard Form of Agreement Between Owner and Contractor, American Institute of Architects Document A101, 2017 Edition will be used for the Contract.

B. Standard Form Insurance and Bonds, American Institute of Architects Document A101, 2017 Exhibit A will be used for the Contract.

C. Prospective bidders should read and understand the Agreement forms before submitting bids or executing the Agreement.

D. Draft copies of these Agreements are available at the Architect's office for the Contractor's examination M-F from 8-5. The Agreements are incorporated by reference as though fully written herein.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 006200
INSURANCE AND BONDS

PART 1 GENERAL

1.01 INSURANCE

A. The Contractor is responsible for maintaining the following insurance coverages described herein.

B. **PROPERTY INSURANCE (BUILDER'S RISK)**

1. The Contractor shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a Builder's Risk “all-risks” completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner’s property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

C. **COMMERCIAL GENERAL LIABILITY (CGL) INSURANCE**

1. Commercial General Liability Insurance for the Project shall be written on an occurrence form with policy limits of not less than Two Million Dollars ($2,000,000) each occurrence, Four Million Dollars ($4,000,000) general aggregate, and Two Million Dollars ($2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including:
    a. damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
    b. personal injury and advertising injury;
    c. damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
    d. bodily injury or property damage arising out of completed operations; and
    e. the Contractor’s indemnity obligations under the General Conditions.
2. The Contractor’s Commercial General Liability policy shall not contain an exclusion or restriction of coverage for the following:
    a. Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
    b. Claims for property damage to the Contractor’s Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
    c. Claims for bodily injury other than to employees of the insured.
    d. Claims for indemnity of the General Conditions arising out of injury to employees of the insured.
    e. Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
    f. Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
    g. Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
    h. Claims related to roofing, if the Work involves roofing.
    i. Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

j. Claims related to earth subsidence or movement, where the Work involves such hazards.
k. Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

D. **AUTOMOBILE LIABILITY INSURANCE**
1. Automobile Liability Insurance covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than One Million Dollars ($1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

E. **EMPLOYERS' LIABILITY INSURANCE (WORKER'S COMP)**
1. Employers' LiabilityInsurance with policy limits not less than One Million Dollars ($1,000,000) each accident, One Million Dollars ($1,000,000) each employee, and One Million Dollar ($1,000,000) policy limit by not less than per statute.

1.02 SECURITY BONDS FOR FAITHFUL PERFORMANCE

A. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.

B. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3l2.

C. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.

D. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.

E. All bonds must be accompanied by an appropriate Power of Attorney.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 007200
GENERAL CONDITIONS

PART 1 GENERAL

1.01 GENERAL CONDITIONS ARE AS FOLLOWS:

A. Standard Form of General Conditions of the Contract for Construction, American Institute of Architects Document A201, 2017 Edition will be used for the Contract.

B. If a conflict exists between the General Conditions and the Specifications, the Specifications shall rule. Any party discovering a conflict between the Specifications and the General Conditions shall immediately notify the Architect in writing.

C. Prospective bidders should read and understand the General Conditions before submitting bids or executing the Agreement.

D. A copy of the Agreement is available at the Architect's office for the Contractor's examination on M-F from 8-5. The Agreement is incorporated by reference as though fully written herein.

END OF SECTION

SECTION 009000
ADDENDA

PART 1 GENERAL

1.01 SUMMARY

A. Any addenda to the drawings or specifications issued before or during the time of bidding shall be included in the proposal and become a part of the Contract.

B. Indicate receipt of addenda on the proposal form.

1.02 PART 2 PRODUCTS (NOT USED)

1.03 PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 011000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: St Martin Upper & East Elementary Schools HVAC Upgrades

B. Owner's Name: Jackson County School District.

1.02 PROJECT DESCRIPTION

A. Description: Refer to Section 000102 Project Information

B. Alternates: refer to Division 1 Section "Alternates" for information.

C. All accessories or incidental items not specifically shown and detailed in the specifications herein, which are necessary and/or required to complete the work within the intent of the specifications, shall be included by the Contractor without additional cost to the Owner.

D. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

1.03 BUILDING PERMITS AND PLAN REVIEW

A. Building Permits:
   1. All Building Permits including all special subcontractor permits will be required for this project.
   2. The General Contractor will be required to apply for and pull all permits in their name.
   3. The General Contractor will be required to pay for all permits. Refer to Allowances section for any specified amount that may be allocated for the paying of said permits. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of all permits in his base bid amount.

B. Plan Review:
   1. The project will be required to go through the plans review process with the Authority Having Jurisdiction (AHJ).
   2. The General Contractor will be required to pay for all plans review fees. Refer to Allowances section for any specified amount that may be allocated for the paying of said plan review. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of the plan review in his base bid amount.
   3. The General Contractor will be responsible for providing and paying for all hard copy sets of plans and specifications required by the AHJ for their completion of the plan review process.

1.04 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings.

B. Scope of alterations work is indicated on drawings.

1.05 GENERAL INFORMATION

A. All work shall be performed in a professional manner and workmanlike manner.

B. Submittals: Submittals shall be submitted in accordance with Division 1 Section "Submittals".

C. Scheduling: The contractor shall prepare a construction schedule showing each construction activity, based on the project specification divisions, prior to starting work.

D. The Contractor will be expected to cooperate with the Owner and his representative in pursuing work continuously and with the highest degree of efficiency possible.

E. The Contractor will be required to finish the job and leave the site in a condition similar to starting project.

F. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additional request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for additional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

G. Storm Damage: Should warnings of winds of gale force or stronger be issued, the Contractor shall take every practical precaution to minimize danger to persons and damage to property. These precautions shall be coordinated through the Owner’s Representative and shall include closing all openings; removing all loose materials, tools, and equipment from exposed locations; as well as removing or securing scaffolding and other temporary work.

H. Interruption of Utility Service: Interruptions to utility services shall be minimized. Necessary outages shall be coordinated with the Owner a minimum of 10 days in advance of the planned outage.

1.06 OWNER OCCUPANCY/WORKING CONDITIONS

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Workmen shall be limited to the use of only those areas necessary to perform the work.

C. Owner intends to occupy the Project upon Substantial Completion.

D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

E. The Contractor shall take all necessary and prudent safety precautions to ensure the safety of the workforce and other exposed personnel.

1.07 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas permitted by Law, Ordinances, Permits, and Contract Documents..

B. Provide access to and from site as required by law and by Owner:
   1. Do not obstruct roadways, sidewalks, or other public ways without permit and/or permission by Owner.
   2. Deliveries and access/exit to project site is not available during the student drop off/unloading and student pick up/unloading times in the morning hours of 7:15 a.m. to 8:00 a.m. and during the afternoon hours of 3:15 to 4:00 p.m. General Contractor shall coordinate with Owner and not schedule or maneuver equipment during this time to obstruct traffic flow of buses and parents entering/exiting the school grounds during these time frames.

C. Existing building spaces and portions of site occupied by Owner for daily use may not be used for storage.

D. Contractor shall not unreasonably encumber site with materials or equipment.

E. Contractor shall assume full responsibility for protection and safe-keeping of products sorted on premises.
   1. Move any stored materials/products which interfere with operations of other Contractors.
   2. Obtain and pay for, use of additional storage or work areas needed for operations.
   3. Refer to Division 1 Section "Temporary Facilities and Controls" for additional information.

F. No Smoking (Tobacco) Policy:
   1. Smoking and other tobacco products including vaping are prohibited within and outside of all buildings. This applies to **ALL** buildings including the project site during all times of construction.

G. No Weapons Policy:
   1. No deadly weapons of any kind are permitted on the property.

H. No Alcohol Policy:
   1. No alcoholic beverages of any kind are permitted on the property.

I. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the existing surrounding building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 005000 - Contracting Forms and Supplements: Forms to be used.

B. Section 007200 - General Conditions.

C. Section 012100 - Allowances.

1.03 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Engineer/Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization, bonds and insurance, and allowances .

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Forms filled out by hand will not be accepted.

C. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

D. Notarize certification by signature of authorized officer.

E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

G. Submit one electronic and three hard-copies of each Application for Payment.

H. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 013000.
   2. Construction progress schedule, revised and current as specified in Section 013000.
   3. Allowance Tracking Report/Spreadsheet
   4. Current construction photographs specified in Section 013000.
   5. Partial release of liens from major subcontractors and vendors.
   6. Back up information and pictures will be required for stored materials.
   7. Monthly OAC Meeting agenda and Meeting minutes.

I. When Engineer/Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Engineer/Architect will issue instructions directly to Contractor.

B. For other required changes, Engineer/Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Engineer/Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change Contractor shall prepare and submit a fixed price quotation within 7 days.

D. Contractor may propose a change by submitting a request for change to Engineer/Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Engineer/Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Engineer/Architect.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

G. Execution of Change Orders: Engineer/Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

END OF SECTION

SECTION 012011
AFFIDAVIT CERTIFYING PAYMENT TO ALL SUBCONTRACTORS

I acknowledge that, pursuant to Miss. Code ann. § 31-5-25 and H. B. 1562, laws of 2002, I am required to submit monthly certification indicating payments to subcontractors on prior payments requests. I, the undersigned contractor, do hereby certify that I have paid the following amounts to subcontractors for work which has been performed and incorporated into previous application for payment which were issued, and payment received from the owner on the project listed below. I understand that this document must be submitted monthly after the submittal, approval, and payment of pay application for payment #1.

TO:

4700 Colonel Vickrey Rd.
Vancleave , Mississippi 39565

FOR:

St Martin Upper & East Elementary Schools Hvac Upgrades
0155.22.008
St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, Ms 39564
St. Martin East Elementary - 7508 Rose Farm Rd. Ocean Springs, Ms 39564

DATE: _______________

Subcontractor____Amount____________
Subcontractor____Amount____________
Subcontractor____Amount____________
Subcontractor____Amount____________
Subcontractor____Amount____________
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(Attach additional list of subcontractors and amounts if necessary.)

Contractor's Name and Title: _____
Contractor's Certificate of Responsibility Number:_____
Contractor's Signature:_____Date_____

STATE OF_____
COUNTY OF_____

SWORN AND SUBSCRIBED BEFORE ME, the undersigned notary public, this the, this the _____ day of _____, 20__.

_____
NOTARY PUBLIC

My commission Expires: _____

END OF SECTION

SECTION 012012
AFFIDAVIT CERTIFYING DAVIS BACON COMPLIANCE

I, ackowledge tha I am required to submit monthly certification regarding compliance with the Davis- Bacon Act, as amended (40 U.S.C. 3141-3148), and as supplemented by Department of Labor Regulations (29 CFR Part 5, "Labor Standars Provisions Applicable to Contracts Covering Federally Finances and Assisted Construction"). I understand that, in accordance with the statue, I will be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, I will be required to pay wages not less than once a week. I acknowledge the current prevailing wage determination issued by the Department of Labor as shown in Section 00 08 20 Federal Requirements attachment of the Project Manual (Specifications). I understand that this document must be submitted with each Application for Payment.

TO:

Jackson County School District
4700 Colonel Vickrey Rd.
Vancleave , Mississippi 39565

FOR:

St Martin Upper & East Elementary Schools Hvac Upgrades
St. Martin Upper Elementary - 11000 Yellow Jacket Rd. Ocean Springs, Ms 39564
St. Martin East Elementary - 7508 Rose Farm Rd. Ocean Springs, Ms 39564

Attached to this form is the following information with supporting documentation including when the undersigned Contractor paid laborers and mechanics; the amounts paid by the undersigned Contractor for wages to laborers and mechanics; and correct classification for laborers and mechanics. Optional U.S. Department of Labor form is provided under Exhibit A).

Contractor's Name and Title: _____
Contractor's Certificate of Responsibility Number: _____
Contractor's Signature: _____Date_____

STATE OF_____
COUNTY OF_____

SWORN AND SUBSCRIBED BEFORE ME, the undersigned notary public, this the _____ day of _____, 20__.

_____
NOTARY PUBLIC

My commission Expires: _____

END OF SECTION

SECTION 012100
ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. This Section sets forth the following allowances to be included in the Contract:
   1. Contingency Allowance

1.02 ALLOWANCE CONDITIONS AND REQUIREMENTS

A. The Contractor shall include in his Base Bid the cash and/or material allowances as described hereinafter for the purchase of materials as described or as to be determined herein.

B. Purchase products under allowance as directed by Architect/Engineer or as specified herein.

C. All specified allowances shall appear as a seperate line item amount, matching the amount specified herein, on the contractor’s AIA Document G703, Schedule of Values.

D. Use of any allowance shall be specifically authorized in writing upon approval by authorized Owner Representative AND the Architect. A final accounting of all contingency funds used will be made by issuance of a change order at the end of the project.

E. At close-out of Contract, funds remaining in Allowances will be credited to owner by Change Order. In addition to the balance of the allowance all applicable costs for overhead, profit, bond, insurance and taxes will be added to the allowance change order credit. Overhead amounts that can be clearly documented as being expended over the course of the project will be excluded from this added amount to the allowance credit. Refer to AIA A201 General Conditions for further information.

F. Contractor shall solicit a minimum of three (3) quotes for material and labor to be performed under all allowances.

G. General Contractor's overhead, profit, bond, insurance, and tax amounts or any other additoinal costs CANNOT be included in these proposals or the final proposal. The General Contractor's overhead, profit, bond, insurance, and tax amounts in relation to all allowances shall be included in the General Contractor's Base Bid amount. In addition, the GC's Base Bid included overhead amounts allocated to these allowances shall include all GC associated costs, whether direct or indirect, that may be tied to any and all additional work required. These items shall include but are not limited to the following:
   1. Additional Man Hours (both standard and overtime)
   2. Drive Time
      a. Vehicle maintenance or wear and tear
      b. Fuel Costs
      c. Research
      d. Paperwork
      e. Phone Calls
      f. Equipment Rental

H. Sub Contractor's costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts.
   1. Net cost of product
   2. Delivery to site
   3. Installation
   4. Labor
   5. Insurance
   6. Payroll
   7. Taxes

8. Bonding
9. Sub Contractor's Overhead and Profit (O&P).
10. Equipment Rental

I. Engineer/Architect Responsibilities:
1. Consult with Contractor for consideration and selection of products, suppliers , and installers.
2. Select products in consultation with Owner and transmit decision to Contractor.
3. Prepare Change Order.

J. Contractor Responsibilities:
1. Assist Engineer/Architect in selection of products, suppliers , and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

K. Differences in costs will be adjusted by Change Order.

1.03 ALLOWANCE SCHEDULE:

A. **General Contingency Allowance:**
1. In addition to the work shown on the contract documents, the contractor shall include in the base bid contract amount the following lump sum cash allowance amount:
a. Fifty Thousand Dollars ($50,000).

1.04 SELECTION/DELIVERY/INSTALLATION PROCESS

A. Architect shall consult with Contractor in coordination of products and suppliers and shall make selection of products to be used.

B. Contractor shall assist Architect in determining qualified suppliers, obtain proposals from suppliers for Architect's review, and enter into purchase agreement with designated supplier chosen.

C. Contractor is responsible for arranging delivery, unloading and inspecting products for damage and defects.

D. Contractor shall comply with requirements of referenced specification section for installation and/or install per Manufacturer's recommendations.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Engineer/Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:

1. Section 002113 - Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing the form included in this project manual. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form attached to this project manual. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Engineer/Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Engineer/Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Engineer/Architect will notify Contractor in writing of decision to accept or reject request.
   1. Engineer/Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Progress meetings.

D. Contractor Driven Site Meetings or Site Inspections.

E. Construction progress schedule.

F. Progress photographs.

G. Coordination drawings.

H. Submittals for review, information, and project closeout.

I. Number of copies of submittals.

J. Requests for Interpretation (RFI) procedures.

K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 016000 - Product Requirements: General product requirements.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COLLABORATION SOFTWARE

A. Summary
   1. The Contractor will be required to utilize a web based construction project management collaboration software to submit, track, distribute and collaborate on project documentation and action items.
   2. The intent of utilizing a web based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.

B. Software
   1. General Contractor will be required to use Procore (www.procore.com)
   2. Access to said software be provided by the Architect/Engineer at no cost to the General Contractor.
   3. If unfamiliar, the Architect/Engineer's staff will assist the General Contractor in using the software or they will provide the resources necessary for the General Contractor to understand how to use the software.

C. Architect/Engineer Responsibilities
   1. Upload signed/stamped drawings and any subsequent Architect/Engineer driven changes or revisions to the drawings.
   2. Upload signed/stamped specifications and any subsequent Architect/Engineer driven changes or revisions to the specifications.
   3. Add Design Team and Onwer Contact Information

4. Uploading all WCPR's as deemed necessary by the Architect/Engineer.
5. Uploading all ASI's as deemed necessary by the Architect/Engineer.
6. Uploading all contracts as deemed necessary by the Architect/Engineer.
7. Creation of set distribution lists to the design team and Owner only.
8. Creation of Defficiency Reports as deemed necessary by the Architect/Engineer.
9. Site Visit Reports as deemed necessary by the Architect/Engineer.

D. Contractor's Responsibilities:
   1. Do not remove people from a set distribution list that preloads on RFIs and Submittals; only add to it.
   2. Make sure attachments actually attach in all RFIs, Submittals, and transmittals. Transmittals mostly because they have to select the ‘ADD’ button once the attachment is uploaded.
   3. Provide us with a Subcontractor list so that they are able to easily distribute information to their subs via Procore.
   4. Submittals must be created in the software:
      a. Submittal titles must be by specification section. Grouping multiple specification sections into one submittal will result in immediate rejection.
      b. The Contractor will be responsible for submitting all RFIs and Submittals through the software and assigning them to the appropriate parties.
      c. Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the software, including all relevant attachments.
      d. The Contractor will distribute responses to all affected subcontractors and confirm agreement with the response by closing the item.
      e. GC is the only one to create submittals. They will create them on behalf of their subs when needed. The subs should never create the submittal themselves.
      f. Once a submittal is labeled as ‘Reject and Resubmit’ the GC needs to close it out and create the revision as a completely new submittal. Never create the revision WITHIN the original submittal.
      g. Distribute and CLOSE all submittals once you have received a sufficient review/response from the Architect/Engineer.
      h. Be sure to select a spec section for submittals.
   5. Project Schedules must be uploaded to the software in one of the follwoing accepted formats:
      a. Microsoft Project
      b. Primavera P3
      c. Primavera P6
      d. Asta Powerpoint
   6. Emails must be generated in the software
   7. Daily Logs must be created in the software
   8. RFI's must be created in the software
   9. All project photos must be uploaded to the software

3.02 PRECONSTRUCTION MEETING

A. Engineer/Architect will schedule a meeting within 7 days after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Engineer/Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.

3. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
5. Owners requirements and work constraints.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
1. Contractor.
2. Owner.
3. Engineer/Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 CONTRACTOR DRIVEN SITE MEETINGS AND PROJECT INSPECTIONS

A. All site inspections, site visits, site meetings, etc.… not previously scheduled, which are required for any reason, arranged, or scheduled by the general contractor, or any of the project’s subcontractors, venders, suppliers, etc.... that require the involvement of any employee of MP Design Group or any consultant of MP Design Group shall be arranged and finalized in writing at least forty-eight (48) hours in advance with MP Design Group.

3.05 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 7 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 3 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.06 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
   2. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 016000 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
   4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Engineer/Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date, and requested reply date.
   5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Maintain on the Electronic Document Submittal Service.

G. Review Time: Engineer/Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
   4. Notify Engineer/Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.07 SUBMITTAL SCHEDULE

A. Submit to Engineer/Architect for review a schedule for submittals in tabular format.
   1. Submit at the same time as the preliminary schedule specified in Section - 013216 - Construction Progress Schedule.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. The contractor who prepared the submittals for review must represent that they are licensed and qualified to perform the work in the submittal, and said work is in full compliance with applicable codes.

C. Stamping the Submittals: The General Contractor is not required to stamp the submittal prior to submission to the Architect/Engineer for their review. However; it is highly encouraged, and if there is no General Contractor review stamp on a submittal then by default the General Contractor has agreed with the following statement:
   1. Acceptance is for general compliance with the contract documents only. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques for construction; coordinating its work with that of all other trades; and performing its work in a safe and satisfactory manner.

D. The contractor agrees that all submittals have been reviewed by the Architect and/or Engineer only for conformance with the design concept of the project and with the information delineated in the contract drawings and specifications. A returned review whether marked as "No Exceptions" or "Exceptions as Noted" does not waive any provisions of the contract documents. Contractor shall verify all details, dimensions and quantities, and coordinate with the work of other trades. Architect and/or Engineer's review of a submittal shall not relieve the contractor from responsibility for deviations, errors, or omissions in the shop drawings or submittals.

E. Samples will be reviewed for aesthetic, color, or finish selection.

F. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Transmit using approved form.
      a. Use Contractor's form, subject to prior approval by Engineer/Architect.
   3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
   6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
      a. Upload submittals in electronic form to Electronic Document Submittal Service website.
   7. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 10 working days excluding delivery time to and from the Contractor.
      b. For sequential reviews involving Engineer/Architect's consultants, Owner, or another affected party, allow an additional 7 working days.

8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
9. When revised for resubmission, identify all changes made since previous submission.
10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

B. Product Data Procedures:
1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Do not submit (Material) Safety Data Sheets for materials or products.
4. Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be immediately rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
4. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Typical drawings, unless they specifically apply to the project, will be immediatly rejected.**

D. Samples Procedures:
1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
a. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
b. **All submisions for the chosing of a products color must be physical samples indicating the products true and final color.** Digital and or printed samples will not be accepted.

E. Transmit each submittal with a copy of approved submittal identification form.

F. Contractor bears responsibility for all additional costs or work associated with work performed or materials installed prior to a returned apporved submittal.

3.12 SUBMITTAL REVIEW

A. Submittals for Review: Engineer/Architect will review each submittal, and provide no exceptions, or take other appropriate action.

B. Submittals for Information: Engineer/Architect will acknowledge receipt and review. See below for actions to be taken.

C. Engineer/Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Engineer/Architect's actions on items submitted for review:
1. No Exceptions
a. Purchase, Fabrication, delivery, and/or installation may take place.

2. Exceptions as Noted
    a. Contractor's option to resubmit. However; all mark ups must be incorporated in the construction whether acknowledged in a resubmittal or not.
3. Revise and Resbubmit
    a. Must be resubmitted
4. Incomplete Submittal
    a. Must be resubmitted
5. Submit Specified Item
    a. Must be resubmitted
6. Submittal Rejected
    a. Must be resubmitted

E. Engineer/Architect's and consultants' actions on items submitted for information:

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Contractor's construction-related professional design services.

F. Contractor's design-related professional design services.

G. Control of installation.

H. Mock-ups.

I. Tolerances.

J. Manufacturers' field services.

K. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2019).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2022a.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

G. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

H. **CIRCLE ONE: ADDITIVE ALTERNATE DEDUCTIVE ALTERNATE**

1.03 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
   1. Temporary sheeting, shoring, or supports.
   2. Temporary bracing.

1.04 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Base design on performance and/or design criteria indicated in individual specification sections.

C. Scope of Contractor's Professional Design Services: Provide for the following items of work:
   1. Structural Design of Steel Trusses: As described in Section 054400 - Cold-Formed Steel Trusses.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer/Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Engineer/Architect, provide interpretation of results.

C. Certificates: When specified in individual specification sections or by code, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer/Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Erection Drawings: Submit drawings for Engineer/Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

1.07 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Engineer/Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner shall employ and pay for services of an independent testing agency to perform specified testing and inspection. General contractor shall coordinate required testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Owner Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
   2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
   3. Laboratory: Authorized to operate in the State in which the Project is located.
   4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
   5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Engineer/Architect will use to judge the Work.

C. Integrated Exterior Mock-ups: Construct integrated exterior mock-up as indicated on drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.

D. Notify Engineer/Architect seven (7) working days in advance of dates and times when mock-ups will be constructed.

E. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

F. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

G. Obtain Engineer/Architect's approval of mock-ups before starting work, fabrication, or construction.
   1. Engineer/Architect will issue written comments within five (5) working days of initial review and each subsequent follow up review of each mock-up.
   2. Make corrections as necessary until Architect's approval is issued.

H. Engineer/Architect will use accepted mock-ups as a comparison standard for the remaining Work.

I. Where mock-up has been accepted by Engineer/Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Engineer/Architect.

2.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

2.04 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of Work or products.
   6. Perform additional tests and inspections required by Engineer/Architect.
   7. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.

5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

2.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Engineer/Architect, it is not practical to remove and replace the work, Engineer/Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 014100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project that all work shall comply with are as follows:

B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice current edition.

C. 28 CFR 36 - Nondiscrimination by Public Accommodations and in Commercial Facilities; Final Rule; Department of Justice current edition.

D. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.

E. 49 CFR 37 - Transportation Services for Individuals with Disabilities (ADA) current edition.

F. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

G. 29 CFR 1910 - Occupational Safety and Health Standards Current Edition.

H. City of Biloxi Land Development Ordinance

I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

J. Building Code: ICC (IBC) - International Building Code 2018.

K. Plumbing Code: ICC International Plumbing Code 2018.

L. Mechanical Code: ICC International Mechanical Code 2018.

M. Fuel Gas Code: ICC Fuel Gas Code 2018.

N. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. Elevator Code: ASME A17.1-2016 - Safety Code for Elevators and Escalators.

P. Erosion and Sedimentation Control Regulations: All MS DEQ Guidelines.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

1.02 DEFINITIONS

A. Code or Building Code: AHJ's currently adopted edition of the International Building Code and, more specifically, Chapter 17 - Structural Tests and Inspections, of same.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspection:
   1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
   2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.03 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

B. AISC 360 - Specification for Structural Steel Buildings 2022.

C. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field 2022.

D. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete 2017.

E. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

F. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

G. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel 2018, with Errata (2022).

H. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars 2018, with Amendment (2020).

I. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

J. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
   1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Submit certification that Special Inspection Agency is acceptable to AHJ.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Submit certification that Testing Agency is acceptable to AHJ.

D. Special Inspection Reports: After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Engineer/Architect and one to the AHJ.
1. Include:
a. Date issued.
b. Project title and number.
c. Name of Special Inspector.
d. Date and time of special inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of special inspection.
h. Date of special inspection.
i. Results of special inspection.
j. Compliance with Contract Documents.

E. Test Reports: After each test or inspection, promptly submit at least two copies of report; one to Engineer/Architect and one to AHJ.
1. Include:
a. Date issued.
b. Project title and number.
c. Name of inspector.
d. Date and time of sampling or inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of test or inspection.
h. Date of test or inspection.
i. Results of test or inspection.
j. Compliance with Contract Documents.

1.05 SPECIAL INSPECTION AGENCY

A. The Owner will pay for and employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code. Contractor shall coordinate testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.06 TESTING AND INSPECTION AGENCIES

1.07 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:
1. Independent firm specializing in performing testing and inspections of the type specified in this section.
2. Accredited by IAS according to IAS AC291.

B. Testing Agency Qualifications:

1. Independent firm specializing in performing testing and inspections of the type specified in this section.
2. Accredited by IAS according to IAS AC89.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
   2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.02 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

A. High-Strength Bolt, Nut and Washer Material:
   1. Verify identification markings comply with ASTM standards specified in the approved contract and to AISC 360, Section A3.3; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

B. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
   1. Snug tight joints; periodic.

C. Structural Steel and Cold Formed Steel Deck Material:
   1. Structural Steel: Verify identification markings comply with AISC 360, Section M3.5; periodic.
   2. Other Steel: Verify identification markings comply with ASTM standards specified in the approved Contract Documents; periodic.
   3. Submit manufacturer's certificates of compliance and test reports; periodic.

D. Weld Filler Material:
   1. Verify identification markings comply with AWS standards specified in the approved Contract Documents and to AISC 360, Section A3.5; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

E. Welding:
   1. Structural Steel and Cold Formed Steel Deck:
      a. Complete and Partial Joint Penetration Groove Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      b. Multipass Fillet Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      c. Single Pass Fillet Welds Less than 5/16 inch (7.94 mm) Wide: Verify compliance with AWS D1.1/D1.1M; periodic.
      d. Plug and Slot Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      e. Single Pass Fillet Welds 5/16 inch (7.94 mm) or Greater: Verify compliance with AWS D1.1/D1.1M; continuous.
      f. Floor and Roof Deck Welds: Verify compliance with AWS D1.3/D1.3M; continuous.
   2. Reinforcing Steel: Verify items listed below comply with AWS D1.4/D1.4M and ACI 318, Section 3.5.2.
      a. Verification of weldability; periodic.
      b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as where it is referenced in older codes. Elements of special structural walls of concrete and shear reinforcement; continuous.

c. Shear reinforcement; continuous.
d. Other reinforcing steel; periodic.

F. Steel Frame Joint Details: Verify compliance with approved Contract Documents.
1. Details, bracing and stiffening; periodic.
2. Member locations; periodic.
3. Application of joint details at each connection; periodic.

3.03 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcing Steel, Including Prestressing of Tendons and Placement: Verify compliance with approved Contract Documents and ACI 318, Sections 3.5 and 7.1 through 7.7; periodic.

B. Reinforcing Steel Welding: Verify compliance with AWS D1.4/D1.4M and ACI 318, Section 3.5.2; periodic.

C. Design Mix: Verify plastic concrete complies with the design mix in approved Contract Documents and with ACI 318, Chapter 4 and 5.2; periodic.

D. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172/C172M, ASTM C31/C31M and ACI 318, Sections 5.6 and 5.8 and record the following, continuous:
1. Slump.
2. Air content.
3. Temperature of concrete.

E. Specified Curing Temperature and Techniques: Verify compliance with approved Contract Documents and ACI 318, Sections 5.11 through 5.13; periodic.

F. Concrete Strength in Situ: Verify concrete strength complies with approved Contract Documents and ACI 318, Section 6.2, for the following.

G. Formwork Shape, Location and Dimensions: Verify compliance with approved Contract Documents and ACI 318, Section 6.1.1; periodic.

3.04 SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION

A. Masonry Structures Subject to Special Inspection:
1. Empirically designed masonry, glass unit masonry and masonry veneer in structures designated as "essential facilities".
2. Engineered masonry in structures classified as "low hazard..." and "substantial hazard to human life in the event of failure".

B. Verify each item below complies with approved Contract Documents and the applicable articles of TMS 402/602.
1. Inspections and Approvals:
a. Verify compliance with the required inspection provisions of the approved Contract Documents; periodic.
b. Verify approval of submittals required by Contract Documents; periodic.
2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction unless specifically exempted by code; periodic.
3. Slump Flow and Visual Stability Index (VSI): Verify compliance as self consolidating grout arrives on site; continuous.
4. Joints and Accessories: When masonry construction begins, verify:
a. Proportions of site prepared mortar; periodic.
b. Construction of mortar joints; periodic.
c. Location of reinforcement, connectors, prestressing tendons, anchorages, etc; periodic.
5. Structural Elements, Joints, Anchors, Protection: During masonry construction, verify:
a. Size and location of structural elements; periodic.

b. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; periodic.
c. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
d. Welding of reinforcing bars; continuous.

6. Grouting Preparation: Prior to grouting, verify:
   a. Grout space is clean; periodic.
   b. Correct placement of reinforcing, connectors, prestressing tendons and anchorages; periodic.
   c. Correctly proportioned site prepared grouts and prestressing grout for bonded tendons; periodic.
   d. Correctly constructed mortar joints; periodic.
7. Preparation of Grout Specimens, Mortar Specimens and Prisms: Observe preparation of specimens; periodic.

3.05 SPECIAL INSPECTIONS FOR SOILS

A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Design bearing capacity of material below shallow foundations; periodic.
   2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
   3. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.
   4. Subgrade, prior to placement of compacted fill verify proper preparation; periodic.

B. Testing: Classify and test excavated material; periodic.

3.06 SPECIAL INSPECTIONS FOR WIND RESISTANCE

A. Cold-Formed Steel Light Frame Construction:
   1. Field welding; periodic.
   2. Screw attachment, bolting, anchoring and other fastening of components within the main wind force-resisting system; periodic

B. Wind Resisting Components:
   1. Roof covering, roof deck, and floor framing connections; periodic.
   2. Exterior wall covering and wall connections to roof and floor diaphragms and framing; periodic.

3.07 OTHER SPECIAL INSPECTIONS

A. Provide for special inspection of work that, in the opinion of the AHJ, is unusual in nature.

3.08 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   1. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified reference standards.
   3. Ascertain compliance of materials and products with requirements of Contract Documents.
   4. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
   5. Perform additional tests and inspections required by Engineer/Architect.
   6. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.

3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.09 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:
1. Test samples submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
6. Perform additional tests and inspections required by Engineer/Architect.
7. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. On instructions by Engineer/Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.

D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.10 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to work to be tested or inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
   c. To facilitate tests or inspections.
   d. To provide storage and curing of test samples.
4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

B. Contractor Responsibilities, Wind Force-Resisting System and Wind Force-Resisting Component: Submit written statement of responsibility for each item listed in the Statement of Special Inspections to AHJ and Owner prior to starting work. Statement of responsibility shall acknowledge awareness of special construction requirements and other requirements listed.

END OF SECTION

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers and enclosures.

D. Vehicular access and parking.

E. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

A. Provide and pay for every utility required to complete construction including but not limited to all electrical power, lighting, water, heating, cooling, sanitary, waste, and ventilation. The General Contractor will be required to continue to pay all costs associated with these temporary utilities until a Certificate of Occupancy has been issued from the Authority Having Jurisdiction to the Ower.

B. Existing facilities may not be used.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.04 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.06 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.07 SECURITY

A. Coordinate with Owner's security program.

1.08 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

G. Do not interupt, alter, or disrupt bus or parent standard drop off or pick up times, procedures, or operations. Coordinate with Owner.

1.09 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

1.11 TEMPORARY STORAGE

A. General Contractor will be required to provide lockable temprary storage as required or necessary to complete the job. Existing facilities will not be allowed to be used for storage of any king.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 016000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

F. Non Asbestos containing materials certification.

1.02 SUBMITTALS

A. Refer to Section 013000 Administrative Requirements for additional submittal requirements not indicated herein.

B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 7 days after date of Agreement of Notice of intent to award, whichever is sooner..
   2. For products specified only by reference standards, list applicable reference standards.

C. Product Data Submittals: Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

D. Shop Drawing Submittals: All shop drawings and details MUST be prepared specifically for this project; indicate all materials, all products, all connections, all dimensions, all utility and electrical characteristics, all utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Product/Company Typical drawings, unless they specifically apply to the project, will be rejected - No Exceptions.**

E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection of product finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
   2. All submisions for the chosing of a products color must be physical samples indicating the products true and final color. Digital, web site links, and or printed samples will not be accepted and will be rejected - no expetions.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Containing lead, cadmium, or asbestos.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
   1. Where more than one manufacturer is specified for one use, the Drawings have been prepared for the one listed first; and building adjustments may be necessary to accommodate the others. The Contractor will be responsible for any changes in the building construction required due to product selection and shall make any such changes to the satisfaction of the Architect.

C. If products are specified by naming one or more manufacturers with a provision for substitutions by "or approved equal" or "equal as approved," then the Bidder shall submit a request for substitution for any manufacturer not named **PRIOR TO BIDDING**. It must be approved by the Architect/Engineer through formal addendum in order for it to be accepted as a substitution.

D. If products are specified by naming one or more manufacturers with a provision for substitutions by "or equal," then the General Contractor after bid award shall submit a request for substitution for any manufacturer not named. After review by the Architect/Engineer, if the substitution manufacturer or product is found not to be equal to those items specified, then the General Contractor will be required to provide those products specified or find an or equal product.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 012500 - Substitution Procedures.

B. Substitution Submittal Procedure:
   1. Submit substitution request at least 10 days prior to bid.
   2. The Architect/Engineer will notify all bidders via addendum of decision to accept a request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to

excessive materials handling and misapplication. See Section 017419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

3.04 PRODUCT CERTIFICATION

A. Submit letter on company letterhead and signed by company executive stating and certifying that "This project (insert project name, description, and location) has been completed and that no asbestos containing materials were found at the project site that were not properly remedied and that no new materials were used or installed that contain asbestos." Final pay application will not be processed until certification is received.

END OF SECTION

SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances , [_____].

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

G. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.

B. Section 015000 - Temporary Facilities and Controls: Temporary interior partitions.

C. Section 078400 - Firestopping.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

1.04 QUALIFICATIONS

A. For asbestos demolition work, employ a firm specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
   2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work,

assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section. A preinstall meeting with the contractor, roofing vendor, and Architect/Engineer will be required.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Engineer/Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Engineer/Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 015000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.

2. Remove items indicated on drawings.
3. Relocate items indicated on drawings.
4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
   b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer/Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer/Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.

J. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 FINAL CLEANING

A. Execute final cleaning after Substantial Completion but before making final application for payment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, and overflow drains.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer/Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Engineer/Architect when work is considered ready for Engineer/Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer/Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer/Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer/Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Engineer/Architect when work is considered finally complete and ready for Engineer/Architect's Substantial Completion final inspection.

H. Complete items of work determined by Engineer/Architect listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than 2 years from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 017800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions and 007300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Engineer/Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer/Architect comments. Revise content of all document sets as required prior to final submission.
   3. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 3 EXECUTION

2.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Record Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.
2. Details not on original Contract drawings.

2.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

2.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

2.04 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 024100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 028200 - Asbestos Abatement

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.04 DEFINITIONS

A. Removal of Obstructions: This work shall consists of the removal and satisfactory disposal of all items and obstructions which are not designated to remain. This work also consist of necessary excavation incidental to the removal of structures and obstructions.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
   2. Demolition firm qualifications.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.06 QUALITY ASSURANCE

A. Asbestos Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: See Section 312323.

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove items as indicated on the drawings.

B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 312200.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Use of explosives is not permitted.
   3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   4. Provide, erect, and maintain temporary barriers and security devices.
   5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Asbestos containing materials do occur in the existing Cafeteria Building. Refer to Section 028200 Asbestos Abatement for additional requirements.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.

2. Report discrepancies to Engineer/Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

C. Remove existing work as indicated and required to accomplish new work.
1. Remove items indicated on drawings.

D. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
3. Verify that abandoned services serve only abandoned facilities before removal.
4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
1. Prevent movement of structure. Provide shoring and bracing as required.
2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.05 REPAIR

A. Unless otherwise indicated or directed on the drawings or elsewhere in the specifications, it will be the Contractor's responsibility to patch and repair all surfaces to match adjacent existing conditions where items are removed or altered.

B. Exterior wall repair must not compromise the exsiting drainage plain.

C. Roof repairs must not void or compromise the existing roof waranty.

D. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

3.06 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove materials not to be reused on site; comply with requirements of Section 017419 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 230553
IDENTIFICATION FOR PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nameplates.

B. Tags.

C. Pipe markers.

1.02 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems 2020.

B. ASTM D709 - Standard Specification for Laminated Thermosetting Materials 2017.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide manufacturers catalog literature for each product required.

C. Manufacturer's Installation Instructions: Indicate special procedures, and installation.

D. Project Record Documents: Record actual locations of tagged valves.

PART 2 PRODUCTS

2.01 IDENTIFICATION APPLICATIONS

A. Air Handling Units: Nameplates.

B. Automatic Controls: Tags. Key to control schematic.

C. Control Panels: Nameplates.

D. Heat Transfer Equipment: Nameplates.

E. Instrumentation: Nameplates.

F. Major Control Components: Nameplates.

G. Piping: Pipe markers.

H. Pumps: Nameplates.

I. Small-sized Equipment: Tags.

J. Thermostats: Nameplates.

K. Valves: Tags.

2.02 NAMEPLATES

A. Manufacturers:
   1. Advanced Graphic Engraving, LLC: www.advancedgraphicengraving.com.
   2. Brimar Industries, Inc: www.pipemarker.com/#sle.
   3. Craftmark Pipe Markers: www.craftmarkid.com/#sle.
   4. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   5. Seton Identification Products, a Tricor Direct Company: www.seton.com.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Letter Color: White.

C. Letter Height: 1/4 inch (6 mm).

D. Background Color: Black.

E. Plastic: Comply with ASTM D709.

2.03 TAGS

A. Manufacturers:
   1. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
   2. Brady Corporation: www.bradycorp.com.
   3. Brimar Industries, Inc.: www.pipemarker.com.
   4. Craftmark Pipe Markers: www.craftmarkid.com/#sle.
   5. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   6. Seton Identification Products, a Tricor Company: www.seton.com.
   7. Substitutions: See Section 016000 - Product Requirements.

B. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch (40 mm) diameter with smooth edges.

2.04 PIPE MARKERS

A. Manufacturers:
   1. Brady Corporation: www.bradycorp.com/#sle.
   2. Brimar Industries, Inc: www.pipemarker.com/#sle.
   3. Craftmark Pipe Markers: www.craftmarkid.com/#sle.
   4. Kolbi Pipe Marker Co: www.kolbipipemarkers.com/#sle.
   5. Seton Identification Products, a Tricor Company: www.seton.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Color: Comply with ASME A13.1.

C. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

D. Color code as follows:
   1. Heating, Cooling, and Boiler Feedwater: Green with white letters.

PART 3 EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Install tags with corrosion resistant chain.

C. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.

D. Use tags on piping 3/4 inch (20 mm) diameter and smaller.

E. Pipe Markers:
   1. Identify service, flow direction, and pressure.
   2. Install in clear view and align with axis of piping.
   3. Locate identification not to exceed 20 feet (6 m) on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION

SECTION 230593
TESTING, ADJUSTING, AND BALANCING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Testing, adjustment, and balancing of air systems.

B. Testing, adjustment, and balancing of hydronic systems.

C. Measurement of final operating condition of HVAC systems.

1.02 REFERENCE STANDARDS

A. AABC (NSTSB) - AABC National Standards for Total System Balance, 7th Edition 2016.

B. ASHRAE Std 111 - Measurement, Testing, Adjusting, and Balancing of Building HVAC Systems 2008, with Errata (2019).

C. SMACNA (TAB) - HVAC Systems Testing, Adjusting and Balancing 2002.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Installer Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.

C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.
   1. Submit to Engineer/Architect.
   2. Submit six weeks prior to starting the testing, adjusting, and balancing work.
   3. Include certification that the plan developer has reviewed Contract Documents, the equipment and systems, and the control system with the Engineer/Architect and other installers to sufficiently understand the design intent for each system.
   4. Include at least the following in the plan:
      a. Preface: An explanation of the intended use of the control system.
      b. List of all air flow, water flow, sound level, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
      c. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
      d. Identification and types of measurement instruments to be used and their most recent calibration date.
      e. Discussion of what notations and markings will be made on the duct and piping drawings during the process.
      f. Final test report forms to be used.
      g. Detailed step-by-step procedures for TAB work for each system and issue, including:
         1) Total flow calculations.
         2) Rechecking.
         3) Diversity issues.
      h. Expected problems and solutions, etc.
      i. Details of how TOTAL flow will be determined; for example:
         1) Air: Sum of terminal flows via control system calibrated readings or via hood readings of all terminals, supply (SA) and return air (RA) pitot traverse, SA or RA flow stations.
         2) Water: Pump curves, circuit setter, flow station, ultrasonic, etc.
      j. Specific procedures that will ensure that both air and water side are operating at the lowest possible pressures and methods to verify this.

k. Confirmation of understanding of the outside air ventilation criteria under all conditions.
l. Method of verifying and setting minimum outside air flow rate will be verified and set and for what level (total building, zone, etc.).
m. Methods for making coil or other system plant capacity measurements, if specified.
n. Time schedule for deferred or seasonal TAB work, .
o. False loading of systems to complete TAB work.
p. Procedures for field technician logs of discrepancies, deficient or uncompleted work by others, contract interpretation requests and lists of completed tests (scope and frequency).
q. Procedures for formal progress reports, including scope and frequency.
r. Procedures for formal deficiency reports, including scope, frequency and distribution.

D. Control System Coordination Reports: Communicate in writing to the controls installer all setpoint and parameter changes made or problems and discrepancies identified during TAB that affect, or could affect, the control system setup and operation.

E. Progress Reports.

F. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
1. Submit to the the Construction Manager within two weeks after completion of testing, adjusting, and balancing.
2. Revise TAB plan to reflect actual procedures and submit as part of final report.
3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Engineer/Architect and for inclusion in operating and maintenance manuals.
4. Provide reports in electronic document binder manuals, with cover identification. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.
5. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
6. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
7. Units of Measure: Report data in I-P (inch-pound) units only.
8. Include the following on the title page of each report:
a. Name of Testing, Adjusting, and Balancing Agency.
b. Address of Testing, Adjusting, and Balancing Agency.
c. Telephone number of Testing, Adjusting, and Balancing Agency.
d. Project name.
e. Project location.
f. Project Engineer/Architect.
g. Project Contractor.
h. Report date.

G. Project Record Documents: Record actual locations of balancing valves and rough setting.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Perform total system balance in accordance with one of the following:
1. AABC (NSTSB), AABC National Standards for Total System Balance.
2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
3. SMACNA (TAB).

B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.

C. Where HVAC systems and/or components interface with life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with the authorities having jurisdiction.

D. TAB Agency Qualifications:
   1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
   2. Having minimum of three years documented experience.
   3. Certified by one of the following:
      a. AABC, Associated Air Balance Council: www.aabc.com/#sle; upon completion submit AABC National Performance Guaranty.
      b. NEBB, National Environmental Balancing Bureau: www.nebb.org/#sle.
      c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: www.tabbcertified.org/#sle.

E. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

3.02 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
   1. Systems are started and operating in a safe and normal condition.
   2. Temperature control systems are installed complete and operable.
   3. Proper thermal overload protection is in place for electrical equipment.
   4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
   5. Duct systems are clean of debris.
   6. Fans are rotating correctly.
   7. Fire and volume dampers are in place and open.
   8. Air coil fins are cleaned and combed.
   9. Access doors are closed and duct end caps are in place.
   10. Air outlets are installed and connected.
   11. Duct system leakage is minimized.
   12. Hydronic systems are flushed, filled, and vented.
   13. Pumps are rotating correctly.
   14. Proper strainer baskets are clean and in place.
   15. Service and balance valves are open.

B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.

C. Beginning of work means acceptance of existing conditions.

3.03 PREPARATION

A. Hold a pre-balancing meeting at least one week prior to starting TAB work.
   1. Require attendance by all installers whose work will be tested, adjusted, or balanced.

B. Provide additional balancing devices as required.

3.04 ADJUSTMENT TOLERANCES

A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 5 percent of design for return and exhaust systems.

B. Hydronic Systems: Adjust to within plus or minus 5 percent of design.

3.05 RECORDING AND ADJUSTING

A. Field Logs: Maintain written logs including:
   1. Running log of events and issues.
   2. Discrepancies, deficient or uncompleted work by others.
   3. Contract interpretation requests.
   4. Lists of completed tests.

B. Include "as found" conditions and "as left" conditions in reports.

C. Ensure recorded data represents actual measured or observed conditions.

D. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.

E. Mark on drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.

F. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.

G. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

3.06 AIR SYSTEM PROCEDURE

A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.

B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.

C. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters.

D. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.

E. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.

F. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.

G. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.

3.07 WATER SYSTEM PROCEDURE

A. Adjust water systems to provide required or design quantities.

B. Use calibrated Venturi tubes, orifices, or other metered fittings and pressure gages to determine flow rates for system balance. Where flow metering devices are not installed, base flow balance on temperature difference across various heat transfer elements in the system.

C. Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing.

D. Effect system balance with automatic control valves fully open to heat transfer elements.

E. Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.

3.08 SCOPE

A. Test, adjust, and balance the following:
   1. Pumps
   2. Induced Draft Cooling Tower.
   3. Air Cooled Refrigerant Condensers.
   4. Packaged Roof Top Heating/Cooling Units.
   5. Air Coils.
   6. Air Handling Units.
   7. Fans.

3.09 MINIMUM DATA TO BE REPORTED

A. Electric Motors:
   1. Manufacturer.
   2. Model/Frame.
   3. HP/BHP.
   4. Phase, voltage, amperage; nameplate, actual, no load.
   5. RPM.
   6. Service factor.
   7. Starter size, rating, heater elements.
   8. Sheave Make/Size/Bore.

B. V-Belt Drives:
   1. Identification/location.
   2. Required driven RPM.
   3. Driven sheave, diameter and RPM.
   4. Belt, size and quantity.
   5. Motor sheave diameter and RPM.
   6. Center to center distance, maximum, minimum, and actual.

C. Pumps:
   1. Identification/number.
   2. Manufacturer.
   3. Size/model.
   4. Impeller.
   5. Service.
   6. Design flow rate, pressure drop, BHP.
   7. Actual flow rate, pressure drop, BHP.
   8. Discharge pressure.
   9. Suction pressure.
   10. Total operating head pressure.
   11. Shut off, discharge and suction pressures.
   12. Shut off, total head pressure.

D. Air Cooled Condensers:
   1. Identification/number.
   2. Location.
   3. Manufacturer.
   4. Model number.
   5. Serial number.
   6. Entering DB air temperature, design and actual.
   7. Leaving DB air temperature, design and actual.
   8. Number of compressors.

E. Cooling Tower:
   1. Tower identification/number.
   2. Manufacturer.
   3. Model number.
   4. Serial number.
   5. Rated capacity.
   6. Entering air WB temperature, specified and actual.
   7. Leaving air WB temperature, specified and actual.
   8. Ambient air DB temperature.
   9. Condenser water entering temperature.
   10. Condenser water leaving temperature.
   11. Condenser water flow rate.
   12. Fan RPM.

F. Heat Exchangers:
   1. Identification/number.
   2. Location.
   3. Service.
   4. Manufacturer.
   5. Model number.
   6. Serial number.
   7. Primary water entering temperature, design and actual.
   8. Primary water leaving temperature, design and actual.
   9. Primary water flow, design and actual.
   10. Primary water pressure drop, design and actual.
   11. Secondary water leaving temperature, design and actual.
   12. Secondary water flow, design and actual.
   13. Secondary water pressure drop, design and actual.

G. Cooling Coils:
   1. Identification/number.
   2. Location.
   3. Service.
   4. Manufacturer.
   5. Air flow, design and actual.
   6. Entering air DB temperature, design and actual.
   7. Entering air WB temperature, design and actual.
   8. Leaving air DB temperature, design and actual.
   9. Leaving air WB temperature, design and actual.
   10. Saturated suction temperature, design and actual.
   11. Air pressure drop, design and actual.

H. Electric Duct Heaters:
   1. Manufacturer.
   2. Identification/number.
   3. Location.
   4. Model number.
   5. Design kW.
   6. Number of stages.
   7. Phase, voltage, amperage.
   8. Test voltage (each phase).
   9. Test amperage (each phase).

10. Air flow, specified and actual.
11. Temperature rise, specified and actual.

I. Air Moving Equipment:
1. Location.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Arrangement/Class/Discharge.
6. Air flow, specified and actual.
7. Return air flow, specified and actual.
8. Outside air flow, specified and actual.
9. Total static pressure (total external), specified and actual.
10. Inlet pressure.
11. Discharge pressure.
12. Sheave Make/Size/Bore.
13. Number of Belts/Make/Size.
14. Fan RPM.

J. Return Air/Outside Air:
1. Identification/location.
2. Design air flow.
3. Actual air flow.
4. Design return air flow.
5. Actual return air flow.
6. Design outside air flow.
7. Actual outside air flow.
8. Return air temperature.
9. Outside air temperature.
10. Required mixed air temperature.
11. Actual mixed air temperature.

K. Duct Traverses:
1. System zone/branch.
2. Duct size.
3. Area.
4. Design velocity.
5. Design air flow.
6. Test velocity.
7. Test air flow.
8. Duct static pressure.
9. Air temperature.
10. Air correction factor.

END OF SECTION

SECTION 230713
DUCT INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Duct insulation.

B. Duct liner.

C. Jacketing and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus 2021.

B. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications 2013 (Reapproved 2019).

C. ASTM C916 - Standard Specification for Adhesives for Duct Thermal Insulation 2020.

D. ASTM C1071 - Standard Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material) 2019.

E. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a.

F. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi 2015, with Editorial Revision (2021).

G. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section with not less than three years of experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.

B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.06 FIELD CONDITIONS

A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.

B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.01 GLASS FIBER, FLEXIBLE

A. Manufacturer:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville: www.jm.com/#sle.
   3. Knauf Insulation: www.knaufinsulation.com/#sle.
   4. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

B. Insulation: ASTM C553; flexible, noncombustible blanket.
   1. K (Ksi) value: 0.36 at 75 degrees F (0.052 at 24 degrees C), when tested in accordance with ASTM C518.
   2. Maximum Service Temperature: 1,200 degrees F (649 degrees C).
   3. Maximum Water Vapor Absorption: 5.0 percent by weight.

C. Vapor Barrier Jacket:
   1. Kraft paper with glass fiber yarn and bonded to aluminized film.
   2. Moisture Vapor Permeability: 0.02 perm inch (0.029 ng/(Pa s m)), when tested in accordance with ASTM E96/E96M.
   3. Secure with pressure-sensitive tape.

D. Vapor Barrier Tape:
   1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure-sensitive rubber-based adhesive.

E. Indoor Vapor Barrier Mastic:
   1. Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

F. Tie Wire: Annealed steel, 16 gauge, 0.0508 inch diameter (1.29 mm diameter).

2.02 JACKETING AND ACCESSORIES

A. Canvas Jacket: UL listed 6 oz/sq yd (220 g/sq m) plain weave cotton fabric treated with dilute fire-retardant lagging adhesive.
   1. Lagging Adhesive:
      a. Manufacturers:
         1) Design Polymerics: www.designpoly.com/#sle.
         2) Substitutions: See Section 016000 - Product Requirements
      b. Compatible with insulation.

2.03 DUCT LINER

A. Manufacturers:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville: www.jm.com/#sle.
   3. Knauf Insulation: www.knaufinsulation.com/#sle.
   4. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

B. Glass Fiber Insulation: Non-corrosive, incombustible glass fiber complying with ASTM C1071; rigid board; impregnated surface and edges coated with poly vinyl acetate polymer, acrylic polymer, or black composite.
   1. Fungal Resistance: No growth when tested according to ASTM G21.
   2. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F (0.045 at 24 degrees C).
   3. Service Temperature: Up to 250 degrees F (121 degrees C).
   4. Rated Velocity on Coated Air Side for Air Erosion: 5,000 fpm (25.4 m/s), minimum.

5. Minimum Noise Reduction Coefficients:
   a. 1 inch (25 mm) Thickness: 0.45.

C. Adhesive: Waterproof, fire-retardant type, ASTM C916.
   1. Manufacturers:
      a. Design Polymerics: www.designpoly.com/#sle.
      b. Elgen Manufacturing Company, Inc: www.elgenmfg.com/#sle.
      c. Vimasco Corporation: www.vimasco.com/#sle.
      d. Substitutions: See Section 016000 - Product Requirements

D. Liner Fasteners: Galvanized steel, impact applied with integral head.
   1. Manufacturers:
      a. Elgen Manufacturing Company, Inc: www.elgenmfg.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements

PART 3 EXECUTION

3.01 EXAMINATION

A. Test ductwork for design pressure prior to applying insulation materials.

B. Verify that surfaces are clean, foreign material removed, and dry.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with NAIMA National Insulation Standards.

C. Insulated Ducts Conveying Air Below Ambient Temperature:
   1. Provide insulation with vapor barrier jackets.
   2. Finish with tape and vapor barrier jacket.
   3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
   4. Insulate entire system, including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.

D. Insulated Ducts Conveying Air Above Ambient Temperature:
   1. Provide with or without standard vapor barrier jacket.
   2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.

E. Ducts Exposed in Mechanical Equipment Rooms or Finished Spaces (below 10 feet above finished floor) ((below 3 meters above finished floor)): Finish with canvas jacket sized for finish painting.

F. Duct and Plenum Liner Application:
   1. Adhere insulation with adhesive for 100 percent coverage.
   2. Secure insulation with mechanical liner fasteners. Refer to SMACNA (DCS) for spacing.
   3. Seal and smooth joints. Seal and coat transverse joints.
   4. Seal liner surface penetrations with adhesive.
   5. Duct dimensions indicated are net inside dimensions required for airflow. Increase duct size to allow for insulation thickness.

END OF SECTION

SECTION 230719
HVAC PIPING INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Piping insulation.

B. Jackets and accessories.

1.02 REFERENCE STANDARDS

A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

C. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus 2019.

D. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement 2007 (Reapproved 2019).

E. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement 2007 (Reapproved 2019).

F. ASTM C534/C534M - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form 2023.

G. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation 2022a.

H. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel 2008 (Reapproved 2018).

I. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

J. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a.

K. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2006.

L. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum 3 years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.06 FIELD CONDITIONS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or ASTM E84.

2.02 GLASS FIBER, RIGID

A. Manufacturers:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville Corporation: www.jm.com/#sle.
   3. Knauf Insulation: www.knaufinsulation.com/#sle.
   4. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

B. Insulation: ASTM C547and ASTM C795; rigid molded, noncombustible, with wicking material to transport condensed water to the outside of the system for evaporation to the atmosphere.
   1. K (Ksi) Value: ASTM C177, 0.23 at 75 degrees F (0.034 at 24 degrees C).
   2. Maximum Service Temperature: 220 degrees F (104 degrees C).
   3. Maximum Moisture Absorption: 0.2 percent by volume.

C. Vapor Barrier Jacket: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches (0.029 ng/Pa s m).

D. Tie Wire: 0.048 inch (1.22 mm) stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

E. Vapor Barrier Lap Adhesive: Compatible with insulation.

F. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.

G. Fibrous Glass Fabric:
   1. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
   2. Blanket: 1.0 lb/cu ft (16 kg/cu m) density.
   3. Weave: 5 by 5.

H. Indoor Vapor Barrier Finish:
   1. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
   2. Vinyl emulsion type acrylic, compatible with insulation, white color.

I. Outdoor Vapor Barrier Mastic: Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

J. Insulating Cement: ASTM C449.

2.03 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. Manufacturer:
   1. Aeroflex USA, Inc: www.aeroflexusa.com.
   2. Armacell LLC: www.armacell.us.
   3. K-Flex USA LLC: www.kflexusa.com.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C534/C534M Grade 1; use molded tubular material wherever possible.
   1. Minimum Service Temperature: Minus 40 degrees F (Minus 40 degrees C).

2. Maximum Service Temperature: 180 degrees F (82 degrees C).
3. Connection: Waterproof vapor barrier adhesive.

C. Elastomeric Foam Adhesive: Air dried, contact adhesive, compatible with insulation.

2.04 JACKETS

A. Canvas Jacket: UL listed 6 oz/sq yd (220 g/sq m) plain weave cotton fabric treated with dilute fire retardant lagging adhesive.
1. Mechanical platforms and other exposed areas where storage or personnel encounter is frequent.
2. Lagging Adhesive: Compatible with insulation.
a. Compatible with insulation.

B. Aluminum Jacket: ASTM B209 (ASTM B209M) formed aluminum sheet.
1. Thickness: 0.016 inch (0.40 mm) sheet.
2. Finish: Smooth.
3. Joining: Longitudinal slip joints and 2 inch (50 mm) laps.
4. Fittings: 0.016 inch (0.4 mm) thick die shaped fitting covers with factory attached protective liner.
5. Metal Jacket Bands: 3/8 inch (10 mm) wide; 0.015 inch (0.38 mm) thick aluminum.

2.05 ACCESSORIES

A. General Requirements:
1. Provide required accessories in accordance with and subject to the recommendations of the insulation manufacturer.
2. Furnish compatible materials which do not contribute to corrosion, soften, or otherwise attack surfaces to which applied, in either the wet or dry state.
3. Comply with ASTM C795 requirements for materials to be used on stainless steel surfaces.
4. Supply materials that are asbestos free.

PART 3 EXECUTION

3.01 EXAMINATION

A. Test piping for design pressure, liquid tightness, and continuity prior to applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with NAIMA National Insulation Standards.

C. Exposed Piping: Locate insulation and cover seams in least visible locations.

D. Insulated pipes conveying fluids below ambient temperature; insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, and expansion joints.
1. Insulate entire system, including fittings, valves, unions, flanges, strainers, flexible connections, and expansion joints.

E. Glass Fiber Insulated Pipes Conveying Fluids Below Ambient Temperature:
1. Provide vapor barrier jackets, factory-applied or field-applied; secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

F. For hot piping conveying fluids over 140 degrees F (60 degrees C), insulate flanges and unions at equipment.

G. Glass Fiber Insulated Pipes Conveying Fluids Above Ambient Temperature:
   1. Provide standard jackets, with or without vapor barrier, factory-applied, or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure-sensitive adhesive. Secure with outward clinch expanding staples.
   2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers depending on location.

H. Inserts and Shields:
   1. Application: Piping 1-1/2 inches (40 mm) diameter or larger.
   2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
   3. Insert location: Between support shield and piping and under the finish jacket.
   4. Insert Configuration: Minimum 6 inches (150 mm) long, of same thickness and contour as adjoining insulation; may be factory fabricated.
   5. Insert Material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

I. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 078400.

J. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces: Finish with canvas jacket sized for finish painting.

K. Exterior Applications: Provide vapor barrier jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor barrier cement. Cover with aluminum jacket with seams located on bottom side of horizontal piping.

END OF SECTION

SECTION 230913
INSTRUMENTATION AND CONTROL DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Control panels.

B. Thermostats:
   1. Electric room thermostats.
   2. Room thermostat accessories.

C. Control components

1.02 REFERENCE STANDARDS

A. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

B. NEMA DC 3 - Residential Controls - Electrical Wall-Mounted Room Thermostats 2013.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

B. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide description and engineering data for each control system component. Include sizing as requested. Provide data for each system component and software module.

C. Shop Drawings: Indicate complete operating data, system drawings, wiring diagrams, and written detailed operational description of sequences.

D. Manufacturer's Instructions: Provide for all manufactured components.

E. Project Record Documents: Record actual locations of control components, including panels, thermostats, and sensors. Accurately record actual location of control components, including panels, thermostats, and sensors.
   1. Revise shop drawings to reflect actual installation and operating sequences.

F. Operation and Maintenance Data: Include inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.

G. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this sectionwith minimum three years experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective work within a five year period after Substantial Completion.

PART 2 PRODUCTS

2.01 EQUIPMENT - GENERAL

A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

2.02 CONTROL PANELS

A. Unitized cabinet type for each system under automatic control with relays and controls mounted in cabinet and temperature indicators, pressure gauges, pilot lights, push buttons and switches flush on cabinet panel face.

B. NEMA 250, general purpose utility enclosures with enameled finished face panel.

C. Provide common keying for all panels.

2.03 HUMIDISTATS

A. Room Humidistats:
   1. Wall mounted, proportioning type.
   2. Throttling Range: Adjustable 2 percent relative humidity.
   3. Operating Range: 30 to 80 percent.
   4. Maximum Temperature: 110 degrees F (43 degrees C).
   5. Cover: Concealed setpoint.

2.04 THERMOSTATS

A. Electric Room Thermostats:
   1. Type: NEMA DC 3, 24 volts, with setback/setup temperature control.
   2. Service: cooling and heating.
   3. Covers: Locking with set point adjustment, setpoint indication, and digital display, with thermometer.

B. Room Thermostat Accessories:
   1. Insulating Bases: For thermostats located on exterior walls.
   2. Thermostat Guards: Metal mounted on separate base.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that systems are ready to receive work.

C. Beginning of installation means installer accepts existing conditions.

D. Sequence work to ensure installation of components is complementary to installation of similar components in other systems.

E. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

F. Ensure installation of components is complementary to installation of similar components.

G. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Check and verify location of thermostats and exposed control sensors with plans and room details before installation. Locate 48 inches (1200 mm) above floor. Align with lighting switches. Refer to Section 262726.

C. Provide guards on thermostats in public areas.

D. Mount control panels adjacent to associated equipment on vibration free walls or free standing angle iron supports. One cabinet may accommodate more than one system in same equipment room. Provide engraved plastic nameplates for instruments and controls inside cabinet and engraved plastic nameplates on cabinet face.

E. Install "hand/off/auto" selector switches to override automatic interlock controls when switch is in "hand" position.

F. Provide conduit and electrical wiring in accordance with Section 260583. Electrical material and installation shall be in accordance with appropriate requirements of Division 26.

END OF SECTION

SECTION 232113
HYDRONIC PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hydronic system requirements.

B. Heating water piping, above grade.

C. Equipment drains and overflows.

D. Pipe hangers and supports.

E. Unions, flanges, mechanical couplings, and dielectric connections.

F. Valves:
   1. Ball valves.
   2. Butterfly valves.
   3. Check valves.

G. Flow controls.

1.02 REFERENCE STANDARDS

A. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators 2021.

B. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings 2021.

C. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings 2021.

D. ASME B31.9 - Building Services Piping 2020.

E. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.

F. ASTM A106/A106M - Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service 2019a.

G. ASTM A183 - Standard Specification for Carbon Steel Track Bolts and Nuts 2014 (Reapproved 2020).

H. ASTM A536 - Standard Specification for Ductile Iron Castings 1984, with Editorial Revision (2019).

I. ASTM B32 - Standard Specification for Solder Metal 2020.

J. ASTM B88 - Standard Specification for Seamless Copper Water Tube 2022.

K. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric) 2020.

L. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 2021a.

M. ASTM D2000 - Standard Classification System for Rubber Products in Automotive Applications 2018.

N. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series) 2020.

O. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40 2021.

P. ASTM D2467 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80 2020.

Q. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets 2020.

R. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers 1992 (Reapproved 2022).

S. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications 2007 (Reapproved 2019).

T. AWWA C606 - Grooved and Shouldered Joints 2015.

U. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).

1.03 ADMINISTRATIVE REQUIREMENTS

A. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data:
   1. Include data on pipe materials, pipe fittings, valves, and accessories.
   2. Provide manufacturers catalog information.
   3. Indicate valve data and ratings.
   4. Show grooved joint couplings, fittings, valves, and specialties on drawings and product submittals, specifically identified with the manufacturer's style or series designation.

C. Manufacturer's Installation Instructions: Indicate hanging and support methods, joining procedures.

D. Project Record Documents: Record actual locations of piping, equipment, and valves.

E. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of experience.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with minimum three years of experience.

C. Provide all grooved joint couplings, fittings, valves, and specialties from a single manufacturer.

D. Date stamp all castings used for coupling housings, fittings, valve bodies, etc. for quality assurance and traceability.

E. Welder Qualifications: Certify in accordance with ASME BPVC-IX.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary protective coating on cast iron and steel valves.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.01 HYDRONIC SYSTEM REQUIREMENTS

A. Comply with ASME B31.9 and applicable federal, state, and local regulations.

B. Piping: Provide piping, fittings, hangers, and supports as required, as indicated, and as follows:
   1. Where more than one piping system material is specified, provide joining fittings that are compatible with piping materials and ensure that the integrity of the system is not jeopardized.
   2. Use non-conducting dielectric connections whenever jointing dissimilar metals.
   3. Grooved mechanical joints may be used in accessible locations only.
      a. Accessible locations include those exposed on interior of building, in pipe chases, and in mechanical rooms, aboveground outdoors, and as approved by Engineer/Architect.
      b. Grooved mechanical connections and joints comply with AWWA C606.
         1) Ductile Iron: Comply with ASTM A536, Grade 65-45-12.
         2) Steel: Comply with ASTM A106/A106M, Grade B or ASTM A53/A53M.
      c. Use rigid joints unless otherwise indicated.
      d. Use flexible joints at elbows at end of straight line pipe.
      e. Use gaskets of molded synthetic rubber with central cavity, pressure-responsive configuration, and complying with ASTM D2000, Grade 2CA615A15B44F17Z for circulating medium up to maximum 230 degrees F (110 degrees C) or Grade M3BA610A15B44Z for circulating medium up to maximum 200 degrees F (93 degrees C).
      f. Provide steel coupling nuts and bolts complying with ASTM A183.
   4. Provide pipe hangers and supports in accordance with ASME B31.9 or MSS SP-58 unless indicated otherwise.

C. Pipe-to-Valve and Pipe-to-Equipment Connections: Use flanges, unions, or grooved couplings to allow disconnection of components for servicing; do not use direct welded, soldered, or threaded connections.
   1. Where grooved joints are used in piping, provide grooved valve/equipment connections if available; if not available, provide flanged ends and grooved flange adapters.

D. Valves: Provide valves where indicated:
   1. Provide drain valves where indicated, and if not indicated, provide at least at main shut-off, low points of piping, bases of vertical risers, and at equipment. Use 3/4 inch (20 mm) gate valves with cap; pipe to nearest floor drain.
   2. On discharge of condenser water pumps, use spring-loaded check valves.
   3. Isolate equipment using butterfly valves with lug end flanges or grooved mechanical couplings.
   4. For throttling, bypass, or manual flow control services, use globe valves.
   5. In heating water or condenser water systems, butterfly valves may be used interchangeably with gate valves.
   6. For shut-off and to isolate parts of systems or vertical risers, use gate, ball, or butterfly valves.

E. Welding Materials and Procedures: Comply with ASME BPVC-IX.

2.02 EQUIPMENT DRAINS AND OVERFLOWS

A. Copper Tube: ASTM B88 (ASTM B88M), Type M (C), drawn; Use in exposed areas using one of the following joint types:
   1. Solder Joints: ASME B16.18 cast brass/bronze or ASME B16.22 solder wrought copper fittings; ASTM B32 lead-free solder, HB alloy (95-5 tin-antimony) or tin and silver.

B. PVC Pipe: ASTM D1785, Schedule 80, or ASTM D2241, SDR 21 or 26.
   1. Fittings: ASTM D2466 or D2467, PVC.
   2. Joints: Solvent welded in accordance with ASTM D2855.

2.03 PIPE HANGERS AND SUPPORTS

A. Provide hangers and supports that comply with MSS SP-58.
   1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inches (13 to 38 mm): Malleable iron, adjustable swivel, split ring.
   3. Hangers for Cold Pipe Sizes 2 Inches (50 mm) and Greater: Carbon steel, adjustable, clevis.
   4. Hangers for Hot Pipe Sizes 2 to 4 Inches (50 to 100 mm): Carbon steel, adjustable, clevis.
   5. Hangers for Hot Pipe Sizes 6 Inches (150 mm) and Greater: Adjustable steel yoke, cast iron roll, double hanger.
   6. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches (150 mm) and Greater: Steel channels with welded spacers and hanger rods, cast iron roll.
   8. Wall Support for Pipe Sizes to 3 Inches (76 mm): Cast iron hook.
   9. Wall Support for Pipe Sizes 4 Inches (100 mm) and Greater: Welded steel bracket and wrought steel clamp.
   10. Wall Support for Hot Pipe Sizes 6 Inches (150 mm) and Greater: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast iron roll.
   11. Vertical Support: Steel riser clamp.
   12. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   13. Floor Support for Hot Pipe Sizes to 4 Inches (100 mm): Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   14. Floor Support for Hot Pipe Sizes 6 Inches (150 mm) and Greater: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.
   15. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.
   16. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.

B. In grooved installations, use rigid couplings with offsetting angle-pattern bolt pads or with wedge-shaped grooves in header piping to permit support and hanging in accordance with ASME B31.9.

2.04 UNIONS, FLANGES, MECHANICAL COUPLINGS, AND DIELECTRIC CONNECTIONS

A. Unions for Pipe 2 Inches (50 mm) and Less:
   1. Ferrous Piping: 150 psig (1034 kPa) malleable iron, threaded.
   2. Copper Pipe: Bronze, soldered joints.

B. Flanges for Pipe 2 Inches (50 mm) and Greater:
   1. Ferrous Piping: 150 psig (1034 kPa) forged steel, slip-on.
   2. Copper Piping: Bronze.
   3. Gaskets: 1/16 inch (1.6 mm) thick, preformed neoprene.

C. Mechanical Couplings for Grooved and Shouldered Joints: Two or more curved housing segments with continuous key to engage pipe groove, circular C-profile gasket, and bolts to secure and compress gasket.
   1. Dimensions and Testing: In accordance with AWWA C606.
   2. Mechanical Couplings: Comply with ASTM F1476.
   3. Housing Material: Ductile iron complying with ASTM A536.

4. Gasket Material: EPDM suitable for operating temperature range from minus 30 degrees F (minus 34 degrees C) to 230 degrees F (110 degrees C).
5. Bolts and Nuts: Hot dipped galvanized or zinc-electroplated steel.
6. When pipe is field grooved, provide coupling manufacturer's grooving tools.
7. Manufacturers:
   a. Anvil International: www.anvilintl.com/#sle.
   b. Manufactured in the USA.
   c. Substitutions: See Section 016000 - Product Requirements.

D. Dielectric Connections:
1. Waterways:
   a. Water impervious insulation barrier capable of limiting galvanic current to 1 percent of short circuit current in a corresponding bimetallic joint.
   b. Dry insulation barrier able to withstand 600-volt breakdown test.
   c. Construct of galvanized steel with threaded end connections to match connecting piping.
   d. Suitable for the required operating pressures and temperatures.
2. Flanges:
   a. Dielectric flanges with same pressure ratings as standard flanges.
   b. Water impervious insulation barrier capable of limiting galvanic current to 1 percent of short circuit current in a corresponding bimetallic joint.
   c. Dry insulation barrier able to withstand 600-volt breakdown test.
   d. Construct of galvanized steel with threaded end connections to match connecting piping.
   e. Suitable for the required operating pressures and temperatures.
3. Unions:
   a. 1/2 to 1 Inches (15 to 25 mm): Brass solder to galvanized FPT.
   b. 1/2 to 2 Inches (15 to 50 mm): Brass solder to galvanized FPT.
   c. 1/2 to 1 Inches (15 to 25 mm): Brass to galvanized FPT or FIP (Female Iron Pipe).
   d. 3/4 to 1/2 Inch (20 to 15 mm) Reducer: Brass solder to galvanized FPT.
   e. Service: 250 psi (1,723.6 kPa), minus 20 to 180 deg F (minus 28.9 to 82.2 deg F).

2.05 BALL VALVES

A. Manufacturers:
1. Apollo Valves: www.apollovalves.com/#sle.
2. Manufactured in the USA.
3. Substitutions: See Section 016000 - Product Requirements.

B. Up To and Including 2 Inches (50 mm):
1. Bronze two piece body, chrome plated brass ball, teflon seats and stuffing box ring, lever handle with balancing stops, solder or threaded ends with union.

C. Over 2 Inches (50 mm):
1. Ductile iron body, chrome plated steel ball, teflon or Virgin TFE seat and stuffing box seals, lever handle, flanged ends, rated to 800 psi (5515 kPa).

2.06 BUTTERFLY VALVES

A. Manufacturers:
1. Apollo Valves: www.apollovalves.com/#sle.
2. Manufactured in the USA.
3. Substitutions: See Section 016000 - Product Requirements.

B. Body: Cast or ductile iron with resilient replaceable EPDM seat, wafer or lug ends, extended neck.

C. Disc: Construct of aluminum bronze, chrome plated ductile iron, stainless steel, or ductile iron with EPDM encapsulation.

D. Stem: Stainless steel with stem offset from the centerline to provide full 360-degree circumferential setting.

E. Operator: Infinite position lever handle with memory stop.

PART 3 EXECUTION

3.01 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Prepare pipe for grooved mechanical joints as required by coupling manufacturer.

C. Remove scale and dirt on inside and outside before assembly.

D. Prepare piping connections to equipment using jointing system specified.

E. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

F. After completion, fill, clean, and treat systems. See Section 232500 for additional requirements.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install heating water and chilled water piping to ASME B31.9 requirements.

C. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.

D. Route piping in orderly manner, parallel to building structure, and maintain gradient.

E. Install piping to conserve building space and to avoid interference with use of space.

F. Group piping whenever practical at common elevations.

G. Sleeve pipe passing through partitions, walls, and floors.

H. Slope piping and arrange to drain at low points.

I. Grooved Joints:
   1. Install in accordance with the manufacturer's latest published installation instructions.
   2. Gaskets to be suitable for the intended service, molded, and produced by the coupling manufacturer.

J. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9, ASTM F708, or MSS SP-58.
   2. Support horizontal piping as scheduled.
   3. Install hangers to provide minimum 1/2-inch (13 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Use hangers with 1-1/2 inches (38 mm) minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
   6. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   7. Provide copper plated hangers and supports for copper piping.
   8. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

K. Use eccentric reducers to maintain top of pipe level.

L. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc-rich primer to welds.

M. Install valves with stems upright or horizontal, not inverted.

3.03 SCHEDULES

A. Hanger Spacing for Copper Tubing.
1. 1/2 Inch (15 mm) and 3/4 inch (20 mm): Maximum span, 5 feet (1500 mm); minimum rod size, 1/4 inch (6 mm).
2. 1 Inch (25 mm): Maximum span, 6 feet (1800 mm); minimum rod size, 1/4 inch (6 mm).
3. 1-1/2 Inches (40 mm) and 2 Inches (50 mm): Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9 mm).

B. Hanger Spacing for Steel Piping.
1. 1/2 Inch (15 mm), 3/4 Inch (20 mm), and 1 Inch (25 mm): Maximum span, 7 feet (2100 mm); minimum rod size, 1/4 inch (6 mm).
2. 1-1/4 Inches (32 mm): Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9 mm).
3. 1-1/2 Inches (40 mm): Maximum span, 9 feet (2700 mm); minimum rod size, 3/8 inch (9 mm).
4. 2 Inches (50 mm): Maximum span, 10 feet (3.0 m); minimum rod size, 3/8 inch (9 mm).
5. 2-1/2 Inches (65 mm): Maximum span, 11 feet (3.4 m); minimum rod size, 3/8 inch (9 mm).
6. 3 Inches (80 mm): Maximum span, 12 feet (3.6 m); minimum rod size, 3/8 inch (9 mm).
7. 4 Inches (100 mm): Maximum span, 14 feet (4.3 m); minimum rod size, 1/2 inch (13 mm).
8. 6 Inches (150 mm): Maximum span, 17 feet (5.1 m); minimum rod size, 1/2 inch (13 mm).

C. Hanger Spacing for Plastic Piping.
1. 1/2 Inch (15 mm): Maximum span, 42 inches (1000 mm); minimum rod size, 1/4 inch (6 mm).
2. 3/4 Inch (20 mm): Maximum span, 45 inches (1100 mm); minimum rod size, 1/4 inch (6 mm).
3. 1 Inch (25 mm): Maximum span, 51 inches (1300 mm); minimum rod size, 1/4 inch (6 mm).
4. 1-1/4 Inches (32 mm): Maximum span, 57 inches (1400 mm); minimum rod size, 3/8 inch (9 mm).

END OF SECTION

SECTION 232114
HYDRONIC SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Air vents.

B. Suction diffusers.

C. Pump connectors.

D. Combination pump discharge valves.

E. Pressure-temperature test plugs.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product data for manufactured products and assemblies required for this project. Include component sizes, rough-in requirements, service sizes, and finishes. Include product description and model.

C. Manufacturer's Installation Instructions: Indicate hanging and support methods, joining procedures.

D. Project Record Documents: Record actual locations of flow controls.

E. Maintenance Data: Include installation instructions, assembly views, lubrication instructions, and replacement parts list.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary protective coating on cast iron and steel valves.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.01 AIR VENTS

A. Manufacturers:
   1. Armstrong International, Inc: www.armstronginternational.com/#sle.
   2. ITT Bell & Gossett: www.bellgossett.com/#sle.
   3. Taco, Inc: www.taco-hvac.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Manual Type: Short vertical sections of 2-inch (50 mm) diameter pipe to form air chamber, with 1/8 inch (3 mm) brass needle valve at top of chamber.

C. Float Type:

1. Brass or semi-steel body, copper, polypropylene, or solid non-metallic float, stainless steel valve and valve seat; suitable for system operating temperature and pressure; with isolating valve.

2.02 SUCTION DIFFUSERS

A. Manufacturers:
   1. Anvil International: www.anvilintl.com/#sle.
   2. Grinnell Products: www.grinnell.com/#sle.
   3. ITT Bell & Gossett: www.bellgossett.com/#sle.
   4. Shurjoint Piping Products, Inc: www.shurjoint.com/#sle.
   5. Victaulic Company of America: www.victaulic.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Fitting: Angle pattern, cast-iron body, threaded for 2 inch (50 mm) and smaller, flanged for 2-1/2 inch (65 mm) and larger, rated for 175 psi (1200 kPa) working pressure, with inlet vanes, cylinder strainer with 3/16 inch (5 mm) diameter openings, disposable 1/8 inch (3.2 mm) mesh strainer to fit over cylinder strainer, 20 mesh startup screen, and permanent magnet located in flow stream and removable for cleaning.

C. Accessories: Adjustable foot support, blowdown tapping in bottom, gauge tapping in side.

2.03 PUMP CONNECTORS

A. Manufacturers:
   1. The Metraflex Company; Vane Flex: www.metraflex.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Flexible Connectors: Flanged, braided type with wetted components of stainless steel, sized to match piping.
   1. Maximum Allowable Working Pressure: 150 psig (1030 kPa) at 120 degrees F (49 degrees C).
   2. End Connections: Same as specified for pipe jointing.
   3. Provide pump connector with integral vanes to reduce turbulent flow.
   4. Provide necessary accessories including, but not limited to, swivel joints.

2.04 COMBINATION PUMP DISCHARGE VALVES

A. Manufacturers:
   1. Taco, Inc: www.taco-hvac.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Valves: Straight or angle pattern, flanged cast-iron valve body with bolt-on bonnet for 175 psi (1200 kPa) operating pressure, non-slam check valve with spring-loaded bronze disc and seat, stainless steel stem, and calibrated adjustment permitting flow regulation.

2.05 PRESSURE-TEMPERATURE TEST PLUGS

A. Construction: Brass body designed to receive temperature or pressure probe with removable protective cap, and Neoprene rated for minimum 200 degrees F (93 degrees C).

B. Application: Use extended length plugs to clear insulated piping.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install specialties in accordance with manufacturer's instructions.

B. Provide manual air vents at system high points and as indicated.

C. For automatic air vents in ceiling spaces or other concealed locations, provide vent tubing to nearest drain.

D. Provide pump suction fitting on suction side of base-mounted centrifugal pumps where indicated. Remove temporary strainers after cleaning systems.

E. Provide combination pump discharge valve on discharge side of base mounted centrifugal pumps where indicated.

F. Support pump fittings with floor-mounted pipe and flange supports.

END OF SECTION

SECTION 232123
HYDRONIC PUMPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Base-mounted pumps.

1.02 REFERENCE STANDARDS

A. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

B. UL 778 - Standard for Motor-Operated Water Pumps Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide certified pump curves showing performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable. Include electrical characteristics and connection requirements.

C. Millwright's Certificate: Certify that base mounted pumps have been aligned.

D. Manufacturer's Installation Instructions

E. Operation and Maintenance Data: Include installation instructions, assembly views, lubrication instructions, and replacement parts list.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacture, assembly, and field performance of pumps, with minimum three years of experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Bell & Gossett, a Xylem Inc. brand: www.bellgossett.com/#sle.

B. Taco.

C. Substitutions: See Section 016000 - Product Requirements.

2.02 HVAC PUMPS - GENERAL

A. Provide pumps that operate at specified system fluid temperatures without vapor binding and cavitation, are non-overloading in parallel or individual operation, and operate within 25 percent of midpoint of published maximum efficiency curve.

B. Minimum Quality Standard: UL 778.

C. Base Mounted Pumps: Aligned by qualified millwright.

D. Products Requiring Electrical Connection: Listed and classified by UL or testing agency acceptable to Authority Having Jurisdiction as suitable for the purpose specified and indicated.

2.03 BASE-MOUNTED PUMPS

A. Type: Horizontal shaft, single stage, direct connected, radially or horizontally split casing, for 125 psi (860 kPa) maximum working pressure.

B. Casing: Cast iron, or ductile iron with suction and discharge gauge ports, renewable bronze casing wearing rings, seal flush connection, drain plug, flanged suction and discharge.

C. Impeller: Bronze, fully enclosed, keyed to shaft.

D. Bearings: Oil lubricated roller or ball bearings.

E. Shaft: Alloy steel with copper, bronze, or stainless steel shaft sleeve.

F. Seal: Mechanical seal, 225 degrees F (107 degrees C) maximum continuous operating temperature.

G. Seal: Packing gland with minimum four rings graphite impregnated packing and bronze lantern rings, 250 degrees F (121 degrees C) maximum continuous operating temperature.

H. Drive: Flexible coupling with coupling guard.

I. Baseplate: Cast iron or fabricated steel with integral drain rim.

J. Electrical Characteristics:
   1. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.

PART 3 EXECUTION

3.01 PREPARATION

A. Verify that electric power is available and of the correct characteristics.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide access space around pumps for service. Provide no less than minimum space recommended by manufacturer.

C. Decrease from line size with long radius reducing elbows or reducers. Support piping adjacent to pump such that no weight is carried on pump casings. For close-coupled or base-mounted pumps, provide supports under elbows on pump suction and discharge line sizes 4 inches (102 mm) and over.

D. Provide line sized shut-off valve and pump suction fitting on pump suction, and line sized combination pump discharge valve on pump discharge.

E. Provide air cock and drain connection on horizontal pump casings.

F. Provide drains for bases and seals, piped to and discharging into floor drains.

G. Check, align, and certify alignment of base-mounted pumps prior to start-up.

H. Install close-coupled and base-mounted pumps on concrete housekeeping base, with anchor bolts, set and level, and grout in place. See Section 033000.

I. Lubricate pumps before start-up.

END OF SECTION

SECTION 232300
REFRIGERANT PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Piping.
B. Refrigerant.
C. Moisture and liquid indicators.
D. Valves.
E. Strainers.
F. Filter-driers.
G. Solenoid valves.
H. Expansion valves.
I. Flexible connections.

1.02 REFERENCE STANDARDS

A. AHRI 710 (I-P) - Performance Rating of Liquid-Line Driers 2009.
B. AHRI 711 (SI) - Performance Rating of Liquid-Line Driers 2009.
C. AHRI 750 - Thermostatic Refrigerant Expansion Valves 2007.
D. ASHRAE Std 15 - Safety Standard for Refrigeration Systems 2019, with All Amendments and Errata.
E. ASHRAE Std 34 - Designation and Safety Classification of Refrigerants 2019.
F. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators 2021.
G. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings 2021.
H. ASME B31.5 - Refrigeration Piping and Heat Transfer Components 2022.
I. ASME B31.9 - Building Services Piping 2020.
J. AWS A5.8M/A5.8 - Specification for Filler Metals for Brazing and Braze Welding 2019.
K. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).
L. UL 429 - Electrically Operated Valves Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.
B. Product Data: Provide general assembly of specialties, including manufacturer's catalogue information. Provide manufacturer's catalog data including load capacity.
C. Shop Drawings: Indicate schematic layout of system, including equipment, critical dimensions, and sizes.
D. Design Data: Submit design data indicating pipe sizing. Indicate load-carrying capacity of trapeze, multiple pipe, and riser support hangers.
E. Test Reports: Indicate results of leak test, acid test.
F. Manufacturer's Installation Instructions: Indicate support, connection requirements, and isolation for servicing.

G. Submit welders certification of compliance with ASME BPVC-IX.

H. Project Record Documents: Record exact locations of equipment and refrigeration accessories on record drawings.

I. Maintenance Data: Include instructions for changing cartridges, assembly views, spare parts lists.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store piping and specialties in shipping containers with labeling in place.

B. Protect piping and specialties from entry of contaminating material by leaving end caps and plugs in place until installation.

C. Dehydrate and charge components such as piping and receivers, seal prior to shipment, until connected into system.

PART 2 PRODUCTS

2.01 SYSTEM DESCRIPTION

A. Where more than one piping system material is specified ensure system components are compatible and joined to ensure integrity of system is not jeopardized. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

B. Provide pipe hangers and supports in accordance with ASME B31.5 unless indicated otherwise.

C. Liquid Indicators:
   1. Use line size liquid indicators in main liquid line leaving condenser.
   2. Use line size on leaving side of liquid solenoid valves.

D. Valves:
   1. Use service valves on suction and discharge of compressors.
   2. Use gauge taps at compressor inlet and outlet.
   3. Use gauge taps at hot gas bypass regulators, inlet and outlet.
   4. Use check valves on compressor discharge.

E. Strainers:
   1. Use line size strainer upstream of each automatic valve.
   2. Use shut-off valve on each side of strainer.

F. Filter-Driers:
   1. Use a filter-drier immediately ahead of liquid-line controls, such as thermostatic expansion valves, solenoid valves, and moisture indicators.
   2. Use sealed filter-driers in systems utilizing hermetic compressors.
   3. Use replaceable core filter-driers in lines of 1/2 inch (13 mm) outside diameter or greater.
   4. Use filter-driers for each solenoid valve.

G. Solenoid Valves:
   1. Use in liquid line of single or multiple evaporator systems.

H. Flexible Connectors: Utilize at or near compressors where piping configuration does not absorb vibration.

2.02 REGULATORY REQUIREMENTS

A. Comply with ASME B31.9 for installation of piping system.

B. Welding Materials and Procedures: Comply with ASME BPVC-IX and applicable state labor regulations.

C. Products Requiring Electrical Connection: Listed and classified by UL, as suitable for the purpose indicated.

2.03 PIPING

A. Copper Tube to 1-3/8": ASTM B280, Type L-ACR or Type K-ACR. Copper Tube larger than 1-3/8": Type K-ACR only.
   1. Fittings: ASME B16.22 wrought copper.
   2. Joints: Braze, AWS A5.8M/A5.8 BCuP silver/phosphorus/copper alloy.

B. Pipe Supports and Anchors:
   1. Provide hangers and supports that comply with MSS SP-58.
      a. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch (13 to 38 mm): Malleable iron adjustable swivel, split ring.
   3. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   4. Wall Support for Pipe Sizes to 3 Inches (75 mm): Cast iron hook.
   5. Vertical Support: Steel riser clamp.
   6. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   7. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.
   8. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.
   9. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.04 REFRIGERANT

A. Refrigerant: 410A as defined in ASHRAE Std 34.

2.05 MOISTURE AND LIQUID INDICATORS

A. Manufacturers:
   1. Henry Technologies: www.henrytech.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Indicators: Single port type, UL listed, with copper or brass body, flared or soldered ends, sight glass, color coded paper moisture indicator and plastic cap; for maximum temperature of 200 degrees F (93 degrees C) and maximum working pressure of 700 psi.

2.06 VALVES

A. Manufacturers:
   1. Hansen Technologies Corporation: www.hantech.com/#sle.
   2. Henry Technologies: www.henrytech.com/#sle.
   3. Flomatic Valves: www.flomatic.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Service Valves:
   1. Forged brass body with copper stubs, brass caps, removable valve core, integral ball check valve, flared or soldered ends, for maximum pressure of 700 psi.

2.07 STRAINERS

A. Manufacturers:
   1. Hansen Technologies Corporation: www.hantech.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Straight Line or Angle Line Type:
   1. Brass or steel shell, steel cap and flange, and replaceable cartridge, with screen of stainless steel wire or monel reinforced with brass; for maximum working pressure of 430 psi (2960 kPa).

2.08 FILTER-DRIERS

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Performance:
   1. Flow Capacity - Liquid Line: As indicated in schedule, minimum, rated in accordance with AHRI 710 (I-P) (AHRI 711 (SI)).
   2. Pressure Drop: 2 psi (14 kPa), maximum, when operating at full connected evaporator capacity.
   3. Design Working Pressure: 700 psi, minimum.

C. Cores: Molded or loose-fill molecular sieve desiccant compatible with refrigerant, activated alumina, activated charcoal, and filtration to 40 microns, with secondary filtration to 20 microns; of construction that will not pass into refrigerant lines.

D. Construction: UL listed.
   1. Replaceable Core Type: Steel shell with removable cap.
   2. Sealed Type: Copper shell.
   3. Connections: As specified for applicable pipe type.

2.09 SOLENOID VALVES

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Valve: AHRI 760 I-P, pilot operated, copper, or brass body and internal parts, synthetic seat, stainless steel stem and plunger assembly (permitting manual operation in case of coil failure), integral strainer, with flared, soldered, or threaded ends; for maximum working pressure of 700 psi.

C. Coil Assembly: UL 429 UL listed, replaceable with molded electromagnetic coil, moisture and fungus proof, with surge protector and color coded lead wires, integral junction box.

2.10 EXPANSION VALVES

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Angle or Straight Through Type: AHRI 750; design suitable for refrigerant, brass body, internal or external equalizer, bleed hole, adjustable superheat setting, replaceable inlet strainer, with replaceable capillary tube and remote sensing bulb and remote bulb well.

C. Selection: Evaluate refrigerant pressure drop through system to determine available pressure drop across valve. Select valve for maximum load at design operating pressure and minimum 10 degrees F (6 degrees C) superheat. Select to avoid being undersized at full load and excessively oversized at part load.

2.11 FLEXIBLE CONNECTORS

A. Manufacturers:
   1. Circuit Hydraulics, Ltd: www.circuit-hydraulics.co.uk/#sle.
   2. Flexicraft Industries: www.flexicraft.com/#sle.
   3. Penflex: www.penflex.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Corrugated bronze hose with single layer of stainless steel exterior braiding, minimum 9 inches (230 mm) long with copper tube ends; for maximum working pressure of 700 psi.

PART 3 EXECUTION

3.01 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain-end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

A. Install refrigeration specialties in accordance with manufacturer's instructions.

B. Route piping in orderly manner, with plumbing parallel to building structure, and maintain gradient.

C. Install piping to conserve building space and avoid interference with use of space.

D. Group piping whenever practical at common elevations and locations. Slope piping one percent in direction of oil return.

E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

F. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.5.
   2. Support horizontal piping as indicated.
   3. Install hangers to provide minimum 1/2 inch (13 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   6. Provide copper plated hangers and supports for copper piping.

G. Arrange piping to return oil to compressor. Provide traps and loops in piping, and provide double risers as required. Slope horizontal piping 0.40 percent in direction of flow.

H. Provide clearance for installation of insulation and access to valves and fittings.

I. Provide access to concealed valves and fittings.

J. Flood piping system with nitrogen when brazing.

K. Where pipe support members are welded to structural building frame, brush clean, and apply one coat of zinc rich primer to welding.

L. Insulate piping.

M. Follow ASHRAE Std 15 procedures for charging and purging of systems and for disposal of refrigerant.

N. Provide replaceable cartridge filter-driers, with isolation valves and valved bypass.

O. Locate expansion valve sensing bulb immediately downstream of evaporator on suction line.

P. Provide external equalizer piping on expansion valves with refrigerant distributor connected to evaporator.

Q. Install flexible connectors at right angles to axial movement of compressor, parallel to crankshaft.

R. Fully charge completed system with refrigerant after testing.

S. Provide electrical connection to solenoid valves.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Test refrigeration system in accordance with ASME B31.5.

C. Pressure test system with dry nitrogen to 200 psi (1380 kPa). Perform final tests at 27 inches (92 kPa) vacuum and 200 psi (1380 kPa) using halide torch. Test and repair piping until no leakage.

3.04 SCHEDULES

A. Hanger Spacing for Copper Tubing.

1. 1/2 inch (13 mm), 5/8 inch (16 mm), and 7/8 inch (22 mm) OD: Maximum span, 5 feet (1500 mm); minimum rod size, 1/4 inch (6.3 mm).
2. 1-1/8 inch (29 mm) OD: Maximum span, 6 feet (1800 mm); minimum rod size, 1/4 inch (6.3 mm).
3. 1-3/8 inch (35 mm) OD: Maximum span, 7 feet (2100 mm); minimum rod size, 3/8 inch (9.5 mm).
4. 1-5/8 inch (41 mm) OD: Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9.5 mm).

END OF SECTION

SECTION 233100
HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal ducts.

B. Flexible ducts.

1.02 REFERENCE STANDARDS

A. ASHRAE (FUND) - ASHRAE Handbook - Fundamentals Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

D. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.

E. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems 2021.

F. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

G. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors current edition, including all revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate duct fitting types, gauges, sizes, welds, and configuration.

C. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience.

1.05 FIELD CONDITIONS

A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.

B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Provide UL Class 1 ductwork, fittings, hangers, supports, and appurtenances in accordance with NFPA 90A and SMACNA (DCS) guidelines unless stated otherwise.

B. Provide metal duct unless otherwise indicated.

C. Acoustical Treatment: Provide sound-absorbing liners and sectional silencers for metal-based ducts in compliance with Section 233319.

D. Duct Shape and Material in accordance with Allowed Static Pressure Range:
   1. Round: Plus or minus 2 in-wc (500 Pa) of galvanized steel.
   2. Rectangular: Plus or minus 2 in-wc (500 Pa) of galvanized steel.

3. Flexible Duct (Fabric and wire): Plus or minus 2 in-wc (500 Pa); see Section 233700.

E. Duct Sealing and Leakage in accordance with Static Pressure Class:
1. Duct Pressure Class and Material for Common Mechanical Ventilation Applications:
a. Supply Air: 2 in-wc ([___] Pa) pressure class, galvanized steel.
b. Outside Air Intake: 2 in-wc ([___] Pa) pressure class, galvanized steel.
c. Return and Relief Air: 2 in-wc ([___] Pa) pressure class, galvanized steel.
2. Low Pressure Service: Up to 2 in-wc (500 Pa):
a. Seal: Class C, apply to seal off transverse joints.
b. Leakage:
1) Rectangular: Class 24 or 24 cfm/100 sq ft (680 Lpm/9.3 sq m).
2) Round: Class 12 or 12 cfm/100 sq ft (340 Lpm/9.3 sq m).

F. Duct Fabrication Requirements:
1. Duct and Fitting Fabrication and Support: SMACNA (DCS) including specifics for continuously welded round and oval duct fittings.
2. No variation of duct configuration or size permitted except by written permission.
3. Use reinforced and sealed sheet-metal materials at recommended gauges for indicated operating pressures or pressure class.
4. Construct tees, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide airfoil turning vanes of perforated metal with glass fiber insulation.
5. Provide turning vanes of perforated metal with glass fiber insulation when acoustical lining is indicated.
6. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

2.02 METAL DUCTS

A. Material Requirements:
1. Galvanized Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.

B. Round Metal Ducts:
1. Round Single Wall Duct: Round lock seam duct with galvanized steel outer wall.
2. Round Connection System: Interlocking duct connection system per SMACNA (DCS).

C. Connectors, Fittings, Sealants, and Miscellaneous:
1. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
a. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
b. For Use with Flexible Ducts: UL labeled.
c. Manufacturers:
1) Carlisle HVAC Products: www.carlislehvac.com/#sle.
2) Elgen Manufacturing Company, Inc: www.elgenmfg.com/#sle.
3) Substitutions: See Section 016000 - Product Requirements.
2. Gasket Tape:
a. Provide butyl rubber gasket tape for a flexible seal between transfer duct connector (TDC), transverse duct flange (TDF), applied flange connections, and angle ring connections.
3. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

D. Flexible Ducts: UL 181, Class 1, polyethylene film, mechanically fastened and rolled using galvanized steel to form a spiral helix.
   1. Insulation: R6 insulation with polyethylene vapor barrier film.
   2. Pressure Rating: 10 in-wc (2.50 kPa) positive and 5 in-wc (1.25 kPa) negative.
   3. Maximum Velocity: 4000 fpm (20.3 m/sec).
   4. Temperature Range: Minus 20 degrees F to 250 degrees F (Minus 28 degrees C to 121 degrees C).
   5. Manufacturers:

PART 3 EXECUTION

3.01 INSTALLATION

A. Install, support, and seal ducts in accordance with SMACNA (DCS).

B. Install products following the manufacturer's instructions.

C. Comply with safety standards NFPA 90A and NFPA 90B.

D. During construction, provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering the ductwork system.

E. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

F. Flexible Ducts: Connect to metal ducts with adhesive, draw bands, and tape.

G. Duct sizes indicated are precise inside dimensions. For lined ducts, maintain sizes inside lining.

H. Provide openings in ductwork as indicated to accommodate thermometers and controllers. Provide pilot tube openings as indicated for testing of systems, complete with metal can with spring device or screw to insure against air leakage. For openings, insulate ductwork and install insulation material inside a metal ring.

I. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

J. Use double nuts and lock washers on threaded rod supports.

K. Connect diffusers or light troffer boots to low-pressure ducts directly or with 6 feet maximum length of flexible duct held in place with strap or clamp.

L. At exterior wall louvers, seal duct to louver frame.

M. Duct Insulation: Provide duct insulation. See Section 230713.

END OF SECTION

SECTION 236313
AIR COOLED REFRIGERANT CONDENSERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured units.

B. Casing.

C. Condenser coils.

D. Fan requirements.

E. Controls.

1.02 REFERENCE STANDARDS

A. AHRI 210/240 - Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment 2023.

B. ASHRAE Std 15 - Safety Standard for Refrigeration Systems 2019, with All Amendments and Errata.

C. ASHRAE Std 20 - Methods of Laboratory Testing Remote Mechanical-Draft Air-Cooled Refrigerant Condensers 2019.

D. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

F. UL 207 - Standard for Refrigerant-Containing Components and Accessories, Nonelectrical Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide rated capacities, weights, accessories, electrical requirements, and wiring diagrams.

C. Shop Drawings: Indicate components, assembly, dimensions, weights and loading, required clearances, and location and size of field connections. Include schematic layouts showing condenser, refrigeration compressors, cooling coils, refrigerant piping and accessories required for complete system.

D. Manufacturer's Instructions: Submit manufacturer's complete installation instructions.

E. Operation and Maintenance Data: Include start-up instructions, maintenance instructions, parts lists, controls, and accessories.

F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's installation instruction for rigging, unloading and transporting units.

B. Protect units on site from physical damage. Protect coils.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Daikin.

B. Lennox.

C. Manufactured in the USA

D. Substitutions: See Section 016000 - Product Requirements.

2.02 MANUFACTURED UNITS

A. Provide packaged, factory assembled, pre-wired unit, suitable for outdoor use consisting of casing, condensing coil and fans, integral sub-cooling coil liquid accumulator, screens, and controls.

B. Construction and Ratings: In accordance with AHRI 210/240 and UL 207. Testing shall be in accordance with ASHRAE Std 20.

C. Performance Ratings: Energy Efficient Rating (EER)/Coefficient of Performance (COP) not less than prescribed by ASHRAE Std 90.1 I-P, in combination with compressor units.

2.03 CASING

A. House components in galvanized steel panels with weather resistant, baked enamel finish.

B. Mount starters, disconnects, and controls in weatherproof panel provided with full opening access doors. Provide mechanical interlock to disconnect power when door is opened.

C. Provide removable access doors or panels with quick fasteners.

2.04 CONDENSER COILS

A. Coils: Aluminum fins mechanically bonded to seamless copper tubing. Provide sub-cooling circuits. Air test under water to 425 psig (2900 kPa), and vacuum dehydrate. Seal with holding charge of nitrogen.

B. Coil Guard: Expanded metal with lint screens.

C. Configuration: Two refrigeration circuits each with receiver.

2.05 FAN REQUIREMENTS

A. Vertical discharge direct driven propeller type condenser fans with fan guard on discharge, equipped with roller or ball bearings with grease fittings extended to outside of casing.

B. Weatherproof motors suitable for outdoor use, single phase permanent split capacitor or 3 phase, with permanent lubricated ball bearings and built-in current and thermal overload protection.

2.06 CONTROLS

A. Provide factory wired and mounted control panel, NEMA 250, containing fan motor starters, head pressure controls, compressor interlock, and control transformer.

B. Provide controls to permit operation down to 15 degrees F ([____] degrees C) ambient temperature.

C. Provide head pressure switch to cycle fan motors in response to refrigerant condensing pressure.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide for connection to electrical service. See Section 260583.

C. Align condensers on concrete foundations. See Section 033000

D. Provide connection to refrigeration piping system. See Section 232300. Comply with ASHRAE Std 15.

END OF SECTION

SECTION 237313
MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Casing construction.

B. Fan section.

C. Coil section.

D. Filter and air cleaner section.

E. Controls.

1.02 REFERENCE STANDARDS

A. ABMA STD 9 - Load Ratings and Fatigue Life for Ball Bearings 2015 (Reaffirmed 2020).

B. AHRI 410 - Forced-Circulation Air-Cooling and Air-Heating Coils 2001, with Addenda (2011).

C. AMCA (DIR) - (Directory of) Products Licensed Under AMCA International Certified Ratings Program 2015.

D. AMCA 99 - Standards Handbook 2016.

E. AMCA 210 - Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating 2016.

F. AMCA 300 - Reverberant Room Method for Sound Testing of Fans 2014.

G. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data 2014.

H. ASHRAE Std 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size 2017, with Addendum (2022).

I. ASTM B177/B177M - Standard Guide for Engineering Chromium Electroplating 2011 (Reapproved 2021).

J. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

K. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.

L. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

M. UL (DIR) - Online Certifications Directory Current Edition.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate the installation of air handlers with size, location and installation of service utilities.

B. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:
   1. Published Literature: Indicate dimensions, weights, capacities, ratings, gauges and finishes of materials, and electrical characteristics and connection requirements.
   2. Filters: Data for filter media, filter performance data, filter assembly, and filter frames.
   3. Fans: Performance and fan curves with specified operating point clearly plotted, power, RPM.
   4. Sound Power Level Data: Fan outlet and casing radiation at rated capacity.

5. Electrical Requirements: Power supply wiring including wiring diagrams for interlock and control wiring, clearly indicating factory-installed and field-installed wiring.

C. Shop Drawings: Indicate assembly, unit dimensions, weight loading, required clearances, construction details, field connection details, and electrical characteristics and connection requirements.

D. Executed Warranty: Submit documentation of final executed warranty completed in Owner's name and registered with manufacturer.

E. Manufacturer's Instructions: Include installation instructions.

F. Maintenance Data: Include instructions for lubrication, filter replacement, motor and drive replacement, spare parts lists, and wiring diagrams.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 016000 - Product Requirements for additional provisions.
2. Extra Filters: One set for each unit.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Accept products on site in factory-fabricated protective containers, with factory-installed shipping skids and lifting lugs. Inspect for damage.

B. Store in clean dry place and protect from weather and construction traffic. Handle carefully to avoid damage to components, enclosures, and finish.

C. Do not operate units until ductwork is clean, filters are in place, bearings lubricated, and fan has been test run under observation.

1.07 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Provide minimum five year manufacturer warranty covering repair or replacement due to defective materials or workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Daikin Applied; [_____]: www.daikinapplied.com/#sle.

B. Lennox.

C. Substitutions: See Section 016000 - Product Requirements.

2.02 REGULATORY REQUIREMENTS

A. Comply with NFPA 70.

B. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.

2.03 CASING CONSTRUCTION

A. Full Perimeter Base Rail:
1. Construct of galvanized steel.
2. Provide base rail of sufficient height to raise unit for external trapping of condensate drain pans.

B. Casing:
1. Construct of one piece, insulated, double wall panels.

2. Provide mid-span, no through metal, internal thermal break.
3. Construct outer panels of galvanized steel and inner panels of galvanized steel.
4. Casing Air Pressure Performance Requirements:
   a. Able to withstand up to 8 in-wc (2 kPa) positive or negative static pressure.
   b. Not to exceed 0.0042 inches per inch (0.000165 mm per mm) deflection at 1.5 times design static pressure up to a maximum of plus 8 in-wc (2 kPa) in positive pressure sections and minus 8 in-wc (2 kPa) in negative pressure sections.

C. Access Doors:
1. Construction, thermal and air pressure performance same as casing.
2. Provide surface mounted handles on hinged, swing doors.

D. Unit Flooring: Construct with sufficient strength to support expected people and equipment loads associated with maintenance activities.

E. Casing Leakage: Seal joints and provide airtight access doors so that air leakage does not exceed one percent of design flow at the specified casing pressure.

F. Insulation:
1. Provide minimum thermal thickness of 12 R (2.29 RSI) throughout.
2. Completely fill panel cavities in each direction to prevent voids and settling.
3. Comply with NFPA 90A.

G. Drain Pan Construction:
1. Provide cooling coil sections with an insulated, double wall, stainless steel drain pan complying with ASHRAE Std 62.1 for indoor air quality and sufficiently sized to collect all condensate.
2. Slope in two planes to promote positive drainage and eliminate stagnate water conditions.
3. Locate outlet of sufficient diameter at lowest point of pan to prevent overflow at normal operating conditions.
4. Provide threaded drain connections constructed of drain pan material, extended sufficient distance beyond the base to accommodate field installed, condensate drain trapping.

H. Finish:
1. Indoor Units:
   a. Provide exterior, galvanized steel panels with painted surface complying with ASTM B177/B177M.
   b. Color: Manufacturer's standard color.

2.04 FAN SECTION

A. Type: Forward curved, single width, single inlet, centrifugal fan, in accordance with AMCA 99.

B. Performance Ratings: Determined in accordance with AMCA 210 and labeled with AMCA Certified Rating Seal.

C. Sound Ratings: AMCA 301; tested to AMCA 300 and label with AMCA Certified Sound Rating Seal.

D. Bearings: Self-aligning, grease lubricated, with lubrication fittings extended to exterior of casing with plastic tube and grease fitting rigidly attached to casing.

E. Mounting:
1. Locate fan and motor internally on welded steel base coated with corrosion resistant paint.
2. Factory mount motor on slide rails.
3. Provide access to motor, drive, and bearings through removable casing panels or hinged access doors.

F. External Motor Junction Box: Factory mount NEMA 4 external junction box and connect to extended motor leads from internally mounted motors.

G. Motor Wiring Conduit: Factory wire fan motor wiring to the unit mounted external motor junction box.

H. Flexible Duct Connections:
   1. For separating fan, coil, and adjacent sections.

I. Drives:
   1. Comply with AMCA 99.
   2. Bearings: Heavy duty pillow block type, ball bearings, with ABMA STD 9 L-50 life at 100,000 hours.
   3. Shafts: Solid, hot rolled steel, ground and polished, with key-way, and protectively coated with lubricating oil.
   4. V-Belt Drive: Cast iron or steel sheaves, dynamically balanced, bored to fit shafts, and keyed. Variable and adjustable pitch sheaves for motors 15 hp (11.2 kW) and under selected so required rpm is obtained with sheaves set at mid-position; fixed sheave for 20 hp (15 kW) and over, matched belts, and drive rated as recommended by manufacturer or minimum 1.5 times nameplate rating of the motor.
   5. Belt Guard: Fabricate to SMACNA (DCS); 0.106 inch (2.6 mm) thick, 3/4 inch (20 mm) diamond mesh wire screen welded to steel angle frame or equivalent, prime coated. Secure to fan or fan supports without short circuiting vibration isolation, with provision for adjustment of belt tension, lubrication, and use of tachometer with guard in place.

2.05 COIL SECTION

A. Casing: Provide access to both sides of coils. Enclose coils with headers and return bends exposed outside casing. Slide coils into casing through removable end panel with blank off sheets and sealing collars at connection penetrations.

B. Drain Pans: 24 inch (600 mm) downstream of coil and down spouts for cooling coil banks more than one coil high.

C. Air Coils:
   1. Certify capacities, pressure drops, and selection procedures in accordance with AHRI 410.

D. Fabrication:
   1. Tubes: 5/8 inch (16 mm) OD seamless copper expanded into fins, brazed joints.
   2. Fins: Aluminum.
   3. Casing: Die formed channel frame of galvanized steel.

E. Refrigerant Coils:
   1. Headers: Seamless copper tubes with silver brazed joints.
   2. Liquid Distributors: Brass or copper venturi distributor with seamless copper distributor tubes.
   3. Configuration: Down feed with bottom suction.

F. Electric Coils:
   1. Assembly: UL (DIR) listed and labeled, with terminal control box and hinged cover, splice box, coil, casing, and controls.
   2. Coil: Enclosed copper tube, aluminum finned element.
   3. Casing: Die formed channel frame of galvanized steel.
   4. Controls: Automatic reset thermal cut-out, built-in magnetic contactors control circuit transformer and fuse.

2.06 FILTER AND AIR CLEANER SECTION

A. General: Provide filter sections with filter racks, minimum of one access door for filter removal, and filter block-offs to prevent air bypass.

B. Throwaway Filters:
   1. Media: 2 inch (50 mm) fiberglass with rigid supporting mesh across the leaving face, capable of operating up to a maximum of 500 fpm (2.54 m/s) without loss of efficiency and holding capacity.
   2. Frame: Rigid.
   3. Minimum Efficiency Reporting Value: MERV 13 when tested in accordance with ASHRAE Std 52.2.

2.07 CONTROLS

A. Combination Starter-Disconnects:
   1. Provide combination starter-disconnect for each fan motor.
   2. Factory mount in full metal enclosure and wire to fan motor.
   3. Mount starter-disconnect on fan section externally in a NEMA 1 enclosure within a dedicated controls section or housed fan section.
   4. Include circuit breaker disconnect with through-the-door interlocking handle for externally mounted starters, spring loaded, and designed to rest only in the full and lockable ON or OFF state.
   5. Allow enclosure entry via a concealed defeater mechanism when the handle is in the ON position.
   6. Include the following items:
      a. Hand-Off-Auto (H-O-A) switch.
      b. Two normally open auxiliary contacts.
      c. Overload heaters.
      d. Manual reset overloads.
      e. 120V control transformer with fusing and secondary grounding.
   7. Include power wiring from the starter control transformer to the secondary control system transformers, and start-stop wiring from the direct digital controller start-stop relay to the starter H-O-A switch.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Bolt sections together with gaskets.

C. Isolate fan section with flexible duct connections.

D. Install flexible duct connections between fan inlet and discharge ductwork and air handling unit sections. Ensure that metal bands of connectors are parallel with minimum 1 inch (25 mm) flex between ductwork and fan while running.

E. Provide fixed sheaves required for final air balance.

F. Refrigerant Coils: Provide sight glass in liquid line within 12 inches (300 mm) of coil.

G. Electric Duct Coils:
   1. Wire in accordance with NFPA 70.

H. Cooling Coils:
   1. Pipe drain and overflow to nearest floor drain.

3.02 SYSTEM STARTUP

A. Provide manufacturer's field representative to perform systems startup.

B. Prepare and start equipment and systems in accordance with manufacturers' instructions and recommendations.

C. Adjust for proper operation within manufacturer's published tolerances.

3.03 CLOSEOUT ACTIVITIES

A. Demonstration: Demonstrate operation of system to Owner's personnel.
   1. Use operation and maintenance data as reference during demonstration.
   2. Conduct walking tour of project.
   3. Briefly describe function, operation, and maintenance of each component.

B. Training: Train Owner's personnel on operation and maintenance of system.
   1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
   2. Provide minimum of two hours of training.
   3. Instructor: Manufacturer's training personnel.
   4. Location: At project site.

END OF SECTION

SECTION 260010
BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION

A. This section is an extension of the General Requirements and certain items of a common or administrative nature that pertain to all electrical work.

B. The work of this section consists of furnishing materials, equipment, constant competent supervision, special tools, test equipment, technicians, and labor necessary for installation of a complete working electrical system as indicated herein and on the Drawings.

C. The work shall include but not necessarily be limited to the following:
   1. Temporary electrical service for construction.
   2. All Electrical Construction.

D. Power System for HVAC

1.02 QUALITY ASSURANCE

A. The electrical installation shall conform to the requirements of the latest edition of the National Electrical Code (NEC). Notify Architect/Engineer of conflicts before performance.

B. Electrical material shall be built and tested in accordance with the applicable standards of the (NEMA), (ANSI), (ASTM), and (IEEE).

C. Electrical materials shall be new and unused and shall be listed and labeled for the service intended by Underwriters' Laboratories, Inc., where such labeling service is available.

1.03 REGULATORY REQUIREMENTS

A. Permits: Obtain and pay for all necessary permits, inspections, connection charges, fees, insurance, bond, licenses, and comply with all governing laws, ordinances, rules and regulations.

B. Certificates of Inspection: Upon completion and before the date of substantial completion of each designated Phase, furnish a certificate of inspection issued by Ingalls to the effect that the installation is in full conformity with all Ingalls requirements.

1.04 COORDINATION

A. Contractor shall be responsible for coordination of all work with other disciplines.

B. Arrange work in a neat, well organized manner with exposed conduit and similar services running parallel with primary lines of the building construction, high as possible with a minimum of 8'-0" overhead clearance or as directed by the Engineer.

C. Where the method of installation is not certain, ask for details. Lack of details, not requested, will not be an excuse for improper installation, and any such work must be corrected at contractor’s cost.

D. Coordination Drawings: For locations where several elements of electrical or combined mechanical and electrical work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings showing the actual physical dimensions (at accurate scale, minimum 1/4") required for the installation. Prepare and submit coordination drawings prior to purchase-fabrication-installation of any of the elements involved in the coordination.

E. All Bidders shall be responsible to insure that equipment selected, switchboards, panel boards, etc., fit in spaces selected, along with NEC compliance. If standard equipment does not fit, Contractor shall be required to utilize custom equipment as required.

1.05 DRAWINGS AND SPECIFICATIONS

A. Contract Documents (Drawings and Specifications) are intended to convey the scope of work and indicate general arrangements of equipment, fixtures and piping, and approximate sizes and locations of equipment and outlets. Follow these documents in laying out the work, check all Drawings to become familiar with all conditions affecting the work, and verify spaces in which the work will be installed.

B. The contractor shall fully coordinate installation of electrical system with other disciplines. The Drawings show approximate locations only of selected feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Engineer reserves the right to make reasonable changes in locations indicated before roughing-in without additional cost to the Owner.
   1. Contractor shall investigate the structural and finish conditions affecting Division 26 work and shall arrange such work accordingly, furnishing fittings, bends, junction boxes, pull boxes, access panels, and accessories required to meet such conditions.
   2. These Specifications, together with the accompanying Drawings, contemplate apparatus fully erected, and in satisfactory operating condition with the Contractor furnishing and installing everything that may be necessary to complete the job.
   3. Contractor shall install circuits, breakers, equipment, etc. as indicated and label the above as noted. Contractor shall not deviate from equipment/circuit identification unless approved by Owner/Engineer.

1.06 SUBMITTALS

A. Shop Drawings:
   1. Listed below are shop drawings required for transmittal. Refer to Phasing Plan for scheduling of submittal. No time delays will be allowed for failure to be so informed.
      a. Lamps
      b. Raceways
      c. Connectors
      d. Safety Switches
      e. Fuses
      f. Circuit Breakers
      g. Wiring Devices
      h. Motor Controls
      i. Panel boards
      j. Conductors
   2. Further descriptions or information required with shop drawings shall be included with the description of materials specified herein as follows:
      a. Grounding Products: Include a complete grounding system diagram with materials and ground conductor sizes.
      b. Miscellaneous Electrical Controls and Control Wiring: Include control wiring diagrams for all miscellaneous electrical controls.
      c. Housekeeping Pads: Include location and dimensions of housekeeping pads, including blockouts and anchor bolts.
   3. Firestops: Include all firestop materials for the project, indicating intended use and UL fire rating where applicable.
      a. Provide “SpecSeal” products or equal. Provide SSB series firestop pillows (or equal) around the cable tray where cable trays make penetration in the walls, etc. Provide “LC150” series sealant (or equal) to seal the penetrations made by conduits.
   4. Contractor prepared, new, detailed, dimensioned shop Drawings for the installation of the work in the electrical equipment rooms areas shall be prepared and submitted for review. In preparing shop Drawings, establish lines and levels for the work specfied and check

the drawings to avoid interference with structural features an the work of other trades. Immediately call ot the attention of the Engineering in writing any interferences for clarification.

5. Corrections or comments made on shop Drawings during the review do not relieve the Contractor from compliance with requirements of the contract documents. Review of shop Drawings shall not permit any deviation from Drawings and Specifications. Shop Drawings must be accompanied by signed statement from contractor, stating that he has reviewed the submittal and checked it for compliance. Contractor shall make note on the submittals if they deviate from the contract documents.
6. Contractor shall provide products as specified if submittals for review of materials are not received within thirty (30) days after award of the Contract.

1.07 PROJECT/SITE CONDITIONS

A. Visit the site before bidding to become familiar with conditions under which the work will be performed.

B. No additional compensation will be allowed for failure to be so informed.

1.08 CUTTING AND PATCHING

A. Do all cutting, patching, fitting, and all other work that may be required to make the several parts come together and fit.

B. Provide, everything required for the work or to conceal any of the work, in any part of the structure.

C. Fireproofing:
   1. Plastic sleeves/pipe shall not be used within the building when penetrating a fire-resistant-rated wall, ceiling, partition, or floor.

1.09 RECORD DRAWINGS

A. Upon completion of the project, provide a complete set of detailed electronic as-built drawings in AutoCAD 2005 format with all information required. Contractor shall also produce (2) sets of as-built drawings with modifications to construction documents in red ink. Contractor shall maintain a current set of as-built drawings on site at all times. As-built drawings shall include, but not be limited to detailed dimensions of all conduits, ductbank, etc. install in slab or below grade.

B. Equipment Manuals:
   1. Before the date of substantial completion, Contractor shall furnish to the Engineer three (3) bound sets of descriptive, dimensional and parts data on all major items of electrical equipment and material including those items listed above under "Shop Drawings:".

1.10 WARRANTY/GUARANTEE

A. Except where longer periods of warranty are specified, guarantee all labor and materials for a period of twelve (12) months from the date of substantial completion of the particular phase of the work. Repair all defective materials and work; replace with new materials and/or equipment, any material and/or equipment failing to give satisfactory service.

B. During the period of guarantee, promptly correct any defects in equipment, materials or workmanship without cost to the Owner.

C. Guarantee includes equipment capacity and performance ratings specified without excessive noise levels. Any deficiencies in equipment specified shall be promptly corrected.

D. Contractor's warranty shall include an inspection of the system one (1) week before the end of the one (1) year warranty period. Replace or repair any items found to be defective at this time.

1.11 TESTS AND BALANCING

A. At such times as the Engineer directs, conduct operating tests to demonstrate that the electrical systems are installed and will operate properly and in accordance with the requirements of this Specification. Tests shall be performed in the presence of the Engineer's representative. Furnish instruments and personnel required for such tests.

B. Any work and materials tested and found varying from the requirements of the Drawings and Specifications shall be replaced without additional cost to the Owner.

C. This section does not relieve the Contractor from testing equipment installed under this Division but not listed in this section. Contractor is required to test all equipment, feeders, etc., installed under this Division.

PART 2 PRODUCTS

2.01 GENERAL

A. Refer to DIVISION 1 sections for general requirements on products, materials and equipment. Refer to other DIVISION 26 sections for additional requirements.

B. Provide products which are compatible with other products of the electrical work, and with other work requiring interface with the electrical work, including electrical connections and control devices. Determine in advance of purchase that equipment and materials proposed for installation will fit into the confines indicated, leaving adequate clearance as required by applicable codes, and for adjustment, repair, or replacement.

2.02 MANUFACTURERS' NAMEPLATES

A. Each major component of the equipment shall have the manufacturer's name, address, model number, and rating on a plate securely affixed in a conspicuous place.

PART 3 EXECUTION

3.01 GENERAL

A. Visit the building site before bidding to determine existing conditions and assume all responsibility and bear all expenses in allowing for these conditions in the bid.

B. Obtain all necessary permits, pay all legal fees and charges.

C. No work shall be concealed until approved by the engineer and all regulations are adhered to. Provide certificate of completion.

D. Cooperate with other trades in installing work in order that there will be no conflict of space required by conduit, piping, ducts, outlets, etc.

E. Verify dimensions with certified shop Drawings of the materials actually approved and purchased.

3.02 TEMPORARY WIRING, LIGHTING AND POWER AT THE SITE

A. Furnish and install provisions for temporary electrical service and construction light and power during the construction period.

B. Furnish, install, and maintain all temporary service equipment as required until permanent service is installed, switch-over temporary systems to the permanent service when latter is ready for same.

C. Furnish, install, maintain, and switch on and off on all regular work days a complete temporary light system, for the building while under construction.

D. Provide any and/or all relocations of temporary electric facilities as necessary to avoid the permanent installations of all trades.

3.03 WIRING FOR EQUIPMENT BY OTHERS

A. Electrical service for all equipment furnished under this Specification and/or indicated on the Drawings shall be roughed-in and connected under this Section.

B. Electrical work for equipment specified in Division 25 - Mechanical shall be as specified.

C. Electrical work for Performing Arts Theatrical and AV - Electrical Contractor shall refer to the Theatrical and AV drawings for wiring requirements.

D. Raceways, outlets, backboards, cabinets, grounding connections, handholes, underground distribution system, and other roughing-in indicated shall be provided as work of this division for intercom system, telecommunication system, fire alarm system and HVAC Control 120V power (Contractor to provide cable as well).

3.04 WORKMANSHIP

A. Install all materials and electrical components of the work in accordance with instructions of manufacturer following the best modern construction practices and conforming with the Contract Documents. Workmanship shall be first class, in both function and appearance, whether finally concealed or exposed and shall be performed by experienced workmen skilled in the type of work. As practicable, the lines of all components of the system shall be perpendicular or parallel. In general, workmanship shall conform to guidelines set forth in N.E.C.A. manuals.

3.05 MOUNTING HEIGHTS

A. Upon approval of the Engineer mounting heights may be adjusted.

END OF SECTION

SECTION 260051
ELECTRICAL RELATED WORK

PART 1 GENERAL

1.01 DESCRIPTION

A. Extent of electrical related work required by this section is indicated on Drawings and/or specified in other Division 26 sections.

1.02 PROJECT/SITE CONDITIONS

A. Protect property from damage which might result from excavating and backfilling.

B. Protect persons from injury at excavations by barricades, warnings and illumination.

C. Coordinate excavations with weather conditions, to minimize possibility of washouts, settlements and other damages and hazards.

PART 2 PRODUCTS

2.01 ACCESS TO ELECTRICAL WORK

A. Provide removable access doors of types and sizes needed for access requirements of Electrical Equipment.

PART 3 EXECUTION

3.01 EXCAVATION, TRENCHING AND BACKFILLING

A. Perform all excavation of every description and of whatever substances encountered to the depths indicated on the Drawings or as otherwise specified or as required based on field condition. All excavated materials not required or not suitable for backfill shall be removed.

B. Sheeting and shoring shall be done as necessary for the protection of the work and for the safety of personnel.

C. No excavation or trenches shall be cut near or under footings without first consulting the Engineer.

D. Provide uniform circumferential support to lower third of each conduit or pipe. Each conduit or pipe shall be laid true to line and grade to prevent sudden offset to flow line. As work progresses, interior of conduit or pipe shall be cleared of dirt and superfluous materials of every description.

E. Provide proper supporting material as required based on field condition.
   1. Trenches for utilities shall be of a depth that will provide the following minimum depth of cover from existing grade or from indicated finish grade, whichever is lower, unless otherwise specifically shown:
      a. 30-Inch Minimum Cover - Electrical Conduits/Cables over 600 volts
      b. 24-inch Minimum (See NEC 300-5) - Electrical Cables/Conduits under 600 volts.
   2. Backfill shall be installed in layers 6" deep, adequately wetted and tamped using materials as noted above. Refer to Division 2 for compaction densities.
   3. Restore all hard finished surfaces such as roadways, sidewalks, grass, shrubbery, etc., removed for installation of utilities (and not shown on Drawings or specified to be reworked under other sections of the work) to their original condition. Restore to near original condition acceptable to Architect/Engineer.
   4. Carefully plan all work to avoid existing utilities and other interferences. The Drawings do not indicate all existing underground utilities. Existing utility lines to be retained that are shown on the Drawings or the locations of which are made known to the Contractor prior to excavation, as well as all utility lines uncovered during excavation operations, shall be protected from damage during excavation and backfilling and, if damaged, shall be repaired by Contractor at his expense. Prior to doing any excavation with power tools,

carefully investigate and locate any exiting conduit, pipes, and other lines.

3.02 FOUNDATIONS AND SUPPORTS

A. Provide concrete pedestals, bases, pads, curbs, anchor blocks, anchor bolts, slab inserts, hangers channels, cradles, saddles, etc. for installation of floor mounted equipment.

B. Concrete pads for floor mounted electrical equipment shall be 3.5 inches high, unless otherwise indicated, poured integral with the floor slab wherever practical. Wherever integral slab poured pads are not practicable, construct 3.5 inch high housekeeping pads, reinforced with No. 3 steel wire mesh 6 X 6 inches, fastened to structural slabs with 1/2 inch diameter bolts embedded in structural slabs with expansion bolts at all corners (inset 3 inches) and no further apart than 18 inches. Score structural slab thoroughly to assure concrete bonding between structural slab and housekeeping pad. Construct in full accordance with "concrete" specifications for 2500 psi minimum compressive strength. Finish tops of housekeeping pads smooth and level within 1 percent of span. Pads shall be extended at least 4" (10 cm) beyond the equipment outline on all four sides with chamfered edges.

3.03 PAINTING

A. Factory painted equipment shall have finish restored to Manufacturer's finish if scratched or damaged before acceptance or use by Owner.

END OF SECTION

SECTION 260170
CIRCUIT AND MOTOR DISCONNECTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. The work of this section consists of providing labor, materials, tools, appliances and miscellaneous accessories associated with the circuit and motor disconnect switch work indicated herein and on Drawings and schedules.

B. Types of circuit and motor disconnect switches in this section include the following:
   1. Equipment disconnects.
   2. Appliance disconnects.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. Square D or approved equal

2.02 FABRICATED SWITCHES

A. Provide Heavy Duty safety switches and the best possible quality which yields the most protection for equipment and personnel for the intended use. If there is conflict between the drawings and the specifications, the contractor shall use the one that yields the most stringent protection requirements.
   1. Fused switches shall include the following:
   2. All fusible switches shall accept Class R fuses and have provision for field installation of U.L. listed rejection feature.
   3. The U.L. listed short circuit rating shall be 100,000 symmetrical amperes when Class R fuses and fuse kits are installed.

B. Type of Enclosure for the Different Locations:
   1. Recess panel board.
   2. NEMA Type 1: Indoor use.
   3. NEMA Type 12/3R: Outdoor use.

C. All switches shall /be listed per U.L. Standard 98; comply with Federal Specifications W-S-865; comply with NEMA KS-1.

PART 3 EXECUTION

3.01 INSTALLATION OF CIRCUIT DISCONNECT SWITCHES

A. Install disconnect switches where indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA, and NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products fulfill requirements.

B. Provide and install fuses where applicable and/or shown on the Drawings.

C. Install label nameplate as required.

END OF SECTION

SECTION 260519
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Single conductor building wire.

B. Metal-clad cable.

C. Wiring connectors.

D. Electrical tape.

E. Heat shrink tubing.

F. Oxide inhibiting compound.

G. Wire pulling lubricant.

H. Cable ties.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 260526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

C. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

D. Section 262100 - Low-Voltage Electrical Service Entrance: Additional requirements for electrical service conductors.

1.03 REFERENCE STANDARDS

A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire 2013 (Reapproved 2018).

B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft 2011 (Reapproved 2017).

C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes 2010, with Editorial Revision (2020).

D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation 2004 (Reapproved 2020).

E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape 2017.

F. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes 2020.

G. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

H. NECA 120 - Standard for Installing Armored Cable (AC) and Type Metal-Clad (MC) Cable 2018.

I. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy 2021.

J. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.

K. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

L. UL 44 - Thermoset-Insulated Wires and Cables Current Edition, Including All Revisions.

M. UL 83 - Thermoplastic-Insulated Wires and Cables Current Edition, Including All Revisions.

N. UL 486A-486B - Wire Connectors Current Edition, Including All Revisions.

O. UL 486C - Splicing Wire Connectors Current Edition, Including All Revisions.

P. UL 486D - Sealed Wire Connector Systems Current Edition, Including All Revisions.

Q. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape Current Edition, Including All Revisions.

R. UL 854 - Service-Entrance Cables Current Edition, Including All Revisions.

S. UL 1569 - Metal-Clad Cables Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
   3. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F (-10 degrees C), unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Engineer/Architect and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

C. Nonmetallic-sheathed cable is not permitted.

D. Metal-clad cable is permitted only as follows:
   1. Where not otherwise restricted, may be used:
      a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
         1) Maximum Length: 6 feet (1.8 m).

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed, classified, and labeled as suitable for the purpose intended.

C. Provide new conductors and cables manufactured not more than one year prior to installation.

D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

E. Comply with NEMA WC 70.

F. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

G. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

H. Conductors for Grounding and Bonding: Also comply with Section 260526.

I. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.

J. Conductor Material:
   1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
   2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
   3. Tinned Copper Conductors: Comply with ASTM B33.

K. Minimum Conductor Size:
   1. Branch Circuits: 12 AWG.
      a. Exceptions:
         1) 20 A, 120 V circuits longer than 75 feet (23 m): 10 AWG, for voltage drop.
         2) 20 A, 120 V circuits longer than 150 feet (46 m): 8 AWG, for voltage drop.
         3) 20 A, 277 V circuits longer than 150 feet (46 m): 10 AWG, for voltage drop.

L. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

M. Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.

a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.

3. Color Code:
   a. 480Y/277 V, 3 Phase, 4 Wire System:
      1) Phase A: Brown.
      2) Phase B: Orange.
      3) Phase C: Yellow.
      4) Neutral/Grounded: Gray.
   b. 240/120 V, 1 Phase, 3 Wire System:
      1) Phase A: Black.
      2) Phase B: Red.
      3) Neutral/Grounded: White.
   c. Equipment Ground, All Systems: Green.
   d. Travelers for 3-Way and 4-Way Switching: Pink.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:
   1. Copper Building Wire:
      a. Cerro Wire LLC: www.cerrowire.com/#sle.
      b. Encore Wire Corporation: www.encorewire.com/#sle.
      c. General Cable Technologies Corporation; [_____]: www.generalcable.com/#sle.
      d. Southwire Company: www.southwire.com/#sle.
      e. Or Approve Equal.

B. Description: Single conductor insulated wire.

C. Conductor Stranding:
   1. Feeders and Branch Circuits:
      a. Size 10 AWG and Smaller: Stranded.
      b. Size 8 AWG and Larger: Stranded.
   2. Control Circuits: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation:
   1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.
      a. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.

2.04 METAL-CLAD CABLE

A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

B. Conductor Stranding:
   1. Size 10 AWG and Smaller: Solid.
   2. Size 8 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.

E. Grounding: Full-size integral equipment grounding conductor.

F. Armor: Steel, interlocked tape.

2.05 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Connectors for Grounding and Bonding: Comply with Section 260526.

C. Wiring Connectors for Splices and Taps:
   1. Copper Conductors Size 8 AWG and Smaller: Use Barrel Crimp Sleeves or Barrel Crimp Sleeves.
   2. Copper Conductors Size 6 AWG and Larger: Use Barrel Crimp Sleeves or Barrel Crimp Sleeves.

D. Wiring Connectors for Terminations:
   1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
   2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
   3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
   4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
   5. Copper Conductors Size 8 AWG and Larger: Use compression connectors where connectors are required.

E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

F. Do not use push-in wire connectors as a substitute for Barrel Crimp connectors.

G. Mechanical or twist on Connectors: Provide bolted type or set-screw type.
   1. Manufacturers:
      a. Burndy LLC; [_____]: www.burndy.com/#sle.
      b. Ilsco: www.ilsco.com/#sle.
      c. Thomas & Betts Corporation: www.tnb.com/#sle.
      d. Or Approved Equal.

H. Compression Connectors: Provide circumferential type or hex type crimp configuration.
   1. Manufacturers:
      a. Burndy LLC; [_____]: www.burndy.com/#sle.
      b. Ilsco: www.ilsco.com/#sle.
      c. Thomas & Betts Corporation: www.tnb.com/#sle.
      d. Or Approved Equal.

2.06 ACCESSORIES

A. Electrical Tape:
   1. Manufacturers:
      a. 3M: www.3m.com/#sle.
      b. Plymouth Rubber Europa: www.plymouthrubber.com/#sle.
   2. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
   3. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and

sunlight; conformable for application down to 0 degrees F (-18 degrees C) and suitable for continuous temperature environment up to 221 degrees F (105 degrees C).

4. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil (0.76 mm); suitable for continuous temperature environment up to 194 degrees F (90 degrees C) and short-term 266 degrees F (130 degrees C) overload service.
5. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil (3.2 mm); suitable for continuous temperature environment up to 176 degrees F (80 degrees C).
6. Varnished Cambric Electrical Tape: Cotton cambric fabric tape, with or without adhesive, oil-primed and coated with high-grade insulating varnish; minimum thickness of 7 mil (0.18 mm); suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
7. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil (2.3 mm).

B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.

C. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.

D. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.

E. Cable Ties: Material and tensile strength rating suitable for application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70 and these specifications.

D. Verify that field measurements are as indicated.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

A. Circuiting Requirements:
1. Unless dimensioned, circuit routing indicated is diagrammatic.
2. When circuit destination is indicated without specific routing, determine exact routing required.
3. Arrange circuiting to minimize splices.
4. Include circuit lengths required to install connected devices within 10 ft (3.0 m) of location indicated.
5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
6. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is not permitted.

a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
b. Increase size of conductors as required to account for ampacity derating.
c. Size raceways, boxes, etc. to accommodate conductors.

8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among up to three single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.

B. Install products in accordance with manufacturer's instructions.

C. No conductor shall bear more than eight percent (80%) of its rated ampacity.

D. The system shall be properly grounded and coninuously polarized throughout following the color coding specified.

E. Do not used mechanical means to pull wire No. 8 AWG. or smaller.

F. Type AC or MC cable is not allowed except as allowed in this spec.

G. Perform work in accordance with NECA 1 (general workmanship).

H. Install metal-clad cable (Type MC) in accordance with NECA 120.

I. Installation in Raceway:
1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
2. Pull all conductors and cables together into raceway at same time.
3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

J. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.

K. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.

L. Terminate cables using suitable fittings.
1. Metal-Clad Cable (Type MC):
a. Use listed fittings.
b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.

M. Install conductors with a minimum of 12 inches (300 mm) of slack at each outlet.

N. Where conductors are installed in enclosures for future termination by others, provide a minimum of 5 feet (1.5 m) of slack.

O. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

P. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.

Q. Make wiring connections using specified wiring connectors.
1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.

3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to suitably remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

R. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
b. For taped connections likely to require re-entering, including motor leads, first apply varnished cambric electrical tape, followed by adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.
3. Wet Locations: Use heat shrink tubing.

S. Insulate ends of spare conductors using vinyl insulating electrical tape.

T. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.

U. Identify conductors and cables in accordance with Section 260553.

V. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

W. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. prior to energization, test cable and wire for continuity of cicuitry, and also for short circuts.

C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
1. Disconnect surge protective devices (SPDs) prior to performing any high potential testing. Replace SPDs damaged by performing high potential testing with SPDs connected.

D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION

SECTION 260526
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Grounding and bonding requirements.

B. Conductors for grounding and bonding.

C. Connectors for grounding and bonding.

1.02 RELATED REQUIREMENTS

A. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.
   1. Includes oxide inhibiting compound.

B. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. IEEE 81 - IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System 2012.

B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

C. NEMA GR 1 - Grounding Rod Electrodes and Grounding Rod Electrode Couplings 2022.

D. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.

E. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

F. UL 467 - Grounding and Bonding Equipment Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.

B. Shop Drawings:

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Field quality control test reports.

E. Project Record Documents: Record actual locations of grounding electrode system components and connections.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

1.08 DESCRIPTION OF WORK

A. The work of this section consist of providing labor, materials, tools, appliances and miscellaneous acccessories associated with grounding of the electrical system as required by and as indicated herein and/or on the drawings.

B. A separate grounding conductor, sized in accordance with NEC Table 250-122 shall be provided in the conduit with the circuit conductors for all feeder and branch circuits. The grounding conductor may be bare or insulated copper; however, if this conductor is insulated, the insulating covering shall be green in color. Where bare copper grounding conductors are used, mark the conductor ends with green tape. Conduit runs shall be increased in size where necessary to accommodate the grounding conductor in addition to circuit conductors. The electrical continuity of all conduit runs shall be verified and corrected where necessary.

C. All electrical equipment enclosures and conductor enclosures shall be grounded. This includes but is not limited to metal raceyways, outlet boxes, cabinets, switch boxes, work stations, motor frames, transformer cases and metallic enclosure for all electrical equipment.

D. Under no circumstances shall netural conductors again be grounded after they have been grounded once at the transformer secondary except at a separately derived system.

E. Panelboards shall be equipped with a neutral bar which is insulated from the enclosure, and a grounding bar which is bonded to the enclosure. The grounding bar shall provide for terminating the green equipment grounding conductors in the panelboard or motor control center cabinets. Neutral busses shall be isolated from ground except at the main bonding jumper.

F. Types of grounding in this section includes the following:
   1. Enclosures
   2. Systems
   3. Equipment

G. Requirements of this section apply to electrical grounding work specified elsewhere in these specifications.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS

A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.

B. Do not use products for applications other than as permitted by NFPA 70 and product listing.

C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.

D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

E. Bonding and Equipment Grounding:
   1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and

other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.

2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.
7. Provide bonding for interior metal piping systems in accordance with NFPA 70. This includes, but is not limited to:
    a. Metal water piping where not already effectively bonded to metal underground water pipe used as grounding electrode.
    b. Metal gas piping.

2.02 GROUNDING AND BONDING COMPONENTS

A. General Requirements:
    1. Provide products listed, classified, and labeled as suitable for the purpose intended.
    2. Provide products listed and labeled as complying with UL 467 where applicable.

B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 260526:
    1. Use insulated copper conductors unless otherwise indicated.
        a. Exceptions:
            1) Use bare copper conductors where installed underground in direct contact with earth.

C. Connectors for Grounding and Bonding:
    1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
    2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
    3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that work likely to damage grounding and bonding system components has been completed.

B. Verify that field measurements are as indicated.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. The neutral shall be grounded to the grounding electrode system at the service entrance only, and shall be kept isolated from the building grounding system throughout the building. The netural of separately derived systems shall be grounded at one point as specfified herin below.

D. Continuity of the building equipment grounding system shall be maintained throughout the project. Grounding jumpers shall be installed across conduit expansion fittings, all liquid-tight flexible metal and flexible metal conduit, light fixture pigtails in excess of 6' and all other non-electrically continuous raceway fittings.

E. All main grounding conductors shall be stranded copper conductors, sized as shown and/or required, and run in a suitable raceyway. All main grounding conductors shall be continuous without joints or splices over their entire length.

F. Flexible conduit longer than 6' shall not be considered a ground path.

G. Ground all grounding-type receptacles with a separate ground wire.

H. Grounding of all motors or equipment connected to terminal box with flexible conduit shall be made with a separate grounding conductor between motor frame or equipment cabinet and rigid conduit system. Grounding conductor shall be sized in accordance with table 250-122 of the NEC.

I. All grounding conductors shall be amply protected from mechanical injury and shall be supported in an approved manner. Where conductors are located in concrete, they shall be installed in conduit. Where ground conductors enter or emerge from slabs bearing directly on fill or soil, the voids between the conductor and the surrounding conduit shall be filled with compound to provide an effective water seal.

J. Grounding conductors shall be not smaller than #12 AWG. Conductors shall be high conductivity copper, and sizes larger than #12 shall be stranded.

K. Insulated bushings shall be installed on all raceways at transformers, switchboards, motor control centers, dry-type transformers, as well as switches used as service equipment.

L. Install clamp-on connectors only on throughly cleaned metal contact surfaces, to ensure electrical conductivity and circuit integrity.

M. Make grounding and bonding connections using specified connectors.
   1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
   2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
   3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
   4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
   5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

N. Identify grounding and bonding system components in accordance with Section 260553.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect and test in accordance with NETA ATS except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.13.

D. Submit detailed reports indicating inspection and testing results and corrective actions taken.

END OF SECTION

SECTION 260529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.02 RELATED REQUIREMENTS

A. Section 260533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

B. Section 260533.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.

C. Section 265100 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

D. Section 265600 - Exterior Lighting: Additional support and attachment requirements for exterior luminaires.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel 2023.

D. MFMA-4 - Metal Framing Standards Publication 2004.

E. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

F. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. UL 5B - Strut-Type Channel Raceways and Fittings Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for channel (strut) framing systems, non-penetrating rooftop supports, and post-installed concrete and masonry anchors.

B. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.

C. Evaluation Reports: For products specified as requiring evaluation and recognition by ICC Evaluation Service, LLC (ICC-ES), provide current ICC-ES evaluation reports upon request.

D. Installer's Qualification Statement: Include evidence of compliance with specified requirements.

E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.06 QUALITY ASSURANCE

A. Comply with NFPA 70.

B. Comply with applicable building code.

C. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

D. Installer Qualifications for Powder-Actuated Fasteners (when specified): Certified by fastener system manufacturer with current operator's license.

E. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURED SUPPORTING DEVICES

A. General: Provide supporting devices complying with manufacturer's standard materials, design and construction in accordance with published product information, and as required for a complete installation and as herein specified. Where more than one type of device meets indicated requirements, selection is Installer's option.

B. Support: Provide supporting devices of types, sizes and materials as required and having the following construction features:
   1. Clevis Hangers: For supporting 2" rigid metal conduit, galvanized steel with 1/2" diameter hole for round galvanized or stainless steel rod, approximately 54 pounds per 100 units.
   2. Riser Clamps: For supporting 5" rigid metal conduit, galvanized steel with 2 bolts and nuts and 4" ears, approximately 510 pounds per 100 units.
   3. Reducing Couplings: Steel rod reducing coupling, 1/2" x 5/8" galvanized or stainless steel approximately 16 pounds per 100.
   4. C-Clamps: Malleable iron, 1/2" rod size, approximately 70 pounds per 100 units.
   5. I-Beam Clamps: Steel, 1-1/4" x 3/16" stock, 3/8" cross bolt, flange width 2", approximately 52 pounds per 100 units.
   6. One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel, approximately 7 pounds per 100 units. Include with backing plates.
   7. Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel, 3/4" strap width, and 2-1/8" between center of screw holes.
   8. Round Steel Rod: Hot dipped galvanized or Stainless Steel, 1/2" diameter, approximately 67 pounds per 100 feet.
   9. Hexagon Nuts: For 1/2" rod size, galvanized steel, approximately 4 pounds per 100 units.
   10. Offset Conduit Clamps: For supporting 2" rigid metal conduit, steel approximately 200 pounds per 100 units.

C. Anchors: Provide anchors of types, sizes and materials as required and having the following construction features:
   1. Lead Expansion Anchors: 1/2", approximately 38 pounds over 100 units.

2. Toggle Bolts: Springhead, 3/16" x 4", approximately 5 pounds per 100 units.
3. Avaliable Manufacturers: Subject to compliance with requirements, manufacturers offering anchors which may be incorporated into the work include, but are not limited to the following:
    a. Abbeon Cal Inc.
    b. Ackerman Johnson Fastening System Inc.
    c. Elcen Metal Products Co.
    d. Ideal Industries, Inc.
    e. Josyln Mfg. and Supply Co.
    f. McGraw Edison Co.
    g. Rawplug Co. Inc.
    h. Star Expansion Bolt Co.

D. U-Channel Strut System:
1. Provide U-Channel strut system for supporting electrical equipment, 16-gage hot dip galvanized steel or stainless steel, of types and sizes required: construct with 9/16" diameter holes, 8" on center on top surface, and with the following fittings which mate and match with U-channel:
    a. Fixture Hangers
    b. Channel Hangers
    c. End caps
    d. Beam clamps
    e. Wiring stud
    f. Thinwall conduit clamps
    g. Rigid conduit clamps
    h. Conduit hangers
    i. U-bolts
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering channel system which may be incorporated in the work include, but are not limited to, the following:
    a. B-Line System, Inc.
    b. Elcen metal Products Co.
    c. Greenfield Mfg Co., Inc.
    d. Midland-Ross Corp.
    e. Power-Strut Div., Van Huffel Tube Corp.
    f. Unistrut Div, GTE Products Corp.

E. General Requirements:
1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
3. Do not use products for applications other than as permitted by NFPA 70 and product listing.
4. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
    a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
    b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

F. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.

2.02 FABRICATED SUPPORTING DEVICES

A. Pipe Sleeves: Provide pipe sleeves of one of the following:
   1. Sheet-Metal: Fabricate from galvanized sheet metal round tube closed with snaplock joint, welded spiral seams, or welded longitudinal joint. Fabricate from the following gages: 3" and smaller, 20 gage,; 4" or 6", 16 gage; over 6", 14 gage.
   2. Steel-Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.
   3. Iron-Pipe: Fabricate from cast-iron or ductile-iron pipe; remove burrs.
   4. Plastic-Pipe: Fabricate from Schedule 80 PVC plastic pipe; remove burrs.

B. Sleeve Seals: Provide Lead and Oakum sleeve seals, caulked between sleeve and pipe for sleeves located in foundation walls below grade or in exterior walls.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

E. Unless specifically indicated or approved by Engineer/Architect, do not provide support from suspended ceiling support system or ceiling grid.

F. Unless specifically indicated or approved by Engineer/Architect, do not provide support from roof deck.

G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

H. Equipment Support and Attachment:
   1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
   2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
   3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
   4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

I. Secure fasteners according to manufacturer's recommended torque settings.

J. Remove temporary supports.

K. Tighten sleeve seal nuts until sealing gromments have expanded to form a watertight seal.

L. Coordinate all conduit penetrations into the building from the exterior with Division 1.

3.03 FIELD QUALITY CONTROL

A. Inspect support and attachment components for damage and defects.

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 260533.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).

B. Flexible metal conduit (FMC).

C. Liquidtight flexible metal conduit (LFMC).

D. Electrical metallic tubing (EMT).

E. Underground PVC Conduit (PVC)

F. Conduit fittings.

G. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 260526 - Grounding and Bonding for Electrical Systems.
   1. Includes additional requirements for fittings for grounding and bonding.

C. Section 260529 - Hangers and Supports for Electrical Systems.

D. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

E. Section 262100 - Low-Voltage Electrical Service Entrance: Additional requirements for electrical service conduits.

1.03 REFERENCE STANDARDS

A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC) 2020.

B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S) 2020.

C. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

D. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT) 2020.

E. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.

F. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. UL 1 - Flexible Metal Conduit Current Edition, Including All Revisions.

H. UL 6 - Electrical Rigid Metal Conduit-Steel Current Edition, Including All Revisions.

I. UL 360 - Liquid-Tight Flexible Metal Conduit Current Edition, Including All Revisions.

J. UL 514B - Conduit, Tubing, and Cable Fittings Current Edition, Including All Revisions.

K. UL 797 - Electrical Metallic Tubing-Steel Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.

4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittals procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

C. Shop Drawings:
1. Indicate proposed arrangement for conduits to be installed within structural concrete slabs, where permitted.
2. Include proposed locations of roof penetrations and proposed methods for sealing.

D. Project Record Documents: Record actual routing for conduits 3/4" trade size and larger, conduits 3/4" trade size and larger, and conduits 3/4" trade size and larger.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.

C. Underground:
1. Exterior, Direct-Buried: Use Rigid PVC Conduit
2. Where rigid pvc conduit is provided, transition to galvanized steel rigid metal conduit where emerging from underground.
3. Where rigid polyvinyl (PVC) conduit larger than 2 inch (53 mm) trade size is provided, use galvanized steel rigid metal conduit elbows for bends.

D. Concealed Within Masonry Walls: Use electrical metallic tubing (EMT).

E. Concealed Within Hollow Stud Walls: Use electrical metallic tubing (EMT).

F. Concealed Above Accessible Ceilings: Use electrical metallic tubing (EMT).

G. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit.

H. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit.

I. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit.

J. Exposed, Exterior: Use galvanized steel rigid metal conduit.

K. Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit.
   1. Maximum Length: 6 feet (1.8 m).

L. Connections to Vibrating Equipment:
   1. Dry Locations: Use flexible metal conduit.
   2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
   3. Maximum Length: 6 feet (1.8 m) unless otherwise indicated.
   4. Vibrating equipment includes, but is not limited to:
      a. Motors.

2.02 CONDUIT REQUIREMENTS

A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.

B. Electrical Service Conduits: Also comply with Section 262100.

C. Fittings for Grounding and Bonding: Also comply with Section 260526.

D. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.

E. Provide products listed, classified, and labeled as suitable for the purpose intended.

F. Minimum Conduit Size, Unless Otherwise Indicated:
   1. Branch Circuits: 3/4 inch (21 mm) trade size.
   2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
   3. Control Circuits: 1/2 inch (16 mm) trade size.

G. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
   1. Allied Tube & Conduit: www.alliedeg.com/#sle.
   2. Republic Conduit: www.republic-conduit.com/#sle.
   3. Wheatland Tube, a Division of Zekelman Industries: www.wheatland.com/#sle.
   4. Or Approved Equal.

B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

C. Fittings:
   1. Manufacturers:
      a. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
      b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#sle.
      c. Thomas & Betts Corporation: www.tnb.com/#sle.
      d. Or Approved Equal.
   2. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   3. Material: Use steel or malleable iron.
   4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.04 FLEXIBLE METAL CONDUIT (FMC)

A. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems to be used.

B. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.

2.05 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.

B. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.

2.06 ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
   1. Allied Tube & Conduit; [_____]: www.alliedeg.com/#sle.
   2. Republic Conduit: www.republic-conduit.com/#sle.
   3. Wheatland Tube, a Division of Zekelman Industries; [_____]: www.wheatland.com/#sle.

B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.

C. Fittings:
   1. Manufacturers:
      a. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
      b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#sle.
      c. Thomas & Betts Corporation: www.tnb.com/#sle.
      d. Or Approved Equal.
   2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   3. Material: Use steel or malleable iron.
   4. Connectors and Couplings: Use compression (gland) or set-screw type.
      a. Do not use indenter type connectors and couplings.

2.07 ACCESSORIES

A. Corrosion Protection Tape: PVC-based, minimum thickness of 20 mil (0.51 mm).

B. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.

C. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force (890 N).

D. Sealing Compound for Sealing Fittings: Listed for use with the particular fittings to be installed.

E. Modular Seals for Conduit Penetrations: Rated for minimum of 40 psig; Suitable for the conduits to be installed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive conduits.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.

D. Methods of Installation:
   1. Cut conduits straight, properly ream, and cut threads for heavy wall conduit deep and clean.
   2. Field-bend conduit with benders designed for purpose so as not to distort nor vary internal diameter.
   3. Size conduits for fill of 40% or less per Chapter 9 tables of NEC, Minimum conduit size shall be 3/4".
   4. Conduits when entering watertight enclosures shall be secured with a myers hub.
   5. Fasten conduit terminations in sheet metal enclosures by 2 locknuts, and terminate with bushing. Install locknuts inside and outside enclosure.
   6. Install conduits as not to damage or run through structural members.
   7. Test every conduit run installed with ball mandrel. Clear and restore/repair and conduit which rejects ball mandrel.
   8. Provide permanent plastic tags at each end of embedded conduit run stating what the conduit is serving and where it is served from including the location.
   9. Label all junction boxes (larger than 6" x 6"); pull boxes, wireways with engraved plastic nameplates.
   10. Run all underground condit under the slab in the dirt and hunt from the slab except for miscellaneous 3/4" conduits which may be run in the slab (with approval from Structural Engineer) if the below stated conditions are met. The depth shall vary as required to avoid underground plumbing. Run in slab when turning up. Hang conduit to slab with stainless steel rods looped around conduit with stainless steel washer to keep loop closed on one end; the other end is to have a 90 degree bend set into slab or looped around reinforcing rods. Use 1/4" diameter rod for conduit up to 2", 3/8" diameter for conduit 2 1/2" or greater in diameter. Space supports no greater than 4' apart, or as required by the National Electrical Code and local codes.
   11. Install underground conduits minimum of 24" below finished grade. Use 36" radius long fittings only.
   12. Exposed Conduits:
      a. Install exposed conduits and extensions from concealed conduit systems neatly, parallel with, or at right angles to walls of the building.

E. Conduit Routing:
   1. Unless dimensioned, conduit routing indicated is diagrammatic.
   2. When conduit destination is indicated without specific routing, determine exact routing required.
   3. Conceal all conduits unless specifically indicated to be exposed.
   4. Conduits in the following areas may be exposed, unless otherwise indicated:
      a. Electrical rooms.
      b. Mechanical equipment rooms.
      c. Within joists in areas with no ceiling.
   5. Arrange conduit to maintain adequate headroom, clearances, and access.
   6. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
   7. Arrange conduit to provide no more than 150 feet (46 m) between pull points.

8. Route conduits above water and drain piping where possible.
9. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
10. Maintain minimum clearance of 6 inches (150 mm) between conduits and piping for other systems.
11. Maintain minimum clearance of 12 inches (300 mm) between conduits and hot surfaces. This includes, but is not limited to:
    a. Heaters.
    b. Hot water piping.
    c. Flues.
12. Group parallel conduits in the same area together on a common rack.

F. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

G. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
6. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
7. Secure joints and connections to provide maximum mechanical strength and electrical continuity.

H. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.
5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
8. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

I. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected

equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where conduits are subject to earth movement by settlement or frost.

J. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits pass from outdoors into conditioned interior spaces.
2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.

K. Provide grounding and bonding in accordance with Section 260526.

3.03 PROTECTION

A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 260533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Outlet and device boxes up to 100 cubic inches (1,650 cu cm), including those used as junction and pull boxes.

B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches (1,650 cu cm).

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 083100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.

C. Section 260526 - Grounding and Bonding for Electrical Systems.

D. Section 260529 - Hangers and Supports for Electrical Systems.

E. Section 260533.13 - Conduit for Electrical Systems:
   1. Conduit bodies and other fittings.
   2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.

F. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

G. Section 262726 - Wiring Devices:
   1. Wall plates.
   2. Additional requirements for locating boxes for wiring devices.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

B. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.

C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.

D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports 2013 (Reaffirmed 2020).

E. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports 2013 (Reaffirmed 2020).

F. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.

I. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.

J. UL 508A - Industrial Control Panels Current Edition, Including All Revisions.

K. UL 514A - Metallic Outlet Boxes Current Edition, Including All Revisions.

L. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers Current Edition, Including All Revisions.

M. UL 1203 - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
   4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
   5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
   6. Coordinate the work with other trades to preserve insulation integrity.
   7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
   8. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, cabinets and enclosures, floor boxes, and underground boxes/enclosures.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Keys for Lockable Enclosures: Two of each different key.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 BOXES

A. General Requirements:

1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches (1,650 cu cm), Including Those Used as Junction and Pull Boxes:
1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use suitable concrete type boxes where flush-mounted in concrete.
4. Use suitable masonry type boxes where flush-mounted in masonry walls.
5. Use raised covers suitable for the type of wall construction and device configuration where required.
6. Use shallow boxes where required by the type of wall construction.
7. Do not use "through-wall" boxes designed for access from both sides of wall.
8. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
9. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
10. Nonmetallic Boxes: Comply with NEMA OS 2, and list and label as complying with UL 514C.
11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
12. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
13. Minimum Box Size, Unless Otherwise Indicated:
    a. Wiring Devices (Other Than Communications Systems Outlets): 4 inch square by 1-1/2 inch deep (100 by 38 mm) trade size.
14. Wall Plates: Comply with Section 262726.
15. Manufacturers:
    a. Cooper Crouse-Hinds, a division of Eaton Corporation: www.cooperindustries.com/#sle.
    b. Hubbell Incorporated; Bell Products; [_____]: www.hubbell-rtb.com/#sle.
    c. Hubbell Incorporated; RACO Products; [_____]: www.hubbell-rtb.com/#sle.
    d. O-Z/Gedney, a brand of Emerson Electric Co; [_____]: www.emerson.com/#sle.
    e. Thomas & Betts Corporation: www.tnb.com/#sle.
    f. Or Approved Equal.

C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
2. NEMA 250 Environment Type, Unless Otherwise Indicated:
    a. Indoor Clean, Dry Locations: Type 12 painted steel.
    b. Outdoor Locations: Type 3R, painted steel.

3. Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
   a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
4. Cabinets and Hinged-Cover Enclosures, Other Than Junction and Pull Boxes:
   a. Provide lockable hinged covers, all locks keyed alike unless otherwise indicated.
   b. Back Panels: Painted steel, removable.
   c. Terminal Blocks: Provide voltage/current ratings and terminal quantity suitable for purpose indicated, with 25 percent spare terminal capacity.
5. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.
6. Manufacturers:
   a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com/#sle.
   b. Hoffman, a brand of Pentair Technical Products: www.hoffmanonline.com/#sle.
   c. Hubbell Incorporated; Wiegmann Products: www.hubbell-wiegmann.com/#sle.

D. Boxes and Enclosures for Integrated Power, Data, and Audio/Video: Size and configuration as indicated or as required with partitions to separate services; field-connected gangable boxes may be used.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive boxes.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

D. Provide separate boxes for emergency power and normal power systems.

E. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.

F. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.

G. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.

H. Round boxes are not acceptable where conduit must enter box through side of box.

I. Provide knockout closures to cap unused knockout holes where blanks have been removed.

J. Box Locations:
1. Locate boxes to be accessible. Provide access panels in accordance with Section 083100 as required where approved by the Architect.
2. Unless dimensioned, box locations indicated are approximate.
3. Locate boxes as required for devices installed under other sections or by others.
   a. Switches, Receptacles, and Other Wiring Devices: Comply with Section 262726.
4. Locate boxes so that wall plates do not span different building finishes.
5. Locate boxes so that wall plates do not cross masonry joints.
6. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.

7. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches (150 mm) horizontal separation unless otherwise indicated.
8. Fire Resistance Rated Walls: Install flush-mounted boxes such that the required fire resistance will not be reduced.
   a. Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches (610 mm) separation where wall is constructed with individual noncommunicating stud cavities or protect both boxes with listed putty pads.
   b. Do not install flush-mounted boxes with area larger than 16 square inches (0.0103 sq m) or such that the total aggregate area of openings exceeds 100 square inches (0.0645 sq m) for any 100 square feet (9.29 sq m) of wall area.
9. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 260533.13.

K. Box Supports:
1. Secure and support boxes in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
4. Use far-side support to secure flush-mounted boxes supported from single stud in hollow stud walls. Repair or replace supports for boxes that permit excessive movement.

L. Install boxes plumb and level.

M. Flush-Mounted Boxes:
1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch (6 mm) or does not project beyond finished surface.
2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch (3 mm) at the edge of the box.

N. Install boxes as required to preserve insulation integrity.

O. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

P. Close unused box openings.

Q. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

R. Provide grounding and bonding in accordance with Section 260526.

S. Identify boxes in accordance with Section 260553.

3.03 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.04 PROTECTION

A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 260553
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Exposed conduit color banding

B. Cable/Conductor Identification

C. Operation Instructions and Warnings

D. Danger Signs

E. Equipment/System Identification Signs

F. Voltage markers.

G. Floor marking tape.

1.02 REFERENCE STANDARDS

A. ANSI Z535.2 - American National Standard for Environmental and Facility Safety Signs 2011 (Reaffirmed 2017).

B. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).

C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

D. NFPA 70E - Standard for Electrical Safety in the Workplace 2021.

E. UL 969 - Marking and Labeling Systems Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.

B. Sequencing:
   1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
   2. Do not install identification products until final surface finishes and painting are complete.

1.04 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.

B. Shop Drawings: Provide schedule of items to be identified indicating proposed designations, materials, legends, and formats.

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.05 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70 and NFPA 70E

1.06 FIELD CONDITIONS

A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

PART 2 PRODUCTS

2.01 ELECTRICAL IDENTIFICATION MATERIALS

A. General: Except as otherwise indicated, provide manufacturer's standard products of catergories and types required for each application. Where more than single type is specified for an application, selection is Installer's option, but provide single slelection for each application.

B. Color-Coded Conduit Markers: Provide manufacturer's standard pre-printed, flexible or semi-rigid, permanent, plastic-sheet conduit markers. Except as otherwise indicated, provide lettering which indicates voltage of conductor(s) in conduit. Unless otherwise indicated or required by governing regulations, provide orange markers with black letters.

C. Arc Fault Stickers: Contractor shall provide and install all arc fault stickers as required by NFPA 70E. Contractor shall provide all fault current studies necessary to provide appropriate stickers on all equipment.

D. Cable/Conductor Identification Bands: Provide manufacturer's standard vinyl-cloth, self-adhesive cable/conductor wire markers or wrap-around type, numbered to show circuit identification.

E. Self-adhesive Plastic Signs: Provide manufacturer's standard, self-adhesive or pressure-sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings, of sizes suitable for application areas and adequate for visibility. Unless otherwise indicated or required by governing regulations, provide orange signs with black lettering.

F. Danger Signs: Provide Manufacturer's standard "Danger" signs of baked enamel finish on 20-gage steel, of standard red, black, and white graphics for adequate vision (as examples: "High Voltage", "Keep Away", "Buried Cable", "Do Not Touch Switch").

G. Engraved Plastic-Laminate Signs: Provide engraved stock melamine plastic-laminate, complying with FS L-P-387 in sizes and thicknessess indicated.
   1. Thickness: 1/16", for units up to 20 sq. in. or 8" length, 1/8" for larger units.
   2. Fastners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

H. Manufacturers: Subject to compliance with requirements.

2.02 LETTERING AND GRAPHICS

A. Coordinate names, abbreviations, and other designations used in electrical identification work with corresponding designations shown or specified for schedule. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of electrical system and equipment.

B. Identification for Equipment:
   1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
      a. Panelboards:
         1) Identify ampere rating.
         2) Identify voltage and phase.
         3) Identify power source and circuit number. Include location when not within sight of equipment.
         4) Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use identification nameplate.
         5) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.

2. Service Equipment:
   a. Use identification nameplate to identify each service disconnecting means.
3. Use voltage marker to identify highest voltage present for each piece of electrical equipment.
4. Use identification nameplate to identify equipment utilizing series ratings, where permitted, in accordance with NFPA 70.
5. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".
6. Use field-painted floor markings, floor marking tape, or warning labels to identify required equipment working clearances.
   a. Field-Painted Floor Markings: Alternating black and white stripes, 3 inches (76 mm) wide, painted in accordance with Section 099123 and 099113.
7. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
   a. Service equipment.
   b. Motor control centers.
   c. Elevator control panels.
8. Arc Flash Hazard Warning Labels: Comply with Section 260573.
9. Use warning signs to identify electrical hazards for entrances to all rooms and other guarded locations that contain exposed live parts operating at 600 V nominal or less with the word message "DANGER; Electrical hazard; Authorized personnel only" or approved equivalent.

C. Identification for Raceways:
   1. Use identification labels, handwritten text using indelible marker, or plastic marker tags to identify spare conduits at each end. Identify purpose and termination location.
   2. Use underground warning tape to identify underground raceways.

D. Identification for Devices:
   1. Use engraved wallplate to identify serving branch circuit for all receptacles.

2.03 VOLTAGE MARKERS

A. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.

B. Minimum Size:
   1. Markers for Equipment: 1 1/8 by 4 1/2 inches (29 by 110 mm).

C. Legend:
   1. Markers for Voltage Identification: Highest voltage present.

D. Color: Black text on orange background unless otherwise indicated.

2.04 UNDERGROUND WARNING TAPE

A. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.

B. Non-detectable Type Tape: 6 inches (152 mm) wide, with minimum thickness of 4 mil (0.1 mm).

C. Legend: Type of service, continuously repeated over full length of tape.

D. Color:

2.05 FLOOR MARKING TAPE

A. Floor Marking Tape for Equipment Working Clearance Identification: Self-adhesive vinyl or polyester tape with overlaminate, 3 inches (76 mm) wide, with alternating black and white

stripes.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. General Installation Requirements:
   1. Coordination: Where identification to be applied to surfaces which require finish, install identification after completion of painting.
   2. Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

C. Conduit Identification:
   1. General: Apply color-coded identification on electrical conduit in a manner similar to piping identification. Except as otherwise indicated, use a color that matches surroundings as coded color for conduit.

D. Cable/Conductor Identification:
   1. Apply cable/conductor identification on each box/enclosure/cabinet where wires are present, match identification with marking system used in panelboards, shop drawings, contract documents, and similar previously established identification for project electrical work.
   2. All conductors shall be clearly and permanently identified, and color coded per NEC.
   3. All control circuit and instrument circuit terminations shall be identified. For conductors #6 and smaller, conductor color-coding shall be color insulation. For conductor color coding of work larger than #6, use self-adhesive wrap around tape markers. Use markers for all panelboards, boxes, outlets, switches, circuit breakers and control centers.
   4. Operational Instructions and Warnings: Wherever reasonably required to ensure safe and efficient operation and maintenance of electrical and other related systems, and equipment, including prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instructions or warnings on switches, outlets and other control devices and covers of electrical enclosures.

E. Equipment/System Identification:
   1. Install engraved plastic-laminate sign on each major unit of electrical equipment in the building unless unit is specified with its own self-explanatory identification.
   2. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for the following categories of electrical work:
      a. Panelboards, electrical cabinets and enclosures
      b. Access panel/doors to electrical facilities
      c. Major electrical substation and switchboard
      d. Disconnect/safety switches
      e. Telecommunications switching equipment
      f. Fire Alarm Master Station

4.01 FIELD QUALITY CONTROL

A. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION

SECTION 262726
WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall switches.

B. Wall plates.

1.02 RELATED REQUIREMENTS

A. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Manufactured wiring systems for use with access floor boxes with compatible pre-wired connectors.

B. Section 260526 - Grounding and Bonding for Electrical Systems.

C. Section {\id\#874} - Boxes for Electrical Systems.

D. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. FS W-C-596 - Connector, Electrical, Power, General Specification for 2014h, with Amendments (2017).

B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification) 2014g, with Amendment (2017).

C. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

D. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.

E. NEMA WD 1 - General Color Requirements for Wiring Devices 1999 (Reaffirmed 2020).

F. NEMA WD 6 - Wiring Devices - Dimensional Specifications 2021.

G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 20 - General-Use Snap Switches Current Edition, Including All Revisions.

I. UL 514D - Cover Plates for Flush-Mounted Wiring Devices Current Edition, Including All Revisions.

J. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
   3. Coordinate the placement of outlet boxes for wall switches with actual installed door swings.
   4. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
   5. Coordinate the core drilling of holes for poke-through assemblies with the work covered under other sections.
   6. Notify Engineer/Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

B. Sequencing:
   1. Do not install wiring devices until final surface finishes and painting are complete.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

B. Field Quality Control Test Reports.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Operation and Maintenance Data:
   1. GFCI Receptacles: Include information on status indicators.

E. Project Record Documents: Record actual installed locations of wiring devices.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Products: Listed, classified, and labeled as suitable for the purpose intended.

E. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide factory-fabricated wiring devices, in types, colors, and electrical ratings for applications indicated and compllying with NEMA stds. Pub. No. WD or as required. Unless otherwise noted device cover plates shall be high abuse nylon or stainless steel in industrial locations.

2.02 WIRING DEVICE APPLICATIONS

A. Provide wiring devices suitable for intended use and with ratings adequate for load served.

B. Unless noted otherwise, do not use combination switch/receptacle devices.

2.03 WIRING DEVICE FINISHES

A. Provide wiring device finishes as described below unless otherwise indicated.

B. Wiring Devices Installed in Finished Spaces: White with stainless steel wall plate.

C. Wiring Devices Installed in Unfinished Spaces: White with stainless steel wall plate.

D. Wiring Devices Installed in Wet or Damp Locations: White with specified weatherproof cover.

2.04 WALL SWITCHES

A. Manufacturers:
   1. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   2. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   3. Or Approved Equal.

B. Wall Switches - General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20and where applicable FS W-S-896; types as indicated on the drawings.

1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.

C. Standard Wall Switches: Industrial specification grade, 20 A, 120/277 V with standard toggle type switch actuator and maintained contacts; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.

2.05 WALL PLATES

A. Manufacturers:
1. Hubbell Incorporated: www.hubbell-wiring.com/#sle.
2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
3. Lutron Electronics Company, Inc; [_____]: www.lutron.com/#sle.
4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
5. Or Approved Equal.

B. Wall Plates: Comply with UL 514D.
1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
2. Size: Standard; [_____].
3. Screws: Metal with tamper-resistant heads finished to match wall plate finish.

C. Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.

D. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.

E. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Install wiring devices in accordance with manufacturer's instructions.

C. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

D. Where required, connect wiring devices using pigtails not less than 6 inches (150 mm) long. Do not connect more than one conductor to wiring device terminals.

E. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

F. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

G. Install wiring devices plumb and level with mounting yoke held rigidly in place.

H. Install wall switches with OFF position down.

I. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

J. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

K. Identify wiring devices in accordance with Section 260553.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Prior to energizing circuitry, test wiring devices for electtrical continuity and proper polarity connections. After energizing circuitry, test wiring devices to demonstrate compliance with requirements.

C. Inspect each wiring device for damage and defects.

D. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.04 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.05 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

APPENDIX A – FEDERALLY FUNDED PROJECT REQUIREMENTS & ASSOCIATED DOCUMENTS

EMPLOYEE RIGHTS

UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor's Wage and Hour Division.

WAGE AND HOUR DIVISION
UNITED STATES DEPARTMENT OF LABOR

1-866-487-9243
TTY: 1-877-889-5627
www.dol.gov/whd

WH1321 REV 10/17

U.S. Wage and Hour Division
(Revised July 2008)

Fact Sheet #21: Recordkeeping Requirements under the Fair Labor Standards Act (FLSA)

This fact sheet provides a summary of the FLSA's recordkeeping regulations, 29 CFR Part 516.

Records To Be Kept By Employers

Highlights: The FLSA sets minimum wage, overtime pay, recordkeeping, and youth employment standards for employment subject to its provisions. Unless exempt, covered employees must be paid at least the minimum wage and not less than one and one-half times their regular rates of pay for overtime hours worked.

Posting: Employers must display an official poster outlining the provisions of the Act, available at no cost from local offices of the Wage and Hour Division and toll-free, by calling 1-866-4USWage (1-866-487-9243). This poster is also available electronically for downloading and printing at http://www.dol.gov/osbp/sbrefa/poster/main.htm.

What Records Are Required: Every covered employer must keep certain records for each non-exempt worker. The Act requires no particular form for the records, but does require that the records include certain identifying information about the employee and data about the hours worked and the wages earned. The law requires this information to be accurate. The following is a listing of the basic records that an employer must maintain:

1. Employee's full name and social security number.
2. Address, including zip code.
3. Birth date, if younger than 19.
4. Sex and occupation.
5. Time and day of week when employee's workweek begins.
6. Hours worked each day.
7. Total hours worked each workweek.
8. Basis on which employee's wages are paid (e.g., "$9 per hour", "$440 a week", "piecework")
9. Regular hourly pay rate.
10. Total daily or weekly straight-time earnings.
11. Total overtime earnings for the workweek.
12. All additions to or deductions from the employee's wages.
13. Total wages paid each pay period.
14. Date of payment and the pay period covered by the payment.

How Long Should Records Be Retained: Each employer shall preserve for at least three years payroll records, collective bargaining agreements, sales and purchase records. Records on which wage computations are based should be retained for two years, i.e., time cards and piece work tickets, wage rate tables, work and time schedules, and records of additions to or deductions from wages. These records must be open for inspection by the Division's representatives, who may ask the employer to make extensions, computations, or transcriptions. The records may be kept at the place of employment or in a central records office.

What About Timekeeping: Employers may use any timekeeping method they choose. For example, they may use a time clock, have a timekeeper keep track of employee's work hours, or tell their workers to write their own times on the records. Any timekeeping plan is acceptable as long as it is complete and accurate.

The following is a sample timekeeping format employers may follow but are not required to do so:

DAY	DATE	IN	OUT	TOTAL HOURS
Sunday	6/3/07	--------	--------	--------
Monday	6/4/07	8:00am	12:02pm	
		1:00pm	5:03pm	8
Tuesday	6/5/07	7:57am	11:58am	
		1:00pm	5:00pm	8
Wednesday	6/6/07	8:02am	12:10pm	
		1:06pm	5:05pm	8
Thursday	6/7/07	--------	--------	--------
Friday	6/8/07	--------	--------	--------
Saturday	6/9/07	--------	--------	--------
Total Workweek Hours:				**24**

Employees on Fixed Schedules: Many employees work on a fixed schedule from which they seldom vary. The employer may keep a record showing the exact schedule of daily and weekly hours and merely indicate that the worker did follow the schedule. When a worker is on a job for a longer or shorter period of time than the schedule shows, the employer must record the number of hours the worker actually worked, on an exception basis.

Where to Obtain Additional Information

For additional information, visit our Wage and Hour Division Website: http://www.wagehour.dol.gov and/or call our toll-free information and helpline, available 8 a.m. to 5 p.m. in your time zone, 1-866-4USWAGE (1-866-487-9243).

This publication is for general information and is not to be considered in the same light as official statements of position contained in the regulations.

U.S. Department of Labor
Frances Perkins Building
200 Constitution Avenue, NW
Washington, DC 20210

1-866-4-USWAGE
TTY: 1-866-487-9243
Contact Us

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.:1235-0008
Expires: 07/31/2024

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐	ADDRESS	
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION / PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement 435

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 3729 OF TITLE 31 OF THE UNITED STATES CODE.

Request For Wage Determination And Response To Request

(Davis Bacon Act as Amended and Related Statuses)

U.S. Department of Labor

Employment Standards Administration
Wage and Hour Division

FOR DEPARTMENT OF LABOR USE

Response To Request

☐ Use area determination issued for this area

_____

_____

☐ The attached decision noted below is applicable to this project

Decision Number

Date of Decision

Expires

Supersedes Decision Number

Approved

Mail Your Request To:

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division
Branch of Construction Contract Wage Determinations
Washington, D.C. 20210

Requesting Officer (Typed name *and signature)*

Department, Agency, or Bureau	Phone Number

Date of Request	Estimated Advertising Date	Estimated Bid Opening Date

Prior Decision Number (If any)	Estimated $ Value of Contract	Type of Work
	☐ Under 1/2 Mil ☐ 1 to 5 Mil ☐ 1/2 to 1 Mil ☐ Over 5 Mil	☐ Bldg. ☐ Highway ☐ Resid. ☐ Heavy

Address to which wage determination should be mailed. (Print or type)

Location of Project *(City, County, State, Zip Code)*

Description of Work *(Be specific) (Print or type)*

CHECK OR LIST CRAFTS NEEDED

(Attach continuation sheet if *needed)*

☐ Asbestos workers
☐ Boilermakers
☐ Bricklayers
☐ Carpenters
☐ Cement masons
☐ Electricians
☐ Glaziers
☐ Ironworkers
☐ Laborers (Specify classes)
☐ _____
☐ _____
☐ _____
☐ Lathers
☐ Marble & tile setters. terrazzo workers
☐ Painters
☐ Piledrivermen
☐ Plasterers
☐ Plumbers
☐ Roofers
☐ Sheet metal workers
☐ Soft floor layers
☐ Stearnfitters
☐ Welders-rate for craft
☐ Truck drivers
☐ Power equipment operators *(Specify types)*
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____

Other Crafts

☐ _____
☐ _____
☐ _____
☐ _____

437

ST. MARTIN UPPER AND EAST ELEMENTARY SCHOOLS

HVAC UPGRADES

11000 YELLOW JACKET ROAD AND
7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

REV 0 - ISSUED FOR CONSTRUCTION
WEDNESDAY, MARCH 08, 2023

MP DESIGN GROUP
ARCHITECTURE + ENGINEERING
"Designed to Build"
918 Howard Ave Suite F
Biloxi, Mississippi 39530
P: 228.388.1950
www.mpdesigngroup.us

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones, AIA
Fernanda A. Silva, AIA

JOHN MICAH VAN DUIJVENDIJK
LICENSED PROFESSIONAL ENGINEER
STATE OF MISSISSIPPI
03/08/2023

SAINT MARTIN UPPER & EAST ELEMENTARY SCHOOLS
HVAC UPGRADES
11000 YELLOW JACKET BOULEVARD &
7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: AS INDICATED
PROJECT NO: 0155.22.008
DRAWN BY: MAJ
CHECKED BY: BAJ

TITLE PAGE

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

T101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PRINTED: 3/8/2023 3:35 PM BY: Micah van Duijvendijk LAST SAVED: 3/8/2023 3:21 PM BY: Micah
m:\0155_jackson county school district\0155.22.008_st. martin hvac esser\04-architectural\02-production\01- production drawings\01 t-100 title sheet.dwg

GRAPHIC LEGEND

- CMU
- BRICK
- CONCRETE (SECTION)
- WD
- GLULAM WD
- CAST STONE CONCRETE (PLAN)
- 1" DN. — ELEVATION CHANGE
- 12 / 5 — ROOF SLOPE
- CONT WD BLOCKING
- WD BLOCKING
- CONT. BATT INSUL. ACOUSTICAL BATTS
- RIGID INSUL
- SHEATHING
- GYP BD
- 1 / A301 — SECTION MARK
- NORTH ARROW
- B / 12 — COLUMN GRID
- ELEVATION TAG
- 1 — REVISION
- ROOM TAG 101 — ROOM TAG
- X — PARTITION TAG
- 101A — OPENING TAG
- X — WINDOW TAG
- 1/A701 — MILLWORK ELEV. TAG
- X — KEYNOTE
- 1 / A101 — ELEVATION TAG
- 1 / A401 — DTL CALL OUT

ABBREVIATIONS INDEX

A

&	AND
@	AT
∠	ANGLE
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADDT'L	ADDITIONAL
ADJ	ADJUSTABLE
A.F.	ACCESS FLOORING
A.F.D.	AUTOMATIC FIRE DAMPER
A.F.F.	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT

B

BTWN	BETWEEN
BIT	BITUMEN
B.J.	BAR JOIST
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BLT	BUILT
BM	BEAM
B.O.	BOTTOM OF
B.R.	BACKER ROD
BTWN	BETWEEN

C

CAP	CAPACITY
C/C	CENTER TO CENTER
CCTV	CLOSED CIRCUIT TELEVISION
C.J.	CONTROL JOINT
CL	CLEAR
CLG	CEILING
CLO	CLOSET
CLR	COLOR
CMU	CONCRETE MASONRY UNIT
CONTR.	CONTRACTOR
COL	COLUMN
COMP	COMPRESSION/COMPRESSED
CONC	CONCRETE
COND	CONDENSATE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPLNG	COUPLING
CPT	CARPET
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTERS
℄	CENTER
C.W.	COLD WATER

D

ø/DIA	DIAMETER
DB	DRY BULB
DBL	DOUBLE
DEFL	DEFLECTION
DEPT.	DEPARTMENT
DET/DTL	DETAIL
DISP.	DISPENSER
DK	DARK
DN	DOWN
D.P.	DAMPROOFING
DS	DOWNSPOUT
DWG(S)	DRAWING(S)

E

EA	EACH
EDF	ELECTRIC DRINKING FOUNTAIN
FOUNTAIN	
EF	EXHAUST FAN
EFC	EACH FACE
EJ	EXPANSION JOINT
ELEC.	ELECTRICAL
EL/ELEV	ELEVATION
EMBED	EMBEDDED
ENGR.	ENGINEER
ENT	ENTERING/ ENTRY
EQ	EQUAL
EQUIP	EQUIPMENT

E (CONT)

ES	EXPOSED STRUCTURE
EXH	EXHAUST
EXPAN	EXPANSION
EXT	EXTERIOR

F

FA	FIRE ALARM
FAC	FIRE ALARM CABINET
FD	FLOOR DRAIN
FAR	FIRE ALARM REMOTE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FIN	FINISH
FLR	FLOOR
F.C.	FACE OF CONC
F.O.B.	FACE OF BRICK
FR	FRAME
FS	FLOW SWITCH
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
G.C.	GENERAL CONTRACTOR
G.C.MU	GROUND FACE CMU
GL	GLASS
GPM	GALLONS PER MINUTE
GYP BD	GYPSUM BOARD

H

HB	HOSE BIB
HC	HANDICAP
HDWR	HARDWARE
HM	HOLLOW METAL
HP	HIGH POINT
HORIZ.	HORIZONTAL
HR	HOUR
HT	HEIGHT
H.W.	HOT WATER
HVAC	HEATING, VENTILATION, AIR CONDITION

I

IC	INTERCOM
INSUL	INSULATION
INT	INTERIOR
INV	INVERT

J

JAN	JANITOR
JNT	JOINT
JST	JOIST

K

LAM	LAMINATE(D)
L.A.T.	LAY-IN ACOUSTICAL CEILING
LAV	LAVATORY
LF	LINEAR FEET
LG	LEG
LP	LIGHT POLE
LAM	LAMINATE
LAV	LAVATORY
LT	LIGHT

L

MA	MIXED AIR
MAS	MASONRY
MAT'L	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR/MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
M.O.	MASONRY OPENING

M

MAS.	MODIFIED
MRV	MOISTURE RELEASE VENT
M.T.	METAL THRESHOLD
MTD	MOUNTED
MTL	METAL

N

N/A	NOT APPLICABLE
NF	NATURAL FINISH
NIC	NOT IN CONTRACT
NO. / #	NUMBER
NOM	NOMINAL
N.T.S.	NOT TO SCALE

O

OA	OUTSIDE AIR
O.C.	ON CENTER
O.C.E.W.	ON CENTER EACH WAY
OH	OVERHEAD
OPN'G	OPENING
OPP.	OPPOSITE
OZ.	OUNCE

P

± , +/_	PLUS OR MINUS
PT	PAINT
PART'N	PARTITION
PRE-FIN	PRE FINISH(ED)
PL	PLATE
₹	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRE FAB	PREFABRICATED
PROJ	PROJECTION
PSF	PUNDS/SQUARE INCH
P.T.D.	PAPER TOWEL DISPENSER

Q

QT	QUARRY TILE
QTB	QUARRY TILE BASE
QTY	QUANTITY

R

RA	RETURN AIR
RB	RUBBER BASE
RD	ROOF DRAIN
RE:	REFER TO...
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED
REQ'D	REQUIRED
RET	RETURN
RM	ROOM
R.O	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SA	SUPPLY AIR
SAN	SANITARY
SAFM	SELF ADHERING FLASHING MEMBRANE
SCHED	SCHEDULE
SCWD	SOLID CORE WOOD
SECT	SECTION
SF	STOREFRONT/ SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SP	SPACING
SPEC	SPECIFIED/ SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL

S (CONT)

STRUCT.	STRUCTURAL
SUP	SUPPLY
SUSP	SUSPENDED
SYN	SYNTHETIC

T

T&B	TOP & BOTTOM
TBM	TEMPORARY BENCH MARK
TEL	TELEPHONE
T&G	TOUNGE & GROOVE
THRESH.	THRESHOLD
TLT	TOILET
T.O.	TOP OF
T.O.B.	TOP OF BEAM
T.O.S.	TOP OF STRUCTURE
TP	TOILET PAPER HOLDER
TRTD	TREATED
TYP	TYPICAL ALL SIMILAR CONDITIONS

U

U.C.	UNDER COUNTER
U.L.	UNDERWRITER'S LABORATORY
U.N.O.	UNLESS NOTED OTHERWISE

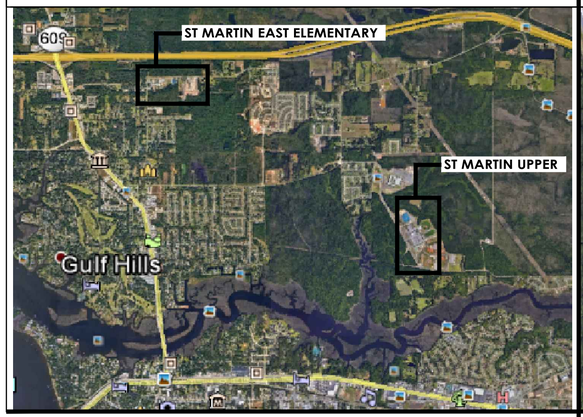
V

VAR	VARIES
VD	VOLUME DAMPER
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
V.I.F.	VERIFY IN FIELD
VTR	VENT-THRU-ROOF
VWC	VINYL WALL COVERING

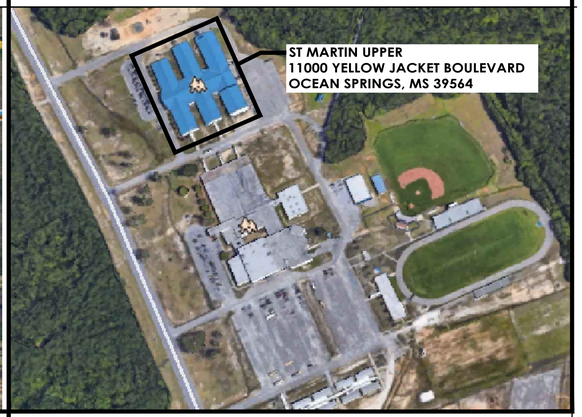
W

W.	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WD	WOOD
WG	WATER GAUGE
WGVP	WIRE GLASS VISION PANEL
WH	WATER HEATER
WP	WATERPROOFING

VICINITY MAP



SITE MAP



DRAWING SHEET NUMBERING AND TITLE INDEX

SITE MAP

PROJECT SCOPE OF WORK

ALL MECHANICAL, ELECTRICAL, AND ARCHITECTURAL WORK ASSOCIATED WITH THE FOLLOWING:

UPPER ELEMENTARY:

KITCHEN	–	REPLACE 15 TON CONDENSING UNIT AND ASSOCIATED AIR HANDLER
CAFETERIA	–	REPLACE 35 TON CONDENSING UNIT AND ASSOCIATED AIR HANDLER
MUSIC ROOM	–	REPLACE 15 TON CONDENSING UNIT AND ASSOCIATED AIR HANDLER
BOILER ROOM	–	REPLACE 4000 MBH BOILER REPLACE 10 HP HYDRONIC HOT WATER PUMP REPLACE AIR SEPARATOR

EAST ELEMENTARY:

FRONT OFFICE AND ENTRY HALL	–	REPLACE 5 TON CONDENSING UNIT AND ASSOCIATED FAN COIL WITH TWO TWO SPLIT SYSTEM UNITS WITH DEHUMIDIFICATION

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JOHN MICAH VAN DUIJVENDIJK — LICENSED PROFESSIONAL ENGINEER — STATE OF MISSISSIPPI
03/08/2023

SAINT MARTIN UPPER & EAST ELEMENTARY SCHOOLS HVAC UPGRADES
11000 YELLOW JACKET BOULEVARD & 7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: AS INDICATED
PROJECT NO: 0155.22.008
DRAWN BY: BAJ / MAJ
CHECKED BY: BAJ

GENERAL PROJECT INFORMATION

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

G101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

HVAC SYMBOLS

	SQUARE/RECTANGULAR SUPPLY DOWN
	SQUARE/RECTANGULAR SUPPLY UP
	ROUND SUPPLY DOWN
	ROUND SUPPLY UP
	SQUARE/RECTANGULAR RETURN DOWN
	SQUARE/RECTANGULAR RETURN UP
	ROUND RETURN DOWN
	ROUND RETURN UP
	SQUARE/RECTANGULAR EXHAUST DOWN
	SQUARE/RECTANGULAR EXHAUST UP
	ROUND EXHAUST DOWN
	ROUND EXHAUST UP
	SQUARE/RECTANGULAR ELBOW
	SQUARE/RECTANGULAR ELBOW WITH TURNING VANES
	ROUND MAIN WITH CONICAL TAKEOFF
	ROUND MAIN WITH CONICAL TEE
	SQUARE/RECTANGULAR MAIN WITH CONICAL TEE
	ROUND MAIN WITH 45° LATERAL WYE
	SQUARE/RECTANGULAR MAIN WITH 45° LEAD IN TAKEOFF
	ROUND ELBOW
	EXISTING DUCT TO BE REMOVED
	EXISTING DUCT TO REMAIN
	NEW DUCT
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	INTERNALLY INSULATED DUCT
	SQUARE/RECTANGULAR TO ROUND TRANSITION
	CONCENTRIC TRANSITION
	ECCENTRIC TRANSITION
	ROUND NECK CEILING AIR TERMINAL
	SQUARE/RECTANGULAR NECK CEILING AIR TERMINAL
	TRANSFER AIR PATH
Ⓒ	TIMECLOCK
Ⓣ	THERMOSTAT
Ⓢ	TEMPERATURE SENSOR
Ⓗ	HUMIDITY SENSOR
SD	DUCT SMOKE DETECTOR
	CONNECT TO EXISTING
$	SWITCH
MD	MOTORIZED DAMPER
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
BDD	BACKDRAFT DAMPER
	CAP AND SEAL
	FLEXIBLE CONNECTION

HVAC ABBREVIATIONS

A	
A	AMPS
AC	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
B	
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
C	
CEF	CEILING EXHAUST FAN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CU	CONDENSING UNIT
CW	CONDENSER WATER
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
D	
DC	DIRECT CURRENT
E	
E	EXISTING
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
F	
FC	FAN COIL
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
FT	FOOT/FEET
G	
GA	GAUGE
GC	GENERAL CONTRACTOR
GFM	GLASS FABRIC AND MASTIC
H	
HP	HORSEPOWER OR HEAT PUMP
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
K	
KW	KILOWATT
L	
LBS	POUNDS

M	
MAX	MAXIMUM
MBH	ONE THOUSAND BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N	
NC/PO	NORMALLY CLOSED/POWERED OPEN
NIC	NOT IN CONTRACT
NIS	NEOPRENE IN SHEAR
NO/PC	NORMALLY OPEN/POWERED CLOSED
NTS	NOT TO SCALE
O	
OA	OUTDOOR AIR
OC	ON CENTER
P	
PC	PLUMBING CONTRACTOR
PH	PHASE
R	
RA	RETURN AIR
RFD	ROUND FIRE DAMPER
RGS	RIGID SEALED
RIS	RUBBER IN SHEAR
RPM	REVOLUTIONS PER MINUTE
S	
SA	SUPPLY AIR
SFD	SQUARE FIRE DAMPER
SQFT	SQUARE FEET
T	
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	
UC	UNDERCUT DOOR
UL	UNDERWRITERS LABORATORIES
V	
V	VOLTAGE
VD	VOLUME DAMPER
VIF	VERIFY IN FIELD
W	
W	WATT
WC	WATER COLUMN

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CHECKED BY: JMV

MECHANICAL SYMBOLS & ABBREVIATIONS

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M001

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A. GENERAL

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE INTERNATIONAL CODE AND ALL LOCAL ORDINANCES AS ADOPTED BY THE LOCAL JURISDICTION.

2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION AND OPERATION OF THE SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS AND DRAWINGS EVEN IF NOT SPECIFICALLY SHOWN.

3. THE DRAWINGS ARE, IN PART, DIAGRAMMATIC AND DO NOT ALWAYS SHOW ALL NECESSARY MATERIALS AND EQUIPMENT TO SCALE OR IN EXACT LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK ALL MEASUREMENTS, COORDINATE ALL WORK WITH OTHER TRADES, REVIEW ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS, AND VISIT THE JOBSITE TO MAKE APPROPRIATE MEASUREMENTS.

4. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS AND SHALL PAY ALL ASSOCIATED FEES FOR SCOPE OF WORK.

5. WHEN THE SPECIFICATIONS OR DRAWINGS ARE UNCLEAR OR IN CONFLICT WITH CODES OR OTHER TRADES, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE SUBMITTING A BID.

6. SUBMITTALS AND SHOP DRAWINGS FOR ALL EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE PROVIDED TO THE OWNER AND ENGINEER FOR REVIEW AND COMMENT PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO COMPLY WITH THIS ITEM. IF SUBSTITUTIONS FOR SPECIFIED ITEMS ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE SUBSTITUTIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

7. ALL ACTUAL EQUIPMENT, MATERIALS, AND ACCESSORIES TO BE INSTALLED SHALL BE FULLY COORDINATED WITH THE ELECTRICAL, PLUMBING, CIVIL, STRUCTURAL, AND ARCHITECTURAL CONTRACTORS PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO ELECTRICAL DATA, WEIGHTS, PLUMBING REQUIREMENTS, DIMENSIONS, PENETRATIONS, ETC. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTORS FAILURE TO COMPLY WITH THIS ITEM.

8. ANY AND ALL DEVIATIONS FROM THE DESIGN DOCUMENTS WITHOUT THIS ENGINEER'S APPROVAL INDICATES ACCEPTANCE BY THIS CONTRACTOR AND/OR OWNER FOR THE RESPONSIBILITY OF THE PERFORMANCE OF THE SYSTEM AFFECTED. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO FOLLOW THE DESIGN DOCUMENTS. IF MODIFICATIONS TO THE SPECIFIED DESIGN ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE MODIFICATIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED. SITE VISITS, INSPECTIONS, CALCULATIONS, COORDINATION, ETC. PERFORMED BY THIS ENGINEER TO INVESTIGATE PROBLEMS ASSOCIATED WITH DESIGN DEVIATIONS WILL ALSO BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

9. ANY ERRORS OR OMISSIONS ON THESE DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND CORRECTION.

10. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). ALL TRADES ARE INTERDEPENDENT AND MUST BE FULLY COORDINATED TO PROVIDE A COMPLETE PROJECT. THE GENERAL CONTRACTOR SHALL NOT BREAK OUT INDIVIDUAL SECTIONS TO SUB-CONTRACTORS OR VENDORS.

11. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.

12. IF DISCREPANCIES ARE ENCOUNTERED BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT PRODUCT OR APPLICATION OVERRIDES IN ALL CASES.

13. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR COSTS ASSOCIATED WITH ERRORS AND/OR OMISSIONS ON THESE DOCUMENTS IN EXCESS OF THE COST AND/OR TIME FOR THIS ENGINEER TO CORRECT THE DOCUMENTS. IN ANY CASE, THE LIMIT OF LIABILITY FOR THIS ENGINEER SHALL BE NO MORE THAN THE COST OF THIS ENGINEER'S INDIVIDUAL FEE, REGARDLESS OF THE TOTAL DESIGN FEE CHARGED FOR THE SET OF CONSTRUCTION DOCUMENTS.

14. TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL LIABILITY IN THE AGGREGATE, OF THIS ENGINEER AND THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND INDEPENDENT PROFESSIONAL ASSOCIATES, AND ANY OF THEM, TO OWNER AND ANY ONE CLAIMING BY, THROUGH OR UNDER OWNER, FOR ANY AND ALL INJURIES, CLAIMS, LOSSES, EXPENSES, OR DAMAGES WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO THIS ENGINEER'S SERVICES, THE PROJECT OR THESE DOCUMENTS, FROM ANY CAUSE OR CAUSES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, MISREPRESENTATION, OR BREACH OF WARRANTY OF THIS ENGINEER; OR THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR INDEPENDENT PROFESSIONAL ASSOCIATES, OR ANY OF THEM, SHALL NOT EXCEED THE TOTAL COMPENSATION RECEIVED BY THIS ENGINEER FOR SERVICES PROVIDED.

15. THE USE OF THESE DOCUMENTS FOR CONSTRUCTION SIGNIFIES THIS OWNER, TENANT, AND CONTRACTORS AGREEMENT WITH THE ABOVE REQUIREMENTS REGARDLESS OF ANY OTHER PRIOR, CURRENT, OR FUTURE AGREEMENT AND/OR CONTRACT.

16. ALL EQUIPMENT, PRODUCTS, MATERIALS, COMPONENTS, ACCESSORIES, ETC. SHALL BE MANUFACTURED IN THE USA.

B. DUCTWORK

1. TURNING VANES SHALL BE INSTALLED IN ALL RECTANGULAR/SQUARE ELBOWS AND TEES 45° OR LARGER.

2. ALL INTERIOR AND EXTERIOR EXPOSED DUCTWORK SHALL BE SHEET METAL CONSTRUCTION.

3. ALL SHEET METAL DUCT CONNECTIONS TO ANY FAN POWERED EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTORS 3" MIN IN LENGTH.

4. LOW PRESSURE DUCTWORK

   a. ALL SUPPLY DUCTWORK AND RETURN DUCTWORK SHALL BE CONSTRUCTED TO 2" WG PRESSURE CLASS STANDARDS AND SHALL CONFORM TO THE LATEST EDITIONS OF THE SMACNA DUCT CONSTRUCTION STANDARDS.

   b. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTION UNLESS OTHERWISE NOTED IN THIS SECTION. SHEET METAL GAUGE SHALL BE AS PER SMACNA DUCT CONSTRUCTION STANDARDS (28 GAUGE OR LESS DEPENDING ON SIZE AND SHAPE). 30 GAUGE OR HIGHER SHEET METAL DUCT IS NOT ACCEPTABLE.

   c. ALL EXTERNALLY INSULATED SHEET METAL DUCTWORK JOINTS SHALL BE SEALED AIRTIGHT WITH MASTIC AND TAPED OVER WITH DUCT TAPE. ALL INTERNALLY INSULATED SHEET METAL DUCTWORK JOINTS SHALL BE SEALED AIRTIGHT WITH MASTIC AND THE EXTERIOR SURFACE WIPED CLEAN TO PROVIDE A FINISHED APPEARANCE.

C. INSULATION

1. ALL SHEET METAL AND FLEXIBLE SUPPLY, RETURN, AND OUTDOOR AIR DUCTWORK SHALL BE INSULATED.

2. ALL INTERIOR AND EXTERIOR EXPOSED SUPPLY, RETURN, AND OUTDOOR AIR DUCTWORK SHALL BE SHEET METAL CONSTRUCTION AND SHALL BE INTERNALLY INSULATED.

3. INTERNAL DUCT INSULATION

   a. SHEET METAL DUCTWORK SHALL BE INTERNALLY LINED WITH INSULATION.

   b. WHEN INSTALLED IN FULLY CONDITIONED SPACES AND RETURN AIR PLENUMS WITHIN THE INSULATED AND/OR CONDITIONED ENVELOPE, INTERNAL INSULATION SHALL BE 1" THICK UNLESS OTHERWISE SPECIFIED.

   c. WHEN INSTALLED IN UNCONDITIONED SPACES OUTSIDE OF THE INSULATED AND/OR CONDITIONED ENVELOPE, INTERNAL INSULATION SHALL BE 1-1/2" THICK UNLESS OTHERWISE SPECIFIED.

   d. THE FIRST 10'-0" OF RECTANGULAR/SQUARE SHEET METAL DUCT UPSTREAM OR DOWNSTREAM OF ANY FAN SHALL BE INTERNALLY INSULATED WHETHER OR NOT INDICATED IN PLAN.

4. ALL CONDENSATE PIPING WITHIN THE BUILDING ENVELOPE, INCLUDING PRIMARY AND SECONDARY LINES, SHALL BE INSULATED WITH 1/2" THICK PIPE INSULATION. ALL JOINTS SHALL BE SEALED.

5. REFRIGERANT SUCTION PIPING LESS THAN 1-1/2" SHALL BE INSULATED WITH 1/2" THICK FLEXIBLE CELLULAR INSULATION. PIPING 1-1/2" OR LARGER SHALL BE INSULATED WITH 1" THICK INSULATION. ALL JOINTS SHALL BE SEALED. LIQUID LINES SHALL BE INSULATED WHEN INSTALLED WITHIN THE BUILDING IN UNCONDITIONED SPACES OUTSIDE OF THE INSULATED AND/OR CONDITIONED ENVELOPE.

6. EXPOSED EXTERIOR PIPE INSULATION SHALL BE JACKETED WITH ALUMINUM AND SEALED WEATHER TIGHT.

7. ALL HOT WATER PIPING 1-1/4" AND SMALLER SHALL BE INSULATED WITH 1-1/2" THICK PIPE INSULATION. ALL HOT WATER PIPING 1-1/2" AND LARGER SHALL BE INSULATED WITH 2" THICK PIPE INSULATION. ALL JOINTS SHALL BE SEALED.

8. ALL FITTINGS, JOINTS, ELBOWS, ETC. SHALL BE INSULATED.

D. REFRIGERANT PIPING

1. ALL REFRIGERANT PIPING 1-3/8" AND SMALLER SHALL BE TYPE L-ACR OR TYPE K-ACR HARD DRAWN OR SOFT (AS INDICATED) COPPER UL RATED FOR 700 PSI AT 250°F AND CONFORMING TO ASTM STANDARD B280.

2. ALL REFRIGERANT PIPING LARGER THAN 1-3/8" AND 2-5/8" OR LESS SHALL BE TYPE K-ACR HARD DRAWN OR SOFT (AS INDICATED) COPPER UL RATED TO 700 PSI AT 250°F AND CONFORMING TO ASTM STANDARD B280.

3. ALL REFRIGERANT PIPE FITTINGS SHALL BE WROT COPPER UL RATED TO 700 PSI AT 250°F AND SHALL MEET ANSI/ASME STANDARD B16.22 AND NSF 61G.

4. ALL STRAIGHT RUNS OF REFRIGERANT PIPING SHALL BE SLOPED 1/8" PER FOOT MIN IN THE DIRECTION OF FLOW.

5. IF SOFT COPPER TUBING IS USED, IT SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE WITHOUT EXCESSIVE BENDS, KINKS, OR OTHER OBSTRUCTIONS.

E. A CERTIFIED TEST AND BALANCE SHALL BE PERFORMED BY A CERTIFIED, 3RD PARTY TEST AND BALANCE COMPANY. UNITS SHALL BE BALANCED TO WITHIN 5% OF THE DESIGN AIR FLOWS. PUMPS SHALL BE BALANCED TO WITHIN 5% OF THE DESIGN FLOW. THE TEST AND BALANCE REPORT SHALL BE PROVIDED TO THE OWNER AND THIS ENGINEER FOR REVIEW AND COMMENT.

F. ALL LINE VOLTAGE (120V, 240V, 460V, ETC.) CONTROLS (SWITCHES, TIME CLOCKS, ETC.), ACCESSORIES, AND INTERCONNECTING WIRING SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL LOW VOLTAGE (24V, ETC.) CONTROLS (THERMOSTATS, ETC.), ACCESSORIES, AND INTERCONNECTING WIRING SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. ALL NECESSARY TRANSFORMERS (120V TO 24V, ETC.) SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR OR THEIR CONTROLS SUBCONTRACTOR. COORDINATE ALL WORK WITH THE ELECTRICAL CONTRACTOR.

G. REFRIGERANT SYSTEM TESTS

1. PRESSURE TEST

   a. INTERCONNECTING PIPING

      a.1. EVACUATE ALL REFRIGERANT FROM THE SYSTEM.

      a.2. ISOLATE THE COMPONENT INTERCONNECTING PIPING AND CHARGE WITH DRY, OXYGEN FREE NITROGEN (OFN) TO 1.3 TIMES THE MAXIMUM ALLOWABLE PRESSURE OF THE SYSTEM COMPONENTS. MAINTAIN PRESSURE FOR 12 HOURS. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

   b. ENTIRE SYSTEM

      b.1. EVACUATE ALL REFRIGERANT FROM THE SYSTEM.

      b.2. CHARGE SYSTEM WITH DRY OFN TO THE MAXIMUM ALLOWABLE PRESSURE OF THE SYSTEM COMPONENTS. MAINTAIN PRESSURE FOR 12 HOURS. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

2. VACUUM TEST

   a. FOLLOWING SUCCESSFUL PRESSURE TESTING, EVACUATE THE SYSTEM TO 1500 MICRON. BREAK THE VACUUM WITH DRY OFN TO 1 BAR. REPEAT ONCE.

   b. CONTINUOUSLY EVACUATE THE SYSTEM TO BETWEEN 300 MICRON AND 500 MICRON FOR A MINIMUM OF 1 HOUR. INSPECT VACUUM PUMP FOR SIGNS OF MOISTURE DISCHARGE. CONTINUE EVACUATION AND INSPECT AT 1 HOUR INTERVALS UNTIL MOISTURE IS NOT PRESENT.

   c. MAINTAIN VACUUM FOR FOR 12 HOURS. IF LOSS OF VACUUM OCCURS, REPEAT TEST PROCEDURE.

3. FOLLOWING SUCCESSFUL PRESSURE AND VACUUM TESTING, CHARGE SYSTEM WITH NEW REFRIGERANT. RECOVERED, RECYCLED, OR RECLAIMED REFRIGERANT SHALL BE TREATED TO REMOVE MOISTURE, OIL, ACID, AND PARTICULATE MATTER PRIOR TO USE.

4. DOCUMENT TESTING AND PROVIDE TO OWNER. INSPECTION BY LOCAL AUTHORITY MAY BE REQUIRED.

H. CONDENSATE PIPING

1. ALL CONDENSATE PIPING SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

2. MATERIAL

   a. CONDENSATE PIPING SHALL BE TYPE M COPPER WITH WROT COPPER FITTINGS AND SOLDERED JOINTS.

3. SIZING-CONNECTED LOAD

   a. 2 TONS OR LESS=3/4"

   b. MORE THAN 2 TONS TO 5 TONS=1"

   c. MORE THAN 5 TONS TO 30 TONS=1-1/4"

   d. MORE THAN 30 TONS TO 50 TONS=1-1/2"

4. MINIMUM SLOPE

   a. 2-1/2" OR LESS=1/4" PER FOOT

I. DUCT ACCESS DOORS SHALL BE GASKETED.

J. ALL PIPING SHALL BE LABELED IN ACCORDANCE WITH ASTM STANDARD A13.1. LABELS SHALL INCLUDE PIPING SERVICE (REFRIGERANT SUCTION, REFRIGERANT LIQUID, CONDENSATE, ETC.), SIZE, AND DIRECTION OF FLOW.

K. COORDINATE ALL REQUIRED WALL, FLOOR, CEILING, AND ROOF PENETRATION LOCATIONS AND SIZES WITH PRIOR TO CONSTRUCTION. PROVIDE ALL REQUIRED FRAMED OPENINGS, HEADERS, MASONRY OPENINGS, LINTELS, ETC. AS NECESSARY.

L. COORDINATE ALL DUCT AND PIPE LOCATIONS, SIZES, AND ROUTING PRIOR TO CONSTRUCTION.

M. WATER SYSTEMS SHALL BE FLUSHED WITH CLEAN POTABLE WATER PRIOR TO SYSTEM START UP. FOLLOWING SYSTEM START UP BUT PRIOR TO TESTING AND BALANCING, ALL STRAINERS AND FILTERS SHALL BE FLUSHED AND CLEANED SO THEY ARE FREE OF DEBRIS. ENSURE THAT ALL COILS, PUMPS, EQUIPMENT, ETC. HAVE HAD FULL WATER FLOW PRIOR TO STRAINER/FILTER BLOW DOWN.

N. A QUALIFIED WATER TREATMENT SPECIALIST SHALL TEST AND TREAT ALL CONDENSER WATER SYSTEMS PRIOR TO SYSTEM TURN OVER TO OWNER TO PREVENT CORROSION, SCALE, BIOLOGICAL CONTAMINANTS, ETC.. CHEMICALS AND CONCENTRATIONS USED SHALL BE COMPATIBLE WITH PIPING AND EQUIPMENT MATERIALS.

O. LARGE EQUIPMENT SHALL BE SHIPPED FROM THE FACTORY IN SECTIONS SMALL ENOUGH TO FIT THROUGH ALL OPENINGS REQUIRED FOR INSTALLATION. BREAKDOWN OF EQUIPMENT ON SITE SHALL NOT BE PERMITTED. EQUIPMENT SHALL BE PROVIDED WITH DETAILED FACTORY PROVIDED INSTRUCTIONS FOR REASSEMBLY AND CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS, MATERIALS, WORKMANSHIP, ETC. COORDINATE WITH EQUIPMENT MANUFACTURERS, ARCHITECTURAL PLANS, AND WITH GC. REASSEMBLY OF EQUIPMENT SHALL BE PART OF THIS CONTRACT AND NO CHANGE ORDERS SHALL BE ALLOWED FOR FAILURE TO COMPLY WITH THIS SECTION.

P. HOT WATER PIPING

1. MAINS IN BOILER ROOM

   a. SCHEDULE 40 STEEL WITH WELDED OR FLANGED FITTINGS.

2. BRANCH LINES (CONNECTIONS AT HEATING/COOLING COILS)

   a. TYPE L COPPER WITH WROT COPPER FITTINGS AND SOLDERED JOINTS

3. HOT AND COOLING WATER PIPING, VALVES, FITTINGS, COMPONENTS, AND ACCESSORIES SHALL BE RATED FOR 150 PSI PRESSURE CLASS MINIMUM.

4. ALL ELBOWS SHALL BE LONG RADIUS TYPE WHEN AVAILABLE FOR THE SIZE.

5. ALL PIPING CONNECTIONS AT MOTORIZED EQUIPMENT SHALL HAVE BRAIDED STAINLESS STEEL FLEXIBLE CONNECTIONS. PROVIDE WITH DIELECTRIC UNIONS FOR COPPER PIPE AND CONNECTIONS.

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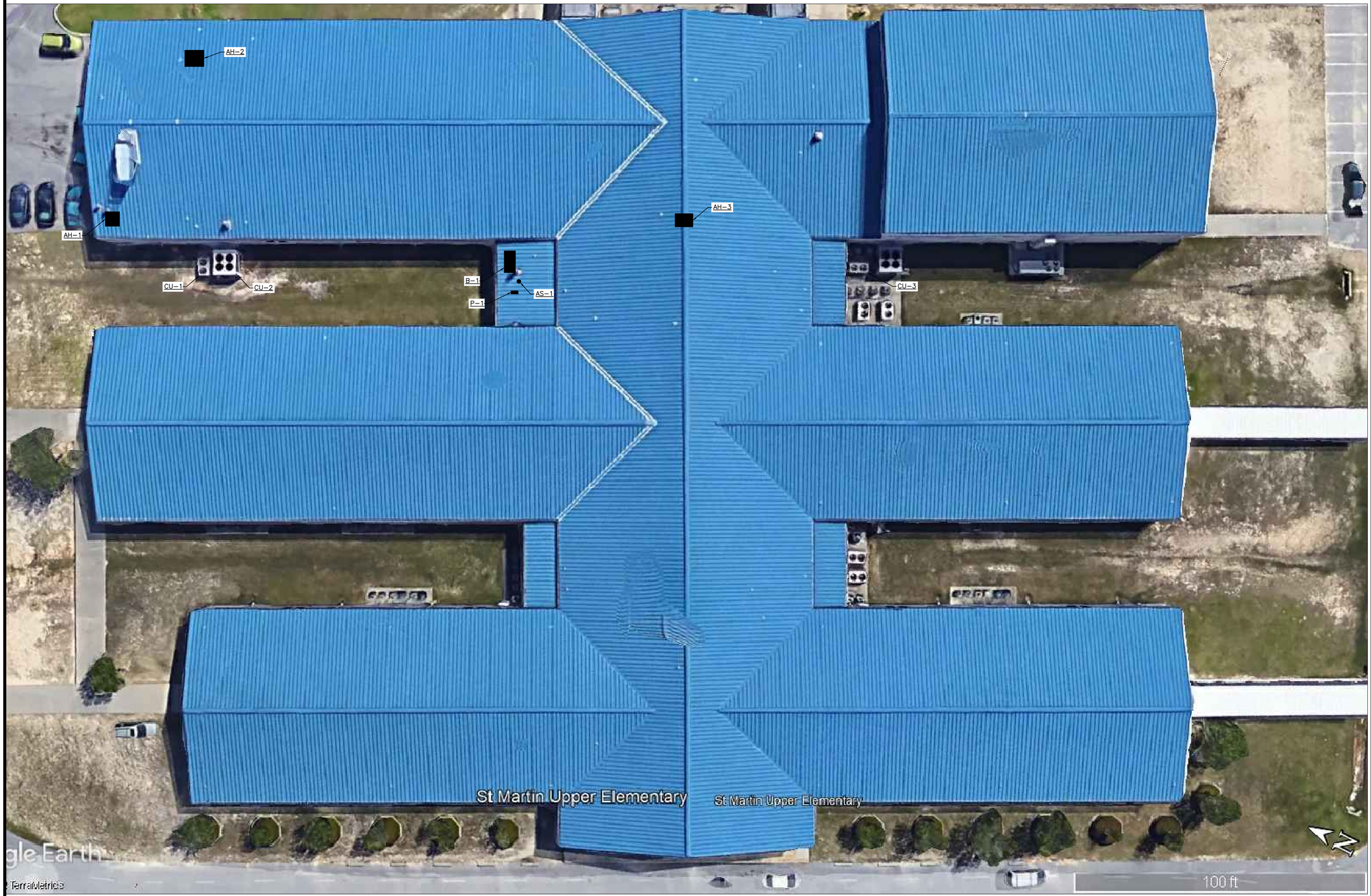

1 MECHANICAL SITE PLAN
SCALE: 1/16"=1'-0"

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JOHN MICAH VAN DUIJVENDIJK
LICENSED PROFESSIONAL ENGINEER
ENGINEER
STATE OF MISSISSIPPI
03/08/2023

SAINT MARTIN UPPER & EAST ELEMENTARY SCHOOLS
HVAC UPGRADES
11000 YELLOW JACKET BOULEVARD &
7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: 1/16"=1'-0"
PROJECT NO: 0155.22.008
DRAWN BY: JMV
CHECKED BY: JMV

MECHANICAL SITE PLAN
UPPER ELEMENTARY

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

MS101

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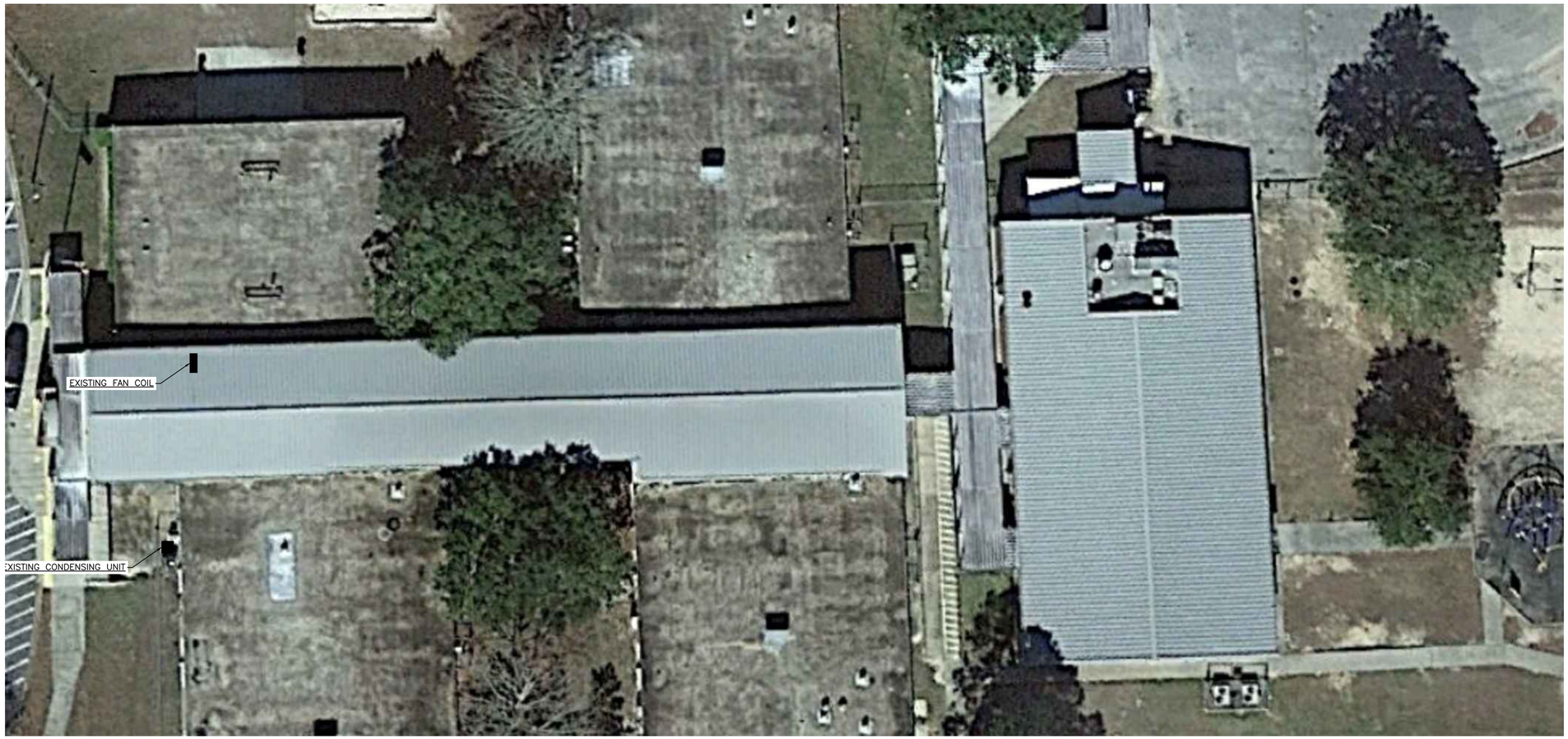

1 MECHANICAL SITE PLAN
SCALE: 1/16"=1'-0"

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MECHANICAL SITE PLAN
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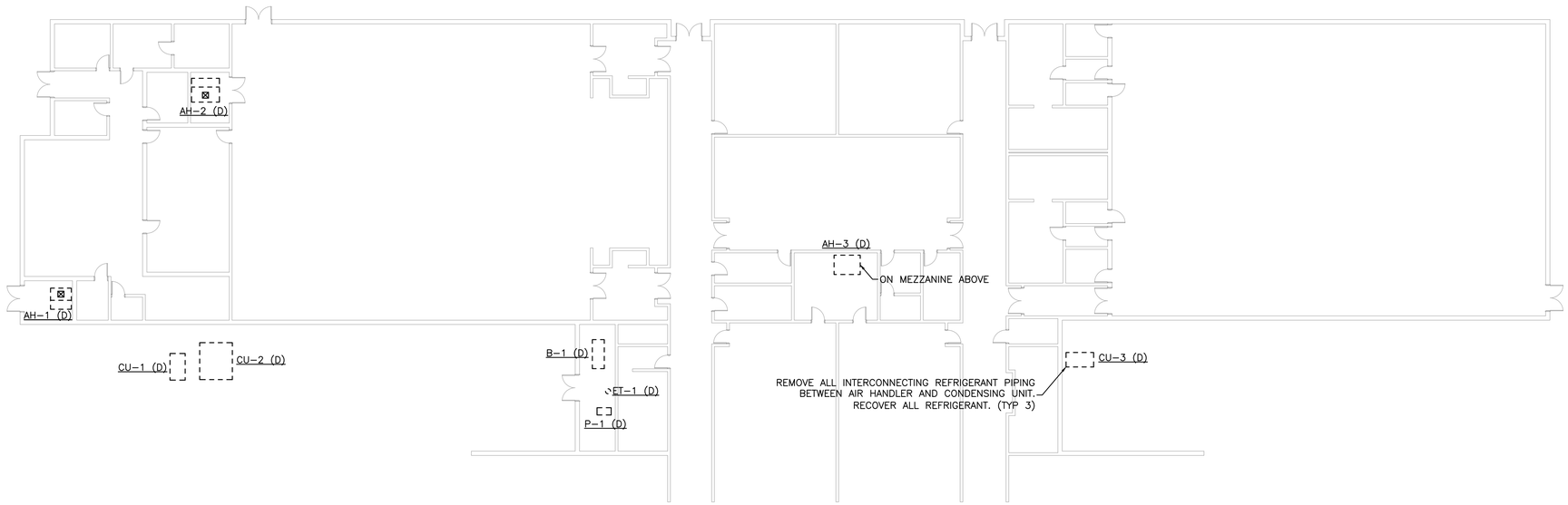
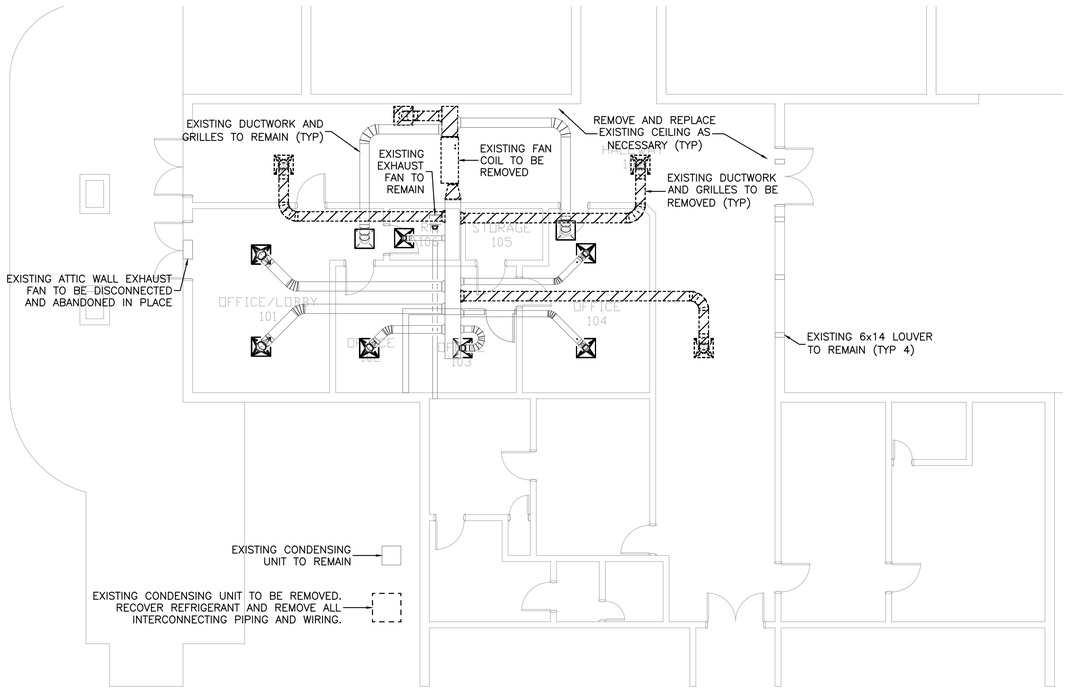


1 MECHANICAL DEMOLITION PLAN - UPPER ELEMENTARY
SCALE: 1/16"=1'-0"



2 MECHANICAL DEMOLITION PLAN - EAST ELEMENTARY
SCALE: 1/8"=1'-0"

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03/08/2023

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SCALE: AS NOTED
PROJECT NO: 0155.22.008
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MECHANICAL DEMOLITION PLANS

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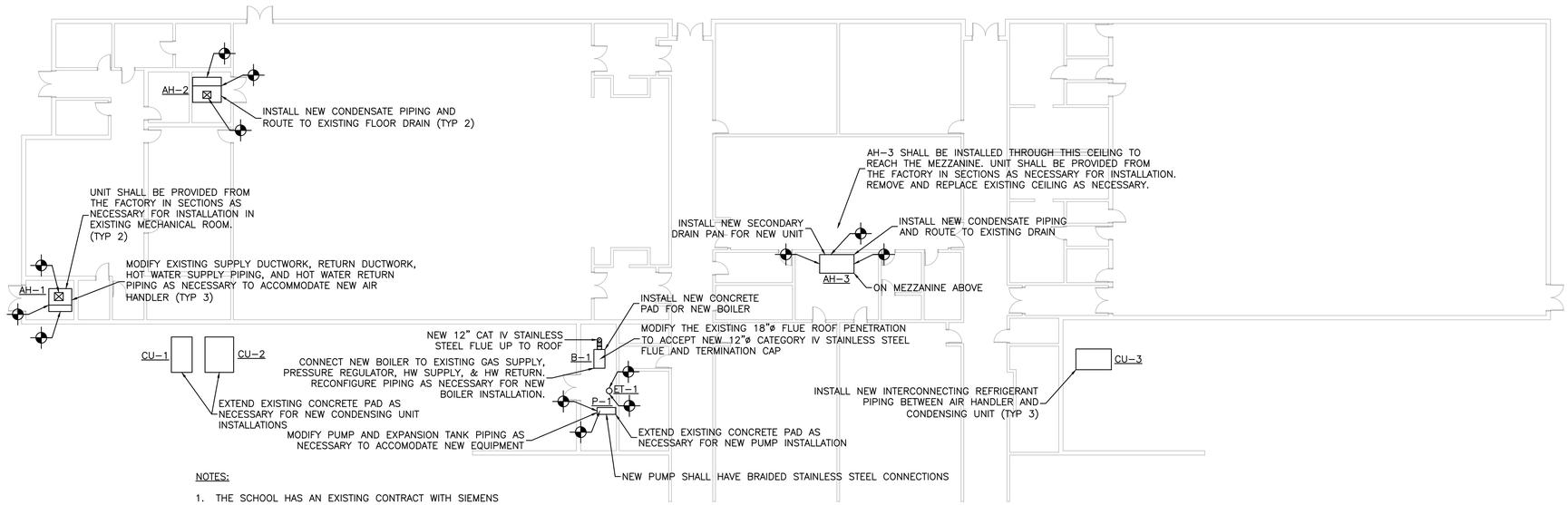

NOTES:

1. THE SCHOOL HAS AN EXISTING CONTRACT WITH SIEMENS (CORPORATE) FOR THE HVAC CONTROL SYSTEM FOR THIS FACILITY. THEY SHALL BE CONTRACTED TO FULLY INTEGRATE THE NEW AIR HANDLERS, CONDENSING UNITS, AND BOILER INTO THE EXISTING CONTROL SYSTEM. THIS SHALL INCLUDE ALL NEW HARDWARE (CONTROLLERS, WIRING, THERMOSTATS, ETC.), PROGRAMMING, AND GRAPHICS AS NECESSARY FOR FULLY OPERATIONAL SYSTEMS.
2. INSTALL NEW REFRIGERANT PIPE ALONG SAME ROUTE AS EXISTING REFRIGERANT PIPING. REMOVE AND REPLACE EXISTING CEILINGS ALONG ROUTE AS NECESSARY. SEAL EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
3. INTERCONNECTING REFRIGERANT LINE SIZES SHALL BE DETERMINED BY THE MANUFACTURER BASED UPON CONTRACTOR PROVIDED ROUTING, FITTINGS, ACCESSORIES, ELEVATION CHANGES, AND LENGTHS. REFRIGERANT PIPING AND ACCESSORIES SHALL BE INSTALLED PER DAIKIN'S REFRIGERANT PIPING DESIGN GUIDE (AG 31-011).

1 MECHANICAL HVAC PLAN
SCALE: 1/16"=1'-0"

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MECHANICAL HVAC PLAN
UPPER ELEMENTARY

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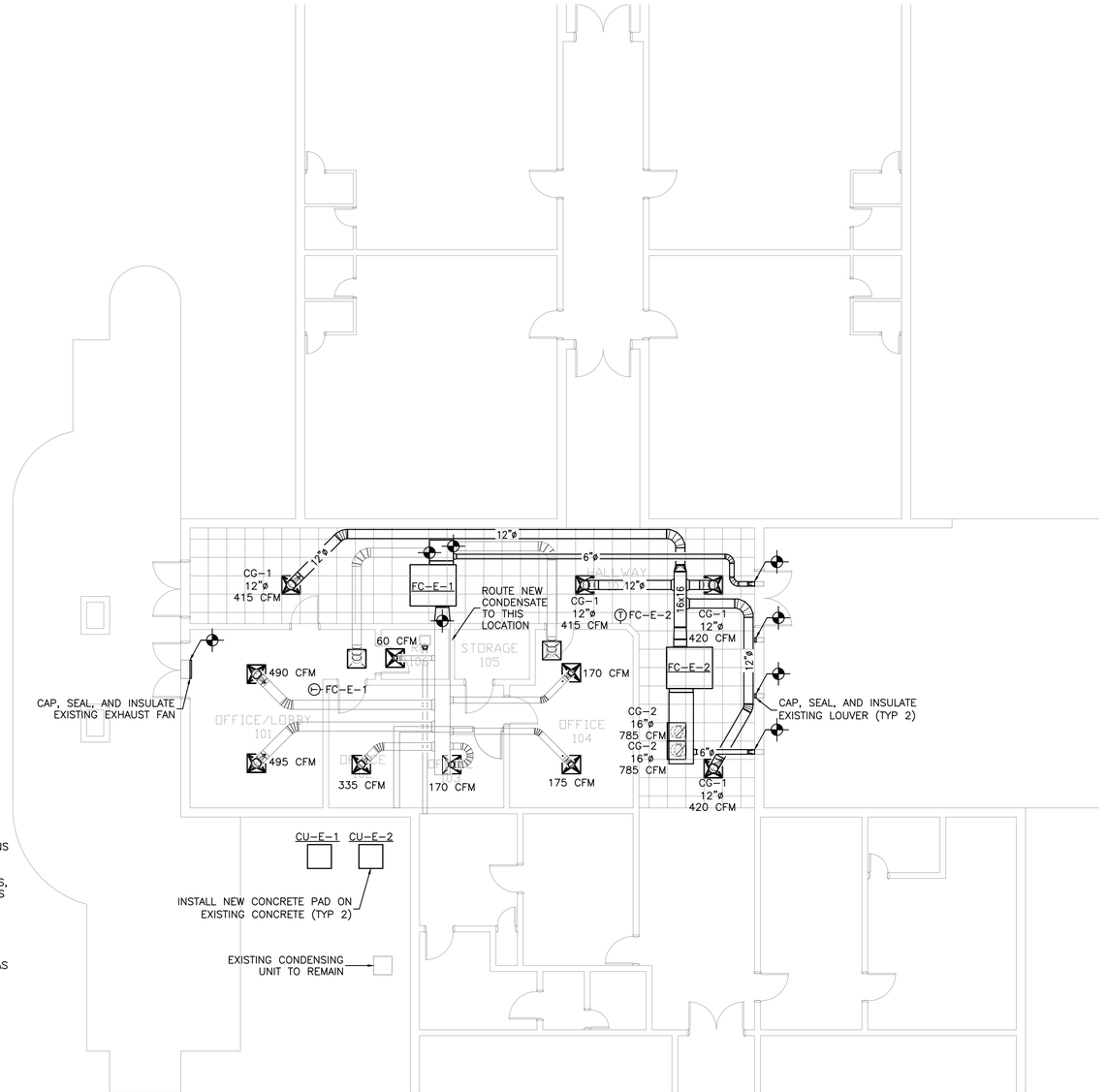

1 MECHANICAL HVAC PLAN
SCALE: 1/8"=1'-0"

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2. INSTALL NEW REFRIGERANT PIPE ALONG SAME ROUTE AS EXISTING REFRIGERANT PIPING. REMOVE AND REPLACE EXISTING CEILINGS ALONG ROUTE AS NECESSARY. SEAL EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
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MECHANICAL HVAC PLAN
EAST ELEMENTARY

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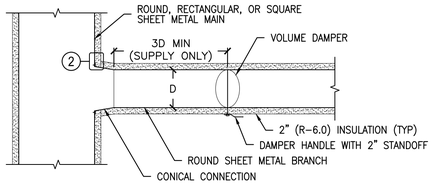
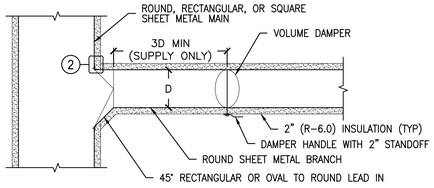
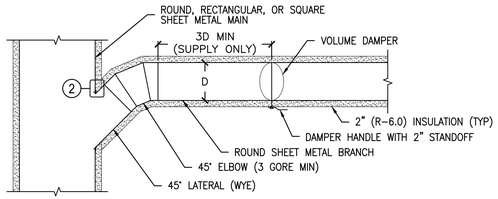


OPTION 1–CONICAL CONNECTION



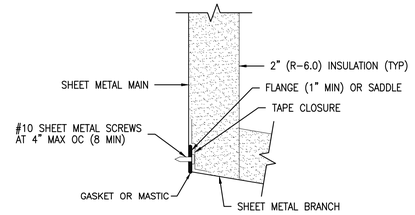
OPTION 2–45° LEAD IN CONNECTION

NOTE:
NO OTHER FITTINGS ARE ACCEPTABLE UNLESS THEY ARE SUBMITTED TO AND APPROVED BY THE ENGINEER

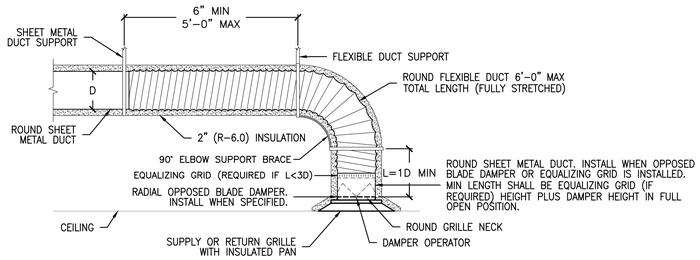


OPTION 3–45° LATERAL CONNECTION

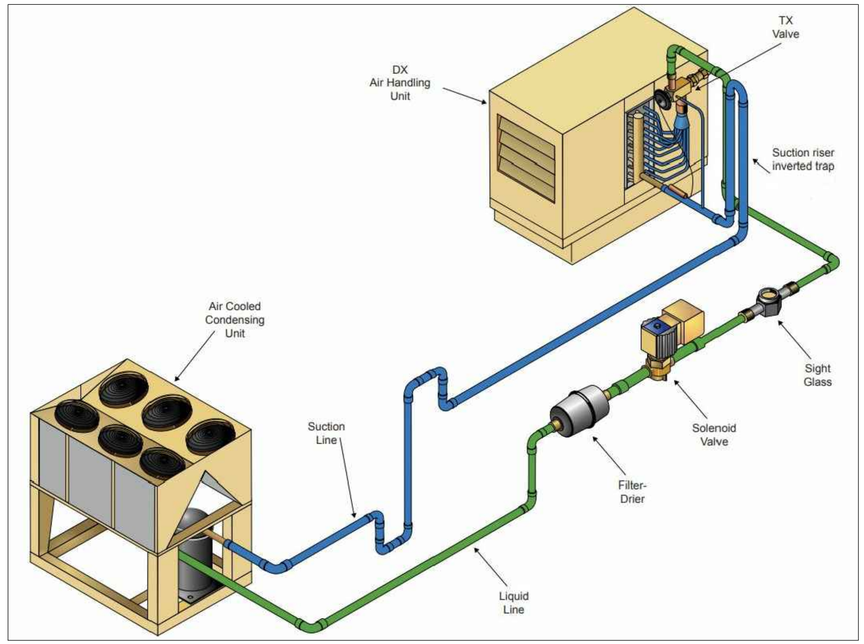
1 ACCEPTABLE BRANCH DUCT CONNECTION DETAILS
NTS



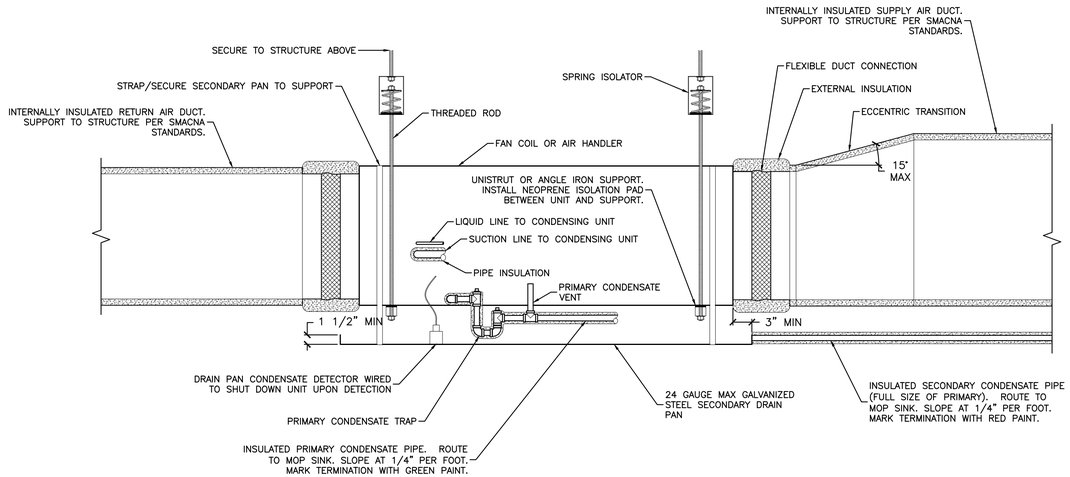
2 SHEET METAL DUCT BRANCH CONNECTION DETAIL
NTS



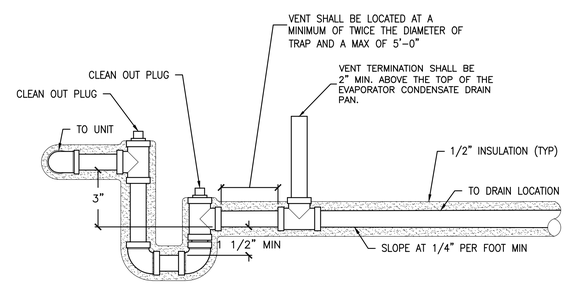
3 BRANCH DUCT TERMINATION DETAIL
NTS



4 REFRIGERANT PIPING DETAIL - UPPER ELEMENTARY
NTS



5 FAN COIL/AIR HANDLER INSTALLATION DETAIL (HORIZONTAL)
NTS



6 CONDENSATE DETAIL
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03/08/2023

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7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: NONE
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MECHANICAL HVAC DETAILS

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AIR HANDLING UNIT SCHEDULE - UPPER ELEMENTARY

TAG	MAKE	MODEL	AIRFLOW (CFM)	OA (CFM)	ESP (INWC)	RPM	DX COIL				PRE-HEAT HOT WATER COIL								V/PH	HP	FLA	LRA	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	LBS	NOTES
							TOTAL (MBH)	SENSIBLE (MBH)	EDB (°F)	EWB (°F)	TOTAL (MBH)	EAT (°F)	FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FTWC)	VELOCITY (FPS)	FPI									
AH-1	DAIKIN	CAH010GDAC	4000	800	1.5	2044	135.647	107.690	77.5	62.8	160.523	60.0	13.6	180	156.4	3.3	2.9	13	460/3	3	4.2	31.99	64	64	72	1615	1,2,3,4,5,6,7,9,10,11,13,14,15
AH-2	DAIKIN	CAH017GDAC	8200	2500	1.0	1019	458.466	246.803	79.2	69.2	362.238	53.0	36.1	180	159.9	19.3	6.4	10	460/3	7.5	9.8	70.56	70	80	92	2285	1,2,3,4,5,6,7,9,10,11,13,14,15
AH-3	DAIKIN	CAH006GDAM	2500	1200	1.0	1929	162.794	73.644	80.7	73.1	117.374	61.0	11.7	180	159.9	0.4	1.1	8	460/3	3	4.2	31.99	92	38	42	1075	1,2,3,4,6,7,8,10,11,12,13,14,15

1 WITH 2" DOUBLE WALL, FOAM INJECTED (R-13), THERMALLY BROKEN, GALVANIZED CASING PANELS
2 WITH 4" INTEGRAL BASE FRAME
3 WITH 2" MERV 13 FILTERS
4 WITH HINGED ACCESS PANEL FOR FAN, FILTERS, UPSTREAM OF COIL, AND DOWNSTREAM OF COIL
5 WITH VERTICAL CONFIGURATION
6 WITH STAINLESS STEEL DRAIN PAN
7 WITH INVERTER DUTY MOTOR WITH SHAFT GROUNDING
8 HORIZONTAL CONFIGURATION
9 WITH VERTICAL SUPPLY/HORIZONTAL RETURN
10 INSTALL BIPOLAR ION GENERATOR AND POWER THROUGH/INTERLOCK WITH SUPPLY FAN. PROVIDE TRANSFORMER AS NECESSARY. COORDINATE WITH CONTROLS CONTRACTOR.
11 MOUNT ON NIS VIBRATION ISOLATION. FAN SHALL BE SPRING ISOLATED.
12 WITH HORIZONTAL SUPPLY/RETURN
13 MANUFACTURED IN THE USA
14 WITH CONDENSATE OVERFLOW SWITCH
15 WITH FACTORY START UP

CONDENSING UNIT SCHEDULE - UPPER ELEMENTARY

TAG	MAKE	MODEL	CAPACITY (MBH)	OAT (°F)	LIQUID	SUCTION	V/PH	FAN FLA	COMPRESSOR FLA	MCA	MOCP	LBS	NOTES
CU-1	DAIKIN	RCS015D	185.962	95	(2) 5/8"	(2) 1-1/8"	460/3	(2) 2.1	(2) 12.2	32.3	40	1825	1,2,3,4,5,6,7,8,9,10,11,12,13,14
CU-2	DAIKIN	RCS040D	444.758	95	(2) 7/8"	(2) 1-5/8"	460/3	(4) 2.1	(4) 16.7	80.6	90	2500	1,2,3,4,5,6,7,8,9,10,11,12,13,14
CU-3	DAIKIN	RCS015D	185.962	95	(2) 5/8"	(2) 1-1/8"	460/3	(2) 2.1	(2) 12.2	32.3	40	1825	1,2,3,4,5,6,7,8,9,10,11,12,13,14

1 WITH FILTER/DRYER
2 SECURE/ANCHOR TO CONCRETE
3 WITH FIELD POWERED CONVENIENCE OUTLET
4 WITH REFRIGERATION SERVICE VALVES
5 WITH LOW AMBIENT CONTROL
6 MANUFACTURED IN THE USA
7 WITH FACTORY APPLIED COIL COATING
8 WITH NON-FUSED DISCONNECT
9 WITH HAIL GUARDS
10 WITH HOT GAS BYPASS
11 WITH PHASE FAILURE AND GROUND FAULT PROTECTION
12 WITH SINGLE POINT ELECTRICAL CONNECTION
13 WITH FACTORY START UP
14 WITH 5 YEAR COMPRESSOR WARRANTY

BOILER SCHEDULE - UPPER ELEMENTARY

TAG	MAKE	MODEL	MBH (INPUT)	MAX MBH (OUTPUT)	EWT (°F)	LWT (°F)	GPM	PD (FT)	V/PH	TOTAL AMPS	LBS	NOTES
B-1	RAYPAK	MVB-4003-H	4000	3400	160	180	235	25.8	208/1	23	1660	1,2,3,4,5,6,7

1 MANUFACTURED IN THE UNITED STATES
2 WITH BACnet GATEWAY
3 WITH FACTORY START UP AND TRAINING
4 WITH CONDENSATE NEUTRALIZER
5 WITH COLD WATER START
6 WITH FACTORY START UP
7 WITH 5 YEAR HEAT EXCHANGER/20 YEAR THERMAL SHOCK WARRANTY

BOILER PUMP SCHEDULE - UPPER ELEMENTARY

TAG	MAKE	MODEL	GPM	HEAD (FT)	HP	RPM	EFF. @100%	INLET (IN)	OUTLET (IN)	IMPELLER (IN)	V/PH	NOTES
P-1	TACO	FI2511D	235	115	10	1760	73	3	2.5	10.90	460/3	1,2,3,4,5,6

1 BASE MOUNTED CONFIGURATION
2 WITH ODP MOTOR
3 125 PSI PRESSURE CLASS
4 MANUFACTURED IN THE UNITED STATES (INCLUDING MOTOR)
5 WITH SUCTION DIFFUSER
6 GROUT BASE

AIR SEPARATOR - UPPER ELEMENTARY

TAG	MAKE	MODEL	GPM	PD (FT)	LBS	LBS	NOTES
AS-1	TACO	AC04-125	235	1.21	170	170	1

1 MANUFACTURED IN THE UNITED STATES

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MECHANICAL HVAC SCHEDULES
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FAN COIL UNIT SCHEDULE - EAST ELEMENTARY

TAG	MAKE	MODEL	AIRFLOW (CFM)	OA (CFM)	ESP (INWC)	DX COIL					V/PH	HEATER KW	HEATER FLA	FAN HP	FAN FLA	COMPRESSOR LRA	COMPRESSOR RLA	FLA	MCA	MOP	LBS	NOTES
						TOTAL NET (MBH)	SENSIBLE NET (MBH)	EDB (°F)	EWB (°F)	OA (°F)												
FC-E-1	ABOVE AIR	HKE-048S-1-HGE20-00-00-1D-00-00-RT-B	1895	100	1.0	45.3	33.6	72.5	62.7	93.6	230/1	10.0	48.1	1.5	7.8	117.0	20.2	55.9	69.8	70	600	1,2,3,4,5,6,7,8,9,10,11,12,13,14
FC-E-2	ABOVE AIR	HKE-036S-1-HGE20-00-00-1D-00-00-RT-B	1670	100	1.0	33.7	29.9	73.1	62.4	93.6	230/1	15.0		1.0	6.2	112.0	18.5				460	1,2,3,4,5,6,7,8,9,10,11,12,13,14

1 WITH MODULATING HOT GAS REHEAT AND DEHUMIDIFICATION CONTROL
2 WITH COMPRESSORS IN INDOOR UNIT
3 WITH 2" MERV 13 FILTERS
4 WITH CONDENSATE OVERFLOW SWITCH
5 WITH HORIZONTAL CONFIGURATION
6 WITH STAINLESS STEEL DRAIN PAN
7 WITH SECONDARY DRAIN PAN
8 WITH BACNET CONTROLLER
9 WITH 5 YEAR COMPRESSOR WARRANTY
10 INSTALL BIPOLAR ION GENERATOR AND POWER THROUGH/INTERLOCK WITH SUPPLY FAN. PROVIDE TRANSFORMER AS NECESSARY.
11 MOUNT ON SPRING VIBRATION ISOLATION
12 WITH WALL MOUNTED TEMPERATURE/HUMIDITY SENSORS AND CONTROLLER
13 MANUFACTURED IN THE USA
14 WITH FACTORY START UP
15 WITH COMPRESSOR SOUND JACKET
16 DUCTED, STRAIGHT THRU CONFIGURATION

CONDENSING UNIT SCHEDULE - EAST ELEMENTARY

TAG	MAKE	MODEL	LIQUID	SUCTION	V/PH	FAN HP	FAN FLA	FLA	MCA	MOP	LBS	NOTES
CU-E-1	ABOVE AIR	XP1-048S-1-00-00-00-VF-FV	1/2"	5/8"	230/1	1/4	2.0	2.0	2.5	15	200	1,2,3,4,5,6
CU-E-2	ABOVE AIR	XP1-036S-1-00-00-00-VF-FV	3/8"	1/2"	230/1	1/4	2.0	2.0	2.5	15	140	1,2,3,4,5,6

1 WITH LOW AMBIENT CONTROL
2 SECURE/ANCHOR TO CONCRETE
3 MANUFACTURED IN THE USA
4 WITH FACTORY APPLIED COIL COATING
5 WITH NON-FUSED DISCONNECT
6 WITH FACTORY START UP

GRILLE SCHEDULE - EAST ELEMENTARY

TAG	TYPE	MAKE	MODEL	FRAME	MODULE/NOMINAL FACE SIZE	NOTES
CG-1	DIRECTIONAL LAY-IN CEILING DIFFUSER	TITUS	TDC-D-75	3	24x24	1,2,3,4
CG-2	LAY-IN CEILING RETURN/EXHAUST GRILLE	TITUS	350RL-AG-15	3	24x24	1,3,4,5

1 WITH OPPOSED BLADE DAMPER
2 WITH INSULATED BACKPAN
3 MANUFACTURED IN THE USA
4 WITHOUT SCREW HOLES
5 WITH SQUARE TO ROUND ADAPTER

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03/08/2023

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HVAC UPGRADES
11000 YELLOW JACKET BOULEVARD &
7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: NONE
PROJECT NO: 0155.22.008
DRAWN BY: JMV
CHECKED BY: JMV

MECHANICAL HVAC SCHEDULES
EAST ELEMENTARY

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LIGHTING SYMBOLS

CEILING	WALL	DESCRIPTION
		LED, FLUORESCENT OR H.I.D. LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		LED OR FLUORESCENT STRIP LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE
		LED OR FLUORESCENT LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		"EXIT" LIGHT FIXTURE. DIRECTIONAL ARROWS AS INDICATED. SHADED QUADRANT INDICATE FACE(S). SEE LUMINARE SCHEDULE.
		EMERGENCY BATTERY PACK FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		H.I.D. FLOODLIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.

POWER SYMBOLS

FLOOR	WALL	CEIL.	COUNTR	QUAD.	DESCRIPTION
					DUPLEX OUTLET; GFCI=GFCI PROTECTION, WP=WEATHER PROOF COVER, IG=ISOLATED GROUND.
					SPECIAL OUTLET
					480/277V PANELBOARD
					208/120V PANELBOARD
					DISCONNECT SWITCH, AS=FRAME SIZE, AT=FUSE SETTING (NF=NON FUSED), #P=NUMBER POLES, NR=NEMA ENCLOSURE RATING (NEMA 1 UNLESS OTHERWISE NOTED)
					COMBINATION STARTER/DISCONNECT SWITCH, MP=MAX PROTECTION RATING, SS=STARTER SIZE, #P=NUMBER POLES, NR=NEMA ENCLOSURE RATING.
					MAGNETIC MOTOR STARTER. SS=STARTER SIZE, NR=NEMA ENCLOSURE RATING (NEMA 1 UNLESS OTHERWISE NOTED
					MOTOR, SINGLE-PHASE. HP=DENOTES HORSEPOWER
					MOTOR, THREE-PHASE. HP=DENOTES HORSEPOWER
					JUNCTION BOX
					JUNCTION BOX, WALL MOUNTED
					TRANSFORMER

SYSTEM DEVICES

FLOOR	WALL	CEIL.	DESCRIPTION
			TELEPHONE OUTLET, FLUSH MOUNTED
			COMBINATION DATA/TELEPHONE OUTLET, FLUSH MOUNTED
			CABLE TELEVISION OUTLET, FLUSH MOUNTED
	H	H	FIRE ALARM, COMBINATION AUDIO/VISUAL ANNUNCIATION UNIT. CANDELA AS INDICATED. WALL MOUNTED 7'-6" AFF UNLESS OTHERWISE NOTED, CEILING MOUNTED.
	S	S	STROBE, WALL MOUNTED 7'-6" AFF UNLESS OTHERWISE NOTED. CEILING MOUNTED CANDELA AS INDICATED.
	P		FIRE ALARM PULL STATION. WALL MOUNTED 48" AFF.
	H		HEAT DETECTOR CEILING MOUNTED.
	SD		SMOKE DETECTOR CEILING MOUNTED.
	DSD		DUCT SMOKE DETECTOR, WITH SAMPLING TUBE MOUNTED IN HVAC DUCT.
	FS		FLOW SWITCH
	CM		CONTROL MODULE
	TS		TAMPER SWITCH
	FAP		FIRE ALARM CONTROL PANEL (FACP)
	TX		TRANSCEIVER
	ANN		FIRE ALARM REMOTE ANNUNCIATOR PANEL.
	VFD		VARIABLE FREQUENCY DRIVE
	TBB		TELEPHONE BACK BOARD PANEL

WIRING SYMBOLS

	DESCRIPTION
	WIRING (IN CONDUIT) CONCEALED IN CEILING OR WALL
	WIRING (IN CONDUIT) RUN EXPOSED
	WIRING UNDERGROUND (SITE WORK)
	TELECOMMUNICATION RACEWAY (SITE WORK)
L:1,3	HOMERUN TO PANELBOARD WITH NOMENCLATURE (LETTERS), CIRCUIT NUMBERS (NUMBERS), NUMBER OF CIRCUITS (NUMBER OF ARROWS), EACH CIRCUIT TO HAVE GROUND.
E	ELECTRICAL MANHOLE
T	TELECOMMUNICATION MANHOLE
	GROUND CONNECTION
$	SINGLE-POLE TOGGLE SWITCH.
$WP	WEATHER PROOF BUTTON SWITCH.
$3	THREE-WAY BUTTON SWITCH.
$D	SLIDE DIMMER FLUORESCENT.
$M	SWITCH, MOTOR RATED
$MS	SWITCH, MOTION SENSOR, LITHONIA WSX SERIES OR APPROVED EQUAL
PC	PHOTO CELL
OC	OCCUPANCY SENSOR, LITHONIA LIGHTING CEILING MOUNTED 360 DEGREE PASSIVE DUAL TECHNOLOGY MOTION SENSOR, OR APPROVED EQUAL
	CONDUIT STUBBED OUT
	GROUNDING CONNECTION BAR
	10' 3/4" COPPER CLAD GROUND ROD.

REFERENCE SYMBOLS

	DESCRIPTION
1	SPECIFIC NOTE REFERENCE.
100	FEEDER REFERENCE.
A / E1 E2 ; 1 / E1 E2	DETAIL/SECTION REFERENCE: "1" DENOTES DETAIL "A" DENOTES SECTION "E1" DENOTES DRAWING NUMBER WHERE DETAIL/SECTION IS TAKEN "E2" DENOTES DRAWING NUMBER WHERE DETAIL/SECTION IS DRAWN

SPECIAL SYSTEMS

	DESCRIPTION
ISP	SPEAKER. CEILING MOUNT.
CS	INTERCOM CALL STATION.
MC	FLOOR MOUNTED MICROPHONE OUTLET ACE BACKSTAGE HALF STAGE POCKET OR EQUAL.
$V	WALL MOUNTED VOLUME CONTROL 70 VOLT.
DC	MAGNETIC DOOR CONTACT. SECURITY SYSTEM
GB	GLASS BREAK SENSOR. SECURITY SYSTEM
MS	MOTION DETECTOR. SECURITY SYSTEM.
SEC	SECURITY SYSTEM PANEL.
KP	KEYPAD SECURITY SYSTEM.
PRO	OVERHEAD PROJECTOR

ONE-LINE SYMBOLS

	DESCRIPTION
M	METER ENCLOSURE
M	METER
	CIRCUIT BREAKER
	SWITCH, SINGLE POLE-SINGLE THROW
	FUSE
	FUSE
	FUSED SWITCH
	FUSED SWITCH
	DRY TYPE TRANSFORMER
PANEL	PANELBOARD
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
LC	LIGHTING CONTACTOR
GFM	GROUND FAULT MONITORING
K	KIRK-KEY MECHANICAL INTER-LOCK
	GROUND SYSTEM TEST WELL WITH GROUND ROD CONNECTION
	EXOTHERMIC WELD GROUND ROD CONNECTION
	EXOTHERMIC WELD CONNECTION
	4-WAY SF_6 SWITCH
	6-WAY SF_6 SWITCH
	TYPICAL DUAL CIRCUIT AIR BREAK TRANSFORMER DESIGN
400A / 4400	TRANSFORMER STATION NUMBER BUILDING NUMBER OR LOCATION
	LOAD BREAK SF_6 SWITCH
1	MOTOR STARTER (NUMBER INDICATES NEMA SIZE)
27	UNDERVOLTAGE RELAY
V	VOLT METER
A	AMMETER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION

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SCALE: NTS
PROJECT NO: 0155.22.008
DRAWN BY: DLM
CHECKED BY: KDB

ELECTRICAL SYMBOL SCHEDULES

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E001

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GENERAL NOTES

1. EQUIPMENT SHALL BE MOUNTED ON MATERIALS SUITABLE FOR THE ENVIRONMENT WHICH IT IS INSTALLED WITH THE APPROPRIATE NEMA ENCLOSURE RATING.
2. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH ARTICLE 110 AND 408.
3. THE DEDICATED ELECTRICAL SPACE EXTENDED FROM THE FLOOR TO THE STRUCTURAL CEILING WITH THE WIDTH AN DEPTH OF THE PANEL-BOARD OR SWITCHBOARD, MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH THE NEC 110 & 408. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGHING IN EQUIPMENT.
4. ALL ELECTRICAL EQUIPMENT AND THE RESULTANT INSTALLATION OF SUCH EQUIPMENT, DEVICES, ETC., SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND THE STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE NFPA 70E.
5. DRAWINGS AND SPECIFICATIONS FORM A COMPLETE SET OF DOCUMENTS FOR THE WORK IN THIS PROJECT. NEITHER IS COMPLETE WITHOUT THE OTHER. ANY ITEM MENTIONED IN ONE SHALL BE BINDING AS MENTIONED IN BOTH.
6. CONTRACTOR SHALL TAKE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL DIMENSIONS AND LOCATIONS OF EXISTING, RELOCATED AND NEW EQUIPMENT AND SHALL BE RESPONSIBLE FOR COORDINATION WITH THE WORK OF OTHER TRADES NECESSARY TO THE PROJECT.
7. THESE DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED TO PROVIDE A COMPLETE AND OPERABLE PROJECT CONCLUSION. ALL MISCELLANEOUS COMPONENTS, PARTS, FASTENERS, SPLICES AND OTHER INCIDENTAL ITEMS NECESSARY TO PROVIDE A COMPLETED PROJECT SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY NOTED.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS ARISING FROM DISCOVERED CONDITIONS AT ANY PHASE OF THE PROJECT.
9. CONTRACTOR SHALL NOTIFY MISSISSIPPI ONE CALL TO DETERMINE THE LOCATION AND DEPTH OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
10. AT ANY LOCATION WHERE EXCAVATION OR ASSOCIATED WORK CAUSES DAMAGE TO EXISTING UNDERGROUND UTILITIES, CONTRACTOR SHALL RESTORE THE DAMAGED SYSTEM TO LIKE-NEW STATE.
11. ALL BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL AND GROUND.
12. ALL ABOVE GROUND EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL.
13. LOCATIONS OF OTHER EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATION IN FIELD PRIOR TO ROUGHING IN AND ROUTING CONDUIT.
14. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATIONS FOR LIGHT FIXTURES IN LAY-IN OR DRYWALL CEILINGS, AND ON INTERIOR OR EXTERIOR WALLS.
15. CONDUITS ARE NOT NECESSARILY SHOWN ON PLAN DRAWINGS FOR SAKE OF CLARITY. PROVIDE CONDUITS BETWEEN DEVICES AND TO PANELS PER REQUIREMENTS LISTED IN DIVISION 26 SPECIFICATIONS. INDICATE EXACT ROUTING OF CONDUIT ON PLAN DRAWINGS AS PART OF AS BUILD DOCUMENTATION TO BE SUBMITTED AFTER FINAL COMPLETION.
16. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.
17. ALL EXIT, NIGHT LIGHT, AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.
18. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.
19. ELECTRICAL CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS AND SPECIFICATION TO OBTAIN LOCATIONS, WIRING REQUIREMENTS, CONTROL WIRING SCHEMES, INTERLOCK WIRING AND THERMOSTAT LOCATIONS.
20. ALL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO QUANTIFY THE MATERIALS SPECIFIED AND INDICATED THEIR INTENDED RELATIONSHIP TO EACH OTHER. THE DRAWINGS ARE NOT TO BE SCALED. THE VARIOUS SCALES USED ON THE DRAWINGS MAY NOT ALLOW FOR ALL FITTINGS, OFFSETS, AND ACCESSORIES THAT MAY BE REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE CONDITIONS THAT WOULD AFFECT THE WORK TO BE PERFORMED AND SHALL ARRANGE SUCH WORK AS NECESSARY TO COMPLY WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS.
24. ALL OPERABLE WALL MOUNTED DEVICES (SWITCHES, PULL STATIONS, ETC.) SHALL BE INSTALLED SO THAT THE OPERABLE COMPONENT IS A MAXIMUM OF 48" AFF AND IN ACCORDANCE WITH ADA AND ABA STANDARDS.

DEMOLITION NOTES

1. PLANS DO NOT ATTEMPT TO SHOW ALL DEMOLITION ITEMS. SOME LIGHT FIXTURES, SWITCHES/DIMMERS, EXIT LIGHTS, RECEPTACLES, TELEPHONE, DATA, MISC. OUTLETS, COMMUNICATION DEVICES (FIRE ALARM, PAGING/INTERCOM, NURSE CALL, SECURITY,... ETC.) ARE SHOWN FOR INFORMATION PURPOSES AND GENERAL LAYOUT IN THESE AREAS TO BE RENOVATED. HOWEVER, THE ITEMS SHOWN ARE NOT NECESSARILY COMPLETE, ELECTRICAL CONTRACTOR (E.C.) TO FIELD VERIFY ALL DEMOLITION ITEMS AND PROVIDE REMOVAL OF ALL DEVICES ACCORDINGLY. SEE RELATED NOTES ON MAINTAINING SERVICE TO NON-DEMOLITION AREAS.
2. E.C. SHALL REMOVE ALL EXISTING LIGHT FIXTURES, SWITCHES/DIMMERS, EXIT LIGHTS, RECEPTACLES, TELEPHONE, DATA, MISC. OUTLETS, WIRING TROUGHS, DUCTS, FILM ILLUMINATORS, COMMUNICATION DEVICES (FIRE ALARM, PAGING/INTERCOM, SECURITY,... ETC.) IN DEMOLITION AREAS. REMOVE CONDUIT/WIRE BACK TO PANEL(S) UNLESS RE-USED FOR NEW AND/OR RELOCATED WORKS. EXISTING RACEWAYS, CONDUITS AND CABLE DUCTS WITH ADEQUATE CAPACITY FOR NEW AND/OR EXISTING LOADS MAY BE RE-USED. SIMILARLY FOR COMMUNICATION SYSTEM CONDUIT/WIRE (REMOVE BACK TO CONTROL PANEL(S) IF NOT RE-USED). FIXTURES NOT INDICATED FOR RE-USE SHALL BE DELIVERED TO A LOCATION TO BE SPECIFIED BY OWNER. ALL FIXTURES UPSTREAM OR DOWNSTREAM OF DEMOLISHED FIXTURES AND ON THE SAME CIRCUITS SHALL BE RECONNECTED TO MAINTAIN SERVICE, PROVIDE NEW CONDUIT/WIRE AS REQUIRED.
3. DAMAGE TO EXISTING MATERIALS/EQUIPMENT WILL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. RE-SUPPORT ANY REMAINING CONDUIT OR DEVICE THAT WERE SUPPORTED BY WALLS/MILLWORK BEING REMOVED.
4. NON-DEMOLITION AREAS: DEMOLITION WORKS SHALL NOT AFFECT AREAS NOT INCLUDED IN DEMOLITION. E.C. SHALL BE RESPONSIBLE FOR THE CONTINUITY OF ALL SERVICES (POWER, TELEPHONE, FIRE ALARM, DATA, PAGING, INTERCOM, ETC.) IN NON-DEMOLITION AREAS. ALL SERVICES SHALL BE MAINTAINED AT ALL TIMES. E.C. SHALL MAINTAIN SERVICE BY EXTENDING, RE-ROUTING AND/OR RECONNECTING ANY CIRCUITS AFFECTED BY DEMOLITION.
5. E.C SHALL FIELD INVESTIGATE EXISTING ELECTRICAL INSTALLATION. ALL EXISTING INSTALLATION IN THE RENOVATION AREAS THAT ARE TO REMAIN BUT ARE NOT CURRENTLY IN COMPLIANCE WITH CURRENT CODES SHALL BE CORRECTED BY E.C., INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

   UN-SUPPORTED CONDUIT AND JUNCTION BOXES LAYING ON TOP OF CEILING TILES, CONDUIT AND/OR JUNCTION BOXES SUPPORTED ONLY BY TIE-WIRE – RAISE AND SUPPORT CONDUIT WITH STRAP PER SPECS. PROVIDE NEW CONDUIT/WIRE AS REQUIRED.

   CIRCUITS WITHOUT A SEPARATE GREEN GROUNDING WIRE – INSTALL A GREEN GROUNDING WIRE FOR EVERY RECEPTACLE OUTLET AND DEVICES. INSTALLATION OF THE GREEN GROUNDING WIRE MAY REQUIRE THE REMOVAL AND RE-INSTALLATION OF THE EXISTING WIRES. PROVIDE NEW WIRE AS REQUIRED.

   FIXTURES IMPROPERLY SUPPORTED OR INADEQUATELY SUPPORTED BY DEVICE BOXES – PROVIDE PROPER SUPPORT PER N.E.C.

   EMERGENCY AND NORMAL POWER CIRCUITS IN THE SAME CONDUIT – PROVIDE SEPARATION OF EMERGENCY AND NORMAL CIRCUITS AND INSTALL IN SEPARATE CONDUIT.
6. ALL EXISTING ABANDONED AND/OR UN-USED CONDUIT/WIRE, SWITCHES/STARTERS, JUNCTION BOXES, COMMUNICATION SYSTEM AND DEVICES IN PROJECT AREAS SHALL BE REMOVED BACK TO PANELS AND/OR CONTROL PANELS. ALL ITEMS DEMOLISHED BY E.C. SHALL BE REMOVED BACK TO PANELS AND/OR CONTROL PANELS.
7. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL SCOPE OF DEMOLITION WORK.
8. ALL WORK SHALL BE DONE IN TOTAL COORDINATION WITH THE BUILDING ELECTRICAL MAINTENANCE STAFF TO AVOID ANY INTERRUPTION TO EXISTING CIRCUITS IN USE.
9. ALL OPENINGS IN PARTITIONS AND CEILING SHALL BE FIRE SEALED.
10. CONTRACTOR TO PROVIDE OSHA APPROVED TEMPORARY LIGHTING AND POWER AS REQUIRED FOR THE DURATION OF THE PROJECT.

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ABBREVIATIONS

A

A	AMPERE(S)
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
ALUM	ALUMINUM
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAGE
AHU	AIR HANDLING UNIT

C

C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CLASS
COND	CONDUCTOR(S)
CT	CURRENT TRANSFORMER
CU	COPPER
COMM	COMMUNICATION
CWP	CHILLED WATER PUMP

D

DC	DIRECT CURRENT
DET.	DETECTOR

E

E.C.	ELECTRICAL CONTRACTOR
EEB	ELECTRICAL EQUIPMENT BUILDING
EF	EXHAUST FAN
EL.	ELEVATION
EM	EMERGENCY
ESD	EMERGENCY SHUTDOWN
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING

F

FC	FOOT CANDLE
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FL	FLUORESCENT
FREQ.	FREQUENCY
FT.	FOOT; FEET

G

G	GROUND
GALV	GALVANIZED
GFI	GROUND FAULT INTERRUPTER
GND	GROUND

H

HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HZ	HERTZ

J

JB	JUNCTION BOX

K

KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT.AMPERES
KW	KILOWATT

L

LBS.	POUNDS
LEV	LEVEL
LTG.	LIGHTING
LV	LOW VOLTAGE

M

MCB	MAIN CIRCUIT BREAKER
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MH	MOUNTING HEIGHT

N

N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NF	NONFUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NL	UN SWITCHED NIGHT LIGHT
NTS	NOT TO SCALE

O

OC	ON CENTER
OL	OVERLOAD CONTACT

P

ø	PHASE
PNL	PANEL
PR	PAIR
PE	PHOTO ELECTRIC
PRI	PRIMARY
PIR	PASSIVE INFRARED
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER

R

REC	RECEPTACLE
REQ'D.	REQUIRED
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RT	RAINTIGHT

S

SEC	SECONDARY
SMK	SMOKE
SPC	SINGLE POINT CONNECTION
SR	SUNRISE
SS	SUNSET
STD	STANDARD
SUPVR	SUPERVISORY
SWBD	SWITCHBOARD

T

TYP	TYPICAL

U

UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES

V

V	VOLTS
VAC	VOLTAGE, ALTERNATING CURRENT
VDC	VOLTAGE, DIRECT CURRENT

W

W	WATTS, WIRE, WIDTH
WP	WEATHERPROOF

X

XFMR	TRANSFORMER

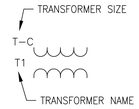
FEEDER SCHEDULE

TYPE THHN/THWN INSUL. COPPER CONDUCTOR AMPACITY BASED ON (75° TEMP. RATING) IN RIGID METAL CONDUIT
DRY INTERIOR LOCATIONS: EMT WITH CAST COMPRESSION FITTINGS
WET EXTERIOR LOCATIONS: RGS WITH CAST FITTINGS
UNDERGROUND INSTALLATIONS: SCHEDULE 80 PVC
BASED ON 31% FILL CAPACITIES

FEEDER DESIGNATION	3PH+G PHASE + GND. CONDUCTORS AND CONDUIT SIZE	FEEDER DESIGNATION	3PH+N+G PHASE + NEUTRAL + GND. CONDUCTORS AND CONDUIT SIZE	FEEDER DESIGNATION	2 WIRE + GND. OR 1 WIRE + NEUTRAL + GND. CONDUCTORS AND CONDUIT SIZE
20	3#12+#12 GND., 3/4"C	20N	4#12+#12 GND., 3/4"C	20S	2#12+#12 GND., 3/4"C
30	3#10+#10 GND., 3/4"C	30N	4#10+#10 GND., 3/4"C	30S	2#10+#10 GND., 3/4"C
50	3#8+#10 GND., 1"C	50N	4#8+#10 GND., 1"C	50S	2#8+#10 GND., 1"C
65	3#6+#8 GND., 1"C	65N	4#6+#8 GND., 1 1/4"C	65S	2#6+#8 GND., 1"C
85	3#4+#8 GND., 1 1/4"C	85N	4#4+#8 GND., 1 1/4"C	85S	2#4+#8 GND., 1 1/4"C
100	3#3+#8 GND., 1 1/4"C	100N	4#3+#8 GND., 1 1/2"C	100S	2#3+#8 GND., 1 1/4"C
115	3#2+#6 GND., 1 1/2"C	115N	4#2+#6 GND., 1 1/2"C	115S	2#2+#6 GND., 1 1/2"C
130	3#1+#6 GND., 1 1/2"C	130N	4#1+#6 GND., 2"C	130S	2#1+#6 GND., 1 1/2"C
150	3#1/0+#6 GND., 2"C	150N	4#1/0+#6 GND., 2"C	150S	2#1/0+#6 GND., 2"C
175	3#2/0+#6 GND., 2"C	175N	4#2/0+#6 GND., 2 1/2"C	175S	2#2/0+#6 GND., 2"C
200	3#3/0+#6 GND., 2"C	200N	4#3/0+#6 GND., 2 1/2"C	200S	2#3/0+#6 GND., 2"C
230	3#4/0+#4 GND., 2 1/2"C	230N	4#4/0+#4 GND., 3"C	230S	2#4/0+#4 GND., 2 1/2"C
255	3#250+#4 GND., 2 1/2"C	255N	4#250+#4 GND., 3"C	255S	2#250+#4 GND., 2 1/2"C
285	3#300+#4 GND., 3"C	285N	4#300+#4 GND., 3"C	285S	2#300+#4 GND., 3"C
310	3#350+#3 GND., 3"C	310N	4#350+#3 GND., 4"C	310S	2#350+#3 GND., 3"C
335	3#400+#3 GND., 3"C	335N	4#400+#3 GND., 4"C	335S	2#400+#3 GND., 4"C
380	3#500+#3 GND., 4"C	380N	4#500+#3 GND., 4"C	380S	2#500+#3 GND., 4"C
400	2 SETS(3#3/0+#3 GND., 2"C)	400N	2 SETS(4#3/0+#3 GND., 2 1/2"C)		
420	3#600+#2 GND., 4"C	420N	4#600+#2 GND., 4"C		
460	2 SETS(3#4/0+#2 GND., 2"C)	460N	2 SETS(4#4/0+#2 GND., 2 1/2"C)		
510	2 SETS(3#250+#1 GND., 2 1/2"C)	510N	2 SETS(4#250+#1 GND., 3"C)		
570	2 SETS(3#300+#4 GND., 2 1/2"C)	570N	2 SETS(4#300+#4 GND., 3"C)		
620	2 SETS(3#350+#1/0 GND., 3"C)	620N	2 SETS(4#350+#1/0 GND., 3"C)		
760	2 SETS(3#500+#1/0 GND., 3"C)	760N	2 SETS(4#500+#1/0 GND., 4"C)		
840	2 SETS(3#600+#2/0 GND., 4"C)	840N	2 SETS(4#600+#2/0 GND., 4"C)		
855	3 SETS(3#300+#2/0 GND., 2 1/2"C)	855N	3 SETS(4#300+#2/0 GND., 3"C)		
1005	3 SETS(3#400+#3/0 GND., 3"C)	1005N	3 SETS(4#400+#3/0 GND., 3"C)		
1240	4 SETS(3#350+#4/0 GND., 3"C)	1240N	4 SETS(4#350+#4/0 GND., 4"C)		
1650	5 SETS(3#400+#250 GND., 3"C)	1650N	5 SETS(4#400+#250 GND., 4"C)		
2010	6 SETS(3#400+#350 GND., 3"C)	2010N	6 SETS(4#400+#350 GND., 4"C)		
2660	7 SETS(3#500+#450 GND., 4"C)	2660N	7 SETS(4#500+#400 GND., 4"C)		
3040	8 SETS(3#500+#500 GND., 4"C)	3040N	8 SETS(4#500+#500 GND., 4"C)		
4180	11 SETS(3#500+#700 GND., 4"C)	4180N	11 SETS(4#500+#700 GND., 4"C)		

XFMR SCHEDULE

SIZE		KVA	GROUNDING ELECTRODE CONDUCTOR
KT-A	T-A	15	#8, 3/4" C.
KT-B	T-B	30	#6, 3/4" C.
KT-C	T-C	45	#6, 3/4" C.
KT-D	T-D	75	#2, 3/4" C.
KT-E	T-E	112.5	1/0, 1" C.
KT-F	T-F	150	1/0, 1" C.
KT-G	T-G	225	1/0, 1" C.
KT-H	T-H	300	2/0, 1 1/4" C.
KT-I	T-I	500	3/0, 1 1/2" C.



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SCALE: NTS
PROJECT NO: 0155.22.008
DRAWN BY: DLM
CHECKED BY: KDB

ELECTRICAL ABBREVIATIONS & ELECTRICAL FEEDER SCHEDULE

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E003

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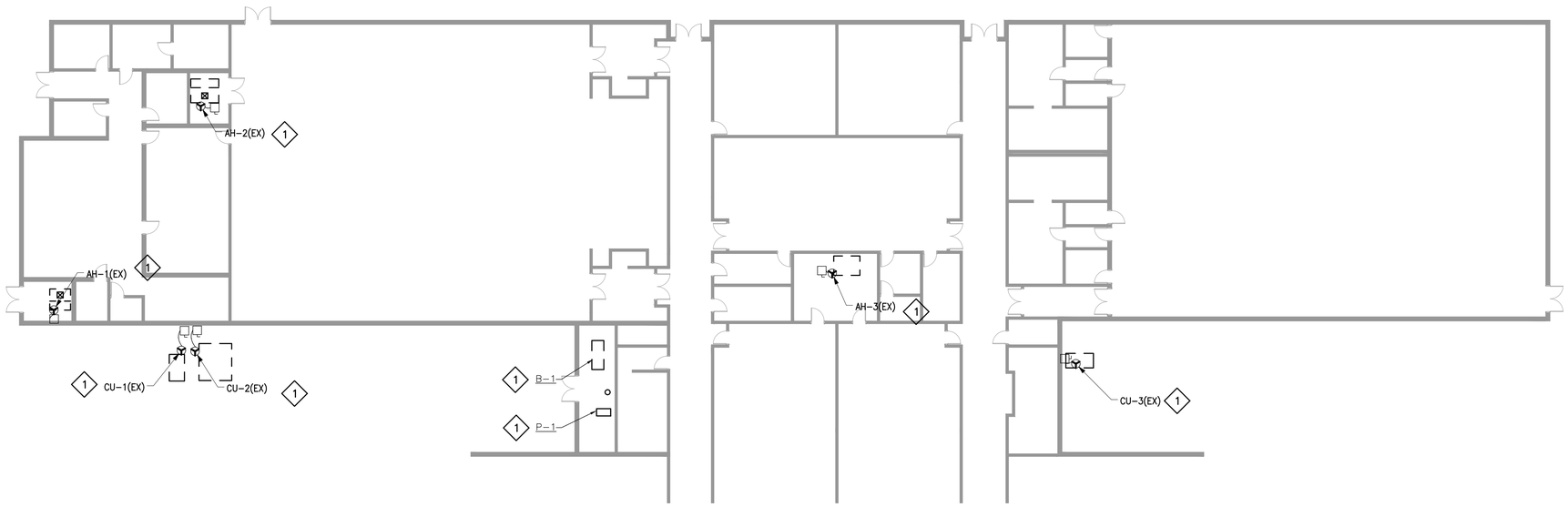
DRAWING E004 NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO DISPOSING ALL DEMOLISHED EQUIPMENT.

DRAWING E004 SPECIFIC NOTES

1. CONTRACTOR SHALL DEMOLISH EXISTING SAFETY SWITCH. CONTRACTOR SHALL DEMOLISH FEEDER BETWEEN SAFETY SWITCH AND HVAC UNIT. CONTRACTOR SHALL DEMOLISH FEEDER BETWEEN SAFETY SWITCH AND SOURCE. CONTRACTOR SHALL DEMOLISH ALL CONDUIT ABOVE GRADE. CONTRACTOR SHALL ABANDON CONDUIT 6" BELOW GRADE.



1 ELECTRICAL DEMO PLAN - UPPER ELEMENTARY
SCALE: 1/16" = 1'

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ELECTRICAL DEMO PLAN - UPPER ELEMENTARY

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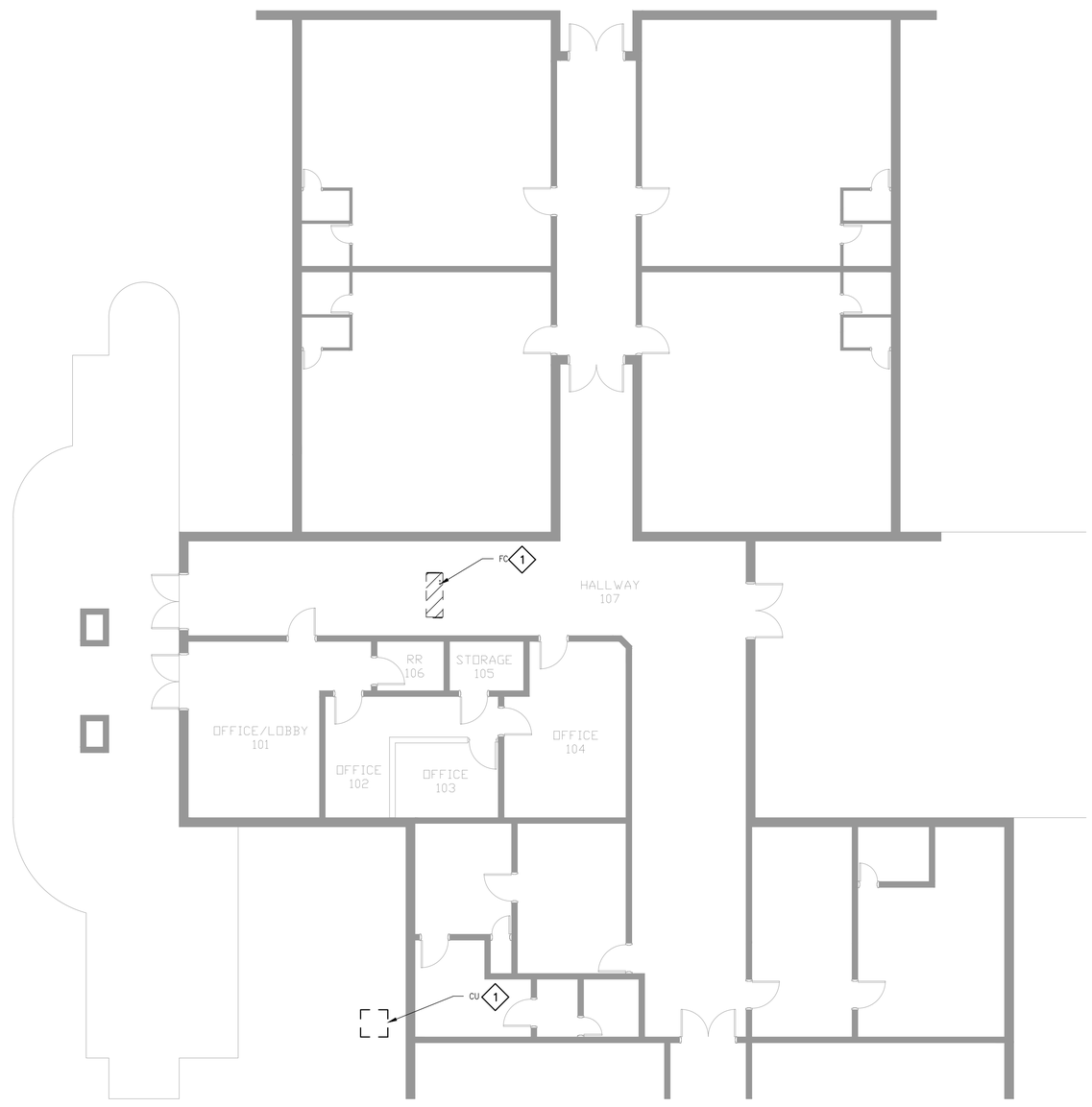

1 ELECTRICAL DEMO PLAN - EAST ELEMENTARY
SCALE: 1/8" = 1'

DRAWING E005 NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO DISPOSING ALL DEMOLISHED EQUIPMENT.

DRAWING E005 SPECIFIC NOTES

1. CONTRACTOR SHALL DEMOLISH EXISTING SAFETY SWITCH. CONTRACTOR SHALL DEMOLISH FEEDER BETWEEN SAFETY SWITCH AND HVAC UNIT. CONTRACTOR SHALL DEMOLISH FEEDER BETWEEN SAFETY SWITCH AND SOURCE. CONTRACTOR SHALL DEMOLISH ALL CONDUIT ABOVE GRADE. CONTRACTOR SHALL ABANDON CONDUIT 6" BELOW GRADE.

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ELECTRICAL DEMO PLAN - EAST
ELEMENTARY

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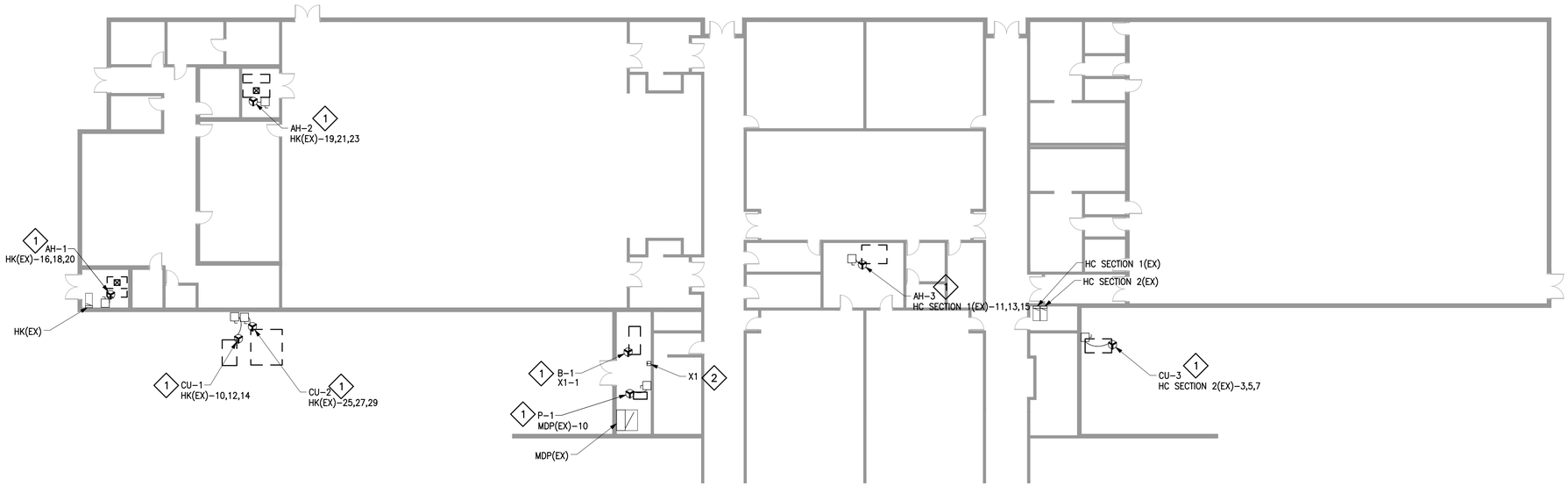
DRAWING E151 NOTES

1. ALL SAFETY SWITCHES SHALL BE PROVIDED AND MOUNTED BY THE E.C. COORDINATE EXACT REQUIREMENTS WITH THE EQUIPMENT MANUFACTURER.
2. COORDINATE EXACT WIRING REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGHING IN.
3. ALL SAFETY SWITCHES SHALL BE HEAVY DUTY. NEMA 1 – INDOORS, NEMA 12/3R – OUTDOORS.
4. ALL SMOKE DUCT DETECTORS AND DAMPER SMOKE DETECTORS SHALL BE PROVIDED AND INSTALLED BY THE CONTROLS CONTRACTOR. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR TYING INTO THE FIRE ALARM SYSTEM. CONTRACTOR SHALL REFERENCE MECHANICAL SHEETS FOR EXACT QUANTITY AND LOCATIONS.

DRAWING E151 SPECIFIC NOTES

1. SEE ONE-LINE DIAGRAM FOR NEW FEEDER, CONTROLS AND SAFETY SWITCH INFORMATION.
2. CONTRACTOR SHALL REFERENCE SHEET E611 FOR TRANSFORMER SIZING.



1 MECHANICAL POWER PLAN- UPPER ELEMENTARY
SCALE: 1/16" = 1'

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MECHANICAL POWER PLAN- UPPER ELEMENTARY

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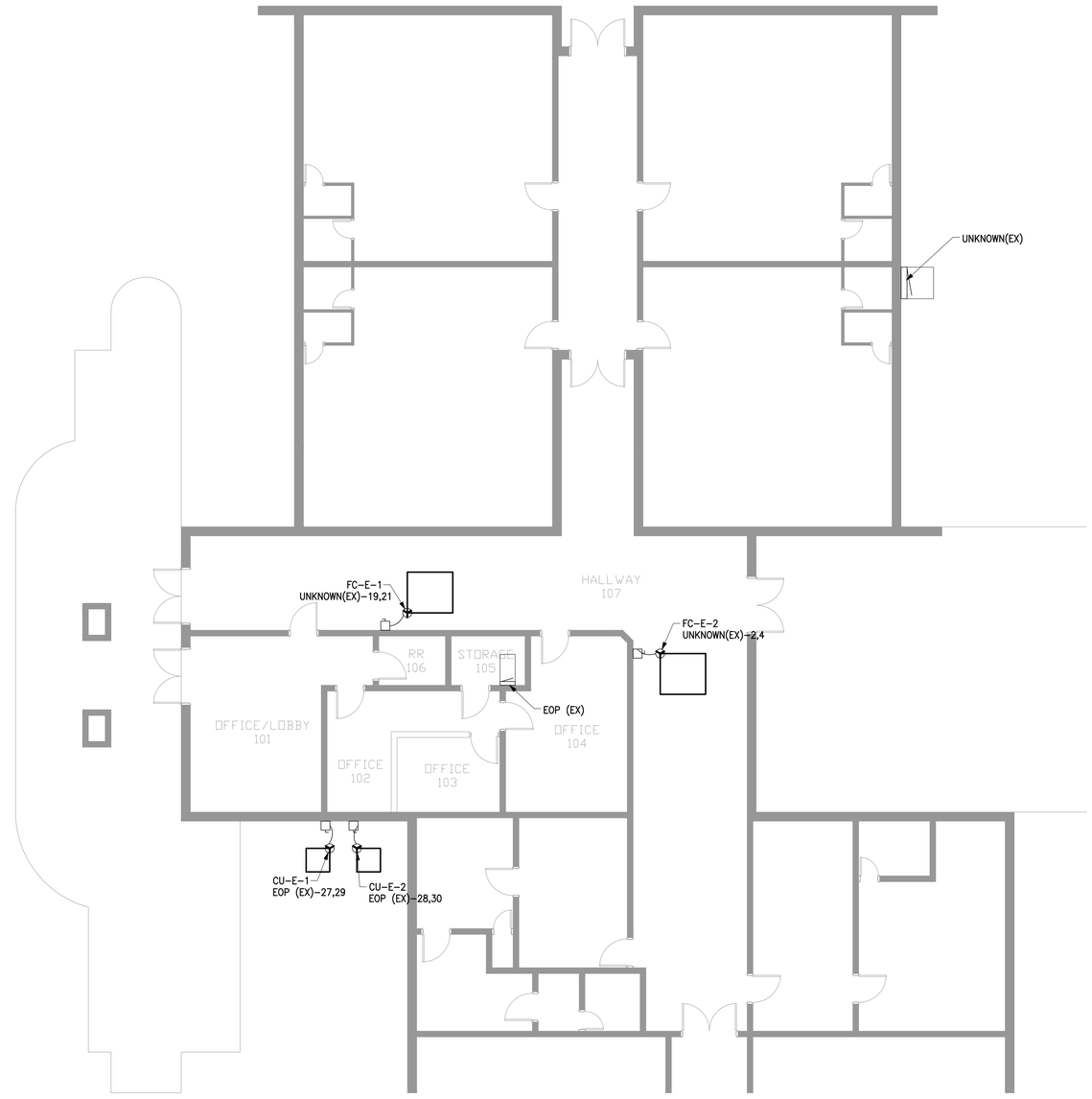

1 MECHANICAL POWER PLAN - EAST ELEMENTARY
SCALE: 1/8" = 1'

DRAWING E152 NOTES

1. ALL SAFETY SWITCHES SHALL BE PROVIDED AND MOUNTED BY THE E.C. COORDINATE EXACT REQUIREMENTS WITH THE EQUIPMENT MANUFACTURER.
2. COORDINATE EXACT WIRING REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGHING IN.
3. ALL SAFETY SWITCHES SHALL BE HEAVY DUTY. NEMA 1 – INDOORS, NEMA 12/3R – OUTDOORS.
4. ALL SMOKE DUCT DETECTORS AND DAMPER SMOKE DETECTORS SHALL BE PROVIDED AND INSTALLED BY THE CONTROLS CONTRACTOR. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR TYING INTO THE FIRE ALARM SYSTEM. CONTRACTOR SHALL REFERENCE MECHANICAL SHEETS FOR EXACT QUANTITY AND LOCATIONS.

DRAWING E152 SPECIFIC NOTES

1 SEE ONE-LINE DIAGRAM FOR NEW FEEDER, CONTROLS AND SAFETY SWITCH INFORMATION.

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MECHANICAL POWER PLAN - EAST ELEMENTARY

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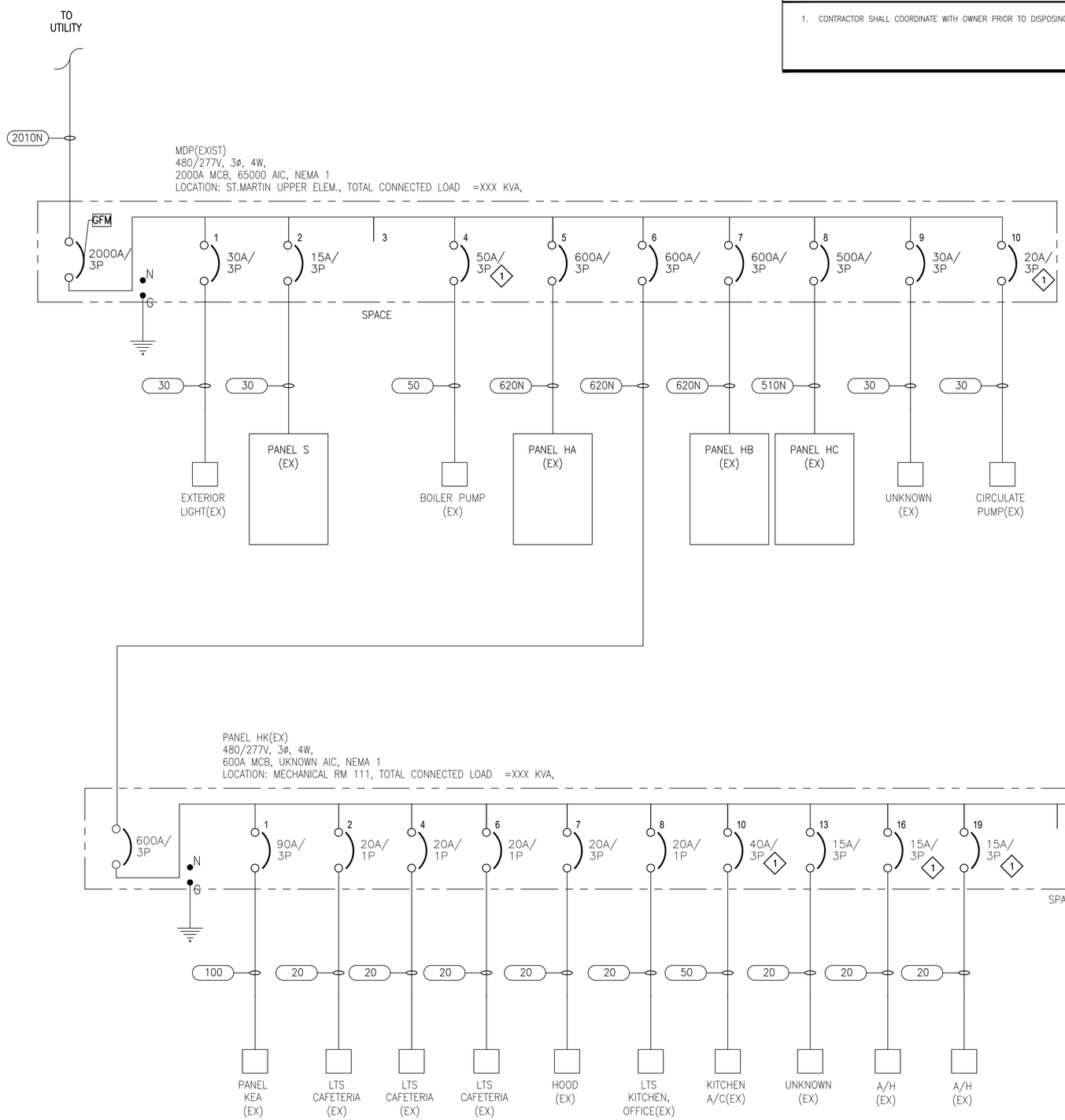
DRAWING E601 NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO DISPOSING ALL DEMOLISHED EQUIPMENT.

DRAWING E601 SPECIFIC NOTES

1. CONTRACTOR SHALL DEMOLISH EXISTING SAFETY SWITCH AND CONTROLS. CONTRACTOR SHALL DEMOLISH FEEDER BACK TO SOURCE. CONTRACTOR SHALL DEMOLISH ALL CONDUIT ABOVE GRADE. CONTRACTOR SHALL ABANDON CONDUIT 6" BELOW GRADE.



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PROJECT NO: 0155.22.008
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ELECTRICAL ONE-LINE DIAGRAM
DEMO PLAN - UPPER ELEMENTARY

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E601

VERIFY SCALES
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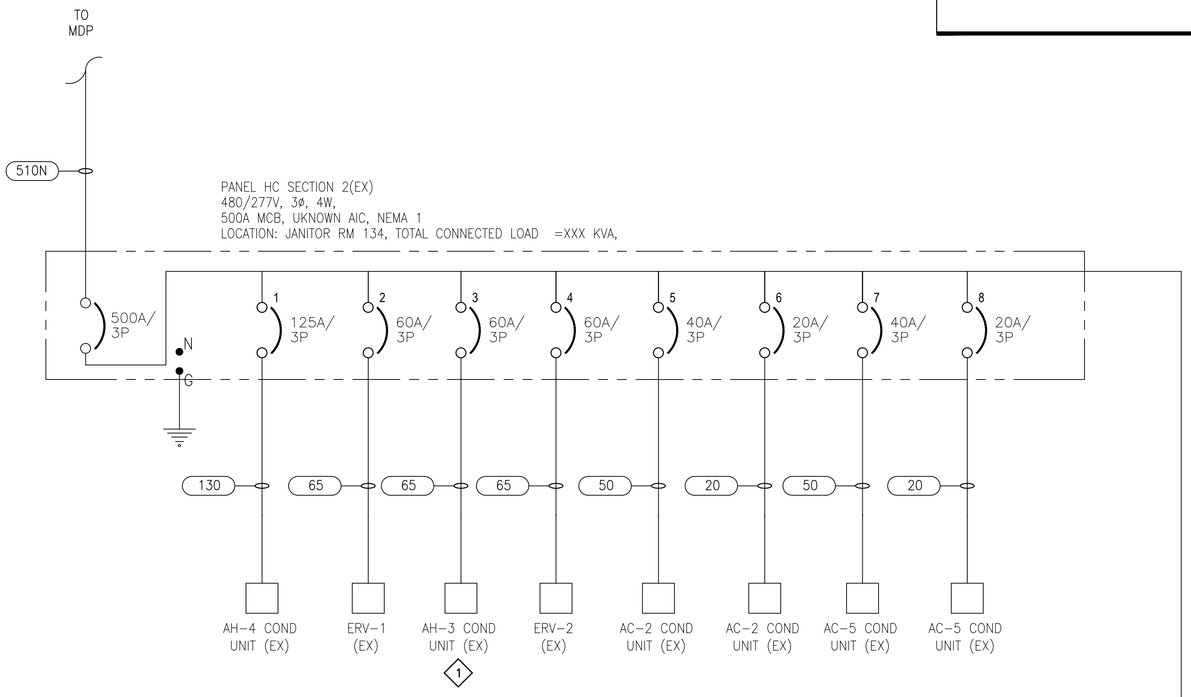
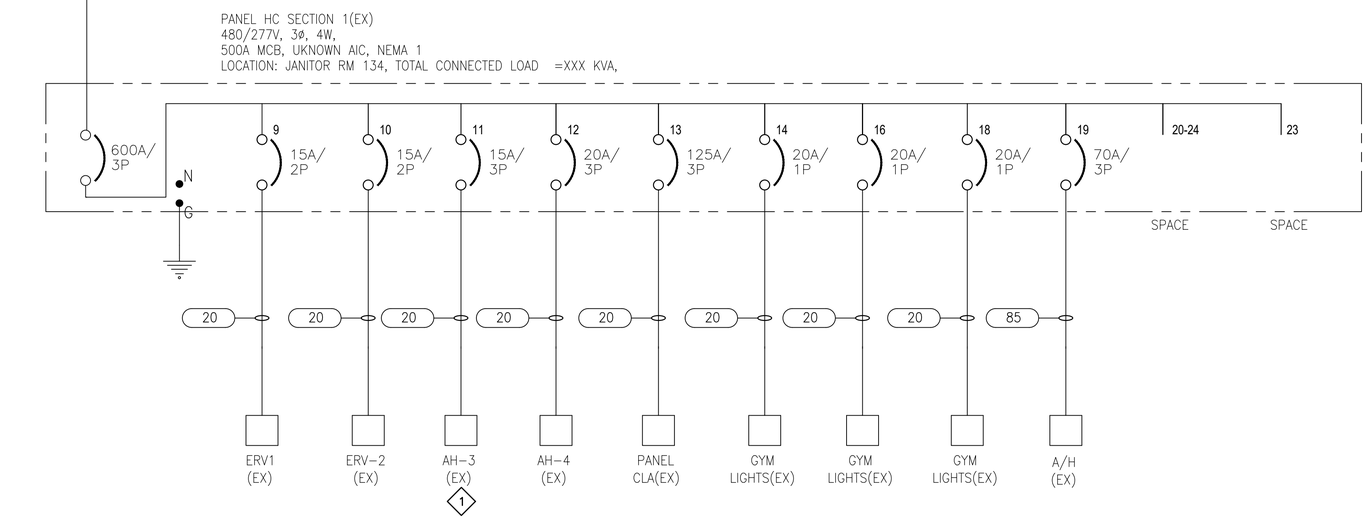
DRAWING E602 NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO DISPOSING ALL DEMOLISHED EQUIPMENT.

DRAWING E602 SPECIFIC NOTES

1. CONTRACTOR SHALL DEMOLISH EXISTING SAFETY SWITCH AND CONTROLS, CONTRACTOR SHALL DEMOLISH FEEDER BACK TO SOURCE. CONTRACTOR SHALL DEMOLISH ALL CONDUIT ABOVE GRADE. CONTRACTOR SHALL ABANDON CONDUIT 6" BELOW GRADE.





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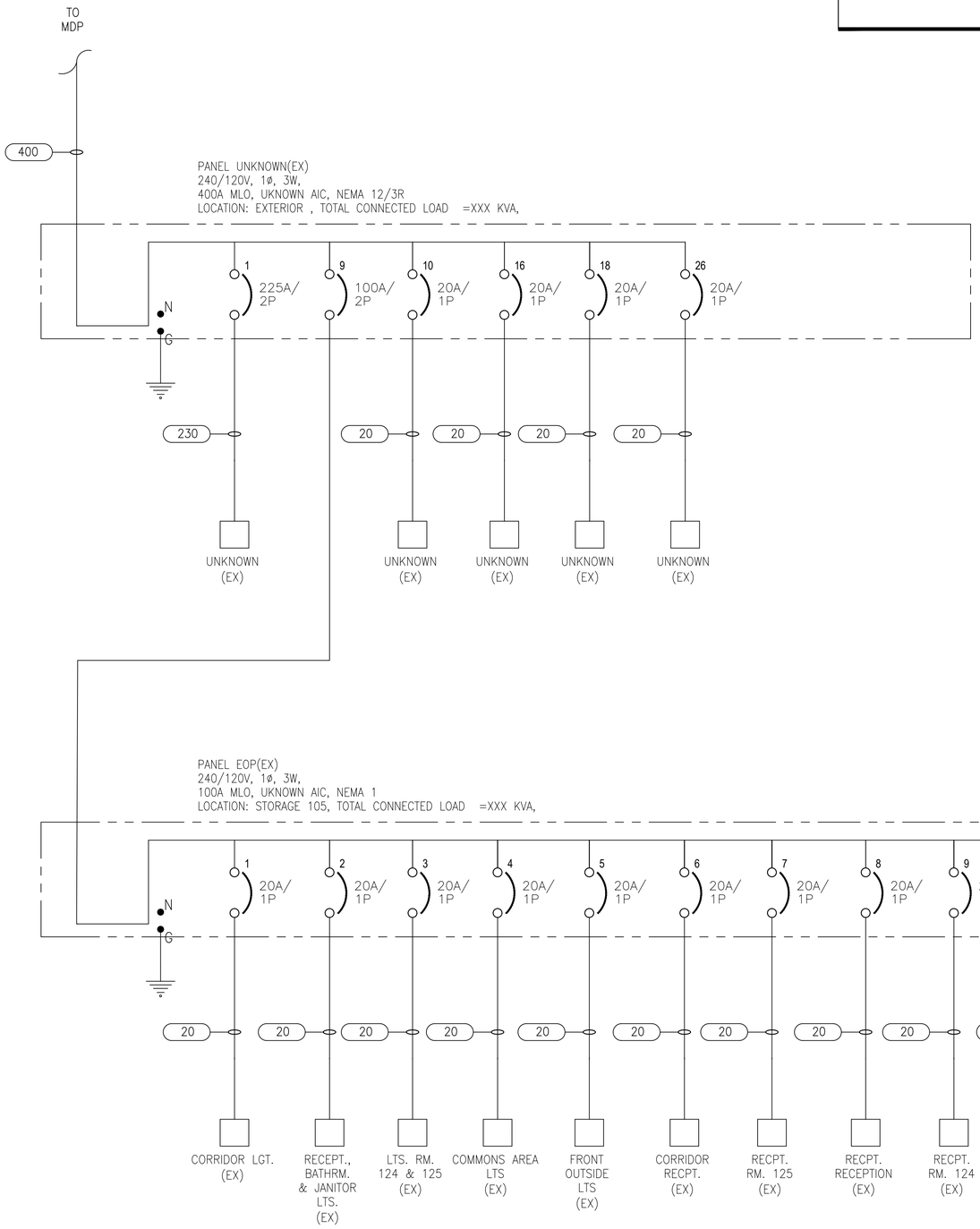
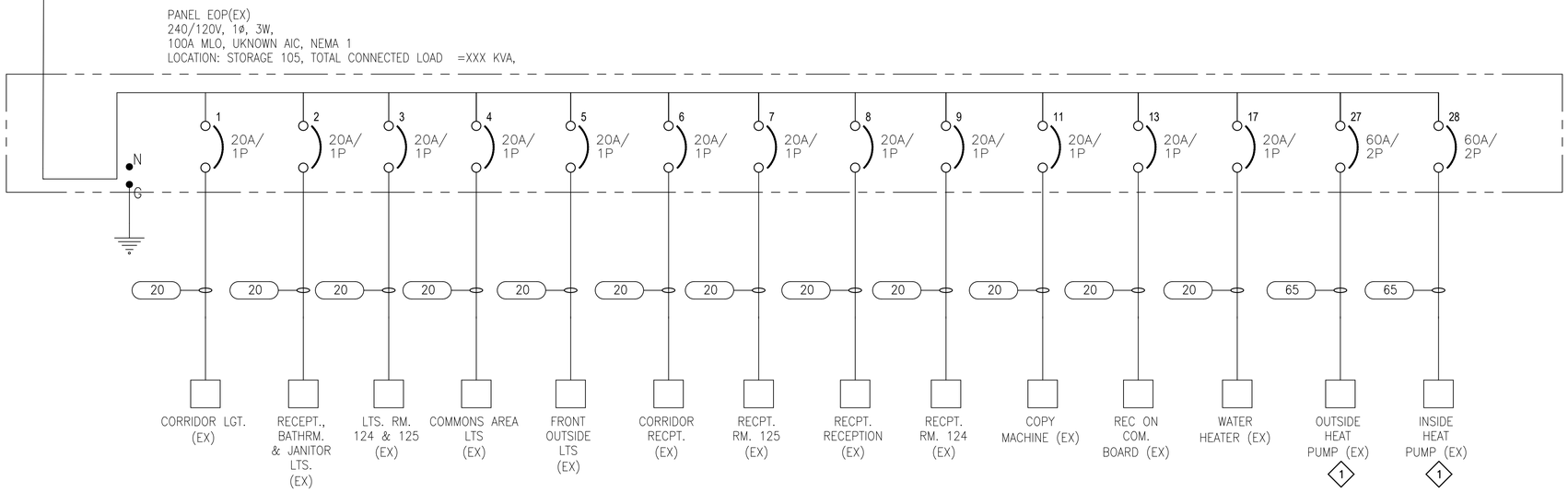
DRAWING E603 NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO DISPOSING ALL DEMOLISHED EQUIPMENT.

DRAWING E603 SPECIFIC NOTES

(1) CONTRACTOR SHALL DEMOLISH EXISTING SAFETY SWITCH AND CONTROLS, CONTRACTOR SHALL DEMOLISH FEEDER BACK TO SOURCE. CONTRACTOR SHALL DEMOLISH ALL CONDUIT ABOVE GRADE. CONTRACTOR SHALL ABANDON CONDUIT 6" BELOW GRADE.





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ELECTRICAL ONE-LINE DIAGRAM
DEMO PLAN - EAST ELEMENTARY

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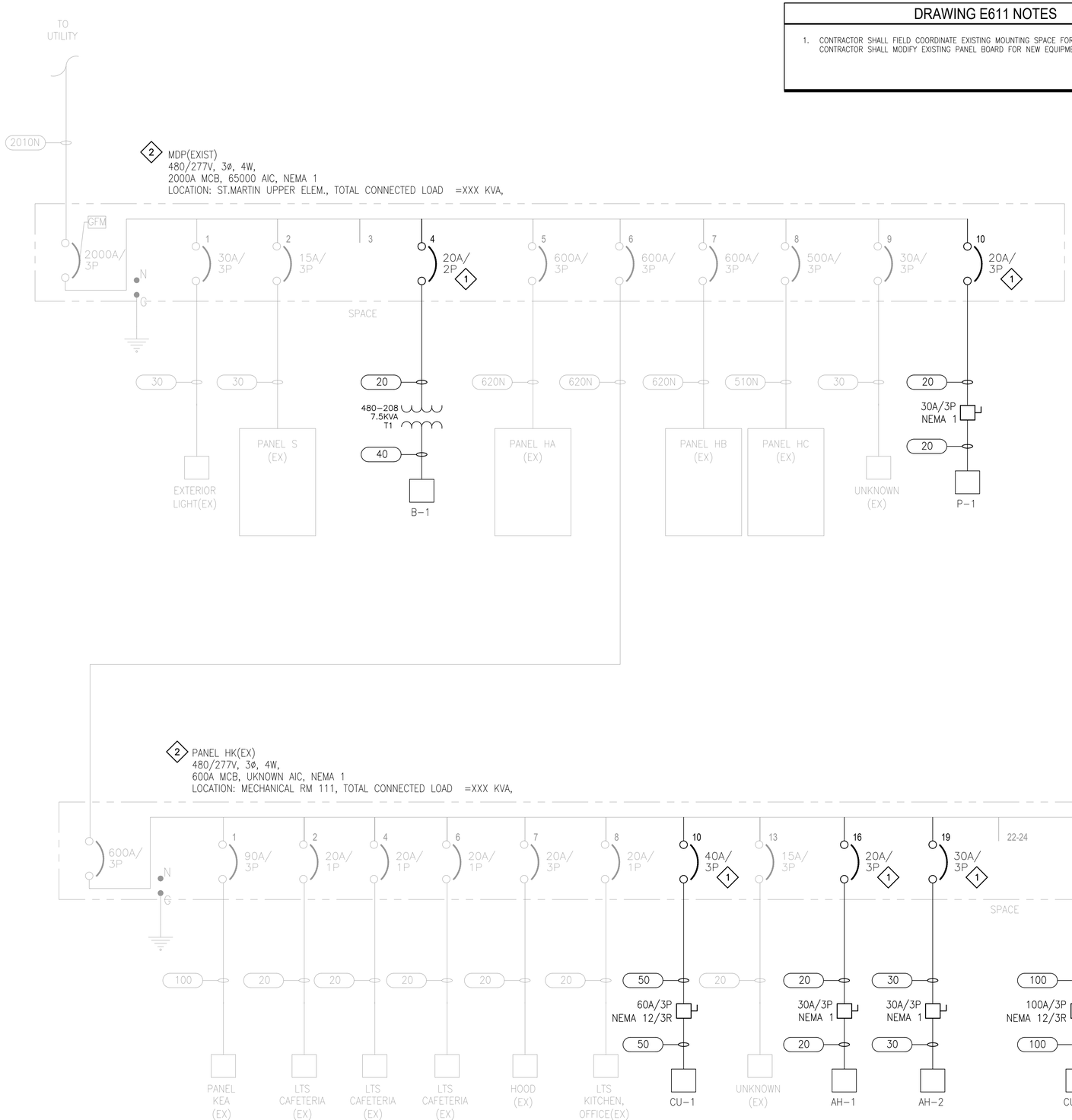
DRAWING E611 NOTES

1. CONTRACTOR SHALL FIELD COORDINATE EXISTING MOUNTING SPACE FOR EXISTING PANEL BOARD. CONTRACTOR SHALL MODIFY EXISTING PANEL BOARD FOR NEW EQUIPMENT.

DRAWING E611 SPECIFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CIRCUIT BREAKER IN EXISTING PANEL BOARD AS SHOWN.

2. CONTRACTOR SHALL LEAVE EXISTING EQUIPMENT AS IS.



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ELECTRICAL ONE-LINE DIAGRAM
PLAN - UPPER ELEMENTARY

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E611

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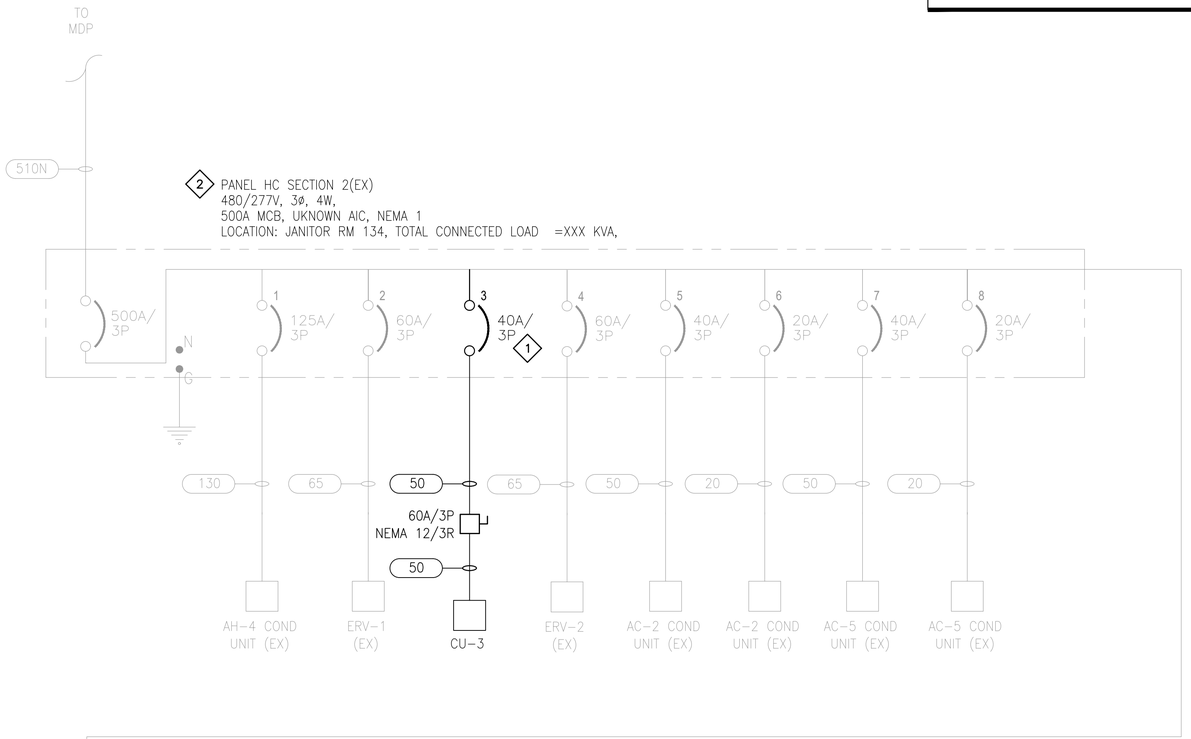
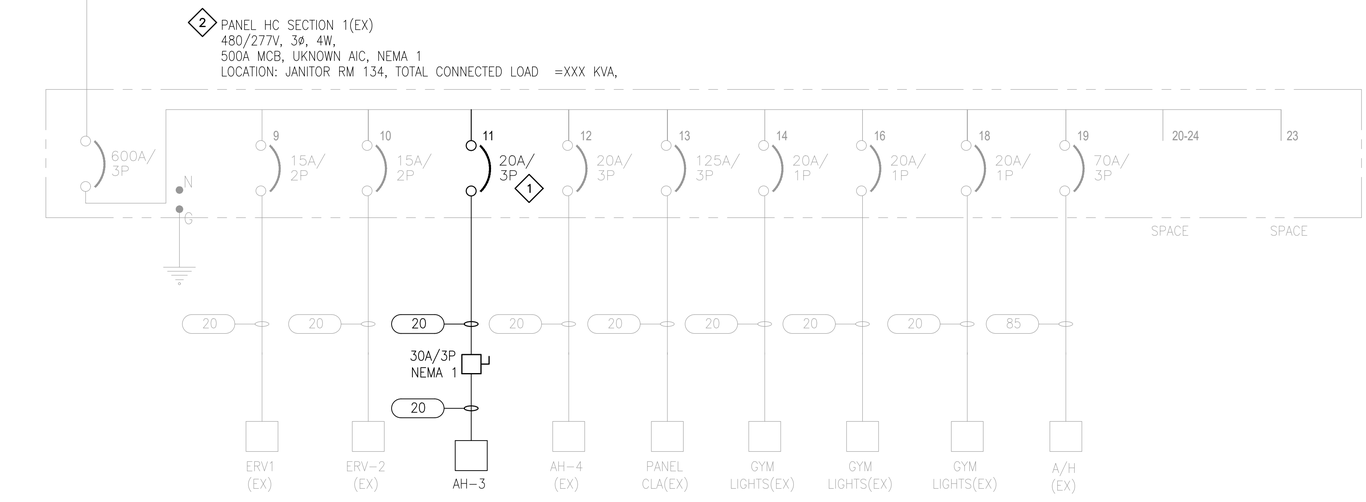
DRAWING E612 NOTES

1. CONTRACTOR SHALL FIELD COORDINATE EXISTING MOUNTING SPACE FOR EXISTING PANEL BOARD. CONTRACTOR SHALL MODIFY EXISTING PANEL BOARD FOR NEW EQUIPMENT.

DRAWING E612 SPECIFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CIRCUIT BREAKER IN EXISTING PANEL BOARD AS SHOWN.
2. CONTRACTOR SHALL LEAVE EXISTING EQUIPMENT AS IS.





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ENGINEER
17411
STATE OF MISSISSIPPI

SAINT MARTIN UPPER & EAST ELEMENTARY SCHOOLS
HVAC UPGRADES
11000 YELLOW JACKET BOULEVARD &
7508 ROSE FARM ROAD
OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: NTS
PROJECT NO: 0155.22.008
DRAWN BY: DLM
CHECKED BY: KDB

ELECTRICAL ONE-LINE DIAGRAM
PLAN - UPPER ELEMENTARY

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

E612

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
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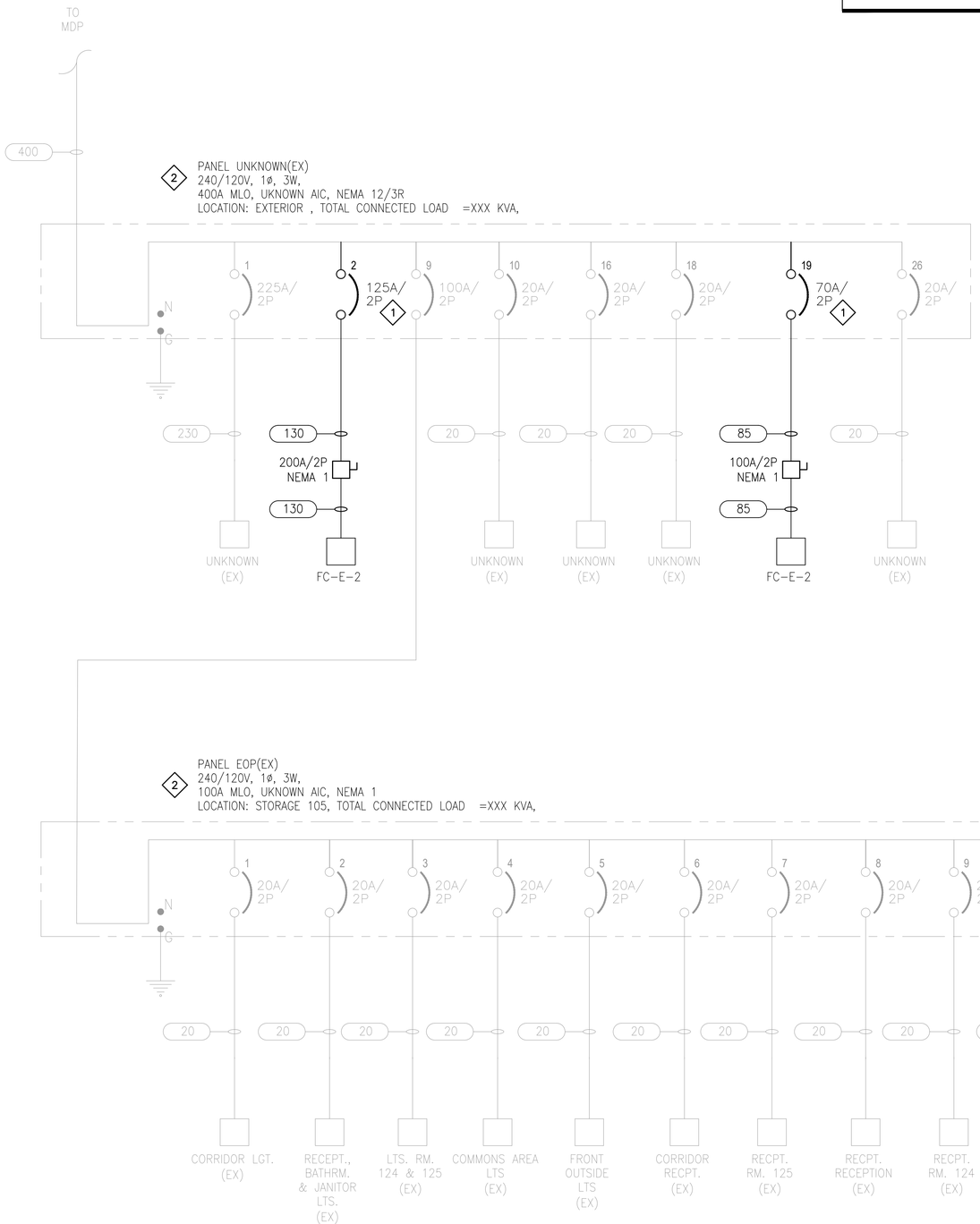
PRINTED: 3/8/2023 3:36 PM BY: Dylan Menhennett LAST SAVED: 3/8/2023 3:31 PM BY: Dmenhennett
m:\0155_jackson county school district\0155.22.008_st. martin hvac esser\06-electrical\02-production\01-production drawings\0155.22.008 st.martin hvac esser-elec.dwg

DRAWING E613 NOTES

1. CONTRACTOR SHALL FIELD COORDINATE EXISTING MOUNTING SPACE FOR EXISTING PANEL BOARD. CONTRACTOR SHALL MODIFY EXISTING PANEL BOARD FOR NEW EQUIPMENT.

DRAWING E613 SPECIFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CIRCUIT BREAKER IN EXISTING PANEL BOARD AS SHOWN.
2. CONTRACTOR SHALL LEAVE EXISTING EQUIPMENT AS IS.



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OCEAN SPRINGS, MISSISSIPPI 39564

SCALE: NTS
PROJECT NO: 0155.22.008
DRAWN BY: DLM
CHECKED BY: KDB

ELECTRICAL ONE-LINE DIAGRAM
PLAN - EAST ELEMENTARY

NO.	DATE	REVISION / SUBMITTAL
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E613

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ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT

MULTIPLE CAMPUSES

REV 0 ISSUED FOR CONSTRUCTION
MARCH 8, 2023

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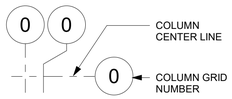
GENERAL GRAPHIC LEGEND

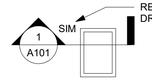
SYMBOL-COLUMN GRID



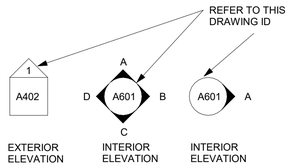
SYMBOL-FINISHED FLOOR ELEVATION

SYMBOL-SPOT ELEVATION

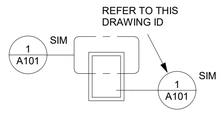
SYMBOL-BUILDING SECTION / WALL SECTION



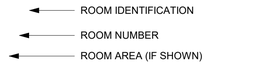
SYMBOL-EXTERIOR ELEVATION / INTERIOR ELEVATION



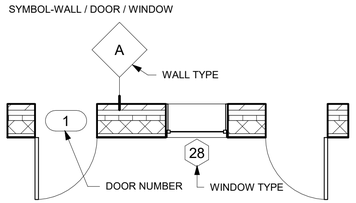
SYMBOL-DETAIL CALLOUT



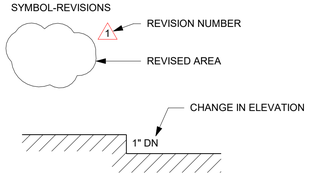
SYMBOL-ROOM TAG



SYMBOL-WALL / DOOR / WINDOW



SYMBOL-REVISIONS



ABBREVIATIONS INDEX

A

&	AND
@	AT
∠	ANGLE
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADDT'L	ADDITIONAL
ADJ	ADJUSTABLE
AF	ACCESS FLOORING
AFD	AUTOMATIC FIRE DAMPER
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT
ASF	ALUMINUM STORE FRONT

B

BTWN	BETWEEN
BIT	BITUMEN
BJ	BAR JOIST
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BLT	BUILT
BM	BEAM
BO	BOTTOM OF
BR	BACKER ROD
BTWN	BETWEEN

C

CAP	CAPACITY
C/C	CENTER TO CENTER
CCTV	CLOSED CIRCUIT TELEVISION
CJ	CONTROL JOINT
CL	CLEAR
CLG	CEILING
CLO	CLOSET
CLR	COLOR
CMU	CONCRETE MASONRY UNIT
CONTR	CONTRACTOR
COL	COLUMN
COMP	COMPRESSION OR COMPRESSED
CONC	CONCRETE
COND	CONDENSATE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPLNG	COUPLING
CPT	CARPET
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTERS
	CENTER
CW	COLD WATER

D

DIA /	DIAMETER
DB	DRY BULB
DBL	DOUBLE
DEFL	DEFLECTION
DEPT	DEPARTMENT
DET/DTL	DETAIL
DISP	DISPENSER
DK	DARK
DN	DOWN
DP	DAMP PROOFING
DS	DOWNSPOUT
DWG(S)	DRAWING(S)

E

EA	EACH
EDF	ELECTRONIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFC	EACH FACE

E (CONT)

EJ	EXPANSION JOINT
ELEC	ELECTRICAL
EL/ELEV	ELEVATION
EMBED	EMBEDDED
ENGR	ENGINEER
ENT	ENTERING/ ENTRY
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EXPOSED STRUCTURE
EXH	EXHAUST
EXPAN	EXPANSION
EXT	EXTERIOR

F

FA	FIRE ALARM
FAC	FIRE ALARM CABINET
FD	FLOOR DRAIN
FAR	FIRE ALARM REMOTE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FIN	FINISH
FLR	FLOOR
FOC	FACE OF CONC
FOB	FACE OF BRICK
FR	FRAME
FS	FLOW SWITCH
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GF CMU	GROUND FACE CMU
GL	GLASS
GPM	GALLONS PER MIN.
GYP BD	GYPSUM BOARD

H

HB	HOSE BIB
HC	HANDICAP
HDWR	HARDWARE
HM	HOLLOW METAL
HP	HIGH POINT
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HW	HOT WATER
HVAC	HEATING, VENTILATION, AIR CONDITIONING

I

IC	INTERCOM
INSUL	INSULATION
INT	INTERIOR
INV	INVERT

J

JAN	JANITOR
JNT	JOINT
JST	JOIST

K

LAM	LAMINATE(D)
LAT	LAY-IN ACOUSTICAL CEILING
LAV	LAVATORY
LF	LINEAR FEET
LG	LEG
LP	LIGHT POLE

L

LAM	LAMINATE
LAV	LAVATORY
LT	LIGHT

M

MA	MIXED AIR
MAS	MASONRY
MAT'L	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR/MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MAS	MODIFIED
MRV	MOISTURE RELEASE VENT
MT	METAL THRESHOLD
MTD	MOUNTED
MTL	METAL

N

N/A	NOT APPLICABLE
NF	NATURAL FINISH
NIC	NOT IN CONTRACT
NO / #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE

O

OA	OUTSIDE AIR
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OH	OVERHEAD
OPN'G	OPENING
OPP	OPPOSITE
OZ	OUNCE

P

±, +/_	PLUS OR MINUS
PT	PAINT
PART'N	PARTITION
PRE-FIN	PRE FINISH(ED)
PL	PLATE
PPL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRE FAB	PREFABRICATED
PROJ	PROJECTION
PSF	POUNDS/SQUARE INCH
PTD	PAPER TOWEL DISPENSER

Q

QT	QUARRY TILE
QTB	QUARRY TILE BASE
QTY	QUANTITY

R

RA	RETURN AIR
RB	RUBBER BASE
RD	ROOF DRAIN
RE.	REFER TO...
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED
REQ'D	REQUIRED

R (CONT)

RET	RETURN
RM	ROOM
R.O	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SA	SUPPLY AIR
SAN	SANITARY
SAFM	SELF ADHERING FLASHING MEMBRANE
SCHED	SCHEDULE
SCWD	SOLID CORE WOOD
SECT	SECTION
SF	STOREFRONT/ SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SP	SPACING
SPEC	SPECIFIED/ SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUP	SUPPLY
SUSP	SUSPENDED
SYN	SYNTHETIC

T

T&B	TOP & BOTTOM
TBM	TEMPORARY BENCH MARK
TEL	TELEPHONE
T&G	TOUNGE & GROOVE
THRESH	THRESHOLD
TLT	TOILET
T.O.	TOP OF
T.O.B.	TOP OF BEAM
T.O.S.	TOP OF STRUCTURE
TP	TOILET PAPER HOLDER
TRTD	TREATED
TYP	TYPICAL ALL SIMILAR CONDITIONS

U

UC	UNDER COUNTER
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE

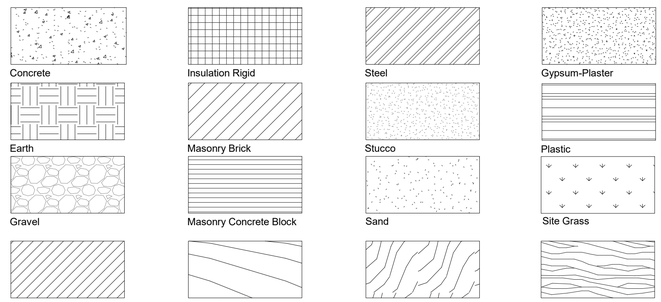
V

VAR	VARIES
VD	VOLUME DAMPER
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
VTR	VENT-THRU-ROOF
VWC	VINYL WALL COVERING

W

W	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WD	WOOD
WG	WATER GAUGE
WGVP	WIRE GLASS VISION PANEL
WH	WATER HEATER
WP	WATERPROOFING

MATERIAL HATCH LEGEND



VICINITY MAP

PROJECT MAP

PROJECT MAP

PROJECT GENERAL NOTES

1. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). THE GENERAL CONTRACTOR SHALL NOT BREAK OUT SECTIONS TO SUB-CONTRACTORS OR VENDORS.
2. DO NOT SCALE DRAWINGS; IF DIMENSIONS ARE IN QUESTION CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
3. BIDDERS SHALL FIELD VERIFY ALL EXISTING CONDITIONS ON THE PROJECT JOB SITE PRIOR TO BIDDING.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.
5. IF ANY MATERIALSUSPECTED TO CONTAIN ASBESTOS IS DISCOVERED ALL WORK IN THE VICINITY SHALL BE IMMEDIATELY SUPENDED. THE OWNER AND ARCHITECT SHALL BE NOTIFIED IN WRITING AND NO WORK SHALL RESUME IN THE SUPSECT AREA UNTIL A CERTIFIED INSPECTION, VERIFICATION AND/OR REMOVAL OF ASBESTOS CONTAINING MATERIAL IS PERFORMED. NO NEW MATERIAL SHALL CONTAIN ASBESTOS.
6. GENERAL CONTRACTOR IS RESPONSIBLE FOR SECURING AND PROTECTING ALL CONSTRUCTION MATERIALS, EQUIPMENT, TOOLS, AND TEMPORARY FACILITIES ON THE JOB SITE FOR THE DURATION OF THE PROJECT.
7. GENERAL CONTRACTOR SHALL PLACE AND MAINTAIN THROUGHOUT DURATION OF PROJECT SPECIFIED GROUND MATERIAL OVER SOILS ADJACENT TO BUILDING PRIOR TO INSTALLING EXTERIOR WALL FINISH MATERIALS TO PREVENT STAINING ON FINISHED PRODUCT. ALL STAINS ON EXTERIOR WALL MATERIALS SHALL BE CLEANED AND FULLY REMOVED BEFORE SUBSTANTIAL COMPLETION OF PROJECT AT NO ADDITIONAL COST TO THE OWNER. IF STAINS CAN NOT BE REMOVED FROM THE FINISH MATERIALS, THE MATERIAL MUST BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
8. GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS FOR REVIEW AND APPROVAL BEFORE PROCEEDING WITH CONSTRUCTION. CONTRACTOR IS PROCEEDING AT HIS OWN RISK IF MATERIAL OR COMPONENTS ARE INSTALLED PRIOR TO RECEIVING REVIEWED AND EXECUTED SHOP DRAWINGS AND SUBMITTALS. CONTRACTOR SHALL TAKE LIABILITY FOR REMOVAL AND REPLACEMENT, AT NO ADDITIONAL COST TO THE OWNER, OF ALL MATERIAL, COMPONENTS AND LABOR FOR WORK INSTALLED WITHOUT SIGNED/STAMPED/APPROVED SHOP DRAWINGS AND SUBMITTALS.
9. ALL WORK ASSOCIATED WITH THIS PROJECT INCLUDING DEMOLITION AND NEW CONSTRUCTION, SHALL STRICTLY ADHERE TO ALL APPLICABLE SAFETY GUIDELINES AND REQUIREMENTS SET FORTH BY LOCAL, FEDERAL AND CIVIL LAWS/REGULATIONS.
10. GC, SUB-CONTRACTORS AND SUPPLIERS SHALL MAINTAIN A NEAT AND ORDERLY WORK SITE. ACCUMULATION OF TRASH OR DEMOLITION/CONSTRUCTION DEBRIS WITHIN OR OUTSIDE OF CONSTRUCTION SITE IS PROHIBITED. DEMOLITION/CONSTRUCTION DEBRIS AND TRASH SHALL BE REMOVED FROM SITE ON A DAILY BASIS. CONTRACTOR SHALL PROVIDE APPROPRIATE DUMPSTER(S) IN DESIGNATED AREAS PER CODES AND OWNER DIRECTION/REGULATIONS.
11. GC SHALL VERIFY COMPATIBILITY OF ALL NEW MATERIALS TO BE INSTALLED OR APPLIED TO NEW OR EXISTING SURFACES. GC SHALL FOLLOW ALL MANUFACTURER REQUIREMENTS, INSTRUCTIONS, AND RECOMMENDATIONS FOR INSTALLATION AND WARRANTY OF ALL MATERIAL USED ON THIS PROJECT. MANUFACTURER WARRANTIES SHALL BE ISSUED WHERE WARRANTIES ARE AVAILABLE. ALL PROJECT WORK SHALL USE MANUFACTURER APPROVED AND COMPATIBLE MATERIALS AND METHODS, INCLUDING ADHESIVES, SEALANTS, SOLVENTS, ETC.
12. ALL ROOF WORK TO BE PERFORMED SHALL MEET ROOFING MANUFACTURER'S REQUIREMENTS FOR WARRANTY COVERAGE. ALL ROOFING WORK TO BE ACCOMPLISHED SHALL BE INSTALLED BY AN APPLICATOR WHICH IS APPROVED BY THE ROOFING MANUFACTURER. ROOFING APPLICATOR SHALL PROVIDE PROOF OF ACCEPTANCE BY MANUFACTURER PRIOR TO ANY WORK. ALL PENETRATIONS THROUGH NEW OR EXISTING ROOFING SHALL BE INSTALLED PER MANUFACTURER'S STANDARD APPLICATION DETAILS. NO WORK COMPLETED SHALL VOID ANY WARRANTY ON ANY EXISTING ROOF SYSTEM. ALL NEW ROOFING WORK SHALL BE COMPATIBLE WITH ANY EXISTING ROOF SYSTEM INSTALLED.
13. ALL BID AMOUNTS MUST BE BASED ON THE MOST STRINGENT REQUIREMENT CALLED FOR IN THE COMPLETE CONSTRUCTION DOCUMENT PACKAGE. IN ADDITION, THE MOST STRINGENT REQUIREMENT SHOWN SHALL GOVERN AND TAKE PRECEDENCE IN THE EVENT OF ANY AND ALL CONFLICTS BETWEEN DIFFERENT DRAWINGS (PLANS, ELEVATIONS, DETAILS, SECTIONS, SCHEDULES, ETC...), BETWEEN DIFFERENT SPECIFICATION SECTIONS, WITHIN SPECIFICATION SECTIONS, AND BETWEEN THE DRAWINGS AND THE SPECIFICATIONS. IT WILL BE THE GENERAL CONTRACTORS RESPONSIBILITY TO BRING ANY AND ALL DISCREPANCIES TO THE ARCHITECT'S ATTENTION FOR FURTHER CLARITY PRIOR TO SUBMITTING A FORMAL BID.
14. ALL SITE INSPECTIONS, SITE VISITS, SITE MEETINGS, ETC... NOT PREVIOUSLY SCHEDULED, WHICH ARE REQUIRED FOR ANY REASON, ARRANGED OR SCHEDULED BY THE GENERAL CONTRACTOR, OR ANY OF THE PROJECT'S SUBCONTRACTORS, VENDERS, SUPPLIERS, ETC... THAT REQUIRE THE INVOLVEMENT OF ANY EMPLOYEE OF MP DESIGN GROUP OR ANY CONSULTANT OF MP DESIGN GROUP SHALL BE ARRANGED AND FINALIZED IN WRITING AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE WITH MP DESIGN GROUP.

DRAWING INDEX

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Bradford A. Jones
No. 24425
03/08/23
STATE OF MISSISSIPPI

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

GENERAL NOTES, ABBREV, SYMBOLS AND SHEET INDEX

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

G101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DEMOLITION AND NEW WORK - GENERAL NOTES (THESE NOTES ARE INTENDED TO BE GENERAL ALL ENCOMPASSING AND SOME NOTES MAY NOT PERTAIN TO THIS SPECIFIC PROJECT. IT SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY TO APPLY, COORDINATE AND ADHERE TO ANY AND ALL NOTES THAT DO PERTAIN TO THIS SPECIFIC PROJECT)

1. DO NOT SCALE DRAWINGS; DIMENSIONS SHOWN ARE FOR REFERENCE ONLY; IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT PRIOR TO CONTINUING WITH DEMOLITION. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS PRIOR TO DEMOLITION.
2. IF ANY MATERIAL SUSPECTED TO CONTAIN ASBESTOS IS DISCOVERED, ALL WORK IN THE VICINITY SHALL IMMEDIATELY BE SUSPENDED. THE OWNER AND THE ARCHITECT SHALL BE NOTIFIED IN WRITING AND NO WORK SHALL RESUME IN THE SUSPECT AREA UNTIL CERTIFIED INSPECTION, VERIFICATION AND OR REMOVAL OF ASBESTOS CONTAINING MATERIAL IS PERFORMED.
3. THE CONTRACTOR SHALL VERIFY WITH THE OWNER PRIOR TO REMOVAL, DISPOSAL, AND STORAGE OF ANY COMPONENT(S) OF SALVAGEABLE USE.
4. STOCKPILE OF DEMOLITION MATERIALS ON SITE IS NOT ALLOWED. ALL DEMOLITION MATERIALS ARE TO BE REMOVED FROM THE SITE IN A TIMELY FASHION AND DISPOSED OF OFF SITE IN A LEGAL LANDFILL.
5. THE CONTRACTOR SHALL PROVIDE APPROPRIATE DUMPSTER(S) IN DESIGNATED AREAS PER CODES AND OWNER DIRECTION / REGULATIONS.
6. FINAL SITE CLEANING; CONTRACTOR SHALL CLEAR OF ALL DEBRIS, DEMOLITION AND NEW WORK RELATED.
7. THE CONTRACTOR SHALL PATCH AND REPAIR SURFACES OUTSIDE THE LIMITS OF WORK THAT ABUT DEMOLITION AND NEW WORK ITEMS.
8. THE CONTRACTOR SHALL PROTECT ALL TREES FROM DAMAGE DURING DEMOLITION AND NEW WORK OPERATIONS. PROTECTIVE BARRIER FENCES MUST BE ERECTED ONE FOOT OUT FROM ANY TREE DRIP LINE. WHERE THIS IS NOT FEASIBLE, THE FENCE SHALL BE TWO FEET IN ON THE TRUNK SIDE OF THE BUILDING.
9. THE CONTRACTOR SHALL PROVIDE AND ERECT A FREE STANDING CHAIN LINK CONSTRUCTION BARRIER FENCE. FENCING SHALL BE MAINTAINED DURING ENTIRE COURSE OF DEMOLITION AND NEW WORK. THE CONTRACTOR SHALL COORDINATE FENCE LOCATION WITH OWNER'S NEEDS AND DAY TO DAY OPERATIONS OF THE FACILITY. EXIT EGRESS PATHS SHALL NOT BE BLOCKED BY CONSTRUCTION BARRIER FENCING.
10. CURRENTLY USED DRIVES, PARKING AREAS AND SIDEWALKS OUTSIDE THE PROJECT LIMITS, DURING DEMOLITION AND NEW WORK CONSTRUCTION SHALL NOT BE BLOCKED OR DISRUPTED UNLESS OTHERWISE APPROVED BY THE OWNER/ARCHITECT.
11. THE CONTRACTOR SHALL NOT DISCARD ANY MATERIAL, INCLUDING BUT NOT LIMITED TO, SOLIDS AND LIQUIDS INTO ROOF DRAINS OR VENTS, ETC.
12. ALL WORK ASSOCIATED WITH THIS PROJECT INCLUDING DEMOLITION AND NEW CONSTRUCTION, SHALL STRICTLY ADHERE TO ALL APPLICABLE SAFETY GUIDELINES AND REQUIREMENTS SET FORTH BY LOCAL, FEDERAL AND CIVIL LAWS / REGULATIONS.
13. THE GENERAL CONTRACTOR, SUB-CONTRACTORS AND SUPPLIERS SHALL MAINTAIN A NEAT AND ORDERLY WORK SITE. ACCUMULATION OF TRASH OR DEMOLITION / CONSTRUCTION DEBRIS WITHIN OR OUTSIDE OF CONSTRUCTION SITE IS PROHIBITED. DEMOLITION AND CONSTRUCTION DEBRIS AND TRASH SHALL BE REMOVED FROM SITE ON A DAILY BASIS.
14. EXTREME CARE SHALL BE TAKEN AS TO NOT DAMAGE EXISTING LANDSCAPING, CONCRETE, ASPHALT, UTILITY MAINS OR SITE STORM DRAINS OUTSIDE OF THE LIMITS OF DEMOLITION AND NEW WORK. DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO OWNER.
15. THE CONTRACTOR SHALL VERIFY COMPATIBILITY OF ALL NEW MATERIALS TO BE INSTALLED OR APPLIED TO NEW OR EXISTING SURFACES. THE CONTRACTOR SHALL FOLLOW ALL MANUFACTURER REQUIREMENTS, INSTRUCTIONS, AND RECOMMENDATIONS FOR INSTALLATION AND WARRANTY OF ALL MATERIAL USED ON THIS PROJECT. MANUFACTURER WARRANTIES SHALL BE ISSUED WHERE WARRANTIES ARE AVAILABLE. ALL PROJECT WORK SHALL USE MANUFACTURER APPROVED AND COMPATIBLE MATERIALS AND METHODS, INCLUDING ADHESIVES, SEALANTS, SOLVENTS, ETC.
16. ALL ROOF WORK TO BE PERFORMED SHALL MEET ROOFING MANUFACTURER'S REQUIREMENTS FOR WARRANTY COVERAGE. ALL ROOFING WORK TO BE ACCOMPLISHED SHALL BE INSTALLED BY AN APPLICATOR WHICH IS APPROVED BY THE ROOFING MANUFACTURER. ROOFING APPLICATOR SHALL PROVIDE PROOF TO THE ARCHITECT OF ACCEPTANCE BY MANUFACTURER PRIOR TO ANY WORK. ALL PENETRATIONS THROUGH NEW OR EXISTING ROOFING SHALL BE INSTALLED PER MANUFACTURER'S STANDARD APPLICATION DETAILS. NO WORK COMPLETED SHALL VOID ANY WARRANTY ON ANY EXISTING ROOF SYSTEM. ALL NEW ROOFING WORK SHALL BE COMPATIBLE WITH ANY EXISTING ROOF SYSTEM INSTALLED.
17. NO DISSIMILAR METALS WHICH MAY CAUSE ELECTROLYTIC DEGRADATION SHALL BE JOINED WITHOUT ELECTROLYTIC SEPARATION MATERIAL. SEPARATION MATERIAL SHALL BE AS OUTLINED BY APPLICABLE ASTM AND NATIONAL BUREAU OF STANDARDS REQUIREMENTS. SEPARATION MATERIALS INTENDED FOR USE, AND AT THEIR SPECIFIC APPLICATION(S) / LOCATION(S), SHALL BE SUBMITTED FOR APPROVAL.
18. THIS PROJECT SITE AND BUILDING IS A TOBACCO FREE PROPERTY. SMOKING AND TOBACCO USE OF ANY KIND IS PROHIBITED FOR PROJECT DURATION.
19. THE DEMOLITION PLANS INDICATE THE GENERAL SCOPE AND INTENT OF ITEMS THAT ARE TO BE REMOVED, ABANDONED AND / OR REWORKED; HOWEVER, ALL ITEMS AND AREAS MAY NOT BE DEPICTED OR NOTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FULLY COORDINATE DEMOLITION AND NEW WORK WITH ALL DISCIPLINES AND REMOVE AS REQUIRED AND PATCH BACK AS REQUIRED TO MATCH ADJACENT AREA(S) THAT MAY NOT BE NOTED.
20. ALL LIFE SAFETY DEVICES, INCLUDING BUT NOT LIMITED TO, FIRE PULLS, SMOKE DETECTORS, HORN/STROBES, SECURITY SYSTEM, ETC SHALL REMAIN IN OPERATION DURING THE DURATION OF DEMOLITION AND NEW WORK. IF ANY INTERRUPTION OF ANY LIFE SAFETY DEVISES OR SYSTEMS IS REQUIRED BY THE CONTRACTOR DURING ANY SCOPE OF WORK TO BE PERFORMED, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER/ARCHITECT AND RECEIVE APPROVAL PRIOR TO INTERRUPTION.
21. GAS AND WATER SUPPLY LINES, SEWER WASTE LINES, ETC THAT ARE TO BE ABANDONED SHALL BE SEALED, CAPPED, VALVED AND TESTED FOR LEAKS. CONTRACTOR SHALL LOCATE PIPE TERMINATIONS AND VALVES ON AS-BUILT DRAWINGS.
22. CONTRACTOR SHALL COORDINATE ALL VEHICLE ACCESS, PARKING AREAS, VENDOR AND SUPPLIER LOADING / UNLOADING ZONES PRIOR TO COMMENCING PROJECT WORK. OWNER REQUIREMENTS SHALL BE STRICTLY FOLLOWED.
23. ABSOLUTELY NO REMOVED ITEMS OR SCRAP OR NEW CONSTRUCTION MATERIAL(S) SHALL BE DROPPED OR THROWN FROM ROOF TOP TO GROUND BELOW. ALL MATERIAL, DEBRIS, AND DISCARDED ITEMS SHALL BE CARRIED OR LOWERED FROM ROOF TO GROUND LEVEL BELOW. ALL ALUMINUM COPING, EDGING, SCRAP, ETC. SHALL BE PLACED AT LOCATION(S) DENOTED BY OWNER FOR RECYCLING BY THE OWNER.
24. THE CONTRACTOR IS RESPONSIBLE FOR SECURING AND PROTECTING ALL CONSTRUCTION MATERIALS, EQUIPMENT, TOOLS, AND TEMPORARY FACILITIES ON THE JOB SITE FOR THE DURATION OF THE WORK.
25. ALL EXISTING BUILDING MATERIALS TO REMAIN THAT ARE DAMAGED DURING DEMOLITION AND OR NEW WORK CONSTRUCTION SHALL BE REPAIRED, PATCHED, AND FINISHED TO MATCH ADJACENT AND EXISTING IN QUALITY AT NO COST TO THE OWNER. DAMAGE TO EXISTING BUILDING MATERIALS OUTSIDE THOSE SPECIFIED BY DEMOLITION OR NEW WORK SHALL BE REPAIRED AT NO COST TO THE OWNER.
26. THE CONTRACTOR SHALL PLACE PROTECTION AT ALL WORK LEVELS AS REQUIRED TO PROTECT ALL OBJECTS ABOVE, BELOW AND ADJACENT TO WORK IN PROGRESS, INCLUDING BUT NOT LIMITED TO PERSONS, VEHICLES, LANDSCAPING, WALKWAYS, DRIVES, PARKING AREAS, AND EXISTING BUILDING SURFACES FROM ALL MATERIALS BEING REMOVED OR APPLIED WHICH MAY PRODUCE SPLASH, OVER SPAY OR FALLOUT OF ANY KIND. ALL NECESSARY RELATED CLEAN-UPS AND RESTORATIVE REQUIREMENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY AT NO ADDITIONAL COST TO THE OWNER OR INJURED PARTIES.
27. THE CONTRACTOR(S) SHALL COORDINATE WITH THE OWNER AREA TO BE USED FOR CLEANING OF TOOLS AND EQUIPMENT. THE CONTRACTOR SHALL THOROUGHLY AND COMPLETELY CLEAN AND REMOVE ALL RESIDUE AT OWNER SPECIFIED TOOL CLEANING AREA(S) AS A RESULT OF EQUIPMENT AND TOOL CLEANING.
28. THE CONTRACTOR SHALL MAINTAIN EXTERIOR AREAS FREE FROM DEBRIS, MATERIALS, AND SMALL PARTS SUCH AS FASTENERS, SCREWS, SCRAP & NAILS ON DAILY BASIS, FOR THE PREVENTION OF DAMAGE TO PERSONS AND VEHICLES.
29. OWNER TOILET FACILITIES AND DRINKING FOUNTAINS SHALL NOT BE USED BY ANY CONTRACTOR, SUB CONTRACTOR, VENDOR, SUPPLIER ETC. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE FACILITIES.
30. ROOMS BELOW WHERE ROOF WORK IS TO BE PERFORMED THE CONTRACTOR SHALL COVER WITH VISQUEEN THE FOLLOWING, BUT NOT LIMITED TO, EQUIPMENT, COUNTER TOPS, OPEN CONTAINERS, FURNITURE, FILES ETC. WHICH MAY CATCH OR BE DAMAGED BY FALLING DUST AND OR DEBRIS.
31. TEMPORARY PROTECTION AND APPLICABLE WARNING SIGNS SHALL BE POSTED BY THE CONTRACTOR AT WORK AREA(S) TO ENSURE THE SAFETY OF EMPLOYEES, STUDENTS, GENERAL PUBLIC AND CONTRACTORS. THESE PROTECTIVE MEASURES AND SIGNAGE SHALL BE IN PLACE AT ANY WORK AREA WHEN EQUIPMENT, TOOLS, AND MATERIALS ARE PRESENT AND/OR WHEN WORKERS MAY NEED TO OBSTRUCT THE NORMAL ACCESS-EGRESS OF THE PROJECT SITE OR FACILITY INCLUDING INTERIOR SPACES.
32. ALL ROOFING WORK, DEMOLITION AND NEW WORK, SHALL BE COORDINATED WITH OTHER WORK TO BE PERFORMED UNDER SEPARATE CONTRACT(S). THE GENERAL AND ROOFING CONTRACTOR SHALL COORDINATE THIS WORK WITH THE OWNER AND ARCHITECT.
33. THE CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL EQUIPMENT, FIRE PROTECTION, PLUMBING FIXTURES, PIPING, DUCTING, AND MECHANICAL EQUIPMENT AND EXISTING SYSTEMS DURING DEMOLITION AND NEW WORK CONSTRUCTION. ALL ITEMS AND SYSTEMS DAMAGED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE AT NO COST TO THE OWNER.
34. WORK PERFORMED WITHIN THE EXISTING PROJECT FACILITY AND PROPERTY MAY BE PERFORMED DURING NORMAL HOURS. DURING WEEKENDS, OR DURING OTHER DOWN TIME, AND SHALL BE COORDINATED WITH THE OWNER. ALL DEMOLITION AND NEW WORK CONSTRUCTION SHALL BE PERFORMED WITHIN THE CONTRACT TIME LIMITS. WORK SHIFTS AND HOURS MAY BE DISRUPTED OR MODIFIED AT THE OWNER'S DISCRETION.
35. THE CONTRACTOR SHALL NOT DISCARD ANY MATERIAL, INCLUDING BUT NOT LIMITED TO, SOLIDS AND LIQUIDS INTO FLOOR DRAINS, STORM DRAINS/SEWERS, CATCH BASINS, CULVERTS ETC. OTHER THAN POTABLE WATER. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN A CLEAR AND FUNCTIONING DRAINAGE/SANITARY SEWER SYSTEM.
36. ALL CODES AND OWNER REGULATIONS AND REQUIREMENTS CONCERNING SITE AND BUILDING MEANS OF ACCESS AND EGRESS SHALL BE OBSERVED AND FOLLOWED BY THE CONTRACTOR AND SUB CONTRACTORS. VEHICLES USED BY ALL CONTRACTORS AND SUPPLIERS SHALL NOT BLOCK OWNERS BUILDING OR ADJACENT BUILDINGS, ACCESS DRIVES, EMERGENCY FIRE LANES, DROP OFF AND PICK UP ZONES ETC. ALL CONTRACTOR VEHICLES, IF PARKED ON PROJECT SITE, SHALL BE PARKED IN AN OWNER APPROVED LOCATION.
37. EXISTING ROOF TOP ELECTRICAL OR MECHANICAL REMOVAL SHALL BE REMOVED AS REQUIRED BY A LICENSED CONTRACTOR OF THAT TRADE AND BE REMOVED AND TERMINATED PER CURRENT ADOPTED AND LOCAL CODES. ROOFING CONTRACTOR SHALL NOT PERFORM HVAC SUPPLY LINES, CONDUIT, POWER, ETC, MODIFICATIONS.
38. ALL EXISTING GROUNDS, CONCRETE, ASPHALT, PARKING AREAS, GRASS AREAS ETC, SHALL HAVE WOOD SHORING OR OTHER APPROPRIATE PROTECTION APPLIED BENEATH "FEET" OR "LEGS" OF CRANES, TRACKED OR HEAVY VEHICLES, AND OR HEAVY EQUIPMENT OR MATERIAL WHICH WOULD OTHERWISE DAMAGE SURFACES BELOW. ALL DAMAGE INCURRED DURING THE COURSE OF DEMOLITION AND NEW WORK SHALL BE REPAIRED TO MATCH EXISTING AT NO ADDITIONAL COST TO OWNER.
39. ALL DAMAGE TO EXISTING GRASS IN AND AROUND PROJECT AREA INCURRED DURING DEMOLITION AND NEW WORK SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO REMOVE ALL DEAD AND DAMAGED VEGETATION IN SUCH AREAS AND RAKE GRADE SMOOTH AND LEVEL. APPLY FERTILIZER AND LAY NEW GRASS SEED FULL EXTENTS OF DISTURBED AREA. MATCH EXISTING GRASS SPECIES. LAY GRASS STRAW FULL EXTENTS TO PROTECT GRASS SEED. PINE STRAW SHALL NOT BE ACCEPTED.
38. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ANY OPENING MADE; VIA DEMOLITION OR NEW WORK BY HIS TEAM AND OR ASSOCIATED TRADES ON THE PROJECT, IS SECURED, CLOSED AND SEALED DAILY TO ENSURE NO WATER INFILTRATION OR UNDUE EXPOSURE TO ELEMENTS IS LEFT EXPOSED.
39. ALL ROOF OPENINGS, SHALL BE COMPLETELY COVERED DURING NEW CONSTRUCTION WORK TO PREVENT INFILTRATION OF DUST, DIRT, DEMOLITION DEBRIS, NEW ROOF SCRAP OR CONSTRUCTION MATERIALS, LOOSE FASTENERS, TRASH, ETC. TO ENTER ROOF VENT / DUCT SYSTEMS. NO NEW OR EXISTING ROOF CURBING SHALL BE LEFT IMPEDED IN ANY WAY WHICH WILL PREVENT PROPER ROOF DRAINAGE DURING DEMOLITION OR NEW CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ROOF DRAIN INLETS, VENTS AND SYSTEMS ARE CLEAR AND FREE OF IMPEDIMENTS OR BLOCKAGE PRIOR TO LEAVING PROJECT SITE DAILY. CONTRACTOR SHALL VERIFY ROOF DRAINAGE SYSTEM IS CLEAR AND FREE FLOWING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR SHALL TAKE PRECAUTIONS AS REQUIRED TO VERIFY THAT DRAIN SYSTEMS ARE NOT AND WILL NOT BE COVERED OR BLOCKED IN ANY WAY WHICH WILL PREVENT PROPER OPERATION DURING ADVERSE WEATHER THROUGH THE COURSE OF AND AFTER COMPLETION OF ALL PROJECT WORK.
40. EXISTING ROOF TOP EQUIPMENT WHICH HAS ASSOCIATED DUCT WORK, POWER, ETC. INCLUDING BUT NOT LIMITED TO, EXHAUST FANS, ETC. SHALL BE UNFASTENED FROM EXISTING ROOF CURB AND RAISED TO NEW CURB HEIGHT. ALL ASSOCIATED DUCT WORK, ELECTRICAL CONDUIT, WIRING, ETC. SHALL BE REWORKED AS REQUIRED TO EQUIPMENTS NEW INSTALLATION HEIGHT. ALL EQUIPMENT MODIFICATIONS AND EXTENSIONS TO DUCT WORK AND PIPING SHALL BE PERFORMED BY A LICENSED CONTRACTOR OF THAT TRADE. ROOFING CONTRACTOR SHALL NOT PERFORM EQUIPMENT DUCT, CONDUIT, POWER, ETC, MODIFICATIONS. DO NOT DAMAGE ANY EQUIPMENT. ANY DAMAGE TO EQUIPMENT SHALL BE CORRECTED TO LIKE NEW CONDITION AND OR REPLACED BY THE GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
41. NO OIL CANNING OF ROOF EDGE METAL TRIM SHALL BE ACCEPTED. THE CONTRACTOR SHALL INSTALL NO MORE THAN ONE (1) 10 FOOT RUN OF ROOF EDGE METAL TRIM AND NOTIFY THE ARCHITECT OF RECORD 48 HOURS IN ADVANCE FOR A SITE INSPECTION OF THE NEWLY INSTALLED ROOF EDGE TRIM BEFORE PROCEEDING WITH ANY ADDITIONAL ROOF EDGE TRIM INSTALLATION. IF OIL CANNING OCCURS THE CONTRACTOR SHALL IMMEDIATELY STOP ROOF EDGE TRIM INSTALLATION AND NOTIFY THE ARCHITECT OF RECORD. ANY ROOF EDGE METAL TRIM THAT DOES OIL CAN SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
42. EDGE METALS, INCLUDING BUT NOT LIMITED TO, FASCIA, COPINGS, EXPANSION JOINTS, ETC. SHALL BE PRE-FABRICATED AND PROVIDED BY THE ROOF MEMBRANE MANUFACTURER MEETING OR EXCEEDING ANSI/SPRI ES-1.. **SHOP BROKE OR CONTRACTOR PROVIDED EDGE METALS WILL NOT BE ACCEPTED.**
43. ALL WOOD BLOCKING SHALL BE ATTACHED TO STRUCTURE AS REQUIRED TO MEET SITE CONDITION WIND UP-LIFT PRESSURES AND AS REQUIRED TO ACHIEVE EDGE METAL ES-1 RATING.

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REGISTERED ARCHITECT
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14025
03/08/23
STATE OF MISSISSIPPI

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ.
CHECKED BY: FAS

DEMOLITION AND NEW WORK GENERAL NOTES

NO.	DATE	REVISION / SUBMITTAL
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G102

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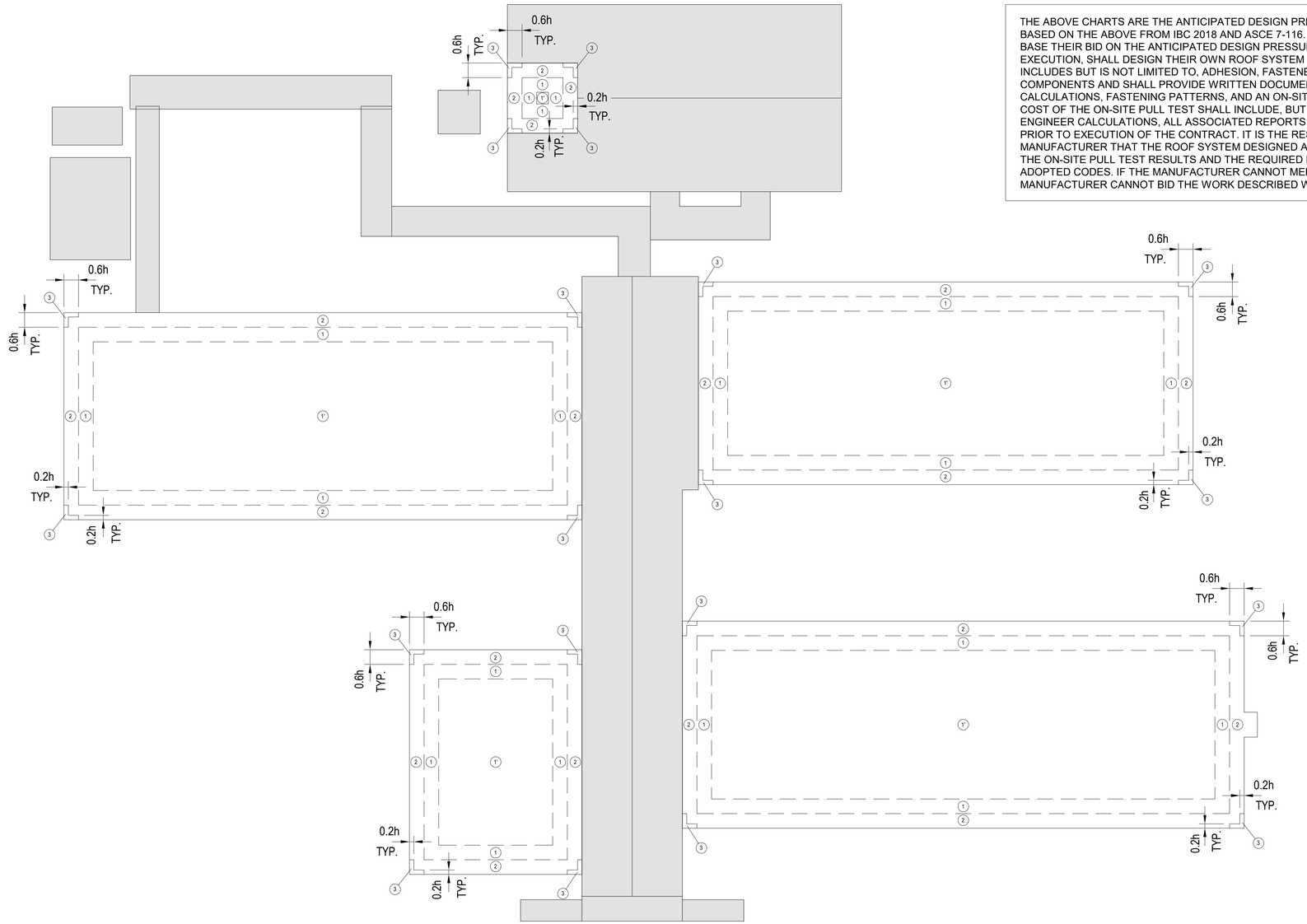
DESIGN CRITERIA (IBC 2018 AND ASCE 7-16)

WIND DESIGN DATA (PER ASCE 7-16):
- -WIND SPEED, V = 175 MPH
- -BUILDING RISK CATEGORY: III
- -MEAN ROOF HEIGHT: < 60 FT
- -ROOF PITCH: < 7°

GROUND SNOW LOAD (Pg):	0 PSF
FLAT ROOF SNOW LOAD (Pf):	0 PSF
SLOPED ROOF SNOW LOAD (Ps):	0 PSF
SLOPE FACTOR (Cs):	1.0
SNOW EXPOSURE FACTOR (Ce):	1.0
SNOW LOAD IMPORTANCE FACTOR (Is):	1.0
THERMAL FACTOR (Ct):	1.0

THE ABOVE CHARTS ARE THE ANTICIPATED DESIGN PRESSURES FOR ROOF LOADS IN ENCLOSED ZONES 1, 1', 2, AND 3 BASED ON THE ABOVE FROM IBC 2018 AND ASCE 7-116. ALL BIDDERS AND MANUFACTURERS SUBMITTING A BID SHALL BASE THEIR BID ON THE ANTICIPATED DESIGN PRESSURES. ALL BIDDERS AND MANUFACTURES, PRIOR TO CONTRACT EXECUTION, SHALL DESIGN THEIR OWN ROOF SYSTEM IN ACCORDANCE WITH DESIGN PRESSURE REQUIREMENTS. THIS INCLUDES BUT IS NOT LIMITED TO, ADHESION, FASTENERS, WELDS, FLASHING AND THE LIKE OF ALL ROOF SYSTEM COMPONENTS AND SHALL PROVIDE WRITTEN DOCUMENTATION, INCLUDING BUT NOT LIMITED TO, DESIGN CALCULATIONS, FASTENING PATTERNS, AND AN ON-SITE PULL TEST PERFORMED BY THE ROOFING MANUFACTURER. COST OF THE ON-SITE PULL TEST SHALL INCLUDE, BUT NOT BE LIMITED TO, TRAVEL, EXECUTION OF PULL TEST, ENGINEER CALCULATIONS, ALL ASSOCIATED REPORTS ETC. AND SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO EXECUTION OF THE CONTRACT. IT IS THE RESPONSIBILITY OF THE BIDDER/CONTRACTOR AND THE ROOFING MANUFACTURER THAT THE ROOF SYSTEM DESIGNED AND PROVIDED BY THE MANUFACTURER WILL MEET OR EXCEED THE ON-SITE PULL TEST RESULTS AND THE REQUIRED DESIGN PRESSURES PER IBC 2018, ASCE 7-16 AND OTHER ADOPTED CODES. IF THE MANUFACTURER CANNOT MEET OR EXCEED THE DESIGN PRESSURES, THEN THAT MANUFACTURER CANNOT BID THE WORK DESCRIBED WITHIN THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.



COMPONENTS AND CLADDING FOR ENCLOSED BUILDINGS

NOTE: PRESSURES ARE BASED ON WIND SPEED OF 175 MPH.
COMPONENTS & CLADDING WIND PRESSURE FOR FLAT/HIP/GABLE ROOF > 0° TO 7° (PSF)

EFFECTIVE AREA (S.F.)	ZONE 1		ZONE 1'		ZONE 2		ZONE 3	
10	22.4	-87.9	22.4	-50.5	22.4	-115.9	22.4	-157.9
20	21.0	-82.1	21.0	-50.5	21.0	-108.4	21.0	-143.1
50	19.2	-74.4	19.2	-50.5	19.2	-98.6	19.2	-123.4
100	17.8	-68.6	17.8	-50.5	17.8	-91.1	17.8	-108.4

NOTE:
"h" = MEAN ROOF HEIGHT IN FEET.

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03/08/23
STATE OF MISSISSIPPI

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ.
CHECKED BY: FAS

COMPONENTS AND CLADDING
ST MARTIN EAST ELEMENTARY

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G103

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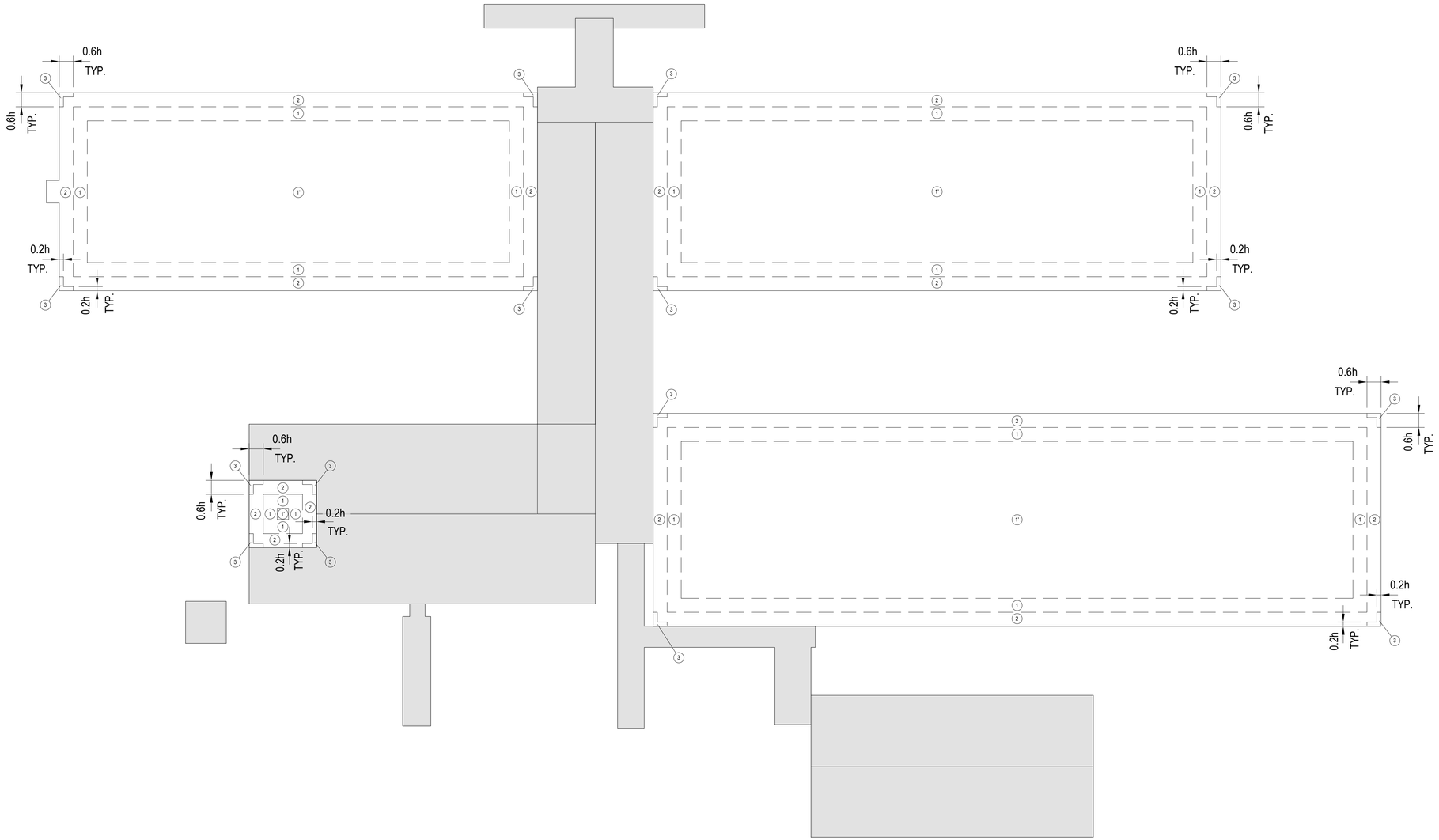

COMPONENTS AND CLADDING FOR ENCLOSED BUILDINGS

NOTE: PRESSURES ARE BASED ON WIND SPEED OF 176 MPH.
COMPONENTS & CLADDING WIND PRESSURE FOR FLAT/HIP/GABLE ROOF > 0° TO 7° (PSF)

EFFECTIVE AREA (S.F.)	ZONE 1		ZONE 1'		ZONE 2		ZONE 3	
10	22.7	-88.9	22.7	-51.0	22.7	-117.2	22.7	-159.7
20	21.2	-83.0	21.2	-51.0	21.2	-109.6	21.2	-144.7
50	19.4	-75.2	19.4	-51.0	19.4	-99.7	19.4	-124.8
100	18.0	-69.4	18.0	-51.0	18.0	-92.1	18.0	-109.6

NOTE:
"h" = MEAN ROOF HEIGHT IN FEET.

DESIGN CRITERIA (IBC 2018 AND ASCE 7-16)

WIND DESIGN DATA (PER ASCE 7-16):
- -WIND SPEED, V = 176 MPH
- -BUILDING RISK CATEGORY: III
- -MEAN ROOF HEIGHT: < 60 FT
- -ROOF PITCH: < 7°

GROUND SNOW LOAD (Pg):	0 PSF
FLAT ROOF SNOW LOAD (Pf):	0 PSF
SLOPED ROOF SNOW LOAD (Ps):	0 PSF
SLOPE FACTOR (Cs):	1.0
SNOW EXPOSURE FACTOR (Ce):	1.0
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THERMAL FACTOR (Ct):	1.0

THE ABOVE CHARTS ARE THE ANTICIPATED DESIGN PRESSURES FOR ROOF LOADS IN ENCLOSED ZONES 1, 1', 2, AND 3 BASED ON THE ABOVE FROM IBC 2018 AND ASCE 7-116. ALL BIDDERS AND MANUFACTURERS SUBMITTING A BID SHALL BASE THEIR BID ON THE ANTICIPATED DESIGN PRESSURES. ALL BIDDERS AND MANUFACTURES, PRIOR TO CONTRACT EXECUTION, SHALL DESIGN THEIR OWN ROOF SYSTEM IN ACCORDANCE WITH DESIGN PRESSURE REQUIREMENTS. THIS INCLUDES BUT IS NOT LIMITED TO, ADHESION, FASTENERS, WELDS, FLASHING AND THE LIKE OF ALL ROOF SYSTEM COMPONENTS AND SHALL PROVIDE WRITTEN DOCUMENTATION, INCLUDING BUT NOT LIMITED TO, DESIGN CALCULATIONS, FASTENING PATTERNS, AND AN ON-SITE PULL TEST PERFORMED BY THE ROOFING MANUFACTURER. COST OF THE ON-SITE PULL TEST SHALL INCLUDE, BUT NOT BE LIMITED TO, TRAVEL, EXECUTION OF PULL TEST, ENGINEER CALCULATIONS, ALL ASSOCIATED REPORTS ETC. AND SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO EXECUTION OF THE CONTRACT. IT IS THE RESPONSIBILITY OF THE BIDDER/CONTRACTOR AND THE ROOFING MANUFACTURER THAT THE ROOF SYSTEM DESIGNED AND PROVIDED BY THE MANUFACTURER WILL MEET OR EXCEED THE ON-SITE PULL TEST RESULTS AND THE REQUIRED DESIGN PRESSURES PER IBC 2018, ASCE 7-16 AND OTHER ADOPTED CODES. IF THE MANUFACTURER CANNOT MEET OR EXCEED THE DESIGN PRESSURES, THEN THAT MANUFACTURER CANNOT BID THE WORK DESCRIBED WITHIN THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

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No. 14125
03/08/23
STATE OF MISSISSIPPI

ST. MARTIN EAST AND NORTH
ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

COMPONENTS AND CLADDING
ST MARTIN NORTH ELEMENTARY

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G104

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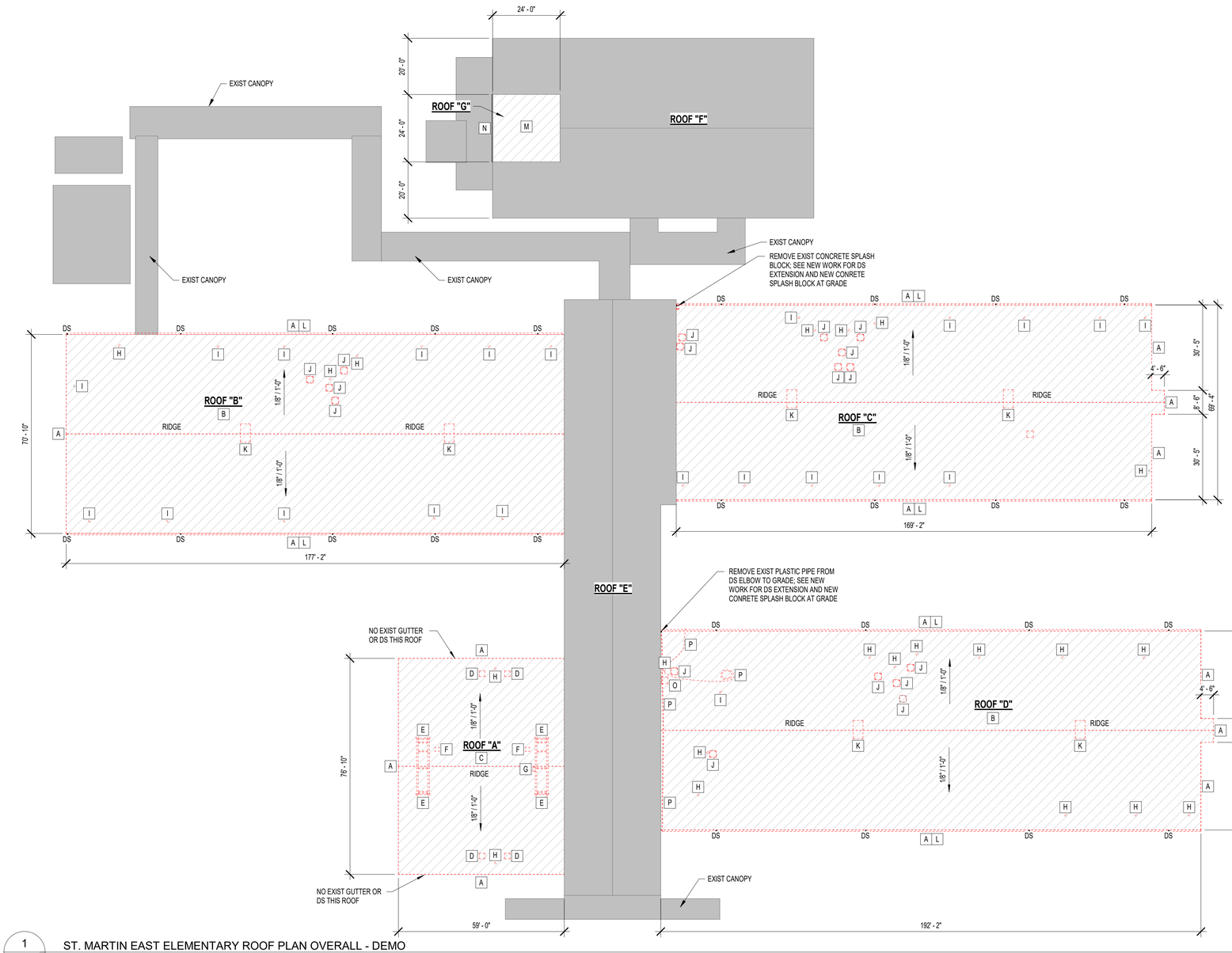

1 D101 ST. MARTIN EAST ELEMENTARY ROOF PLAN OVERALL - DEMO

3/64" = 1'-0"

SME ROOF PLAN - EXISTING ROOF SYSTEM

A.	**ROOF "A" CONVENENTIONAL BUILT UP ROOF (BUR), HOT APPLIED, CONSISTING OF:**			
	1.	DECK	METAL	
	2.	INSULATION	PERLITE 2"	ATTACHMENT - MECHANICALLY
	3.	ROOF	BUILT UP ROOF 3 PLY	ATTACHMENT - HOT ASPHALT
	4.	SURFACING	GRAVEL 3/8"	ATTACHMENT - HOT ASPHALT
B.	**ROOF "B" CONVENTIONAL BUILT UP ROOF (BUR), HOT APPLIED, CONSISTING OF:**			
	a.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	b.	BASE SHEET	RED ROSING PAPER	ATTACHMENT - LOOSE LAID
	c.	BASE SHEET	28# BASE SHEET	ATTACHMENT - NAILED
	d.	INSULATION	PERLITE 2"	ATTACHMENT - HOT ASPHALT
	e.	ROOF	MODIFIED BITUMEN 3 PLY	ATTACHMENT - HOT ASPHALT
	f.	SURFACING	GRAVEL 3/8"	ATTACHMENT - HOT ASPHALT
C.	**ROOF "C" CONVENTIONAL BUILT UP ROOF (BUR), HOT APPLIED, CONSISTING OF:**			
	a.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	b.	BASE SHEET	RED ROSING PAPER	ATTACHMENT - LOOSE LAID
	c.	BASE SHEET	28# BASE SHEET	ATTACHMENT - NAILED
	d.	INSULATION	PERLITE 2"	ATTACHMENT - HOT ASPHALT
	e.	ROOF	MODIFIED BITUMEN 3 PLY	ATTACHMENT - HOT ASPHALT
	f.	SURFACING	GRAVEL 3/8"	ATTACHMENT - HOT ASPHALT
D.	**ROOF "D" CONVENTIONAL BUILT UP ROOF (BUR), HOT APPLIED, CONSISTING OF:**			
	a.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	b.	BASE SHEET	RED ROSING PAPER	ATTACHMENT - LOOSE LAID
	c.	BASE SHEET	28# BASE SHEET	ATTACHMENT - NAILED
	d.	INSULATION	PERLITE 2"	ATTACHMENT - HOT ASPHALT
	e.	ROOF	MODIFIED BITUMEN 4 PLY	ATTACHMENT - HOT ASPHALT
	f.	SURFACING	GRAVEL 3/8"	ATTACHMENT - HOT ASPHALT
E.	**ROOF "E" AND "F" STANDING SEAM**			
	a.	NO WORK REQUIRED		
F.	**ROOF "G" CONVENTIONAL MODIFIED BITUMEN ROOF (MBR), HOT APPLIED, CONSISTING OF:**			
	a.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	b.	INSULATION	PERLITE 3 1/2"	ATTACHMENT - MECHANICALLY
	c.	ROOF	BUILT UP ROOF 2 PLY	ATTACHMENT - HOT ASPHALT

SME ROOF PLAN - DEMO KEY NOTES

A. REMOVE EDGE METAL AND WOOD BLOCKING. DO NOT DAMAGE FASCIA, TECTUM DECK AND STEEL ANGLE THAT REMAIN.

B. REMOVE EXISTING ROOF SYSTEM IN ITS ENTIRETY DOWN TO EXISTING TECTUM DECK. DO NOT DANAGE TECTUM DECK SYSTEM AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR ADDITIONAL INFORMATION.

C. REMOVE EXISTING ROOF SYSTEM IN ITS ENTIRETY DOWN TO EXISTING METAL DECK. DO NOT DAMAGE METAL DECK AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR ADDITIONAL INFORMATION.

D. REMOVE EXHAUST VENT HOOD IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, HOOD, FLASHING, ETC.

E. REMOVE STEEL EQUIPMENT SUPPORT STRUCTURE, INCLUDING BUT NOT LIMETED TO, VERTICAL STEEL PIPES, FLASHING COLLARS, HORIZONTAL STEEL MEMBERS, STEEL CROSS MEMBERS, ETC.

F. REMOVE MECHANICAL ELECTRICAL HOOD AND ALL ACCOSSIATED MECHANICAL AND ELECTRICAL TO BELOW ROOF DECK. FOR ADDITIONAL INFLORAMTION SEE SHEET G102.

G. REMOVE ELECTRICAL DISCONNECT AND ALL ACCOSSIATED ELECTRICAL TO BELOW ROOF DECK. FOR ADDITIONAL INFLORAMTION SEE SHEET G102.

H. REMOVE AND REPLACE WITH NEW EXISITNG VENT THRU ROOF AS REQUIRED PER ROOF MANUFACTURES WRITTEN REQUIREMETS.

I. REMOVE AND REPLACE WITH NEW HEATER STACK IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, HEATER STACK, COLLAR FLASHING, ETC.

J. REMOVE WITH CARE EXHAUST FAN IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EXHAUST FAN, FLASHING, ETC.; EXHAUST FAN SHALL BE REINSTALLED IN LIKE NEW CONDITION AND IN WOKING ORDER. FOR ADDITIONAL INFLORAMTION SEE SHEET G102.

K. REMOVE MECHANICAL EQUIPMENT IN ITS ENTIRETY INCLUDING, BUT NOT LIMETED TO, EQUIPMENT, FLASHING ETC.; MECHANICAL EQUIPMENT SHALL BE REINSTALLED IN LIKE NEW CONDITION AND IN WOKING ORDER. FOR ADDITIONAL INFLORAMTION SEE SHEET G102.

L. REMOVE GUTTER AND DOWNSPOUTS (DS) IN THEIR INTERETY, INCLUDING BUT NOT LIMETED TO, GUTTER, DOWNSPOUT, FASTENERS, STRAPS, CONCRETE SPLASH BLOCK, ETC. DS LOCATIONS ARE APPROXIMATE; DO NOT DAMAGE ITEMS TO REMAIN.

M. THIS ROOF SYSTEM TO REMAIN IN PLACE AND PRPARED PER MANUFACTURERS WRITTEN REQUIREMENTS TO RECEIVE REINFORCED COATING ON ALL HORIZONTAL ROOF SURFACES, EQUIPMENT CURBS, FLASHING, ETC.; ROOF TOP EQUIPMENT IS NOT SHOWN FOR CLARITY.

N. EXISTING GUTTER AND DOWNSPOUTS SHALL REMAIN, NO WORK REQUIRED.

O. REMOVE WITH CARE EXISTING CURB AND CAP IN ITS INTIRETY INCLUDING, BUT NOT LIMITED TO, CURB, CAP, FLASHING, ETC.; SEE NEW WORK FOR ROOF DECK PATCH.

P. CONTRACTOR SAHLL PROTECT ALL LOOSE WIRING ON ROOF DECK FROM DAMAGE AND COORDINATE WITH THE OWNERS MAINTENANCE PERSONEL. SUPPORT WIRING AS REQUIRED FOR DEMOLITION AND NEW WORK. WIRING SHOWN IS APPROZIMATE QUANTITIES AND LOCATIONS. IT IS THE CONTRACTORS RESPOSABILITY TO FIELD VERIFY.

SME - DEMO LEGEND

DEMOLISH

AREA OF WORK

NO WORK REQUIRED

DS DS DOWNSPOUT

MP DESIGN GROUP
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REGISTERED ARCHITECT Bradford A. Jones 14425 03/08/23 STATE OF MISSISSIPPI

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

ST MARTIN EAST ELEMENTARY
ROOF PLAN OVERALL - DEMO

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

D101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
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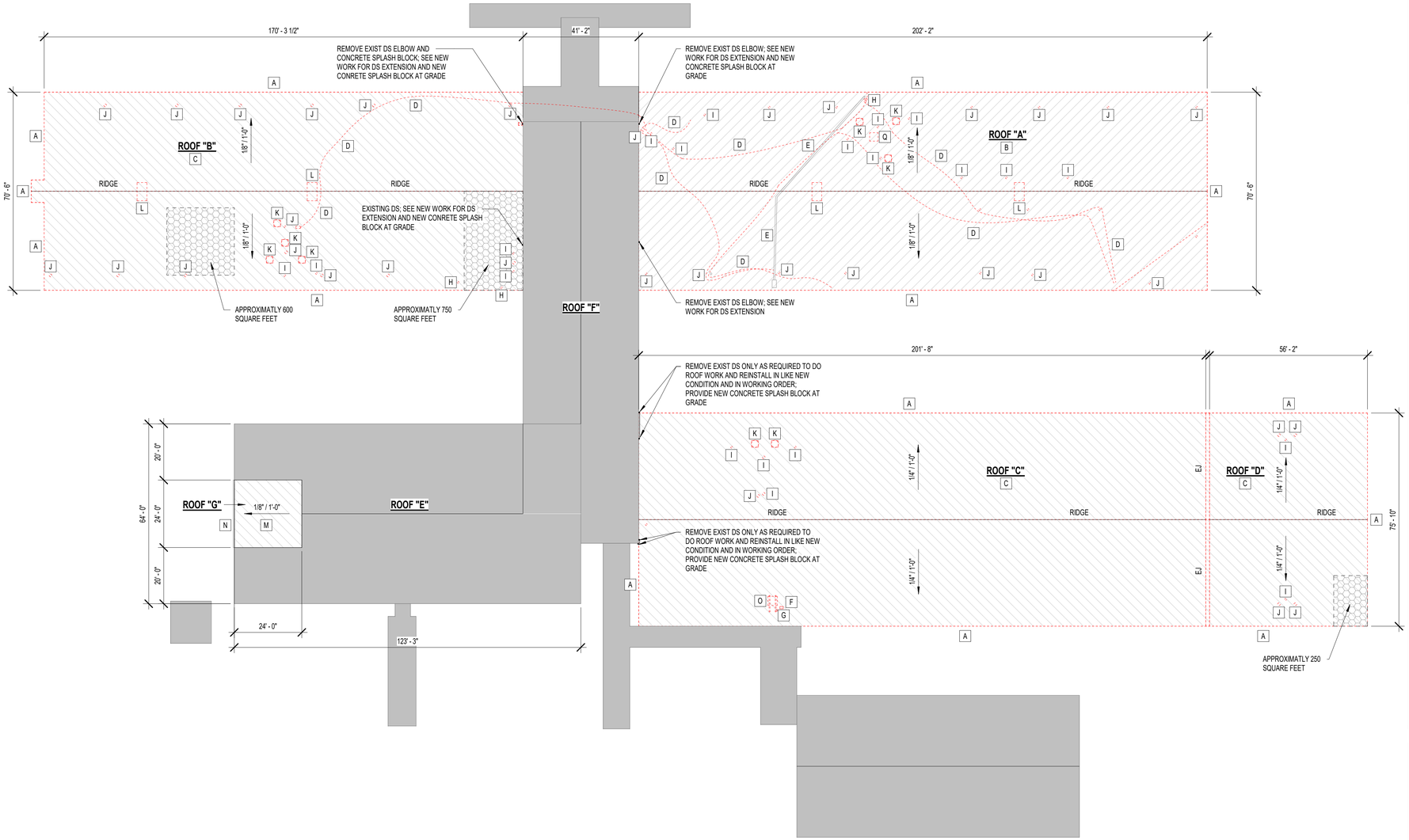

SMN ROOF PLAN - EXISTING ROOF SYSTEM

A.	**ROOF "A"**	**CONVENTIONAL BUILT UP ROOF (BUR), HOT APPLIED, CONSISTING OF:**		
	1.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	2.	BASE SHEET	RED ROSIN PAPER	ATTACHMENT - LOOSE LAID
	3.	BASE SHEET	28# BASE SHEET	ATTACHMENT - NAILED
	4.	INSULATION	PERLITE 3/4"	ATTACHMENT - HOT ASPHALT
	5.	ROOF	BUILT UP ROOF 3 PLY	ATTACHMENT - HOT ASPHALT
	6.	SURFACING	GRAVEL 3/8"	ATTACHMENT - HOT ASPHALT
B.	**ROOF "B"**	**CONVENTIONAL MODIFIED BITUMEN ROOF (MBR), HOT APPLIED, CONSISTING OF:**		
	a.	DECK	CEMENTIOUS WOOD FIBER (TECTUM)	
	b.	BASE SHEET	RED ROSIN PAPER	ATTACHMENT - LOOSE LAID
	c.	BASE SHEET	28# BASE SHEET	ATTACHMENT - NAILED
	d.	INSULATION	POLYISOCYANURATE 2"	ATTACHMENT - HOT ASPHALT
	e.	INSULATION	PERLITE 3/4"	ATTACHMENT - HOT ASPHALT
	f.	ROOF	MODIFIED BITUMEN 2 PLY	ATTACHMENT - HOT ASPHALT
	g.	SURFACING	GRANULES	ATTACHMENT - FACTORY
C.	**ROOF "C"**	**CONVENTIONAL MODIFIED BITUMEN ROOF (MBR), HOT APPLIED, CONSISTING OF:**		
	a.	DECK	METAL	
	b.	INSULATION	POLYISOCYANURATE 2"	ATTACHMENT - HOT ASPHALT
	c.	COVERBOARD	GYPSUM 1/2"	ATTACHMENT - HOT ASPHALT
	d.	ROOF	MODIFIED BITUMEN 2 PLY	ATTACHMENT - HOT ASPHALT
	e.	SURFACING	GRANULES	ATTACHMENT - FACTORY
D.	**ROOF "D"**	**CONVENTIONAL MODIFIED BITUMEN ROOF (MBR), HOT APPLIED, CONSISTING OF:**		
	a.	DECK	METAL	
	b.	INSULATION	POLYISOCYANURATE 2"	ATTACHMENT - HOT ASPHALT
	c.	COVERBOARD	GYPSUM 1/2"	ATTACHMENT - HOT ASPHALT
	d.	ROOF	MODIFIED BITUMEN 2 PLY	ATTACHMENT - HOT ASPHALT
	e.	SURFACING	GRANULES	ATTACHMENT - FACTORY
E.	**ROOF "E" AND "F"**	**STANDING SEAM:**		
	a.	NO WORK REQUIRED		
F.	**ROOF "G"**	**CONVENTIONAL MODIFIED BITUMEN ROOF (MBR), HOT APPLIED, CONSISTING OF:**		
	a.	DECK	METAL	
	b.	INSULATION	PERLITE 3 1/2"	ATTACHMENT - MECHANICALLY
	c.	ROOF	BUILT UP ROOF 2 PLY	ATTACHMENT - HOT ASPHALT

SMN ROOF PLAN - DEMO KEY NOTES

A. REMOVE EDGE METAL AND WOOD BLOCKING. DO NOT DAMAGE FASCIA, TECTUM DECK, METAL DECK AND STEEL ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

B. REMOVE BY CUTTING OUT ALL BLISTERS AND LOOSE MEMBRAIN OF THE EXISTING ROOF SYSTEM AS REQUIRED. SPUD (REMOVE) ALL GRAVEL SURFACING. AT CONTRACTORS OPTION ALL LOOSE GRAVEL SHALL BE POWER BROOMED OFF ROOF. DO NOT DAMAGE CEMENTIOUS WOOD FIBER DECK AND STEEL EDGE ANGLE THAT REMAIN. CLEAN AND PREPARE EXISTING ROOF SURFACE FOR NEW WORK. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

C. REMOVE BY CUTTING OUT ALL BLISTERS AND LOOSE MEMBRAIN OF THE EXISTING ROOF SYSTEM AS REQUIRED. CLEAN AND PREPARE EXISTING ROOF SURFACE FOR NEW WORK. DO NOT DAMAGE METAL DECK AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

D. CONTRACTOR SAHLL PROTECT ALL LOOSE WIRING ON ROOF DECK FROM DAMAGE AND COORDINATE WITH THE OWNERS MAINTENANCE PERSONEL. SUPPORT WIRING AS REQUIRED FOR DEMOLITION AND NEW WORK. WIRING SHOWN IS APPROZIMATE QUANTITIES AND LOCATIONS. IT IS THE CONTRACTORS RESPOSABILITY TO FIELD VERIFY.

E. REMOVE WITH CARE ELECTRICAL CONDUIT BLOCKING ONLY AND REPLACE WITH CONDUIT SUPPORT AS SHOWN UNDER NEW WORK. SUPPORT ELECTRICAL CONDUIT AS REQUIRED FOR DEMOLITION AND NEW WORK.

F. REMOVE WITH CARE MECHANICAL ELECTRICAL HOOD AND ALL ACCOSSIATED MECHANICAL AND ELECTRICAL TO BELOW ROOF DECK. FOR ADDITIONAL INFLORAMTION SEE SHEET G102.

G. REMOVE WITH CARE ELECTRICAL DISCONNECT AND ALL ASSOCIATED ELECTRICAL TO BELOW ROOF DECK. FOR ADDITIONAL INFORMATION SEE SHEET G102.

H. REMOVE ABANDONED EXISTING ELECTRICAL WEATHER HEAD AND ANY ELECTRICAL WIRING TO BELOW ROOF DECK. FOR ADDITIONAL INFORMATION SEE SHEET G102.

I. REMOVE WITH CARE AND REPLACE WITH NEW EXISTING VENT THRU ROOF AS REQUIRED PER ROOF MANUFACTURES WRITTEN REQUIREMENTS.

J. REMOVE WITH CARE AND REPLACE WITH NEW HEATER STACK IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, HEATER STACK, COLLAR FLASHING, ETC.

K. REMOVE WITH CARE EXHAUST FAN IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EXHAUST FAN, FLASHING, ETC.; EXHAUST FAN SHALL BE REINSTALLED IN LIKE NEW CONDITION AND IN WORKING ORDER. FOR ADDITIONAL INFORMATION SEE SHEET G102.

L. REMOVE WITH CARE EXISTING MECHANICAL EQUIPMENT IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, FLASHING ETC.; MECHANICAL EQUIPMENT SHALL BE REINSTALLED IN LIKE NEW CONDITION AND IN WORKING ORDER. FOR ADDITIONAL INFORMATION SEE SHEET G102.

M. THIS ROOF SYSTEM TO REMAIN IN PLACE AND PREPARED PER MANUFACTURERS WRITTEN REQUIREMENTS TO RECEIVE REINFORCED COATING ON ALL HORIZONTAL ROOF SURFACES, EQUIPMENT CURBS, FLASHING, ETC.; ROOF TOP EQUIPMENT IS NOT SHOWN FOR CLARITY.

N. EXISTING GUTTER AND DOWNSPOUTS SHALL REMAIN, NO WORK REQUIRED.

O. REMOVE WITH CARE EXISTING MECHANICAL EQUIPMENT IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, CURB, FLASHING, REFRIGERANT LINES, POWER, CONDENSATE LINE, ETC.; FOR ADDITIONAL INFORMATION SEE SHEET G102.

P. REMOVE WITH CARE WIRE HOOD AND SEE DEMOLITION NOTE "D" FOR ADDITIONAL INFORAMTION.

Q. REMOVE WITH CARE EXISTING ABANDONED EQUIPMENT IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, CURB, ETC.; FOR ADDITIONAL INFORMATION SEE SHEET G102.

SMN - DEMO LEGEND

- DEMOLISH
- NO WORK REQUIRED
- PC — PHOTO CELL DO NOT REMOVE, PHOTO CELL TO REMAIN IN OPERATION
- DS — DOWNSPOUT
- AREA OF WORK
- AREA OF WORK (MBR)
- APPROXIMATE AREA OF WET INSULATION TO BE REMOVED

1 / D102 — ST. MARTIN NORTH ELEMENTARY ROOF PLAN OVERALL - DEMO

3/64" = 1'-0"

NORTH

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REGISTERED ARCHITECT — Bradford A. Jones — 14425 — STATE OF MISSISSIPPI — 03/08/23

ST. MARTIN EAST AND NORTH
ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

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ST. MARTIN NORTH ELEMENTARY
ROOF PLAN OVERALL - DEMO

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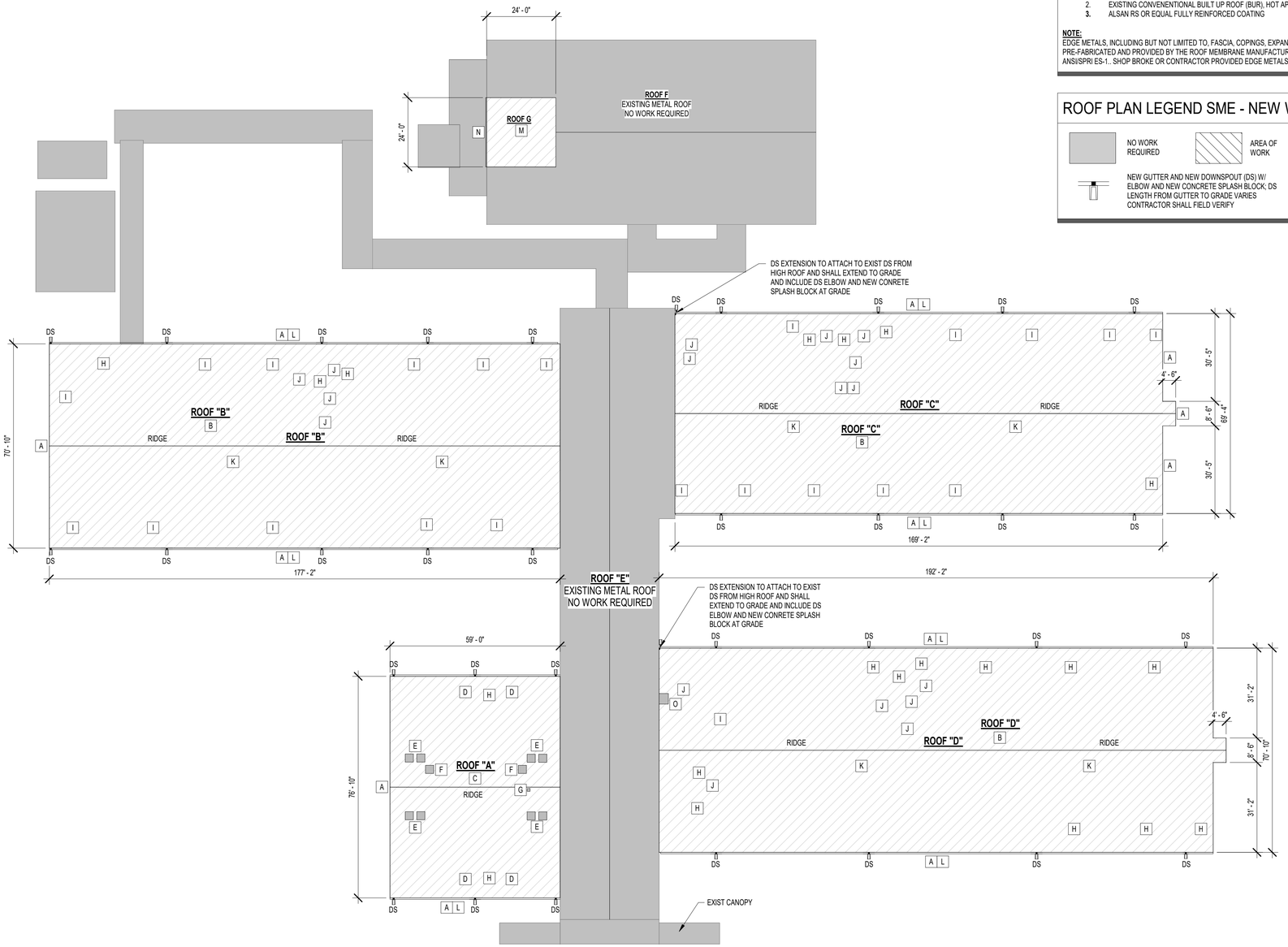

1 A101 ST. MARTIN EAST ELEMENTARY ROOF PLAN OVERALL - NEW WORK

3/64" = 1'-0"

NORTH

ROOF PLAN SME - NEW WORK ROOF SYSTEMS

A. **ROOF "A" SBS AND PVC CAP HY-BRID ROOF SYSTEM**
1. EXISITING METAL DECK SHALL REMAIN; DO NOT DAMAGE
2. TWO LAYERS OF HD ISO 2.2" THICK EACH, LOOSE LAID INSULATION TO BE SECURED WITH REQUIRED FASTENERS AND SHALL MEET ASCE 7-16, OR CURRENT DESIGN STANDARDS
3. 1/4" COVERBOARD MECHANICALLY FASTENED
4. SBS BASE SINGLE PLY
5. FLEECEBACKED PVC SINGLE PLY CAP SHEET A MINIMUM OF 50 MIL MEMBRANE (28 MILS ABOVE SCRIM OR GREATER) MECHANICALLY ATTACHED TO MEET ASCE 7-16, OR CURRENT, DESIGN STANDARDS

B. **ROOF "B", "C" AND "D" SBS AND PVC CAP HY-BRID ROOF SYSTEM**
1. EXISTING CEMENT WOOD FIBER (TECTUM) DECK SHALL REMAIN; DO NOT DAMAGE
2. TWO LAYERS OF HD ISO 2.2" THICK EACH, FULLY ADHERED IN MANUFACTURES APPROVED INSULATION ADHESIVE AND SHALL MEET ASCE 7-16, OR CURRENT DESIGN STANDARDS
3. FULLY ADHERE 1/4" COVERBOARD IN MANUFACTURERS APPROVED INSULATION ADHESIVE
4. SBS BASE SINGLE PLY
5. FLEECEBACKED PVC SINGLE PLY CAP SHEET A MINIMUM OF 50 MIL MEMBRANE (28 MILS ABOVE SCRIM OR GREATER) MECHANICALLY ATTACHED TO MEET ASCE 7-16, OR CURRENT, DESIGN STANDARDS

C. **ROOF "E" AND "F" STANDING SEAM**
1. NO WORK REQUIRED

D. **ROOF "G" CONVENTIONAL MODIFIED BITUMEN ROOF WITH COATING**
1. EXISTING CEMENTIOUS WOOD FIBER DECK (TECTUM) SHALL REMAIN; DO NOT DAMAGE
2. EXISTING CONVENENTIONAL BUILT UP ROOF (BUR), HOT APPLIED TO REMAIN
3. ALSAN RS OR EQUAL FULLY REINFORCED COATING

NOTE:
EDGE METALS, INCLUDING BUT NOT LIMITED TO, FASCIA, COPINGS, EXPANSION JOINTS, ETC. SHALL BE PRE-FABRICATED AND PROVIDED BY THE ROOF MEMBRANE MANUFACTURER MEETING OR EXCEEDING ANSI/SPRI ES-1.. SHOP BROKE OR CONTRACTOR PROVIDED EDGE METALS WILL NOT BE ACCEPTED.

ROOF PLAN LEGEND SME - NEW WORK

NO WORK REQUIRED

AREA OF WORK

NEW GUTTER AND NEW DOWNSPOUT (DS) W/ ELBOW AND NEW CONCRETE SPLASH BLOCK; DS LENGTH FROM GUTTER TO GRADE VARIES CONTRACTOR SHALL FIELD VERIFY

ROOF PLAN SME - NEW WORK GEN. NOTES

1. THIS ROOF IS A SBS / PVC HY-BRID ROOF MEMBRANE SYSTEM. THE ROOF DETAILS SHOWN ARE TYPICAL FOR A SBS / PVC HYBRID ROOF MEMBRANE SYSTEM. ANY MANUFACTURER DETAILS FOR THE SPECIFIED AND APPROVED ROOF MEMBRANE SYSTEM AND MATERIALS TAKE PRECEDENT OVER TYPICAL SBS / PVC ROOF MEMBRANE SYSTEM DETAILS SHOWN.
2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, SIZES, AND NUMBER OF MECHANICAL AND PLUMBING, ELECTRICAL AND PITCH PAN PENETRATIONS.
3. DIMENSIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY.
4. ROOF SLOPES (BESIDES CRICKETS) ARE AS NOTED ON ROOF PLANS. CONTRACTOR SHALL FIELD VERIFY.
5. PROVIDE MIN R-25 INSULATION AT ROOF.
6. CONTRACTOR IS REQUIRED DURING SUBMITTAL PHASE TO PROVIDE WIND PRESSURE CALCULATIONS PER ASCE 7-16 AND SHOP DRAWINGS INCLUDING FASTENER PATTERN PER ROOFING ZONES. DURING CONSTRUCTION, CONTRACTOR SHALL RECORD IMAGES OF THE FASTENER INSTALLATION PATTERN AND PROVIDE A LETTER INDICATING COMPLIANCE PER MANUFACTURER'S REQUIREMENTS FOR SITE WIND LOAD UPLIFT CALCULATIONS.
7. PROVIDE NEW FLASHINGS FOR ALL ROOF CURBS.
8. PROVIDE NEW FLASHING FOR ALL SOIL STACKS.
9. PROVIDE NEW HOT VENT BASES WITH COVER.
10. PROVIDE NEW FLASHING FOR ALL HOT VENT PIPES.
11. PROVIDE NEW PITCH PANS WHERE REQUIRED.
12. PROVIDE NEW SUPPORTS FOR ELECTRICAL CONDUIT ON THE ROOF.
13. PROVIDE NEW PREFINISHED FLASHING WITH COUNTERFLASHING AT THE TRANSITION BETWEEN THE FLAT ROOF AREA AND THE METAL WALL PANEL WALL.
14. PROVIDE NEW PREFINISHED BOX GUTTER SYSTEM AT THE EAVE OF THE ROOF.
15. PROVIDE NEW 2" MINIMUM VINYL COATED DRIP EDGE AT THE GUTTER CONDITION.
16. PROVIDE NEW PREFINISHED DOWNSPOUTS (DS), SPACED AT A MAXIMUM OF 25' O.C. OR BASED ON RAINFALL CALCULATIONS AND SHALL BE COORDINATED WITH EXIST WDW LOCATIONS AND OR LOCATED WHERE EXIST DS WHERE REMOVED.
17. PROVIDE NEW PREFINISHED 2-PIECE COMPRESSION METAL TERMINATION AT THE RAKE CONDITIONS.

ROOF PLAN SME - NEW WORK KEY NOTES

A. INSTALL NEW EDGE METAL AND TREATED WOOD BLOCKING. DO NOT DAMAGE FASCIA, TECTUM DECK SYSTEM, STEEL EDGE ANGLE OR METAL DECK THAT REMAINS. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

B. INSTALL NEW ROOF SYSTEM IN ITS ENTIRETY DOWN TO EXISTING TECTUM DECK. DO NOT DANAGE TECTUM DECK SYSTEM AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR ADDITIONAL INFORMATION.

C. INSTALL NEW ROOF SYSTEM IN ITS ENTIRETY DOWN TO EXISTING METAL DECK. DO NOT DAMAGE METAL DECK AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR ADDITIONAL INFORMATION.

D. WHERE +-12"X12" EXHAUST VENT WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

E. WHERE +-6" DIAMETER STEEL EQUIPMENT SUPPORT STRUCTURE WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

F. WHERE +-12"X12" MECHANICAL / ELECTRICAL HOOD WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

G. WHERE ELECTRICAL DISCONNECT AND +-4"X4" CHASE WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

H. INSTALL NEW VENT THRU ROOF AS REQUIRED PER ROOF MANUFACTURES WRITTEN REQUIREMETS.

I. INSTALL NEW HEATER STACK IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, HEATER STACK, COLLAR FLASHING, ETC.

J. RE-INSTALL EXISTING EXHAUST FAN IN LIKE NEW CONDITION AND IN WOKING ORDER. FOR ADDITIONAL INFORAMTION SEE SHEET G102.

K. RE-INSTALL EXISITNG MECHANICAL EQUIPMENT IN LIKE NEW CONDITION AND IN WORKING ORDER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, FLASHING ETC.; FOR ADDITIONAL INFORMATION SEE SHEET G102.

L. INSTALL NEW GUTTER AND DOWNSPOUTS (DS) IN THEIR ENTIRETY, INCLUDING BUT NOT LIMITED TO, GUTTER, DOWNSPOUT, FASTENERS, STRAPS, CONCRETE SPLASH BLOCK, ETC.; DO NOT DAMAGE ITEMS TO REMAIN. NEW DS SHALL EXTEND FROM GUTTER TO GRADE WITH ELBOW WHICH DISCHARGES WATER AWAY FROM THE BUILDING ONTO A NEW CONCRETE SPLASH BLOCK. DS LENGTHS VARY AND CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS. WHERE EXISTING DS STRAP FASTENERS WERE REMOVED HOLES IN BRICK SHALL BE REPAIRED WITH NON SHRINK GROUT AND COLOR SHALL MATCH EXISTING BRICK. NEW DS STRAPS SHALL BE INSTALLED A MAXIMUM OF 4 FEET O.C. WITH TOP STRAP NO GREATER THAN TWO FEET FROM GUTTER AND BOTTOM STRAP NO GREATER THAN ONE FOOT FROM TOP OF ELBOW. NEW DS SHALL BE LOCATED WHERE EXISTING DS WERE REMOVED UNLESS NOTED OTHERWISE.

M. THIS ROOF SYSTEM TO REMAIN IN PLACE AND PRPARED PER MANUFACTURERS WRITTEN REQUIREMENTS TO RECEIVE REINFORCED COATING ON ALL HORIZONTAL ROOF SURFACES, EQUIPMENT CURBS, FLASHING, ETC.; ROOF TOP EQUIPMENT IS NOT SHOWN FOR CLARITY.

N. EXISTING GUTTER AND DOWNSPOUTS SHALL REMAIN, NO WORK REQUIRED.

O. WHERE +-16"X16" CURB AND CURB CAP WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

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REGISTERED ARCHITECT Bradford A. Jones 8425 STATE OF MISSISSIPPI 03/08/23

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

ST. MARTIN EAST ELEMENTARY
ROOF PLAN OVERALL - NEW WORK

NO.	DATE	REVISION / SUBMITTAL
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A101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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ROOF PLAN LEGEND SMN - NEW WORK

- NO WORK REQUIRED
- AREA OF WORK
- APPROXIMATE AREA OF NEW INSULATION THAT REPLACED WET REMOVED INSULATION
- NEW GUTTER AND NEW DOWNSPOUT (DS) W/ ELBOW AND NEW CONCRETE SPLASH BLOCK; DS LENGTH FROM GUTTER TO GRADE VARIES CONTRACTOR SHALL FIELD VERIFY

ROOF PLAN SMN - NEW WORK ROOF SYSTEMS

A. **ROOF "A" AND "B" SBS AND PVC CAP HY-BRID ROOF SYSTEM**
1. EXISTING CEMENTIOUS WOOD FIBER (TECTUM) DECK SHALL REMAIN; DO NOT DAMAGE
2. EXISTING CONVENENTIONAL BUILT UP ROOF (BUR), HOT APPLIED TO REMAIN
3. CLEAN AND PREP EXISTING ROOF SURFACE
4. 1/4" SOPRABOARD OR EQUAL ADHEARED WITH MANUFACTURES APPROVED ADHESIVE
5. SBS BASE SINGLE PLY
6. FLEECEBACKED PVC SINGLE PLY CAP SHEET A MINIMUM OF 50 MIL MEMBRANE (28 MILS ABOVE SCRIM OR GREATER) MECHANICALLY ATTACHED TO MEET ASCE 7-16, OR CURRENT, DESIGN STANDARDS

B. **ROOF "C" AND "D" SBS AND PVC CAP HY-BRID ROOF SYSTEM**
1. EXISTING METAL DECK SHALL REMAIN; DO NOT DAMAGE
2. EXISTING CONVENENTIONAL BUILT UP ROOF (BUR), HOT APPLIED TO REMAIN
3. 1/4" SOPRABOARD OR EQUAL ADHEARED WITH MANUFACTURES APPROVED ADHESIVE
4. SBS BASE SINGLE PLY
5. FLEECEBACKED PVC SINGLE PLY CAP SHEET A MINIMUM OF 50 MIL MEMBRANE (28 MILS ABOVE SCRIM OR GREATER) MECHANICALLY ATTACHED TO MEET ASCE 7-16, OR CURRENT, DESIGN STANDARDS

C. **ROOF "E" AND "F" STANDING SEAM**
1. NO WORK REQUIRED

D. **ROOF "G" CONVENTIONAL MODIFIED BITUMEN ROOF WITH COATING**
1. EXISTING METAL DECK SHALL REMAIN; DO NOT DAMAGE
2. EXISTING CONVENENTIONAL BUILT UP ROOF (BUR), HOT APPLIED TO REMAIN
3. ALSAN RS OR EQUAL FULLY REINFORCED COATING

NOTE:
EDGE METALS, INCLUDING BUT NOT LIMITED TO, FASCIA, COPINGS, EXPANSION JOINTS, ETC. SHALL BE PRE-FABRICATED AND PROVIDED BY THE ROOF MEMBRANE MANUFACTURER MEETING OR EXCEEDING ANSI/SPRI ES-1.. SHOP BROKE OR CONTRACTOR PROVIDED EDGE METALS WILL NOT BE ACCEPTED.

ROOF PLAN SMN - NEW WORK GEN. NOTES

1. THIS ROOF IS A SBS / PVC HY-BRID ROOF MEMBRANE SYSTEM. THE ROOF DETAILS SHOWN ARE TYPICAL FOR A SBS / PVC HYBRID ROOF MEMBRANE SYSTEM. ANY MANUFACTURER DETAILS FOR THE SPECIFIED AND APPROVED ROOF MEMBRANE SYSTEM AND MATERIALS TAKE PRECEDENT OVER TYPICAL SBS / PVC ROOF MEMBRANE SYSTEM DETAILS SHOWN.
2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, SIZES, AND NUMBER OF MECHANICAL AND PLUMBING, ELECTRICAL AND PITCH PAN PENETRATIONS.
3. DIMENSIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY.
4. ROOF SLOPES (BESIDES CRICKETS) ARE AS NOTED ON ROOF PLANS. CONTRACTOR SHALL FIELD VERIFY.
5. PROVIDE MIN OVERALL AVERAGE R-25 INSULATION AT ROOF.
6. CONTRACTOR IS REQUIRED DURING SUBMITTAL PHASE TO PROVIDE WIND PRESSURE CALCULATIONS PER ASCE 7-16 AND SHOP DRAWINGS INCLUDING FASTENER PATTERN PER ROOFING ZONES. DURING CONSTRUCTION, CONTRACTOR SHALL RECORD IMAGES OF THE FASTENER INSTALLATION PATTERN AND PROVIDE A LETTER INDICATING COMPLIANCE PER MANUFACTURER'S REQUIREMENTS FOR SITE WIND LOAD UPLIFT CALCULATIONS.
7. PROVIDE NEW FLASHINGS FOR ALL ROOF CURBS.
8. PROVIDE NEW FLASHING FOR ALL SOIL STACKS.
9. PROVIDE NEW HOT VENT BASES WITH COVER.
10. PROVIDE NEW FLASHING FOR ALL HOT VENT PIPES.
11. PROVIDE NEW PITCH PANS WHERE REQUIRED.
12. PROVIDE NEW SUPPORTS FOR ELECTRICAL CONDUIT ON THE ROOF.
13. PROVIDE NEW PARAPET FLASHING WITH COUNTERFLASHING AT THE TRANSITION BETWEEN THE FLAT ROOF AREA AND THE METAL WALL PANEL WALL.
14. PROVIDE NEW BOX GUTTER SYSTEM AT THE EAVE OF THE ROOF.
15. PROVIDE 2" VINYL COATED DRIP EDGE AT THE GUTTER CONDITION.
16. PROVIDE NEW DOWNSPOUTS, SPACED AT A MAXIMUM OF 25' O.C. OR BASED ON RAINFALL CALCULATIONS.
17. PROVIDE 2-PIECE COMPRESSION METAL TERMINATION AT THE RAKE CONDITIONS.

ROOF PLAN SMN - NEW WORK KEY NOTES

A. INSTALL NEW EDGE METAL AND NEW TREATED WOOD BLOCKING. DO NOT DAMAGE FASCIA, TECTUM DECK SYSTEM, STEEL ANGLE OR METAL DECK THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

B. AFTER CUTTING OUT ALL BLISTERS AND LOOSE MEMBRAIN OF THE EXISTING ROOF SYSTEM AND REMOVAL OF GRAVEL SURFACING ROOF SURFACE SHALL BE PREPARED PER ROOF MANUFACTURES WRITTEN INSTRUCTIONES TO RECEIVE NEW ROOF COVERING. DO NOT DAMAGE CEMENTIOUS WOOD FIBER DECK AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

C. AFTER CUTTING OUT ALL BLISTERS AND LOOSE MEMBRAIN OF THE EXISTING ROOF SYSTEM ROOF SURFACE SHALL BE PREPARED PER ROOF MANUFACTURES WRITTEN INSTRUCTIONES TO RECEIVE NEW ROOF COVERING. DO NOT DAMAGE METAL DECK AND STEEL EDGE ANGLE THAT REMAIN. SEE EXISTING ROOF SYSTEM FOR EXISTING DECK TYPE.

D. CONTRACTOR SHALL PROTECT ALL LOOSE WIRING ON ROOF DECK FROM DAMAGE AND COORDINATE WITH THE OWNERS MAINTENANCE PERSONEL. SUPPORT WIRING AS REQUIRED FOR NEW WORK. WIRING SHOWN IS APPROZIMATE QUANTITIES AND LOCATIONS. IT IS THE CONTRACTORS RESPOSABILITY TO FIELD VERIFY.

E. INSTALL WITH CARE ELECTRICAL CONDUIT NEW (MIM 2X4 X 18 INCH LONG) TREATED WOOD BLOCKING AT 4 FEET ON CENTER MAX. SUPPORT EXISTING ELECTRICAL CONDUIT AS REQUIRED NEW WORK.

F. WHERE +-12"X18" EXISTING MECHANICAL HOOD WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

G. WHERE ELECTRICAL DISCONNECT AND WIRING WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

H. WHERE EXISTING ABANDOND WEATHERHEAD WAS REMOVED CAP DECK WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK.

I. INSTALL NEW VENT THRU ROOF AS REQUIRED PER ROOF MANUFACTURES WRITTEN REQUIREMENTS.

J. INSTALL NEW HEATER STACK IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, HEATER STACK, COLLAR FLASHING, ETC.

K. RE-INSTALL EXISTING EXHAUST FAN IN LIKE NEW CONDITION AND IN WOKING ORDER. FOR ADDITIONAL INFORAMTION SEE SHEET G102.

L. RE-INSTALL EXISITNG MECHANICAL EQUIPMENT IN LIKE NEW CONDITION AND IN WORKING ORDER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, FLASHING ETC.; FOR ADDITIONAL INFORMATION SEE SHEET G102.

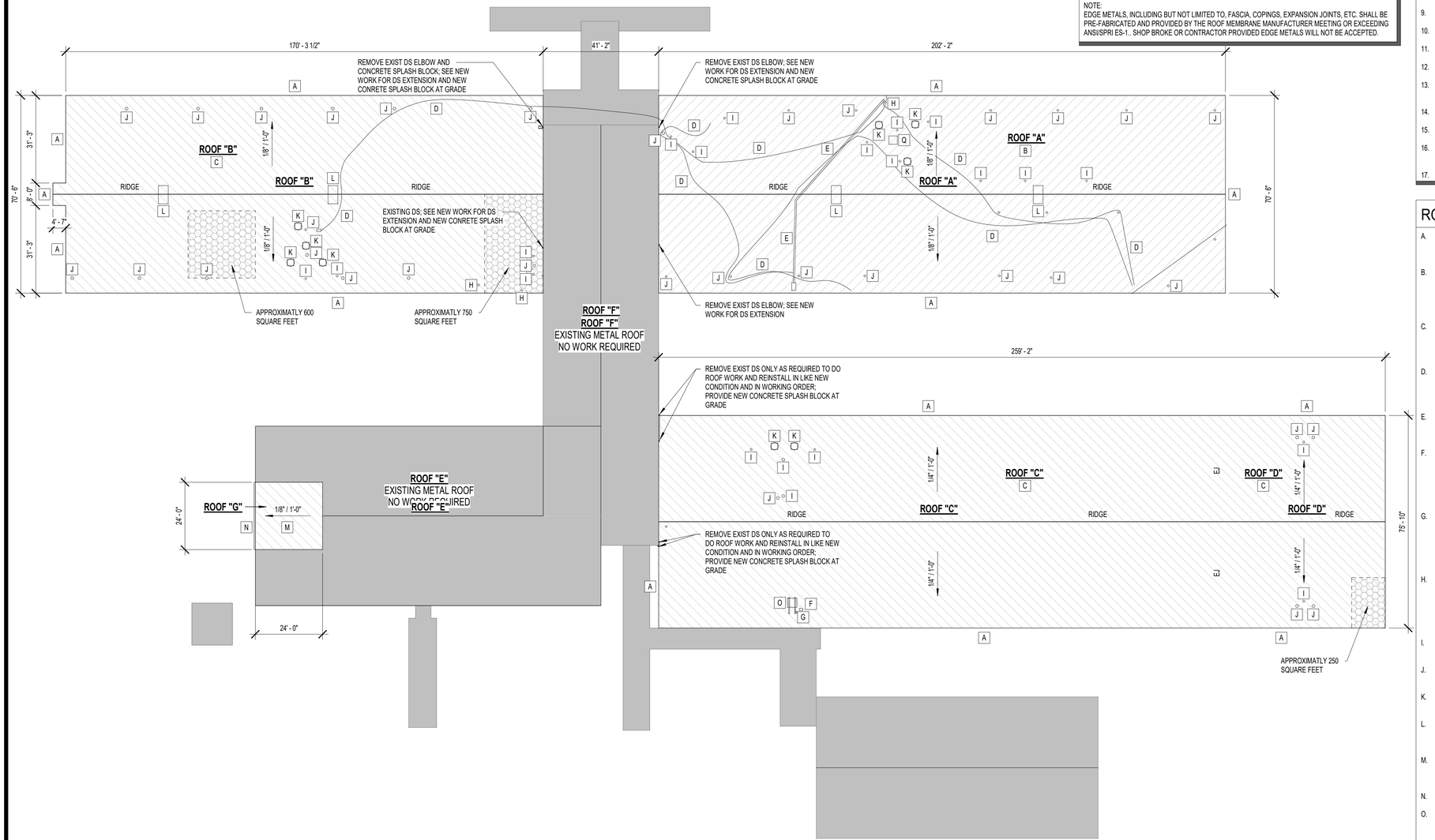
M. THIS ROOF SYSTEM TO REMAIN IN PLACE AND PREPARED PER MANUFACTURERS WRITTEN REQUIREMENTS TO RECEIVE REINFORCED COATING ON ALL HORIZONTAL ROOF SURFACES, EQUIPMENT CURBS, FLASHING, ETC.; ROOF TOP EQUIPMENT IS NOT SHOWN FOR CLARITY.

N. EXISTING GUTTER AND DOWNSPOUTS SHALL REMAIN, NO WORK REQUIRED.

O. WHERE EXISTING MECHANICAL EQUIPMENT WAS REMOVED AND ITS CURB AND BLOCKING CAP ALL DECK OPENINGS WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK. FOR ADDITIONAL INFORMATION SEE SHEET G102.

P. INSTALL NEW WIRE HOOD. SEE NEW WORK NOTE "D" FOR ADDITIONAL INFORAMTION.

Q. WHERE EXISTING EQUIPMENT, CURB AND BLOCKING WAS REMOVED CAP ALL DECK OPENINGS WITH MINIMUM 12 GA GALV SHEET METAL SET IN A FULL BED OF APPROVED MASTIC FOR ROOF DECK TYPE. SHEET METAL SHALL EXTEND PAST ROOF DECK OPENING A MINIMUM OF 8" ON ALL SIDES AND SHALL BE FASTENED TO THE EXISTING DECK WITH APPROVED FASTENERS FOR DECK TYPE AND SPACED NO MORE THAT 8" O.C. FASTENERS SHALL NOT PENETRATE CEMENTIOUS WOOD FIBER DECK. FOR ADDITIONAL INFORMATION SEE SHEET G102.



1 / A102 ST. MARTIN NORTH ELEMENTARY ROOF PLAN OVERALL - DEMO Copy 1
3/64" = 1'-0"

NORTH

3/8/2023 4:49:22 PM

MP DESIGN GROUP
ARCHITECTURE + ENGINEERING
"Designed to Build"
Bradford A. Jones, AIA
918 Howard Ave Suite F
Biloxi, Mississippi 39530
Office: 228.388.1950
Fax: 228.388.1971
mpdesigngroup.us

REGISTERED ARCHITECT Bradford A. Jones 14425 STATE OF MISSISSIPPI 03/08/23

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

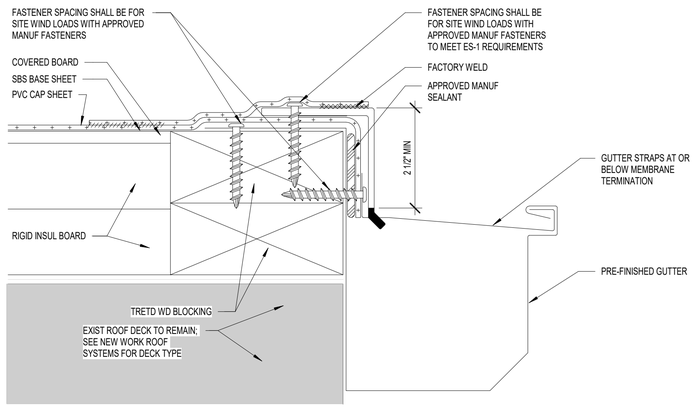
SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

ST. MARTIN NORTH ELEMENTARY
ROOF PLAN OVERALL - NEW WORK

NO.	DATE	REVISION / SUBMITTAL
REV.0	03.08.23	ISSUED FOR CONSTRUCTION

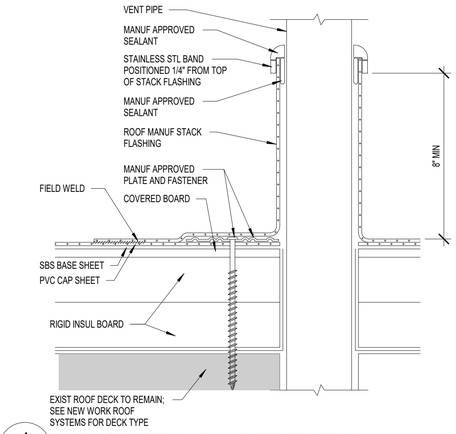
A102

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



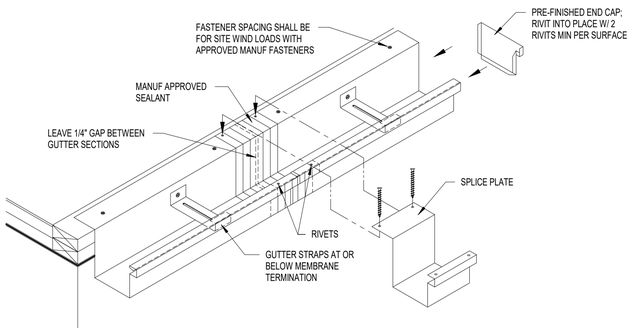
1 A103 SBS/PVC DETAIL - DRIP EDGE TO GUTTER

12" = 1'-0"



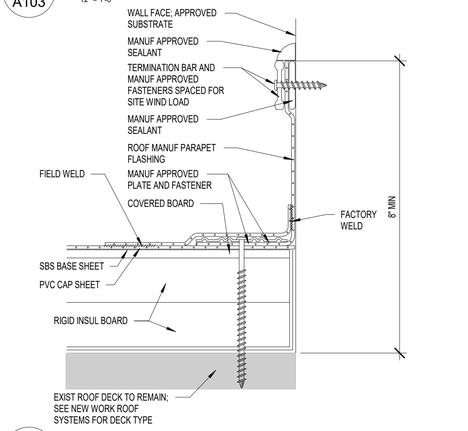
4 A103 SBS/PVC DETAIL - ROUND PENETRATION

12" = 1'-0"



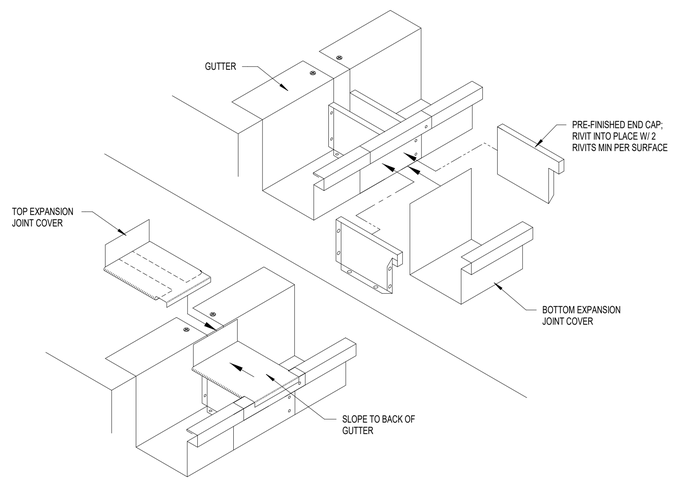
2 A103 SBS/PVC DETAIL - GUTTER ATTACHMENT

12" = 1'-0"



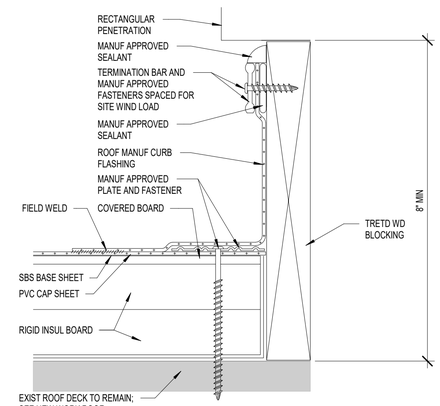
5 A103 SBS/PVC DETAIL - WALL TERMINATION

12" = 1'-0"



3 A103 SBS/PVC DETAIL - GUTTER EXPANSION JOINT

12" = 1'-0"



6 A103 SBS/PVC DETAIL - RECTANGULAR PENETRATION

12" = 1'-0"

3/8/2023 4:49:22 PM

MP DESIGN GROUP
ARCHITECTURE + ENGINEERING
"Designed to Build"
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Fax: 228.388.1971
mpdesigngroup.us

REGISTERED ARCHITECT
Bradford A. Jones
No. 14425
STATE OF MISSISSIPPI
03/08/23

ST. MARTIN EAST AND NORTH
ELEMENTARY ROOFS
JACKSON COUNTY SCHOOL DISTRICT
MULTIPLE CAMPUSES

SCALE: AS INDICATED
PROJECT NO: 0155.23.001
DRAWN BY: MAJ,
CHECKED BY: FAS

TYPICAL ROOFING DETAIL
SSBS/PVC HY-BRID ROOF SYSTEM

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.23	ISSUED FOR CONSTRUCTION

A103

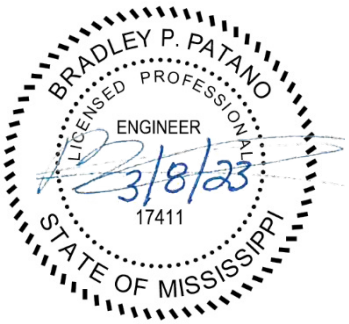
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT MANUAL

ST. MARTIN EAST AND NORTH ELEMENTARY ROOFS

St. Martin East Elementary – 7508 Rose Farm Rd., Ocean Springs, MS 39564
St. Martin North Elementary – 16308 Lemoyne Blvd., Biloxi, MS 39532

Jackson County School District
4700 Colonel Vickery Rd. | P.O. Box 5069 | Vancleave, Mississippi 39565



MP DESIGN GROUP
ARCHITECTURE + ENGINEERING

MP Design Group Project # 0155.23.001
REV 0: ISSUED FOR CONSTRUCTION 03.08.2023

ARCHITECTURE | ENGINEERING | SURVEYING | CONSTRUCTION MGMT
918 Howard Avenue | Suite F | Biloxi | MS 39530 | P: 228.388.1950 | mpdesigngroup.us

SECTION 000102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: St. Martin East and North Elementary Roofs, located at the following address:

St. Martin East Elementary - 7508 Rise Farm Road, Ocean Springs, MS 39564.

St. Martin North Elementary - 16308 Lemoyne Blvd., Biloxi, MS 39532.

B. The Owner, hereinafter referred to as Owner: Jackson County School District

C. Owner's Project Manager: Engineer/Architect.

1.02 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to General Contractors for the construction of the project described below.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: This project will consist of the following general scope of work. This description is provided for convenience purposes only and shall not be considered all inclusive. It is the general contractor's responsibility to become fully famliar with the existing conditions, review all of the construction document drawings, specifications, and any additional information documents in their entirety and bring forth any and all questions regarding scope confusion, misinterpretations, and/or possible errors and omissions to the Architect and/or Engineer prior to bid submission and/or start of construction.
   1. This project consists of Reroofing and Roof Repairs as described in the Construction Documents and Specifications.

B. Contract Terms: Lump sum (fixed price, stipulated sum).

C. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

D. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8:00 AM to 5:00 PM.

1.04 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Engineer/Architect: MP Design Group.
   1. Address: 918 Howard Avenue, Suite F.
   2. City, State, Zip: Biloxi, MS 39530.
   3. Phone: 228-388-1950.
   4. Fax: 228-388-1971
   5. Website: www.mpdesigngroup.us
   6. Plan Room: www.mpengplans.us
   7. Project E-mails: bpatano@mpdesigngroup.us, fsilva@mpdesigngroup.us.

1.05 PROCUREMENT TIMETABLE

A. A non-mandatory Pre-Bid Meeting and site walk: Tuesday, April 4, 2023 at 10:30 AM local time at the front entry lobby of District's Central Office Building at 4700 Col VIckrey Rd. , Vancleave, MS 39564. Following the meeting, a site walkthrough will be conducted.

B. Last Request for Substitution Due: 7 days prior to due date of bids.

C. Last Request for Information Due: 7 days prior to due date of bids.

D. Bid Due Date: As described in Document 001113 - Advertisement for Bids.

E. Bid Opening: Same day, after the bids are due at the descretion of the Onwer and a time that is best determined by the Owner.

F. Notice to Proceed: Will be issued after bid due date with anticipated starts dates as shown below..

G. Bids May Not Be Withdrawn Until: 60 days after due date.

H. Contract Time: As described in Document 004100 - Bid Form.

I. Final Completion date is critical due to requirements of Owner's operations.

J. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.06 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained:
   1. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.
   2. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

B. Documents may be viewed at Office of the Architect.

1.07 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 000110
TABLE OF CONTENTS

END OF SECTION

SECTION 001113
ADVERTISEMENT FOR BIDS

FROM:

1.01 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

A. Jackson County School District

B. Address:
4700 Col VIckrey Rd.
Vancleave, MS, 39564

1.02 AND THE ENGINEER/ARCHITECT (HEREINAFTER REFERRED TO AS ENGINEER/ARCHITECT):

A. MP Design Group

B. Address:
918 Howard Avenue, Suite F
Biloxi, MS 39530
Phone: 228-388-1950
1. Fax: 228-388-1971
2. Web Site: www.mpdesigngroup.us
3. Plan Room: www.mpengplans.us

1.03 TO: POTENTIAL BIDDERS

A. Your firm is invited to submit an offer under seal to Owner for Reroofing and Roof Repairs or Type here project description located at:
St. Martin East Elementary - 7508 Rise Farm Road, Ocean Springs, MS 39564
St. Martin North Elementary - 16308 Lemoyne Blvd., Biloxi, MS 39532
Project Location City, Project Location StateProject Location ZIP

Before 10:00 am local standard time on the 18th day of April, 2023, for:

B. Project Name: St. Martin East and North Elementary Roofs

C. Project Number: 0155.23.001

D. Project Description: This project consists of Reroofing and Roof Repairs as described in the Construction Documents and Specifications.

E. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a non-refundable deposit, by cash or check, in the amount indicated on the plan room site<> for one set delivered in electronic PDF format.

F. Bidders will be required to provide Bid security in the form of a Bid Bond of a sum no less than 5 percent of the Bid Amount or a certified check for a sum no less than 5 percent of the Bid Amount.

G. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders and Document 003100 - Available Project Information.

H. Submit your offer on the Bid Form provided. Bidders may supplement this form as appropriate.

I. If Bids are mailed or hand delivered, then they must be contained in a sealed envelope marked on the outside with the project name. They must be on file as received or delivered by the time stated above to the address of the Owner stated above. Do not deliver Bids to the project address or the Architect's address.

J. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must

be included and must be clearly indicated as such in the file name.

K. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi certificate of responsibility number as issued by the Mississippi Board of Contractors along with a copy of the General Contractor's proof of Mississippi license.

L. Your offer will be required to be submitted under a condition of irrevocability for a period of 60 days after submission.

M. The Owner reserves the right to accept or reject any or all offers.

END OF SECTION

SECTION 002113
INSTRUCTIONS TO BIDDERS

INVITATION

1.01 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner as Described in Document 001113 - Advertisement for Bids.

B. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

C. Offers submitted after the above time will be returned to the bidder unopened.

D. Offers will be opened publicly after the time for receipt of bids.

1.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete a Reroofing and Roof Repairs located at Project Location City, Project Location State for a Stipulated Sum contract, in accordance with the Contract Documents.

1.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises remodeling and demolition, including general construction, mechanical, and electrical Work.

B. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor’s responsibility to bring any and all discrepancies to the architect’s attention for further clarity prior to submitting a formal bid.

1.04 BUILDING PERMITS AND PLAN REVIEW

A. Refer to 011000 Summary

1.05 CONTRACT TIME

A. Perform the Work in time as described in Document 000102 - Project Information.

B. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additioinal request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for addtional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

BID DOCUMENTS AND CONTRACT DOCUMENTS

2.01 DEFINITIONS

A. Bid Documents include the Advertisement for Bids, Instructions to Bidders, Bid Form, Information Available to Bidders, Supplements To Bid Forms and Appendices, other sample bidding and contract forms, and the proposed Contract Documents including any Addenda issued prior to receipt of bid. The Contract Documents proposed for the Work consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary, and other Conditions), the Drawings, the Specifications, and all Addenda issued prior to and all

Modifications issued after execution of the Contract.

B. All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

C. Addenda are written or graphic instructions issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

D. A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

E. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added or from which work may be deleted for sums stated in Alternate Bids.

F. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

G. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Document.

H. A bidder is a person or entity who submits a Bid.

I. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials or labor for a portion of the work.

2.02 CONTRACT DOCUMENTS IDENTIFICATION

A. The Contract Documents are identified as St. Martin East and North Elementary Roofs; Number 0155.23.001, as prepared by Engineer/Architect , and with contents as identified in the Project Manual.

2.03 AVAILABILITY

A. Bid Documents can also be obtained from the Plan Room website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.

B. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

C. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

2.04 EXAMINATION

A. Bid Documents may be viewed at the office of Engineer/Architect .

B. Upon receipt of Bid Documents verify that documents are complete. Notify Engineer/Architect should the documents be incomplete.

C. Immediately notify Engineer/Architect upon finding discrepancies or omissions in the Bid Documents.

2.05 INQUIRIES/ADDENDA AND INTERPRETATIONS

A. Direct questions to Brad Patano or Fernanda Silva, at email: bpatano@mpdesigngroup.us and fsilva@mpdesigngroup.us respectively.

B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

C. Verbal answers are not binding on any party.

D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients .

E. Any interpretation, correction or change of the Bidding Documents will be made by Addendum issued during the bidding period. All Addenda become part of the Contract Documents. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding.

F. Failure of any bidder to receive addendum issued, or to acknowledge receipt on the bid form, shall not relieve such bidder from any obligation under this bid as submitted.

G. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid. No other method of estimating shall be used in preparing the bid proposal, unless contrary instructions are issued in the form of an Addendum before bid proposal due date.

H. Any claim by the Contractor or Subcontractors that they, in submitting their respective bid proposals, did not include all items as shown in the Contract Documents will be given no consideration for an adjustment of any kind. If any item is specified in a Section which would not normally furnish this item, it shall be the responsibility of the Contractor to provide the work in question, without any additional cost to the Owner.

2.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:

B. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 7 days before receipt of bids.

C. Substitution Request Form:
   1. Submit substitution requests by completing the form in Section 004325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

D. Review and Acceptance of Request:
   1. When a request to substitute a product is made, Engineer/Architect may approve the proposed substitution and will issue an Addendum to known bidders.
   2. The submission shall provide sufficient information to determine acceptability of such products.
   3. Provide complete information on required revisions to other work to accomodate each proposed substitution.
   4. Provide products as specified unless substitutions are submitted in this manner and accepted.

E. Submit substitution requests by completing the form in Section 004325 - Substitution Request Form - During Procurement; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable. If this form is not completed in its entirety, then it will be rejected and will have to be resubmitted.

F. See Section 012500 - Substitution Procedures for additional requirements.

SITE ASSESSMENT

3.01 SITE EXAMINATION

A. Examine the project site before submitting a bid.

B. A visit to the project site has been arranged for bidders as follows: Immediately following the Pre-Bid Conference

C. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8 AM to 5 PM.
   2. Contractor will be require to contact the Owner prior to arriving to schedule a time for exmination.

3.02 PREBID CONFERENCE

A. A bidders conference has been scheduled as described in Document 000102 - Project Information. Meet in the main lobby of the Building. We will then relocate to a designated area as directed by the staff for the formal meeting. After the Pre-Bid Meeting we will tour the site as a group.

B. All general contract bidders and suppliers are invited.

C. Representatives of Engineer/Architect will be in attendance.

D. Summarized minutes of this meeting may be circulated to all known bidders. These minutes will not form part of the Contract Documents.

E. No verbal answers during this meeting are binding nor do they become a part of the Bid Documents. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

QUALIFICATIONS

4.01 SUBCONTRACTORS/SUPPLIERS/OTHERS

A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

B. Refer to General Conditions.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealedwith the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Owner's name on the outside. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must be included and must be clearly indicated as such in the file name (i.e. "open first," or "Envelope Information," etc...), so that it will to be the first item opened.

C. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi Certificate of Responsibility Number as issued by the Mississippi Board of Contractors along with a copy of the General Contractor's proof of Mississippi license.

D. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

5.02 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.

C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Owner, invalidate the bid.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amounton AIA A310 Bid Bond Form.
      -OR-
   2. Certified check in the amount of a sum no less than 5 percent of the Bid Amount.

B. Endorse the certified check in the name of the Owner.

C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

D. Include the cost of bid security in the Bid Amount.

E. If no contract is awarded, all security deposits will be returned.

6.02 PERFORMANCE ASSURANCE

A. Accepted Bidder:
   1. Provide a Performace Bond
   2. Provide a Payment Bond
   3. Provide a Schedule of Values
   4. Provide a Construction Schedule

B. Include the cost of Performance and Payment Bonds in the Bid Amount.

6.03 INSURANCE

A. Provide an executed "Undertaking of Insurance" letter on official letterhead provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents. This is nothing more than a letter. There is no special form required. The intent is to assure the Owner that the Bidder is capable of obtaining insurance coverage requirements set forth herein for this specific project.

6.04 NON COLLUSIVE AFFIDAVITT

A. Bids shall be accompanied with 004105 Form of Non Collusive Affidavit.

6.05 CONTRACTOR'S LICENSE

A. Bids shall be accompanied with a current proof of contractor's state license.

6.06 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

6.07 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows:
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.
   2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature.
   3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law

resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.

6.08 ADDITIONAL BID INFORMATION

A. Upon request by the Architect, the selected Bidder shall within seven days thereafter submit the following:
   1. A schedule of values for each major item of work included in the bid.
   2. A list of the work to be performed by the Bidder with his own work forces.
   3. A list of Subcontractors or other persons or organizations proposed for use on this project. The Bidder will be required to establish to the Architect, Owner and the Owner's Representative the reliability and responsibility of the proposed Subcontractors to furnish and perform the work. Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner, Architect, and the Owner's Representative must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner, Architect and Owner's Representative.

6.09 SELECTION AND AWARD OF ALTERNATES

A. Bids will be evaluated on the total of the base bid price and any combination of the Alternates. After determination of the successful bidder, consideration will be given to which Alternates will be included in the Work.

6.10 QUALIFICATION OF BIDDERS

A. If required, a Bidder shall submit to the Architect a properly executed Contractor's Qualification Statement AIA Document A305, within five (5) days from request.

B. The successful low bidder(s) will have to meet the following criteria to the Owners' satisfaction, prior to award of bid. Failure to do so may result in the rejection of the defaulting Contractors' Bid.
   1. The Contracting Company's ability to perform the designated scope of work.
   2. Qualified personnel and adequate work force capable of completing the specified project Work.
   3. Satisfactory construction plan.
   4. Satisfactory safety plan and work history related to safety and reportable OSHA related incidences.
   5. Successful completion of a similar project and no documented letters of dissatisfaction from similar owners.

C. Independent Contractor Status: It is understood and agreed that the contractor is an independent Contractor and not an employee of the Owner and that the Contractor shall be responsible for all necessary licenses, federal and state taxes, liability insurance, worker's compensation coverage and other obligations imposed upon him and his employees as an independent Contractor under applicable laws, rules and regulations.

D. Indemnity to the Owner: It is understood and agreed that the Contractor shall hold the Owner harmless and indemnify the Owner against any losses, damages, or liabilities resulting from the performance of the aforesaid services by said Contractor. Contractor shall be responsible for all employee withholding, payroll and FICA taxes, and shall maintain any and all Worker's Compensation Insurance on its laborers as required by law and shall hold the Owner harmless from all claims, if any, concerning Contractor's employees or subcontractors.

E. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the scope of Work. Conditional bids will not be accepted. The Owner may consider either of the following reasons as being sufficient for the disqualification of a bidder and the rejection of the bidder's proposal:

1. Submission of more than one proposal for the same work from an individual, partnership, firm or corporation under the same or different name(s),
2. Evidence of collusion among bidders. Participants of such collusion may be disqualified for future Work of the Owner, and
3. If the Bidder has been placed in default on another project with the Owner.

6.11 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

6.12 ACCEPTANCE/ REJECTION OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. The Bidder acknowledges the right right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to furnish required bid security or to submit the data required by the bidding documents, or if the bid is in any way incomplete or irregular. Each actual or prospective bidder agrees to waive any claim it has or may have against the Owner, or against the Architect, or against the Owner's Representative, and their respective employees and agents, arising out of or in connection with the bidding process specifically including the receipt, evaluation, recommendation, and administration of any bid.

C. The Owner intends to award a Contract to the lowest and best Bidder within available funds, based on the sum of the base bid plus accepted alternates, if any. A bidder may be disqualified for any legally permissible reason. In making award, the Owner reserves the right to consider a bidder's experience, quality of previous work, availability of appropriate financial, material, facility, managerial or personal resources, warranties, life cycle cost and any other legal factors related to evaluating the bidder's capability to perform contract requirements in a timely and proper manner.

D. The Owner reserves the right to cancel the award of a contract any time prior to the execution by all parties without liability against the Owner.

E. Any protest from any bidder must be delivered to the Owner in writing within seventy-two (72) hours of bid opening.

F. Any claim of error and request to be released from the bid by any bidder must be delivered to the Owner within twenty-four (24) hours of bid opening. Sufficient documentation and proof must accompany this written request clearly showing an error was made by the bidder.

G. The Contract will provide for Liquidated Damages in the amounts indicated on the Bid Form. Amounts indicated are to be paid per day by the Contractor for this Project to the Owner for each calendar day after the date of substantial completion.

H. After acceptance by Owner, Engineer/Architect on behalf of Owner, will issue to the successful bidder, a written Notice To Proceed.

6.13 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

A. The successful Bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within seven (7) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the difference between his bid and the next acceptable bid, up to the maximum amount of the Bid Security.

B. Refer to the Bid Form for the Amount and Time Frame for the Liquidated Damages.

6.14 TIME OF COMPLETION

A. Bidder must agree to commence work on a date to be specified in a written "Notice to Proceed" and to substantially complete the Work within the number of calendar days indicated on the bid form.

B. Bidders shall substantially complete all the work involved in its contract within the calendar days stated and shall be subject to damages for each calendar day of delay thereafter in accordance with the General Conditions of the Contract for Construction.

END OF SECTION

SECTION 004000
PROCUREMENT FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the procurement requirements.

B. Bid Form: Section 004100 - Bid Form.

C. Procurement Form Supplements:
   1. Certificate of Responsibilty Number: Required on the Outside of the Envelope
   2. Bid Bond Form: AIA A310. Required to be submitted with the Bid.
   3. Proposed Schedule of Values Form: AIA G703. This does not have to be submitted with the bid, but must be provided to the Architect within seven (7) if so requested.
   4. Form of Non Collusive Affidavit: 004105 Form of Non Collusive Affidavit. Required to be submitted with the Bid.

1.02 REFERENCE STANDARDS

A. AIA A310 - Bid Bond 2010.

B. AIA G703 - Continuation Sheet 1992.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. Jackson County School District (Owner)
4700 Col VIckrey Rd.
Vancleave, MS 39564

1.02 FOR:

A. Project Name: St. Martin East and North Elementary Roofs

B. Architect's Project Number: 0155.23.001

C. Project Address:
St. Martin East Elementary - 7508 Rise Farm Road, Ocean Springs, MS 39564
Project Location City, Project Location StateProject Location ZIP

1.03 DATE: _____

1.04 CERTIFICATE OF RESPONSIBILITY NUMBER: _____

1.05 SUBMITTED BY:

A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip _____

1.06 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by MP Design Group for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work, within the time set forth herein for the Sum of:

B. **BASE BID LUMP SUM PRICE:**

_____
_____ dollars
($_____), in lawful money of the United States of America.

C. We have included the required security Bid Bond as required by the Instruction to Bidders.

D. We have included the required Non Collusive Affidavit Form as required by the Instructions to Bidders.

E. We have included the cost of the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.

F. We have included the cost of all local jurisdiction building permits required to complete the construction of this project in our Base Bid amount unless specifically called for otherwise in Section 012100 Allowances.

G. All applicable federal taxes are included and State of Mississippi taxes are included in the Bid Sum.

H. All Cash and Contingency Allowances described in Section 012100 - Allowances are included in the Bid Sum.

1.07 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we will:
   1. Furnish the required bonds within seven days of receipt of Notice of Award.
   2. Commence work within seven days after written Notice to Proceed of this bid.

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.08 CONTRACT TIME

A. Complete the Work in 180 calendar days from Notice to Proceed.

B. If the Substantial Completion date falls beyond the above date based on days, we will pay to the Owner the following amount as liquidated damages, not as a penalty, for each calendar day of delay for the Project until the actual date of Substantial Completion of the Project:

   ***** UP TO $500.00 PER CALENDAR DAY *****

1.09 CHANGES TO THE WORK

A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
   1. Ten percent overhead and profit on the net cost of our own Work;
   2. Ten percent on the cost of work done by any Subcontractor.

1.10 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.
   3. Addendum # _____ Dated _____.
   4. Addendum # _____ Dated _____.
   5. Addendum # _____ Dated _____.

1.11 BID FORM SUPPLEMENTS

A. The following information is to be included with Bid submission:
   1. Non Collusive Affidavit
   2. Bid Bond: Form AIA Document A310
   3. Letter from Insurance Company
   4. Proof of Mississippi license

B. If so requested by the Architect, we agree to submit the following Supplements to Bid Forms within 7 days after submission of this bid for additional bid information:
   1. Proposed Schedule of Values Form

1.12 BID FORM SIGNATURE(S)

A. The Corporate Seal of

B. _____

C. (Bidder - print the full name of your firm)

D. was hereunto affixed in the presence of:

E. _____

F. (Authorized signing officer, Title)

G. (Seal)

H. _____

I. (Authorized signing officer, Title)

1.13 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

SECTION 004105
FORM OF NON COLLUSIVE AFFIDAVIT

PART 1 GENERAL

1.01 FORM OF NON-COLLUSION AFFIDAVIT IS AS FOLLOWS:

A. A copy of the Non-Collusion Affidavit is attached to the end of this Section. It will be the General Contractor's (Bidders) responsibility to complete this form in its entirety and submit it with and in his bid package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DESIGN GROUP
ARCHITECTURE + ENGINEERING

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

NON-COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he/she has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He/She further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee gift, commission or thing of value on account of such sale.

OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated this ____ day of _____, _____

_____
General Contractor (GC) Company Name

_____ _____
Printed Name and Title of GC's Representative Signature of GC's Representative

NOTARY PUBLIC ACKNOWLEDGEMENT

STATE OF _____ COUNTY OF _____

Before me, a Notary Public, personally appeared the above named and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to me this _____ day of _____, _____.

_____
Signature

My Commission Expires: _____

SEAL

SECTION 004325
SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

PART 1 GENERAL

1.01 SUBSTITUTION REQUEST FORM IS AS FOLLOWS:

A. A copy of the Substitution Request Form that must be used is attached at the end of this section.
   1. No other forms will be allowed.
   2. Any additional information that can be provided to substantiate the substitution request will be gladly accepted.
   3. An incomplete Substitution Request Form will be immediately rejected.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DESIGN GROUP
ARCHITECTURE + ENGINEERING

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project:_____

Specification Section Number and Paragraph: _____

Contract Drawings Affected: _____

Proposed Manufacturer: _____

Proposed Product Substitution:_____

Proposed Product Description: _____

EFFECTS OF PROPOSED PRODUCT SUBSTITUTION

PROVIDE THE FOLLOWING:

1. Attach list of at least 3 projects where proposed substitution has been used within past 6 to 12 months include name, address, and telephone number of Owner and Architect.

2. Does substitution affect dimensions indicated on Drawings? (Y/N) _____

3. Does substitution affect Work of other Specification Sections? (Y/N) _____

4. Does substitution require modifications to design, changes to Drawings, or revisions to specifications? (Y/N) _____

CONTRACTOR'S / BIDDER'S RESPONSIBILITY

Undersigned accepts responsibility for coordination of proposed substitution and accepts all additional costs resulting from the incorporation of proposed substitution into the Project per Section 01600. The only response to this Request for Substitution will be by Addendum.

SUBMITTED BY

(Include name, address, telephone, and contract person of manufacturer/supplier of proposed substitution)

Contact Name:_____

Contact Address:_____

Contact Telephone:_____

Signature and date:_____

ARCHITECT / ENGINEER REVIEW

Reviewed by:_____ Date: _____

Comments:_____
_____
_____
_____

_____

SECTION 005000
CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 005200 - Agreement Form for the Agreement form to be executed.

B. See Section 007200 - General Conditions for the General Conditions.

C. The Agreement is based on AIA A101.

D. The General Conditions are based on AIA A201.

1.02 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in Contract Documents.

B. Bond Forms:
   1. Bid Bond Form: AIA A310.
      a. Must be submitted with the Bid Form.
   2. Performance and Payment Bond Form: AIA A312.
      a. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.
      b. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3 l 2.
      c. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.
      d. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.
      e. All bonds must be accompanied by an appropriate Power of Attorney.

C. Post-Award Certificates and Other Forms:
   1. Architect's Submittal Transmittal Letter Form: Attached at the end of this section.
   2. Schedule of Values Form: AIA G703.
   3. Application for Payment Forms: AIA G702 with AIA G703 (for Contractors).

D. Clarification and Modification Forms:
   1. Architect's Request for Interpretation Form: Attached to the end of this section.
   2. Architect's Substitution Request Form (During the Bidding/Negotiating Stage): Attached at the end of this section.
   3. Architect's Supplemental Instructions Form: AIA G710.
   4. Construction Change Directive Form: AIA G714.
   5. Change Order Form: AIA G701.

E. Closeout Forms:
   1. Certificate of Substantial Completion Form: AIA G704.
   2. Affidavit of Release of Liens Form: AIA 706A.

1.03 REFERENCE STANDARDS

A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum 2017.

B. AIA A201 - General Conditions of the Contract for Construction 2017.
C. AIA A310 - Bid Bond 2010.
D. AIA A312 - Performance Bond and Payment Bond 2010.
E. AIA G701 - Change Order 2017.
F. AIA G702 - Application and Certificate for Payment 1992.
G. AIA G703 - Continuation Sheet 1992.
H. AIA G704 - Certificate of Substantial Completion 2017.
I. AIA G710 - Architect's Supplemental Instructions 2017.
J. AIA G714 - Construction Change Directive 2017.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project Name:

Project Number:

RFI Number	Submitted To	Submitted By	Copies To
Date			

Subject	Discipline	Co-Author

Specification Section	Drawing Reference	

Information Requested (suggest solution, if possible):	Date Requested:

Response

By responding to the RFI, we do not agree to any additional costs and/or time. Any additional costs and/or time shall be submitted in accordance with the Contract Documents.

Date Answered: Answered By:

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

SUBMITTAL IDENTIFICATION

Submittal No. _____

Contractor to Complete

Project Name: Biloxi Misc. Athletic Projects

MP Project Number: 0148.21.002

General Contractor: Starks Contracting Co., Inc.

Submittal Subcontractor: _____

Date Submitted to MP: _____

Specification Number: _____

Specification Description: _____

_____

Architect/Engineer to Complete

Date Returned: _____

Method Returned: Online Via Procore

Returned To: Chistopher Gutterrez; Starks Construction Co., Inc.

SECTION 005200
AGREEMENT FORM

PART 1 GENERAL

1.01 FORM OF AGREEMENTS ARE AS FOLLOWS:

A. Standard Form of Agreement Between Owner and Contractor, American Institute of Architects Document A101, 2017 Edition will be used for the Contract.

B. Standard Form Insurance and Bonds, American Institute of Architects Document A101, 2017 Exhibit A will be used for the Contract.

C. Prospective bidders should read and understand the Agreement forms before submitting bids or executing the Agreement.

D. Draft copies of these Agreements are available at the Architect's office for the Contractor's examination M-F from 8-5. The Agreements are incorporated by reference as though fully written herein.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 006200
INSURANCE AND BONDS

PART 1 GENERAL

1.01 INSURANCE

A. The Contractor is responsible for maintaining the following insurance coverages described herein.

B. **PROPERTY INSURANCE (BUILDER'S RISK)**

1. The Contractor shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a Builder's Risk “all-risks” completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner’s property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

C. **COMMERCIAL GENERAL LIABILITY (CGL) INSURANCE**

1. Commercial General Liability Insurance for the Project shall be written on an occurrence form with policy limits of not less than Two Million Dollars ($2,000,000) each occurrence, Four Million Dollars ($4,000,000) general aggregate, and Two Million Dollars ($2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including:
    a. damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
    b. personal injury and advertising injury;
    c. damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
    d. bodily injury or property damage arising out of completed operations; and
    e. the Contractor’s indemnity obligations under the General Conditions.
2. The Contractor’s Commercial General Liability policy shall not contain an exclusion or restriction of coverage for the following:
    a. Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
    b. Claims for property damage to the Contractor’s Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
    c. Claims for bodily injury other than to employees of the insured.
    d. Claims for indemnity of the General Conditions arising out of injury to employees of the insured.
    e. Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
    f. Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
    g. Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
    h. Claims related to roofing, if the Work involves roofing.
    i. Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

j. Claims related to earth subsidence or movement, where the Work involves such hazards.
k. Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

D. **AUTOMOBILE LIABILITY INSURANCE**
1. Automobile Liability Insurance covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than One Million Dollars ($1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

E. **EMPLOYERS' LIABILITY INSURANCE (WORKER'S COMP)**
1. Employers' LiabilityInsurance with policy limits not less than One Million Dollars ($1,000,000) each accident, One Million Dollars ($1,000,000) each employee, and One Million Dollar ($1,000,000) policy limit by not less than per statute.

1.02 SECURITY BONDS FOR FAITHFUL PERFORMANCE

A. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.

B. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3l2.

C. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.

D. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.

E. All bonds must be accompanied by an appropriate Power of Attorney.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 007200
GENERAL CONDITIONS

PART 1 GENERAL

1.01 GENERAL CONDITIONS ARE AS FOLLOWS:

A. Standard Form of General Conditions of the Contract for Construction, American Institute of Architects Document A201, 2017 Edition will be used for the Contract.

B. If a conflict exists between the General Conditions and the Specifications, the Specifications shall rule. Any party discovering a conflict between the Specifications and the General Conditions shall immediately notify the Architect in writing.

C. Prospective bidders should read and understand the General Conditions before submitting bids or executing the Agreement.

D. A copy of the Agreement is available at the Architect's office for the Contractor's examination on M-F from 8-5. The Agreement is incorporated by reference as though fully written herein.

END OF SECTION

SECTION 009000
ADDENDA

PART 1 GENERAL

1.01 SUMMARY

A. Any addenda to the drawings or specifications issued before or during the time of bidding shall be included in the proposal and become a part of the Contract.

B. Indicate receipt of addenda on the proposal form.

1.02 PART 2 PRODUCTS (NOT USED)

1.03 PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 011000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: St. Martin East and North Elementary Roofs

B. Owner's Name: Jackson County School District.

1.02 PROJECT DESCRIPTION

A. Description: Refer to Section 000102 Project Information

B. Alternates: refer to Division 1 Section "Alternates" for information.

C. All accessories or incidental items not specifically shown and detailed in the specifications herein, which are necessary and/or required to complete the work within the intent of the specifications, shall be included by the Contractor without additional cost to the Owner.

D. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

1.03 BUILDING PERMITS AND PLAN REVIEW

A. Building Permits:
   1. All Building Permits including all special subcontractor permits will be required for this project.
   2. The General Contractor will be required to apply for and pull all permits in their name.
   3. The General Contractor will be required to pay for all permits. Refer to Allowances section for any specified amount that may be allocated for the paying of said permits. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of all permits in his base bid amount.

B. Plan Review:
   1. The project will be required to go through the plans review process with the Authority Having Jurisdiction (AHJ).
   2. The General Contractor will be required to pay for all plans review fees. Refer to Allowances section for any specified amount that may be allocated for the paying of said plan review. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of the plan review in his base bid amount.
   3. The General Contractor will be responsible for providing and paying for all hard copy sets of plans and specifications required by the AHJ for their completion of the plan review process.

1.04 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings.

B. Scope of alterations work is indicated on drawings.

1.05 GENERAL INFORMATION

A. All work shall be performed in a professional manner and workmanlike manner.

B. Submittals: Submittals shall be submitted in accordance with Division 1 Section "Submittals".

C. Scheduling: The contractor shall prepare a construction schedule showing each construction activity, based on the project specification divisions, prior to starting work.

D. The Contractor will be expected to cooperate with the Owner and his representative in pursuing work continuously and with the highest degree of efficiency possible.

E. The Contractor will be required to finish the job and leave the site in a condition similar to starting project.

F. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additional request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for additional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

G. Storm Damage: Should warnings of winds of gale force or stronger be issued, the Contractor shall take every practical precaution to minimize danger to persons and damage to property. These precautions shall be coordinated through the Owner’s Representative and shall include closing all openings; removing all loose materials, tools, and equipment from exposed locations; as well as removing or securing scaffolding and other temporary work.

H. Interruption of Utility Service: Interruptions to utility services shall be minimized. Necessary outages shall be coordinated with the Owner a minimum of 10 days in advance of the planned outage.

1.06 OWNER OCCUPANCY/WORKING CONDITIONS

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Workmen shall be limited to the use of only those areas necessary to perform the work.

C. Owner intends to occupy the Project upon Substantial Completion.

D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

E. The Contractor shall take all necessary and prudent safety precautions to ensure the safety of the workforce and other exposed personnel.

1.07 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas permitted by Law, Ordinances, Permits, and Contract Documents..

B. Provide access to and from site as required by law and by Owner:
   1. Do not obstruct roadways, sidewalks, or other public ways without permit and/or permission by Owner.
   2. Deliveries and access/exit to project site is not available during the student drop off/unloading and student pick up/unloading times in the morning hours of 7:15 a.m. to 8:00 a.m. and during the afternoon hours of 3:15 to 4:00 p.m. General Contractor shall coordinate with Owner and not schedule or maneuver equipment during this time to obstruct traffic flow of buses and parents entering/exiting the school grounds during these time frames.

C. Existing building spaces and portions of site occupied by Owner for daily use may not be used for storage.

D. Contractor shall not unreasonably encumber site with materials or equipment.

E. Contractor shall assume full responsibility for protection and safe-keeping of products sorted on premises.
   1. Move any stored materials/products which interfere with operations of other Contractors.
   2. Obtain and pay for, use of additional storage or work areas needed for operations.
   3. Refer to Division 1 Section "Temporary Facilities and Controls" for additional information.

F. No Smoking (Tobacco) Policy:
   1. Smoking and other tobacco products including vaping are prohibited within and outside of all buildings. This applies to **ALL** buildings including the project site during all times of construction.

G. No Weapons Policy:
   1. No deadly weapons of any kind are permitted on the property.

H. No Alcohol Policy:
   1. No alcoholic beverages of any kind are permitted on the property.

I. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the existing surrounding building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 005000 - Contracting Forms and Supplements: Forms to be used.

B. Section 007200 - General Conditions.

C. Section 012100 - Allowances.

1.03 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Engineer/Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization, bonds and insurance, and allowances .

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Forms filled out by hand will not be accepted.

C. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

D. Notarize certification by signature of authorized officer.

E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

G. Submit one electronic and three hard-copies of each Application for Payment.

H. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 013000.
   2. Construction progress schedule, revised and current as specified in Section 013000.
   3. Allowance Tracking Report/Spreadsheet
   4. Current construction photographs specified in Section 013000.
   5. Partial release of liens from major subcontractors and vendors.
   6. Back up information and pictures will be required for stored materials.
   7. Monthly OAC Meeting agenda and Meeting minutes.

I. When Engineer/Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Engineer/Architect will issue instructions directly to Contractor.

B. For other required changes, Engineer/Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Engineer/Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change Contractor shall prepare and submit a fixed price quotation within 7 days.

D. Contractor may propose a change by submitting a request for change to Engineer/Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Engineer/Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Engineer/Architect.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

G. Execution of Change Orders: Engineer/Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

END OF SECTION

SECTION 012100
ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. This Section sets forth the following allowances to be included in the Contract:
   1. Contingency Allowance

1.02 ALLOWANCE CONDITIONS AND REQUIREMENTS

A. The Contractor shall include in his Base Bid the cash and/or material allowances as described hereinafter for the purchase of materials as described or as to be determined herein.

B. Purchase products under allowance as directed by Architect/Engineer or as specified herein.

C. All specified allowances shall appear as a seperate line item amount, matching the amount specified herein, on the contractor’s AIA Document G703, Schedule of Values.

D. Use of any allowance shall be specifically authorized in writing upon approval by authorized Owner Representative AND the Architect. A final accounting of all contingency funds used will be made by issuance of a change order at the end of the project.

E. At close-out of Contract, funds remaining in Allowances will be credited to owner by Change Order. In addition to the balance of the allowance all applicable costs for overhead, profit, bond, insurance and taxes will be added to the allowance change order credit. Overhead amounts that can be clearly documented as being expended over the course of the project will be excluded from this added amount to the allowance credit. Refer to AIA A201 General Conditions for further information.

F. Contractor shall solicit a minimum of three (3) quotes for material and labor to be performed under all allowances.

G. General Contractor's overhead, profit, bond, insurance, and tax amounts or any other additoinal costs CANNOT be included in these proposals or the final proposal. The General Contractor's overhead, profit, bond, insurance, and tax amounts in relation to all allowances shall be included in the General Contractor's Base Bid amount. In addition, the GC's Base Bid included overhead amounts allocated to these allowances shall include all GC associated costs, whether direct or indirect, that may be tied to any and all additional work required. These items shall include but are not limited to the following:
   1. Additional Man Hours (both standard and overtime)
   2. Drive Time
      a. Vehicle maintenance or wear and tear
      b. Fuel Costs
      c. Research
      d. Paperwork
      e. Phone Calls
      f. Equipment Rental

H. Sub Contractor's costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts.
   1. Net cost of product
   2. Delivery to site
   3. Installation
   4. Labor
   5. Insurance
   6. Payroll
   7. Taxes

8. Bonding
9. Sub Contractor's Overhead and Profit (O&P).
10. Equipment Rental

I. Engineer/Architect Responsibilities:
1. Consult with Contractor for consideration and selection of products, suppliers , and installers.
2. Select products in consultation with Owner and transmit decision to Contractor.
3. Prepare Change Order.

J. Contractor Responsibilities:
1. Assist Engineer/Architect in selection of products, suppliers , and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

K. Differences in costs will be adjusted by Change Order.

1.03 ALLOWANCE SCHEDULE:

A. **General Contingency Allowance:**
1. In addition to the work shown on the contract documents, the contractor shall include in the base bid contract amount the following lump sum cash allowance amount:
a. Sixty Thousand Dollars ($60,000).

1.04 SELECTION/DELIVERY/INSTALLATION PROCESS

A. Architect shall consult with Contractor in coordination of products and suppliers and shall make selection of products to be used.

B. Contractor shall assist Architect in determining qualified suppliers, obtain proposals from suppliers for Architect's review, and enter into purchase agreement with designated supplier chosen.

C. Contractor is responsible for arranging delivery, unloading and inspecting products for damage and defects.

D. Contractor shall comply with requirements of referenced specification section for installation and/or install per Manufacturer's recommendations.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Engineer/Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Section 002113 - Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing the form included in this project manual. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form attached to this project manual. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Engineer/Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Engineer/Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Engineer/Architect will notify Contractor in writing of decision to accept or reject request.
   1. Engineer/Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Progress meetings.

D. Contractor Driven Site Meetings or Site Inspections.

E. Construction progress schedule.

F. Progress photographs.

G. Coordination drawings.

H. Submittals for review, information, and project closeout.

I. Number of copies of submittals.

J. Requests for Interpretation (RFI) procedures.

K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 016000 - Product Requirements: General product requirements.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COLLABORATION SOFTWARE

A. Summary
   1. The Contractor will be required to utilize a web based construction project management collaboration software to submit, track, distribute and collaborate on project documentation and action items.
   2. The intent of utilizing a web based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.

B. Software
   1. General Contractor will be required to use Procore (www.procore.com)
   2. Access to said software be provided by the Architect/Engineer at no cost to the General Contractor.
   3. If unfamiliar, the Architect/Engineer's staff will assist the General Contractor in using the software or they will provide the resources necessary for the General Contractor to understand how to use the software.

C. Architect/Engineer Responsibilities
   1. Upload signed/stamped drawings and any subsequent Architect/Engineer driven changes or revisions to the drawings.
   2. Upload signed/stamped specifications and any subsequent Architect/Engineer driven changes or revisions to the specifications.
   3. Add Design Team and Onwer Contact Information

4. Uploading all WCPR's as deemed necessary by the Architect/Engineer.
5. Uploading all ASI's as deemed necessary by the Architect/Engineer.
6. Uploading all contracts as deemed necessary by the Architect/Engineer.
7. Creation of set distribution lists to the design team and Owner only.
8. Creation of Defficiency Reports as deemed necessary by the Architect/Engineer.
9. Site Visit Reports as deemed necessary by the Architect/Engineer.

D. Contractor's Responsibilities:
   1. Do not remove people from a set distribution list that preloads on RFIs and Submittals; only add to it.
   2. Make sure attachments actually attach in all RFIs, Submittals, and transmittals. Transmittals mostly because they have to select the ‘ADD’ button once the attachment is uploaded.
   3. Provide us with a Subcontractor list so that they are able to easily distribute information to their subs via Procore.
   4. Submittals must be created in the software:
      a. Submittal titles must be by specification section. Grouping multiple specification sections into one submittal will result in immediate rejection.
      b. The Contractor will be responsible for submitting all RFIs and Submittals through the software and assigning them to the appropriate parties.
      c. Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the software, including all relevant attachments.
      d. The Contractor will distribute responses to all affected subcontractors and confirm agreement with the response by closing the item.
      e. GC is the only one to create submittals. They will create them on behalf of their subs when needed. The subs should never create the submittal themselves.
      f. Once a submittal is labeled as ‘Reject and Resubmit’ the GC needs to close it out and create the revision as a completely new submittal. Never create the revision WITHIN the original submittal.
      g. Distribute and CLOSE all submittals once you have received a sufficient review/response from the Architect/Engineer.
      h. Be sure to select a spec section for submittals.
   5. Project Schedules must be uploaded to the software in one of the follwoing accepted formats:
      a. Microsoft Project
      b. Primavera P3
      c. Primavera P6
      d. Asta Powerpoint
   6. Emails must be generated in the software
   7. Daily Logs must be created in the software
   8. RFI's must be created in the software
   9. All project photos must be uploaded to the software

3.02 PRECONSTRUCTION MEETING

A. Engineer/Architect will schedule a meeting within 7 days after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Engineer/Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.

3. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
5. Owners requirements and work constraints.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
1. Contractor.
2. Owner.
3. Engineer/Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 CONTRACTOR DRIVEN SITE MEETINGS AND PROJECT INSPECTIONS

A. All site inspections, site visits, site meetings, etc.… not previously scheduled, which are required for any reason, arranged, or scheduled by the general contractor, or any of the project’s subcontractors, venders, suppliers, etc.... that require the involvement of any employee of MP Design Group or any consultant of MP Design Group shall be arranged and finalized in writing at least forty-eight (48) hours in advance with MP Design Group.

3.05 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 7 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 3 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.06 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
   2. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 016000 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
   4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Engineer/Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date, and requested reply date.
   5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Maintain on the Electronic Document Submittal Service.

G. Review Time: Engineer/Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
   4. Notify Engineer/Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.07 SUBMITTAL SCHEDULE

A. Submit to Engineer/Architect for review a schedule for submittals in tabular format.
   1. Submit at the same time as the preliminary schedule specified in Section - 013216 - Construction Progress Schedule.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. The contractor who prepared the submittals for review must represent that they are licensed and qualified to perform the work in the submittal, and said work is in full compliance with applicable codes.

C. Stamping the Submittals: The General Contractor is not required to stamp the submittal prior to submission to the Architect/Engineer for their review. However; it is highly encouraged, and if there is no General Contractor review stamp on a submittal then by default the General Contractor has agreed with the following statement:
   1. Acceptance is for general compliance with the contract documents only. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques for construction; coordinating its work with that of all other trades; and performing its work in a safe and satisfactory manner.

D. The contractor agrees that all submittals have been reviewed by the Architect and/or Engineer only for conformance with the design concept of the project and with the information delineated in the contract drawings and specifications. A returned review whether marked as "No Exceptions" or "Exceptions as Noted" does not waive any provisions of the contract documents. Contractor shall verify all details, dimensions and quantities, and coordinate with the work of other trades. Architect and/or Engineer's review of a submittal shall not relieve the contractor from responsibility for deviations, errors, or omissions in the shop drawings or submittals.

E. Samples will be reviewed for aesthetic, color, or finish selection.

F. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Transmit using approved form.
      a. Use Contractor's form, subject to prior approval by Engineer/Architect.
   3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
   6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
      a. Upload submittals in electronic form to Electronic Document Submittal Service website.
   7. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 10 working days excluding delivery time to and from the Contractor.
      b. For sequential reviews involving Engineer/Architect's consultants, Owner, or another affected party, allow an additional 7 working days.

8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
9. When revised for resubmission, identify all changes made since previous submission.
10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

B. Product Data Procedures:
1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Do not submit (Material) Safety Data Sheets for materials or products.
4. Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be immediately rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
4. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Typical drawings, unless they specifically apply to the project, will be immediatly rejected.**

D. Samples Procedures:
1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
a. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
b. **All submisions for the chosing of a products color must be physical samples indicating the products true and final color.** Digital and or printed samples will not be accepted.

E. Transmit each submittal with a copy of approved submittal identification form.

F. Contractor bears responsibility for all additional costs or work associated with work performed or materials installed prior to a returned apporved submittal.

3.12 SUBMITTAL REVIEW

A. Submittals for Review: Engineer/Architect will review each submittal, and provide no exceptions, or take other appropriate action.

B. Submittals for Information: Engineer/Architect will acknowledge receipt and review. See below for actions to be taken.

C. Engineer/Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Engineer/Architect's actions on items submitted for review:
1. No Exceptions
a. Purchase, Fabrication, delivery, and/or installation may take place.

2. Exceptions as Noted
    a. Contractor's option to resubmit. However; all mark ups must be incorporated in the construction whether acknowledged in a resubmittal or not.
3. Revise and Resbubmit
    a. Must be resubmitted
4. Incomplete Submittal
    a. Must be resubmitted
5. Submit Specified Item
    a. Must be resubmitted
6. Submittal Rejected
    a. Must be resubmitted

E. Engineer/Architect's and consultants' actions on items submitted for information:

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.
B. Quality assurance.
C. References and standards.
D. Testing and inspection agencies and services.
E. Contractor's construction-related professional design services.
F. Contractor's design-related professional design services.
G. Control of installation.
H. Mock-ups.
I. Tolerances.
J. Manufacturers' field services.
K. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2019).
B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.
C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2022a.
D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.
E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.
F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.
G. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.
H. **CIRCLE ONE: ADDITIVE ALTERNATE DEDUCTIVE ALTERNATE**

1.03 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.
B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
    1. Temporary sheeting, shoring, or supports.
    2. Temporary bracing.

1.04 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.
B. Base design on performance and/or design criteria indicated in individual specification sections.
C. Scope of Contractor's Professional Design Services: Provide for the following items of work:
    1. Structural Design of Steel Trusses: As described in Section 054400 - Cold-Formed Steel Trusses.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer/Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Engineer/Architect, provide interpretation of results.

C. Certificates: When specified in individual specification sections or by code, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer/Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Erection Drawings: Submit drawings for Engineer/Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

1.07 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Engineer/Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner shall employ and pay for services of an independent testing agency to perform specified testing and inspection. General contractor shall coordinate required testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Owner Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
   2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
   3. Laboratory: Authorized to operate in the State in which the Project is located.
   4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
   5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Engineer/Architect will use to judge the Work.

C. Integrated Exterior Mock-ups: Construct integrated exterior mock-up as indicated on drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.

D. Notify Engineer/Architect seven (7) working days in advance of dates and times when mock-ups will be constructed.

E. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

F. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

G. Obtain Engineer/Architect's approval of mock-ups before starting work, fabrication, or construction.
   1. Engineer/Architect will issue written comments within five (5) working days of initial review and each subsequent follow up review of each mock-up.
   2. Make corrections as necessary until Architect's approval is issued.

H. Engineer/Architect will use accepted mock-ups as a comparison standard for the remaining Work.

I. Where mock-up has been accepted by Engineer/Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Engineer/Architect.

2.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

2.04 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of Work or products.
   6. Perform additional tests and inspections required by Engineer/Architect.
   7. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.

5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

2.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Engineer/Architect, it is not practical to remove and replace the work, Engineer/Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 014100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project that all work shall comply with are as follows:

B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice current edition.

C. 28 CFR 36 - Nondiscrimination by Public Accommodations and in Commercial Facilities; Final Rule; Department of Justice current edition.

D. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.

E. 49 CFR 37 - Transportation Services for Individuals with Disabilities (ADA) current edition.

F. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

G. 29 CFR 1910 - Occupational Safety and Health Standards Current Edition.

H. City of Biloxi Land Development Ordinance

I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

J. Building Code: ICC (IBC) - International Building Code 2018.

K. Plumbing Code: ICC International Plumbing Code 2018.

L. Mechanical Code: ICC International Mechanical Code 2018.

M. Fuel Gas Code: ICC Fuel Gas Code 2018.

N. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. Elevator Code: ASME A17.1-2016 - Safety Code for Elevators and Escalators.

P. Erosion and Sedimentation Control Regulations: All MS DEQ Guidelines.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

1.02 DEFINITIONS

A. Code or Building Code: AHJ's currently adopted edition of the International Building Code and, more specifically, Chapter 17 - Structural Tests and Inspections, of same.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspection:
   1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
   2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.03 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

B. AISC 360 - Specification for Structural Steel Buildings 2022.

C. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field 2022.

D. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete 2017.

E. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

F. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

G. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel 2018, with Errata (2022).

H. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars 2018, with Amendment (2020).

I. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

J. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
   1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Submit certification that Special Inspection Agency is acceptable to AHJ.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Submit certification that Testing Agency is acceptable to AHJ.

D. Special Inspection Reports: After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Engineer/Architect and one to the AHJ.
1. Include:
a. Date issued.
b. Project title and number.
c. Name of Special Inspector.
d. Date and time of special inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of special inspection.
h. Date of special inspection.
i. Results of special inspection.
j. Compliance with Contract Documents.

E. Test Reports: After each test or inspection, promptly submit at least two copies of report; one to Engineer/Architect and one to AHJ.
1. Include:
a. Date issued.
b. Project title and number.
c. Name of inspector.
d. Date and time of sampling or inspection.
e. Identification of product and specifications section.
f. Location in the Project.
g. Type of test or inspection.
h. Date of test or inspection.
i. Results of test or inspection.
j. Compliance with Contract Documents.

1.05 SPECIAL INSPECTION AGENCY

A. The Owner will pay for and employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code. Contractor shall coordinate testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.06 TESTING AND INSPECTION AGENCIES

1.07 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:
1. Independent firm specializing in performing testing and inspections of the type specified in this section.
2. Accredited by IAS according to IAS AC291.

B. Testing Agency Qualifications:

1. Independent firm specializing in performing testing and inspections of the type specified in this section.
2. Accredited by IAS according to IAS AC89.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
   2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.02 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

A. High-Strength Bolt, Nut and Washer Material:
   1. Verify identification markings comply with ASTM standards specified in the approved contract and to AISC 360, Section A3.3; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

B. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
   1. Snug tight joints; periodic.

C. Structural Steel and Cold Formed Steel Deck Material:
   1. Structural Steel: Verify identification markings comply with AISC 360, Section M3.5; periodic.
   2. Other Steel: Verify identification markings comply with ASTM standards specified in the approved Contract Documents; periodic.
   3. Submit manufacturer's certificates of compliance and test reports; periodic.

D. Weld Filler Material:
   1. Verify identification markings comply with AWS standards specified in the approved Contract Documents and to AISC 360, Section A3.5; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

E. Welding:
   1. Structural Steel and Cold Formed Steel Deck:
      a. Complete and Partial Joint Penetration Groove Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      b. Multipass Fillet Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      c. Single Pass Fillet Welds Less than 5/16 inch (7.94 mm) Wide: Verify compliance with AWS D1.1/D1.1M; periodic.
      d. Plug and Slot Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      e. Single Pass Fillet Welds 5/16 inch (7.94 mm) or Greater: Verify compliance with AWS D1.1/D1.1M; continuous.
      f. Floor and Roof Deck Welds: Verify compliance with AWS D1.3/D1.3M; continuous.
   2. Reinforcing Steel: Verify items listed below comply with AWS D1.4/D1.4M and ACI 318, Section 3.5.2.
      a. Verification of weldability; periodic.
      b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as where it is referenced in older codes. Elements of special structural walls of concrete and shear reinforcement; continuous.

c. Shear reinforcement; continuous.
d. Other reinforcing steel; periodic.

F. Steel Frame Joint Details: Verify compliance with approved Contract Documents.
1. Details, bracing and stiffening; periodic.
2. Member locations; periodic.
3. Application of joint details at each connection; periodic.

3.03 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcing Steel, Including Prestressing of Tendons and Placement: Verify compliance with approved Contract Documents and ACI 318, Sections 3.5 and 7.1 through 7.7; periodic.

B. Reinforcing Steel Welding: Verify compliance with AWS D1.4/D1.4M and ACI 318, Section 3.5.2; periodic.

C. Design Mix: Verify plastic concrete complies with the design mix in approved Contract Documents and with ACI 318, Chapter 4 and 5.2; periodic.

D. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172/C172M, ASTM C31/C31M and ACI 318, Sections 5.6 and 5.8 and record the following, continuous:
1. Slump.
2. Air content.
3. Temperature of concrete.

E. Specified Curing Temperature and Techniques: Verify compliance with approved Contract Documents and ACI 318, Sections 5.11 through 5.13; periodic.

F. Concrete Strength in Situ: Verify concrete strength complies with approved Contract Documents and ACI 318, Section 6.2, for the following.

G. Formwork Shape, Location and Dimensions: Verify compliance with approved Contract Documents and ACI 318, Section 6.1.1; periodic.

3.04 SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION

A. Masonry Structures Subject to Special Inspection:
1. Empirically designed masonry, glass unit masonry and masonry veneer in structures designated as "essential facilities".
2. Engineered masonry in structures classified as "low hazard..." and "substantial hazard to human life in the event of failure".

B. Verify each item below complies with approved Contract Documents and the applicable articles of TMS 402/602.
1. Inspections and Approvals:
a. Verify compliance with the required inspection provisions of the approved Contract Documents; periodic.
b. Verify approval of submittals required by Contract Documents; periodic.
2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction unless specifically exempted by code; periodic.
3. Slump Flow and Visual Stability Index (VSI): Verify compliance as self consolidating grout arrives on site; continuous.
4. Joints and Accessories: When masonry construction begins, verify:
a. Proportions of site prepared mortar; periodic.
b. Construction of mortar joints; periodic.
c. Location of reinforcement, connectors, prestressing tendons, anchorages, etc; periodic.
5. Structural Elements, Joints, Anchors, Protection: During masonry construction, verify:
a. Size and location of structural elements; periodic.

b. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; periodic.
c. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
d. Welding of reinforcing bars; continuous.

6. Grouting Preparation: Prior to grouting, verify:
   a. Grout space is clean; periodic.
   b. Correct placement of reinforcing, connectors, prestressing tendons and anchorages; periodic.
   c. Correctly proportioned site prepared grouts and prestressing grout for bonded tendons; periodic.
   d. Correctly constructed mortar joints; periodic.
7. Preparation of Grout Specimens, Mortar Specimens and Prisms: Observe preparation of specimens; periodic.

3.05 SPECIAL INSPECTIONS FOR SOILS

A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Design bearing capacity of material below shallow foundations; periodic.
   2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
   3. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.
   4. Subgrade, prior to placement of compacted fill verify proper preparation; periodic.

B. Testing: Classify and test excavated material; periodic.

3.06 SPECIAL INSPECTIONS FOR WIND RESISTANCE

A. Cold-Formed Steel Light Frame Construction:
   1. Field welding; periodic.
   2. Screw attachment, bolting, anchoring and other fastening of components within the main wind force-resisting system; periodic

B. Wind Resisting Components:
   1. Roof covering, roof deck, and floor framing connections; periodic.
   2. Exterior wall covering and wall connections to roof and floor diaphragms and framing; periodic.

3.07 OTHER SPECIAL INSPECTIONS

A. Provide for special inspection of work that, in the opinion of the AHJ, is unusual in nature.

3.08 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   1. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified reference standards.
   3. Ascertain compliance of materials and products with requirements of Contract Documents.
   4. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
   5. Perform additional tests and inspections required by Engineer/Architect.
   6. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.

3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.09 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:
1. Test samples submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
6. Perform additional tests and inspections required by Engineer/Architect.
7. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the work.

C. On instructions by Engineer/Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.

D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.10 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to work to be tested or inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
   c. To facilitate tests or inspections.
   d. To provide storage and curing of test samples.
4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

B. Contractor Responsibilities, Wind Force-Resisting System and Wind Force-Resisting Component: Submit written statement of responsibility for each item listed in the Statement of Special Inspections to AHJ and Owner prior to starting work. Statement of responsibility shall acknowledge awareness of special construction requirements and other requirements listed.

END OF SECTION

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers and enclosures.

D. Vehicular access and parking.

E. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

A. Provide and pay for every utility required to complete construction including but not limited to all electrical power, lighting, water, heating, cooling, sanitary, waste, and ventilation. The General Contractor will be required to continue to pay all costs associated with these temporary utilities until a Certificate of Occupancy has been issued from the Authority Having Jurisdiction to the Ower.

B. Existing facilities may not be used.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.04 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.06 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.07 SECURITY

A. Coordinate with Owner's security program.

1.08 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

G. Do not interupt, alter, or disrupt bus or parent standard drop off or pick up times, procedures, or operations. Coordinate with Owner.

1.09 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

1.11 TEMPORARY STORAGE

A. General Contractor will be required to provide lockable temprary storage as required or necessary to complete the job. Existing facilities will not be allowed to be used for storage of any king.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 016000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

F. Non Asbestos containing materials certification.

1.02 SUBMITTALS

A. Refer to Section 013000 Administrative Requirements for additional submittal requirements not indicated herein.

B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 7 days after date of Agreement of Notice of intent to award, whichever is sooner..
   2. For products specified only by reference standards, list applicable reference standards.

C. Product Data Submittals: Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

D. Shop Drawing Submittals: All shop drawings and details MUST be prepared specifically for this project; indicate all materials, all products, all connections, all dimensions, all utility and electrical characteristics, all utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Product/Company Typical drawings, unless they specifically apply to the project, will be rejected - No Exceptions.**

E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection of product finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
   2. All submisions for the chosing of a products color must be physical samples indicating the products true and final color. Digital, web site links, and or printed samples will not be accepted and will be rejected - no expetions.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Containing lead, cadmium, or asbestos.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
   1. Where more than one manufacturer is specified for one use, the Drawings have been prepared for the one listed first; and building adjustments may be necessary to accommodate the others. The Contractor will be responsible for any changes in the building construction required due to product selection and shall make any such changes to the satisfaction of the Architect.

C. If products are specified by naming one or more manufacturers with a provision for substitutions by "or approved equal" or "equal as approved," then the Bidder shall submit a request for substitution for any manufacturer not named **PRIOR TO BIDDING**. It must be approved by the Architect/Engineer through formal addendum in order for it to be accepted as a substitution.

D. If products are specified by naming one or more manufacturers with a provision for substitutions by "or equal," then the General Contractor after bid award shall submit a request for substitution for any manufacturer not named. After review by the Architect/Engineer, if the substitution manufacturer or product is found not to be equal to those items specified, then the General Contractor will be required to provide those products specified or find an or equal product.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 012500 - Substitution Procedures.

B. Substitution Submittal Procedure:
   1. Submit substitution request at least 10 days prior to bid.
   2. The Architect/Engineer will notify all bidders via addendum of decision to accept a request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to

excessive materials handling and misapplication. See Section 017419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

3.04 PRODUCT CERTIFICATION

A. Submit letter on company letterhead and signed by company executive stating and certifying that "This project (insert project name, description, and location) has been completed and that no asbestos containing materials were found at the project site that were not properly remedied and that no new materials were used or installed that contain asbestos." Final pay application will not be processed until certification is received.

END OF SECTION

SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances , [_____].

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

G. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.

B. Section 015000 - Temporary Facilities and Controls: Temporary interior partitions.

C. Section 078400 - Firestopping.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

1.04 QUALIFICATIONS

A. For asbestos demolition work, employ a firm specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
   2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work,

assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section. A preinstall meeting with the contractor, roofing vendor, and Architect/Engineer will be required.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Engineer/Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Engineer/Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 015000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.

2. Remove items indicated on drawings.
3. Relocate items indicated on drawings.
4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
   b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer/Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer/Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.

J. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 FINAL CLEANING

A. Execute final cleaning after Substantial Completion but before making final application for payment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, and overflow drains.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer/Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Engineer/Architect when work is considered ready for Engineer/Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer/Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer/Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer/Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Engineer/Architect when work is considered finally complete and ready for Engineer/Architect's Substantial Completion final inspection.

H. Complete items of work determined by Engineer/Architect listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than 2 years from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 017800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions and 007300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Engineer/Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer/Architect comments. Revise content of all document sets as required prior to final submission.
   3. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 3 EXECUTION

2.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Record Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.
2. Details not on original Contract drawings.

2.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

2.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
1. Product data, with catalog number, size, composition, and color and texture designations.
2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

2.04 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 024100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 028200 - Asbestos Abatement

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.04 DEFINITIONS

A. Removal of Obstructions: This work shall consists of the removal and satisfactory disposal of all items and obstructions which are not designated to remain. This work also consist of necessary excavation incidental to the removal of structures and obstructions.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
   2. Demolition firm qualifications.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.06 QUALITY ASSURANCE

A. Asbestos Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: See Section 312323.

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove items as indicated on the drawings.

B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 312200.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Use of explosives is not permitted.
   3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   4. Provide, erect, and maintain temporary barriers and security devices.
   5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Asbestos containing materials do occur in the existing Cafeteria Building. Refer to Section 028200 Asbestos Abatement for additional requirements.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.

2. Report discrepancies to Engineer/Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

C. Remove existing work as indicated and required to accomplish new work.
1. Remove items indicated on drawings.

D. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
3. Verify that abandoned services serve only abandoned facilities before removal.
4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
1. Prevent movement of structure. Provide shoring and bracing as required.
2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.05 REPAIR

A. Unless otherwise indicated or directed on the drawings or elsewhere in the specifications, it will be the Contractor's responsibility to patch and repair all surfaces to match adjacent existing conditions where items are removed or altered.

B. Exterior wall repair must not compromise the exsiting drainage plain.

C. Roof repairs must not void or compromise the existing roof waranty.

D. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

3.06 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove materials not to be reused on site; comply with requirements of Section 017419 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Rough opening framing for doors, windows, and roof openings.

B. Roof-mounted curbs.

C. Roofing nailers.

D. Preservative treated wood materials.

E. Miscellaneous framing and sheathing.

F. Communications and electrical room mounting boards.

G. Concealed wood blocking, nailers, and supports.

H. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

C. AWPA U1 - Use Category System: User Specification for Treated Wood 2022.

D. PS 1 - Structural Plywood 2019.

E. PS 2 - Performance Standard for Wood Structural Panels 2018.

F. PS 20 - American Softwood Lumber Standard 2021.

G. SPIB (GR) - Standard Grading Rules 2021.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation. Provide for air circulation around stacks and under coverings.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Southern Yellow Pine or Douglas Fir of following species and grades:
      a. Structural Light Framing: Stress Group 1500 F, #2 Dense KD Grade.
      b. Non-structural framing: Stress Group 1500 F.
   2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.

2.02 DIMENSION LUMBER

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

2.03 CONSTRUCTION PANELS

A. Roof Sheathing, at locations as called for in the drawings: Any PS 2 type, rated Structural I Sheathing.
   1. Edges: Provide with tegular edge OR squared edge with Aluminum H clips.

B. Wall Sheathing, at locations as called for in the drawings.: PS 2 type.
   1. Bond Classification: Exterior.
   2. Grade: Structural I Sheathing.
   3. Span Rating: 16.
   4. Performance Category: 5/8 PERF CAT.
   5. Edge Profile: Square edge.

C. Soffit Sheathing: Any PS 2 Type.
   1. Bond Classification: Exterior
   2. Span Rating: 16.
   3. Performance Category: 5/8" Perf Cat.
   4. Edge Profile: Square Edge.

D. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch (19 mm) thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Provide fasteners of size and type indicated that comply with requirements specified for material and manufacture.
   2. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   3. Nails, Wire, Brads, and Staples: FS FF-N-105.
   4. Power-Driven Fasteners: CABO NER-272.
   5. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
   6. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
      a. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber exposed to weather.
      c. Treat lumber in contact with roofing, flashing, or waterproofing.
      d. Treat lumber in contact with masonry or concrete.
      e. Treat lumber less than 18 inches (450 mm) above grade.
      f. Treat lumber in other locations as indicated on the drawings.
   2. Preservative Pressure Treatment of Plywood/Sheathing Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative to 0.25 lb/cu ft retention (to 4.0 kg/cu m retention).
      a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
      b. Treat plywood in contact with roofing, flashing, or waterproofing.
      c. Treat plywood in contact with masonry or concrete.
      d. Treat plywood less than 18 inches (450 mm) above grade.
      e. Treat plywood in other locations as indicated on the drawings.
   3. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative.
      a. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Fit carpentry work to other work; scribe and cope as requried for accurate fit. Correlate location of furring, nailers, blocking and similar supports to allow proper attachment of other work.

B. Select material sizes to minimize waste.

C. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

D. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

E. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

F. Provide all framing and support members, not indicated or specified, as necessary to properly carry out all work shown and inferred by Drawings and Specifications.

G. Spiking, nailing and bolting shall be done in an approved manner; spikes, nails, and bolts shall be of the proper size, and care shall be used so as not to split the members. Members shall be drilled accurately for bolting; and for nailing where necessary to avoid splitting. Suitable washers shall be provided under bolt head, and nuts and bolts shall be drawn up tight.

H. Provide framing to support all edges of covering material.

I. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.

J. Use fasteners of approprate type and length. Predrill members when necessary to avoid splitting wood.

3.02 PLYWOOD

A. Comply with applicable recommendations contained in Form No. E 304 APA Design/Construction Guide - Residential & Commercial for types of plywood products and applications indicated.

B. Apply sheathing with long dimension (face grain) perpendicular to framing. Apply with side edges 1/4 inch apart and end edges 1/8 inch apart. All end edges of sheathing shall bear on a support. Stagger end joints of roof sheathing.

3.03 INSTALLATION OF CONSTRUCTION PANELS

A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

END OF SECTION

SECTION 075216
STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.01 SUMMARY

A. Work shall include, but is not limited to, the following: Tectum Deck Areas
   1. Remove existing roof system, including all flahsings, down to tectum deck
   2. Preparation of existing tectum roof deck, and all flashing substrates.
   3. Rigid Insulation and Cover Board adhered.
   4. SBS-modified bitumen base ply heat-welded.
   5. Min 60 mil PVC cap sheet heat-weldedadhered
   6. Fully adhered PVC flashings.
   7. Liquid-applied, reinforced flashings.
   8. Edge Metals.
   9. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

B. Work shall include, but is not limited to, the following: Steel Deck Areas
   1. Remove existing roof system, including all flahsings, down to steel deck
   2. Preparation of existing steel roof deck, and all flashing substrates.
   3. Rigid Insulation and Cover Board mechanically fastened
   4. SBS-modified bitumen base ply heat-welded.
   5. Min 60 mil PVC cap sheet heat-weldedadhered
   6. Fully adhered PVC flashings.
   7. Liquid-applied, reinforced flashings.
   8. Edge Metals.
   9. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

1.02 RELATED SECTIONS

A. Division 010000 – General Requirements

B. Division 011000 – Summary of Work

1.03 DEFINITIONS

A. ASTM D 1079-Definitions of Term Relating to Roofing and Waterproofing.

B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.

1.04 REFERENCES

A. AMERICAN SOCIETY OF CIVIL ENGINEERS - Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.

B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
   1. ASTM C 836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
   2. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
   3. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
   4. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
   5. ASTM D 3019 - Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered.

6. ASTM D 3746 - Standard Test Method for Impact Resistance of Bituminous Roofing System.
7. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
8. ASTM D 5147 - Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
9. ASTM D 5849 - Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement)
10. ASTM D 6163 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
11. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
12. ASTM D 7379 - Standard Test Methods for Strength of Modified Bitumen Sheet Material Laps Using Cold Process Adhesive.
13. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
14. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::
   1. ANSI/SPRI/FM 4435/ES-1 Wind Design Standard for Edge System Used with Low Slope Roofing System.
   2. ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.

D. COOL ROOF RATING COUNCIL (CRRC)

E. FACTORY MUTUAL (FM):
   1. FM 4450 - Approval Standard - Class I Insulated Steel Roof Decks.
   2. FM 4470 - Approval Standard - Class I Roof Covers.

F. INTERNATIONAL CODES COUNCIL (ICC):
   1. 2015 International Building Code (IBC).

G. FLORIDA BUILDING CODE (FBC):
   1. 2017 Florida Building Code

H. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA).
   1. UL 790 Standard Test Methods for Fire Tests of Roof Coverings.
   2. UL 1256 – Fire Test of Roof Deck Constructions.

1.05 ACTION SUBMITTALS

A. Product Data Sheets: Submit manufacturer’s product data sheets, installation instructions and/or general requirements for each component.

B. Safety Data Sheets: Submit manufacturer’s Safety Data Sheets (SDS) for each component.

C. Sample warranty from the manufacturer and contractor.

D. Provide roof plan and representative detail drawings.

1.06 INFORMATIONAL SUBMITTALS

A. Submit a letter from the roofing manufacturer indicating the contractor is an authorized applicator.

1.07 CLOSEOUT SUBMITTALS

A. Warranty: Provide manufacturer’s and contractor’s warranties upon project completion.

1.08 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:
   1. Manufacturer shall have 20 years of manufacturing experience.
   2. Manufacturer shall have trained technical service representatives employed by the manufacturer, independent of sales.
   3. Manufacturer shall provide site visit reports in a timely manner.

B. CONTRACTOR QUALIFICATIONS:
   1. Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
   2. Applicators shall have completed projects of similar scope using same or similar materials specified.
   3. Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roofing from beginning through satisfactory project completion.
   4. Applicators shall be skilled in the application methods for all materials.
   5. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
   6. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.

1.09 DELIVERY, STORAGE AND HANDLING

A. Refer to each product data sheet or other published literature for specific requirements.

B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.

C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location. During cold weather, store materials in a heated location, removed only as needed for immediate use.

D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with “breathable” tarpaulins to protect materials from precipitation and to prevent exposure to condensation.

E. Carefully store roof membrane materials delivered in rolls on-end with selvage edges up. Store and protect roll storage to prevent damage.

F. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

1.10 SITE CONDITIONS

A. SAFETY:
   1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.
   2. Heat-welding shall include heating the specified membrane ply using propane roof torches or electric hot-air welding equipment. The contractor shall determine when and where conditions are appropriate to utilize heat-welding equipment. When conditions are determined by the contractor to be unsafe to proceed, equivalent SBS-modified bitumen materials and methods shall be utilized to accommodate requirements and conditions.
   3. Refer to NRCA CERTA recommendations, local codes and building owner’s requirements for hot work operations.

4. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified liquid-applied, or semi-solid roofing materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions.
5. The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

B. ENVIRONMENTAL CONDITIONS:
1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun, cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.
2. Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.
3. Self-adhesive membrane application: During cold weather, store the specified self-adhesive membrane and primer materials in heated storage areas to ensure materials remain no less than 70□F (21□C) during application. Ensure conditions allow primer to remain tacky, but not wet so that primer will not transfer to finger when touched. Self-adhesive primer shall not fully dry and lose tack before applying the self-adhesive membrane. Ensure conditions remain satisfactory to achieve membrane adhesion as specified.
4. Heat-Welding Application: Take all necessary precautions and measures to monitor conditions to ensure all environmental conditions are safe to use roof torches and hot-air welding equipment. Combustibles, flammable liquids and solvent vapors that represent a hazard shall be eliminated. Flammable primers and cleaners shall be fully dry before proceeding with heat-welding operations. Prevent or protect wood, paper, plastics and other such combustible materials from direct exposure to open flames from roof torches. Refer to NRCA CERTA recommendations.

1.11 PERFORMANCE REQUIREMENTS

A. WIND UPLIFT RESISTANCE:
1. Performance testing shall be in accordance with ANSI/FM 4474, FM 4450, FM 4470, UL 580 or UL 1897.
   a. Roof System Design Pressures: Calculated in accordance with ASCE 7, or applicable standard, for the specified roof system attachment requirements.
   b. Roof System must meet or exceed NEED UPLIFT PRESSURES TO ENTER HERE

B. FIRE CLASSIFICATION:
1. Performance testing shall be in accordance with UL 790, ASTM E108, FM 4450 or FM 4470 to meet the 1/2:12 roof slope requirement.
   a. Meets requirements of UL Class A or FM Class A.
2. Performance testing shall be in accordance with UL 1256, FM 4450 or FM 4470 to meet the specified requirements for interior flame spread and fuel contribution.
   a. Meets requirements of UL 1256, or FM Class 1.

C. ROOF SLOPE:

1. Finished roof slope for SBS modified bitumen surfaces shall be 1/8 inch per foot minimum for roof drainage.

D. IMPACT RESISTANCE:
   1. Performance testing for impact resistance shall be in accordance with FM 4450, FM 4470, ASTM D3746 or CGSB 37-GP 56M to meet the specified impact resistance requirements.
      a. Meets requirements for FM-SH (Severe Hail), ASTM D3746, or CGSB 37-GP 56M.

1.12 WARRANTY

A. Manufcaturers warranty must include all components of the roof system including PVC membranes and liquid applied flashings.

B. Manufacturer's No Dollar Limit (NDL) Warranty. The manufacturer shall provide the owner with the manufacturer's warranty providing labor and materials for 20 years from the date the warranty is issued.

C. The contractor shall guarantee the workmanship and shall provide the owner with the contractor's warranty covering workmanship for a period of 2 years from completion date.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. SINGLE SOURCE MANUFACTURER: All SBS modified bitumen membrane and flashing sheets shall be manufactured by a single supplier with 20 years or more manufacturing history in the US.
   1. Comply with the Manufacturer's requirements as necessary to provide the specified warranty.

B. PRODUCT QUALITY ASSURANCE PROGRAM: Manufacturer shall be an ISO 9001 registered company. A 'Quality Compliance Certificate (QCC) for reporting/confirming the tested values of the SBS-Modified Bitumen Membrane Materials will be supplied upon request.

C. ACCEPTABLE MANUFACTURER:
   1. SOPREMA, located at: 310 Quadral Dr.; Wadsworth, OH 44281; Tel: 800-356-3521; Tel: 330-334-0066; Website: www.soprema.us.
   2. Acceptable Alternate Manufacturers: Must submit proof of equivalent testing, physical performance and physical characteristics indicated herein. No exceptions.
   3. ALL manufacturers must provide a 60 mil min PVC waterproofing layer. 60 mil nominal products will not be accepted

2.02 ROOFING SYSTEM

A. ROOFING SYSTEM BASIS OF DESIGN: SOPREMA

2.03 SBS-MODIFIED BITUMEN MEMBRANES

1. BASE PLY, HEAT_WELDED
   a. SOPREMA SOPRALENE 180 SP 3.0: SBS-modified bitumen membrane with plastic burn-off film on the bottom surface and a sanded top surface. Glass fiber reinforcement. Meets or exceeds ASTM D6164, Type I, Grade S, per ASTM D5147 test methods:
      1) Thickness: 118 mils
      2) Width: 39.4 in (1 m)
      3) Length: 32.8 ft (10 m)
      4) Roll weight: 81 lb (36.7 kg)
      5) Net mass per unit area, lb/100 sq ft (g/sq m):
         (a) 75 lb (3662 g)
      6) Peak load @ 0□F (-18□C), lbf/in (kN/m).

(a) MD 115 lbf/in (20.1 kN/m), XMD 90 lbf/in (15.8 kN/m)
7) Elongation at peak load @ 0□F (-18□C), lbf/in (kN/m):
(a) MD 35%, XMD 40%
8) Peak load @ 73.4□F (23□C), lbf/in (kN/m):
(a) MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
9) Elongation at peak load @ 73.4□F (23□C), lbf/in (kN/m):
(a) MD 55%, XMD 60%
10) Ultimate Elongation @ 73.4□F (23□C), lbf/in (kN/m):
(a) MD 65%, XMD 80%
11) Tear Strength @ 73.4□F (23□C), lbf (N):
(a) MD 125 lbf (556 N), XMD 85 lbf (378 N)
12) Low temperature flexibility, □F (□C):
(a) MD/XMD: -15□F (-26□C)
13) Dimensional stability, %:
(a) MD/XMD: Less than 0.5%
14) Compound stability, □F (□C):
(a) MD/XMD: 240□F (116□C)

B. CAP SHEET:
1. PVC CAP SHEET, FULLY ADHERED:
a. SOPREMA SENTINEL PVC P150 HFB: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a heavy fleece back underside.
1) Thickness: 60 mils (1.5 mm)
2) Width: 10 ft (3.0 m)
3) Length: 80 ft (24.4 m)
4) Physical Properties ASTM D4434.
(a) Breaking Strength, lbf/in
(1) 400 (XMD)
(b) Elongation at Break %
(1) 30(XMD)
5) Color: White
(a) PVC FLASHING, ADHERED:
b. SOPREMA® SENTINEL® PVC P150: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a smooth back underside. Mechanically fastened in 6 in (minimum) side-laps. Overall Thickness ASTM D4434 (ASTM D638): 60 mils minimum
(a) Manufacturer shall provide membrane at specified minimum 60 mils
(b) ASTM D4434 +/- tolerance for membrane thickness will not be accepted.
2) Thickness over Scrim (ASTM D7635): 30 mils minimum
(a) Manufacturer shall provide membrane with minimum 30 mils compound thickness above reinforcement/scrim
3) Width: 10 ft (3.0 m)
4) Length: 100 ft (30.5 m)
5) Physical Properties ASTM D4434.
(a) Breaking Strength, lbf/in
(1) 300 (XMD
(b) Elongation at Break - %
(1) 25(XMD)
(c) Tear Strength, lbf
(1) 80 (XMD)

(d) Linear Dimensional Change - %
(1) %
6) Color: white
2. FLASHING SYSTEM, LIQUID-APPLIED:
a. ALSAN Flashing: Asphalt extended urethane liquid resin with needle puched polyester fabric.
b. ALSAN RS 230 FLASH: Polymethacrylate (PMMA) liquid resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully-reinforced waterproofing membrane flashings. All LIQUID-APPLIED flashing shall be manufactured by the single-sourced membrane supplier.
1) VOC Content: No VOC Content.
2) SOPREMA ALSAN RS CATALYST POWDER: Reactive agent added to the liquid resin to induce polymerization.
3) SOPREMA ALSAN RS FLEECE: Polyester reinforcement fabric.
4) Color: White.

2.04 ACCESSORIES

A. RIGID INSULATION
1. SOPREMA SOPRA-ISO: Closed cell polyisocyanurate foam core bonded on each side to a glass fiber-reinforced felt facer.
1) Thickness: 1.5 in minimum board thickness. Total thickness to meet specified insulation system thermal resistance 'R' value
2) Meets or exceeds ASTM C1289, Type II, Class 1, Grade 2 (20 psi).

B. COVER-BOARD
a. SOPREMA SOPRABOARD: Mineral fortified, asphaltic roof substrate board with glass fiber facers. For use as roof cover-board and for vertical flashing substrate. ASPHALTIC ROOF BOARD shall be manufactured by the membrane supplier.
1) Thickness: 1/4 in
2) Dimensions: 4 x 8 ft acceptable for mechanical attachment, insulation adhesive or asphalt application.
3) Water absorption: Less than 1 percent per ASTM D994.
4) Impact resistance: Included in FM Approvals per 4450/4470 for FM Severe Hail (SH) rating.
5) Compressive strength, psi (kPa) measured at 50 percent compression, per ASTM C472:
(a) 1/4 in board: 900lbs
6) Puncture resistance, lbf (N) per ASTM E154:
b. Georgia Pacific DensDeck Prime: ½"
c. National Gypsum Dexcell FA: ½"
d. SOPRASMART BOARD 180 (may be used in lieu of Sopraboard and base ply)
1) Non-woven polyester reinforced SBS modified bitumen membrane base ply factory laminated to 1/8 in thick SOPRABOARD.
2) Dimensions: 3 x 8 ft board dimension.
3) Top Surfacing: SBS-modified bitumen membrane ply with sanded top surface.
4) Side-laps: 3 in DUO-Selvage side-lap consisting of 2 in self-adhesive, and 1 in SBS-modified bitumen for heat welding.
5) End-laps: Butted end-laps, with 1 in membrane overlap. Sealed watertight using SOPRALAP STICK or SOPRALAP SP.
(1) a) 1/8 in board: 90 (400)

C. INSULATION ADHESIVE

(a) POLYURETHANE FOAM INSULATION ADHESIVE

b. SOPREMA DUOTACK 365 or DUOTACK SPF: Two-component, polyurethane foam insulation adhesive, applied in ribbons from cannisters, cartridges or two-component bulk packaging with pump-driven delivery system.
   1) Ribbon size: As required by manufcaturer
   2) Ribbon spacing: As required to meet specified wind uplift resistance performance.
      (a) 12 in on-centers
      (b) 6 in on-centers
      (c) 4 in on-centers

D. PVC MEMBRANE ADHESIVE:
   1. SOPREMA® DUOTACK® SPF: Two-component elastomeric polyurethane adhesive. Formulated to adhere fleece back PVC membranes.
      a. VOC Content: 250 g/L or less.

E. PVC FLASHING ADHESIVE:
   1. SOPREMA SENTINEL S BONDING ADHESIVE: Solvent-based adhesive. Formulated to adhere smooth back PVC flashings.
      a. VOC Content: 199.5 g/L or less.

F. EDGE METALS:
   1. SOPRAMETAL: Fascia, Copings and Expansion Joints pre fabricated and provided by the roof membrane manufacturer. Shop broke or contractor provided edge metals will not ne accepted.
      a. Meets or exceeds ANSI/SPRI ES-1

G. HIGH TEMPERATURE UNDERLAYMENT
   1. LASTOBOND SHIELD HT: Self Adhered membrane to be applied under all edgmetals and expansion joints.
      a. High Temperature Resistance of 240 deg F
      b. Trilaminate facer

H. PRIMERS:
   1. SOPREMA ELASTOCOL 500 Primer: Asphalt cut-back primer. Primer for the preparation of membrane substrates for asphalt, heat-welded, hot asphalt and COLPLY and COLPLY MODIFIED ADHESIVE, solvent-based, cold adhesive-applied and cement applications.
      a. Meets or exceeds ASTM D41
      b. VOC content: 350 g/L or less.
   2. SOPREMA ELASTOCOL STICK Primer: Self-adhesive membrane primer. SBS polymer, resin and, solvent-based primer for the preparation of membrane substrates for self-adhesive SBS membrane and self-adhered SBS flashing applications.

I. GENERAL PURPOSE ROOFING CEMENT AND MASTIC
   1. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 5 gallon pails. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.
      a. VOC Content: 190 g/L or less.
      b. Meets or exceeds ASTM D4586, Type I, Class II.
   2. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 10.4 oz caulk tubes. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.

a. VOC Content: 190 g/L or less.
b. Meets or exceeds ASTM D4586, Type I, Class II.

J. GENERAL PURPOSE SEALANT
1. SOPREMA SOPRAMASTIC SP1: General purpose, paintable, gun-grade, elastomeric, polyether moisture curing sealant for sealing SBS membrane terminations, Kynar 500 PVDF, horizontal and vertical construction joints.
a. VOC Content: 20 g/L or less.
b. Meets or exceeds ASTM C920, Type S, Grade NS, Class 50.
c. Standard color, custom color.
2. SOPREMA SOPRAMASTIC ALU: Modified bitumen mastic, aluminum hued for application to membrane edge and perimeter metal.
a. VOC Content: 270 g/L or less.
b. Standard color.

K. LIQUID-APPLIED REINFORCED FLASHING SYSTEM: (used at penentrations and low flashing heights)
1. ALSAN RS 230 FLASH, Catalyzed polymethacrylate (PMMA) resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully-reinforced waterproofing membrane flashings.
a. VOC Content: No VOC content.
b. SOPREMA ALSAN RS CATALYST POWDER: Reactive agent added to the PMMA liquid resin to induce curing.
c. SOPREMA ALSAN RS FLEECE: Polyester reinforcement fabric.
d. Color: Flash color and finish to match Field.

L. WALKWAY PROTECTION:
1. SOPREMA SENTINEL WALK-WAY PAD: PVC walkway protection mat.
a. Width: 30 in (0.762 m)
b. Length: 50 ft (15.24 m)
c. Color: grey

PART 3 EXECUTION

3.01 EXAMINATION

A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.

B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.

C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.

D. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning.

B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor’s acceptance of conditions.

3.03 PRIMER APPLICATION

A. Examine all substrates, and conduct adhesion peel tests as necessary, to ensure satisfactory adhesion is achieved.

B. Apply the appropriate specified primer to dry, compatible substrates as required to enhance adhesion of new specified roofing materials.

C. Apply primer using brush, roller, or sprayer at the rate published on the product data sheet. Lightly prime for uniform coverage, do not apply heavy or thick coats of primer.

D. Asphalt Primer: Apply primer to dry compatible masonry, metal, wood and other required substrates before applying asphalt and heat-welded membrane plies. Primer is optional for solvent based solvent-based SBS adhesives and cements. Refer to product data sheets.

E. Self-Adhesive Membrane Primer: Apply to dry, compatible substrates as required to enhance adhesion of self-adhesive membrane plies. Ensure self-adhered membrane primer is tacky to-the-touch, but not wet. Primer should not transfer to the finger tips when touched.

F. Project conditions vary throughout the day. Monitor changing conditions, monitor the drying time of primers, and monitor the adhesion of the membrane plies. Adjust primer and membrane application methods as necessary to achieve the desired results.

3.04 HEAT WELDING

A. The Contractor is responsible for project safety. Where conditions are deemed unsafe to use open flames, manufacturer's alternate membrane application methods shall be used to install SBS modified bitumen membrane and flashings. Acceptable alternate installation methods include hot asphalt, cold adhesive-applied, self-adhered membranes and mechanically fastened plies. Hot-air welding equipment may be used in lieu of roof torches to seal membrane side and end laps where heat welding the laps is necessary. Refer to NRCA CERTA, local codes and building owner's requirements for hot work operations.

B. Single or multi-nozzle, hand-held propane roof torches shall be used to install heat-welded membrane and flashing plies. Multi-nozzle carts (dragon wagons) may also be utilized to install membrane plies. Seven (7) nozzle carts are recommended for more uniform heat application in lieu of five (5) nozzle carts.

3.05 SBS MASTIC AND GENERAL PURPOSE ROOFING CEMENT APPLICATION

A. Apply SOPREMA SOPRAMASTIC general purpose SBS mastic and roofing cement to seal drain leads, metal flanges, seal along membrane edge at terminations, and where specified and required in detail drawings.

B. Do not use general purpose SBS mastics and roofing cement where flashing cement applications are required. Do not use SBS mastics and roofing cement beneath SBS-modified bitumen membrane and flashing plies.

C. Apply general purpose SBS mastic and elastic roofing cement using caulk gun, or notched trowel at 2.0 – 2.5 gallons per square on each surface. Application rates vary based on substrate porosity and roughness. Tool-in as necessary to seal laps

D. Embed matching granules into wet cement where exposed.

3.06 HEAT-WELDED, FULLY ADHERED MEMBRANE APPLICATION

A. Follow material product data sheets and published general requirements for installation instructions.

B. Ensure environmental conditions are safe and satisfactory, and will remain safe and satisfactory, during the application of the heat-welded membrane and flashings.

C. Ensure all primers are fully dry before beginning heat-welding operations.

D. Unroll membrane onto the roof surface and allow time to relax prior to heat welding.

E. Starting at the low point of the roof, lay out the membrane to ensure the plies are installed perpendicular to the roof slope, shingled to prevent back-water laps.

F. Ensure all roofing and flashing substrates are prepared and acceptable to receive the heat-welded membrane.

G. Cut membrane to working lengths and widths to conform to rooftop conditions, and lay out to always work to a selvage edge.

H. Ensure specified side-laps and end-laps are maintained. End-laps should be staggered 3 ft apart.

I. Direct roof torch on the roll as necessary to prevent overheating and damaging the membrane and substrates.

J. As the membrane is unrolled, apply heat to the underside of the membrane until the plastic burn-off film melts away. Continuously move the torch side-to-side across the underside of the roll to melt the bitumen on the underside of the sheet, while continuously unrolling membrane.

K. While unrolling and heating the sheet, ensure approximately ¼ to 1/2 in of hot bitumen flows ahead of the roll as it is unrolled, and there is 1/8 to 1/4 in bleed out at all laps.

L. Adjust the application of heat to the underside of the membrane and to substrate as required for varying substrates and environmental conditions.

M. At the 6 in end-laps, melt the plastic burn-off film from the top surface or embed granules and remove surfacing, where present, using a torch or hot-air welder.

N. At end-laps where T-Joints exist, cut a 45 degree dog-ear away from the selvage edge, or otherwise ensure the membrane is fully heat-welded watertight at all T-joints.

O. Each day, physically inspect all side and end-laps, and ensure the membrane is sealed watertight. Where necessary, use a torch or hot-air welder and a clean trowel to ensure all laps are fully sealed.

P. Inspect the installation each day to ensure the plies are fully adhered. Repair all voids, wrinkles, open laps and all other deficiencies.

Q. Offset cap sheet side and end-laps away from the base ply laps so that cap sheet laps are not located within 18 in of base ply laps.

3.07 PVC MEMBRANE APPLICATION (DUOTACK SPF)

A. Follow material product data sheets and published general requirements for installation instructions.

B. Refer to DUOTACK SPF published product data sheets. The ambient and surface temperature shall be between 50□F (-1□C) and 100□F (38□C) during installation.

C. DUOTACK SPF shall be applied to the SBS modified bitumen base ply or cap sheet in the suggested “Spatter Pattern” indicated in manufacturer’s published product data sheets.

D. Apply adhesive from spray nozzle located 2 to 3 feet above the roof surface using a sweeping motion from side to side to evenly distribute the adhesive at approximately 3,000 square feet (30 squares) per adhesive kit.

E. Apply adhesive to prevent contact between bare PVC side-laps and the adhesive.

F. Refer to published literature for recommended adhesive “set” time before applying membrane. Monitor changing environmental conditions to ensure satisfactory results as adhesive set time varies with environmental conditions.

G. Unroll the PVC membrane into the adhesive so only the fleece makes contact with adhesive. Prevent contact between bare side laps and adhesive.

H. Unroll the PVC to prevent wrinkles, and apply pressure using a roller or push broom to ensure complete adhesion between the fleece underside and the adhesive.

I. End-laps shall be butted, and a 6 in wide PVC membrane cover-strip shall be welded over the butted end joint.

J. SOPREMA T-JOINT PATCHES shall be hot-air welded to the membrane at all T-joint intersections. Chamfer the welding seam prior to installing T-JOINT PATCHES using an edging tool or by heating the edge and rolling.

K. Hot-air weld all side and end-laps with minimum 1-1/2 in welds.

L. At PVC terminations at roof edges, walls and curbs, fasten the perimeter edge of the membrane with appropriate fasteners, seam plates or flat termination bars to the horizontal deck or vertical substrate along the termination.

M. Fasten membrane termination 12 in on-centers maximum along membrane terminations. Locate the edge of the fastener plate 1 in or more back from the edge of the membrane.

N. Probe all seams/laps once the hot air welds have thoroughly cooled.

O. Repair all seam deficiencies the same day they are discovered

3.08 PVC FLASHING MEMBRANE APPLICATION (SENTINEL S BONDING ADHESIVE)

A. Follow material product data sheets and published general requirements for installation instructions.

B. Ensure field membrane is fastened and secure to the substrate at all membrane terminations before PVC flashing is installed.

C. Ensure PVC membrane and substrates are dry, clean and free of asphalt and all bitumen-based products. Do not allow bare PVC to come in contact with asphalt or bitumen-based products.

D. Where required, cover walls and other flashing substrates using specified wood, gypsum or cement roof boards securely fastened in place.

E. The ambient temperature shall be above 40□F (4.4□C) during adhesive application. Ensure temperature is well above the dew point temperature to prevent condensation during adhesive application.

F. Apply SOPREMA SENTINEL S BONDING ADHESIVE using 3/8 in nap solvent resistant rollers to clean, dry and prepared flashing substrates, and onto the underside of the bare PVC membrane. Refer to product data sheet for application rate.

G. Prevent adhesive from contacting the membrane at the side and end-laps that are to be hot-air welded.

H. Allow the adhesive on both surfaces to dry to the touch. Adhesive may be tacky to-the-touch, but not wet. Adhesive should not transfer to the finger tips when touched.

I. Mate the PVC flashing membrane to the flashing substrate. Prevent air entrapment and wrinkles. Apply pressure with hands, roller or broom to ensure complete adhesion.

J. Hot-air weld all laps with minimum 1-1/2 in welds.

K. Probe all seams/laps once the hot air welds have thoroughly cooled.

L. Repair all seam deficiencies the same day they are discovered

M. Fasten top leading edge of vertical PVC flashings. Refer to detail drawings.

3.09 PVC HOT-AIR WELDING

A. The Contractor is responsible for project safety. Refer to NRCA CERTA, local codes and building owner's requirements for applicable hot work precautions.

B. Hot-air welding shall be used to seal PVC flashings and membrane side-laps and end joints watertight.

C. An automatic welding machine or hand welder shall be used to weld continuous minimum 1-1/2 in welds.

D. Position the membrane so that it overlaps the adjacent membrane at the required side-lap width. Ensure the side-laps are dry, clean and free of foreign material.

E. At end-laps of bare PVC membranes, round the corners by cutting a radius on both corners.

F. SOPREMA T-JOINT PATCHES shall be hot-air welded to the membrane at all T-joint intersections. Chamfer the welding seam prior to installing T-JOINT PATCHES using an edging tool or by heating the edge and rolling.

G. Probe all seams/laps once the hot air welds have thoroughly cooled.

H. Repair all seam deficiencies the same day they are discovered

3.10 LIQUID-APPLIED, (PMMA) MEMBRANE AND FLASHING SYSTEM APPLICATION (ALSAN RS LO)

A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions.

B. Pre-cut SOPREMA ALSAN RS FLEECE polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.

C. Apply the base coat of catalyzed SOPREMA ALSAN RS resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.

D. Immediately apply the SOPREMA ALSAN RS FLEECE reinforcing into the wet base coat of resin. Using a brush or roller, work the (SOPREMA ALSAN FLEECE reinforcing fabric into the wet resin while applying the second coat of catalyzed SOPREMA ALSAN RS resin to completely encapsulate the fleece.

E. Refer to reinforced, polymethacrylate (PMA) specification section and application instructions, details drawings, product data sheets and published general requirements for installation instructions.

3.11 WALKWAYS

A. At areas outlined on the drawings, and around the perimeter of all rooftop equipment and at all door and stair landings, install walkway protection.

B. Cut walkway from end of SOPREMA SENTINEL WALK-WAY PAD.

C. Adhere the center of walkway to the membrane. Mate the membrane to the substrate avoiding any air entrapment or wrinkles. Apply pressure with a roller or push broom to ensure complete bonding.

D. Hot-air weld the entire perimeter of the SOPREMA SENTINEL WALK-WAY PAD to the membrane.

3.12 CLEAN-UP

A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION

SECTION 075217
STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING RECOVER

PART 1 GENERAL

1.01 SUMMARY

A. Work shall include, but is not limited to, the following: Tectum Deck Areas
   1. Remove existing flashings, including all edge metals
   2. Remove and replace any moisture laden materials
   3. Cut out all blisters and loose membranes
   4. Preparation of existing roof surfaces, and all flashing substrates.
   5. Cover Board adhered.
   6. SBS-modified bitumen base ply heat-welded.
   7. Min 60 mil PVC cap sheet adhered
   8. Fully adhered PVC flashings.
   9. Liquid-applied, reinforced flashings.
   10. Edge Metals.
   11. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

B. Work shall include, but is not limited to, the following: Steel Deck Areas
   1. Remove existing flashings, including all edge metals
   2. Remove and replace any moisture laden materials
   3. Cut out all blisters and loose membranes
   4. Preparation of existing roof surfaces, and all flashing substrates.
   5. Cover Board adhered
   6. SBS-modified bitumen base ply heat-welded.
   7. Min 60 mil PVC cap sheet heat-weldedadhered
   8. Fully adhered PVC flashings.
   9. Liquid-applied, reinforced flashings.
   10. Edge Metals.
   11. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

1.02 RELATED SECTIONS

A. Division 010000 – General Requirements

B. Division 011000 – Summary of Work

1.03 DEFINITIONS

A. ASTM D 1079-Definitions of Term Relating to Roofing and Waterproofing.

B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.

1.04 REFERENCES

A. AMERICAN SOCIETY OF CIVIL ENGINEERS - Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.

B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
   1. ASTM C 836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
   2. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants

3. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
4. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
5. ASTM D 3019 - Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered.
6. ASTM D 3746 - Standard Test Method for Impact Resistance of Bituminous Roofing System.
7. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
8. ASTM D 5147 - Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
9. ASTM D 5849 - Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement)
10. ASTM D 6163 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
11. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
12. ASTM D 7379 - Standard Test Methods for Strength of Modified Bitumen Sheet Material Laps Using Cold Process Adhesive.
13. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
14. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::
   1. ANSI/SPRI/FM 4435/ES-1 Wind Design Standard for Edge System Used with Low Slope Roofing System.
   2. ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.

D. COOL ROOF RATING COUNCIL (CRRC)

E. FACTORY MUTUAL (FM):
   1. FM 4450 - Approval Standard - Class I Insulated Steel Roof Decks.
   2. FM 4470 - Approval Standard - Class I Roof Covers.

F. INTERNATIONAL CODES COUNCIL (ICC):
   1. 2015 International Building Code (IBC).

G. FLORIDA BUILDING CODE (FBC):
   1. 2017 Florida Building Code

H. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA).
   1. UL 790 Standard Test Methods for Fire Tests of Roof Coverings.
   2. UL 1256 – Fire Test of Roof Deck Constructions.

1.05 ACTION SUBMITTALS

A. Product Data Sheets: Submit manufacturer’s product data sheets, installation instructions and/or general requirements for each component.

B. Safety Data Sheets: Submit manufacturer’s Safety Data Sheets (SDS) for each component.

C. Sample warranty from the manufacturer and contractor.

D. Provide roof plan and representative detail drawings.

1.06 INFORMATIONAL SUBMITTALS

A. Submit a letter from the roofing manufacturer indicating the contractor is an authorized applicator.

1.07 CLOSEOUT SUBMITTALS

A. Warranty: Provide manufacturer's and contractor's warranties upon project completion.

1.08 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:
   1. Manufacturer shall have 20 years of manufacturing experience.
   2. Manufacturer shall have trained technical service representatives employed by the manufacturer, independent of sales.
   3. Manufacturer shall provide site visit reports in a timely manner.

B. CONTRACTOR QUALIFICATIONS:
   1. Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
   2. Applicators shall have completed projects of similar scope using same or similar materials specified.
   3. Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roofing from beginning through satisfactory project completion.
   4. Applicators shall be skilled in the application methods for all materials.
   5. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
   6. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.

1.09 DELIVERY, STORAGE AND HANDLING

A. Refer to each product data sheet or other published literature for specific requirements.

B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.

C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location. During cold weather, store materials in a heated location, removed only as needed for immediate use.

D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with "breathable" tarpaulins to protect materials from precipitation and to prevent exposure to condensation.

E. Carefully store roof membrane materials delivered in rolls on-end with selvage edges up. Store and protect roll storage to prevent damage.

F. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

1.10 SITE CONDITIONS

A. SAFETY:
   1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.
   2. Heat-welding shall include heating the specified membrane ply using propane roof torches or electric hot-air welding equipment. The contractor shall determine when and where

conditions are appropriate to utilize heat-welding equipment. When conditions are determined by the contractor to be unsafe to proceed, equivalent SBS-modified bitumen materials and methods shall be utilized to accommodate requirements and conditions.

3. Refer to NRCA CERTA recommendations, local codes and building owner's requirements for hot work operations.
4. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified liquid-applied, or semi-solid roofing materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions.
5. The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

B. ENVIRONMENTAL CONDITIONS:
1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun, cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.
2. Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.
3. Self-adhesive membrane application: During cold weather, store the specified self-adhesive membrane and primer materials in heated storage areas to ensure materials remain no less than 70□F (21□C) during application. Ensure conditions allow primer to remain tacky, but not wet so that primer will not transfer to finger when touched. Self-adhesive primer shall not fully dry and lose tack before applying the self-adhesive membrane. Ensure conditions remain satisfactory to achieve membrane adhesion as specified.
4. Heat-Welding Application: Take all necessary precautions and measures to monitor conditions to ensure all environmental conditions are safe to use roof torches and hot-air welding equipment. Combustibles, flammable liquids and solvent vapors that represent a hazard shall be eliminated. Flammable primers and cleaners shall be fully dry before proceeding with heat-welding operations. Prevent or protect wood, paper, plastics and other such combustible materials from direct exposure to open flames from roof torches. Refer to NRCA CERTA recommendations.

1.11 PERFORMANCE REQUIREMENTS

A. WIND UPLIFT RESISTANCE:
1. Performance testing shall be in accordance with ANSI/FM 4474, FM 4450, FM 4470, UL 580 or UL 1897.
   a. Roof System Design Pressures: Calculated in accordance with ASCE 7, or applicable standard, for the specified roof system attachment requirements.
   b. Roof System must meet or exceed NEED UPLIFT PRESSURES TO ENTER HERE

B. FIRE CLASSIFICATION:
1. Performance testing shall be in accordance with UL 790, ASTM E108, FM 4450 or FM 4470 to meet the 1/2:12 roof slope requirement.
   a. Meets requirements of UL Class A or FM Class A.

2. Performance testing shall be in accordance with UL 1256, FM 4450 or FM 4470 to meet the specified requirements for interior flame spread and fuel contribution.
   a. Meets requirements of UL 1256, or FM Class 1.

C. ROOF SLOPE:
1. Finished roof slope for SBS modified bitumen surfaces shall be 1/8 inch per foot minimum for roof drainage.

D. IMPACT RESISTANCE:
1. Performance testing for impact resistance shall be in accordance with FM 4450, FM 4470, ASTM D3746 or CGSB 37-GP 56M to meet the specified impact resistance requirements.
   a. Meets requirements for FM-SH (Severe Hail), ASTM D3746, or CGSB 37-GP 56M.

1.12 WARRANTY

A. Manufcaturers warranty must include all components of the roof system including PVC membranes and liquid applied flashings.

B. Manufacturer's No Dollar Limit (NDL) RE-COVER Warranty. The manufacturer shall provide the owner with the manufacturer's warranty providing labor and materials for 20 years from the date the warranty is issued.

C. The contractor shall guarantee the workmanship and shall provide the owner with the contractor's warranty covering workmanship for a period of 2 years from completion date.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. SINGLE SOURCE MANUFACTURER: All SBS modified bitumen membrane and flashing sheets shall be manufactured by a single supplier with 20 years or more manufacturing history in the US.
1. Comply with the Manufacturer's requirements as necessary to provide the specified warranty.

B. PRODUCT QUALITY ASSURANCE PROGRAM: Manufacturer shall be an ISO 9001 registered company. A 'Quality Compliance Certificate (QCC) for reporting/confirming the tested values of the SBS-Modified Bitumen Membrane Materials will be supplied upon request.

C. ACCEPTABLE MANUFACTURER:
1. SOPREMA, located at: 310 Quadral Dr.; Wadsworth, OH 44281; Tel: 800-356-3521; Tel: 330-334-0066; Website: www.soprema.us.
2. Acceptable Alternate Manufacturers: Must submit proof of equivalent testing, physical performance and physical characteristics indicated herein. No exceptions.
3. ALL manufacturers must provide a 60 mil min PVC waterproofing layer. 60 mil nominal products will not be accepted

2.02 ROOFING SYSTEM

A. ROOFING SYSTEM BASIS OF DESIGN: SOPREMA

2.03 SBS-MODIFIED BITUMEN MEMBRANES

1. BASE PLY, HEAT_WELDED
   a. SOPREMA SOPRALENE 180 SP 3.0: SBS-modified bitumen membrane with plastic burn-off film on the bottom surface and a sanded top surface. Glass fiber reinforcement. Meets or exceeds ASTM D6164, Type I, Grade S, per ASTM D5147 test methods:
      1) Thickness: 118 mils
      2) Width: 39.4 in (1 m)
      3) Length: 32.8 ft (10 m)

4) Roll weight: 81 lb (36.7 kg)
5) Net mass per unit area, lb/100 sq ft (g/sq m):
   (a) 75 lb (3662 g)
6) Peak load @ 0□F (-18□C), lbf/in (kN/m).
   (a) MD 115 lbf/in (20.1 kN/m), XMD 90 lbf/in (15.8 kN/m)
7) Elongation at peak load @ 0□F (-18□C), lbf/in (kN/m):
   (a) MD 35%, XMD 40%
8) Peak load @ 73.4□F (23□C), lbf/in (kN/m):
   (a) MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
9) Elongation at peak load @ 73.4□F (23□C), lbf/in (kN/m):
   (a) MD 55%, XMD 60%
10) Ultimate Elongation @ 73.4□F (23□C), lbf/in (kN/m):
   (a) MD 65%, XMD 80%
11) Tear Strength @ 73.4□F (23□C), lbf (N):
   (a) MD 125 lbf (556 N), XMD 85 lbf (378 N)
12) Low temperature flexibility, □F (□C):
   (a) MD/XMD: -15□F (-26□C)
13) Dimensional stability, %:
   (a) MD/XMD: Less than 0.5%
14) Compound stability, □F (□C):
   (a) MD/XMD: 240□F (116□C)

B. CAP SHEET:
   1. PVC CAP SHEET, FULLY ADHERED:
      a. SOPREMA SENTINEL PVC P150 HFB: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a heavy fleece back underside.
         1) Thickness: 60 mils (1.5 mm)
         2) Width: 10 ft (3.0 m)
         3) Length: 80 ft (24.4 m)
         4) Physical Properties ASTM D4434.
            (a) Breaking Strength, lbf/in
               (1) 400 (XMD)
            (b) Elongation at Break %
               (1) 30(XMD)
         5) Color: White
            (a) PVC FLASHING, ADHERED:
      b. SOPREMA® SENTINEL® PVC P150: Polyester reinforced, thermoplastic polyvinyl chloride membrane with a smooth back underside. Mechanically fastened in 6 in (minimum) side-laps. Overall Thickness ASTM D4434 (ASTM D638): 60 mils minimum
            (a) Manufacturer shall provide membrane at specified minimum 60 mils
            (b) ASTM D4434 +/- tolerance for membrane thickness will not be accepted.
         2) Thickness over Scrim (ASTM D7635): 30 mils minimum
            (a) Manufacturer shall provide membrane with minimum 30 mils compound thickness above reinforcement/scrim
         3) Width: 10 ft (3.0 m)
         4) Length: 100 ft (30.5 m)
         5) Physical Properties ASTM D4434.
            (a) Breaking Strength, lbf/in
               (1) 300 (XMD

(b) Elongation at Break - %
(1) 25(XMD)
(c) Tear Strength, lbf
(1) 80 (XMD)
(d) Linear Dimensional Change - %
(1) %
6) Color: white

2. FLASHING SYSTEM, LIQUID-APPLIED:
a. ALSAN Flashing: Asphalt extended urethane liquid resin with needle puched polyester fabric.
b. ALSAN RS 230 FLASH: Polymethacrylate (PMMA) liquid resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully-reinforced waterproofing membrane flashings. All LIQUID-APPLIED flashing shall be manufactured by the single-sourced membrane supplier.
1) VOC Content: No VOC Content.
2) SOPREMA ALSAN RS CATALYST POWDER: Reactive agent added to the liquid resin to induce polymerization.
3) SOPREMA ALSAN RS FLEECE: Polyester reinforcement fabric.
4) Color: White.

2.04 ACCESSORIES

A. RIGID INSULATION
1. SOPREMA SOPRA-ISO: Closed cell polyisocyanurate foam core bonded on each side to a glass fiber-reinforced felt facer.
1) Thickness: 1.5 in minimum board thickness. Total thickness to meet specified insulation system thermal resistance 'R' value
2) Meets or exceeds ASTM C1289, Type II, Class 1, Grade 2 (20 psi).

B. COVER-BOARD
a. SOPREMA SOPRABOARD: Mineral fortified, asphaltic roof substrate board with glass fiber facers. For use as roof cover-board and for vertical flashing substrate. ASPHALTIC ROOF BOARD shall be manufactured by the membrane supplier.
1) Thickness: 1/4 in
2) Dimensions: 4 x 8 ft acceptable for mechanical attachment, insulation adhesive or asphalt application.
3) Water absorption: Less than 1 percent per ASTM D994.
4) Impact resistance: Included in FM Approvals per 4450/4470 for FM Severe Hail (SH) rating.
5) Compressive strength, psi (kPa) measured at 50 percent compression, per ASTM C472:
(a) 1/4 in board: 900lbs
6) Puncture resistance, lbf (N) per ASTM E154:
b. Georgia Pacific DensDeck Prime: ½"
c. National Gypsum Dexcell FA: ½"
d. SOPRASMART BOARD 180 (may be used in lieu of Sopraboard and base ply)
1) Non-woven polyester reinforced SBS modified bitumen membrane base ply factory laminated to 1/8 in thick SOPRABOARD.
2) Dimensions: 3 x 8 ft board dimension.
3) Top Surfacing: SBS-modified bitumen membrane ply with sanded top surface.
4) Side-laps: 3 in DUO-Selvage side-lap consisting of 2 in self-adhesive, and 1 in SBS-modified bitumen for heat welding.

5) End-laps: Butted end-laps, with 1 in membrane overlap. Sealed watertight using SOPRALAP STICK or SOPRALAP SP.
(1) a) 1/8 in board: 90 (400)

C. INSULATION ADHESIVE
(a) POLYURETHANE FOAM INSULATION ADHESIVE
b. SOPREMA DUOTACK 365 or DUOTACK SPF: Two-component, polyurethane foam insulation adhesive, applied in ribbons from cannisters, cartridges or two-component bulk packaging with pump-driven delivery system.
1) Ribbon size: As required by manufcaturer
2) Ribbon spacing: As required to meet specified wind uplift resistance performance.
(a) 12 in on-centers
(b) 6 in on-centers
(c) 4 in on-centers

D. PVC MEMBRANE ADHESIVE:
1. SOPREMA® DUOTACK® SPF: Two-component elastomeric polyurethane adhesive. Formulated to adhere fleece back PVC membranes.
a. VOC Content: 250 g/L or less.

E. PVC FLASHING ADHESIVE:
1. SOPREMA SENTINEL S BONDING ADHESIVE: Solvent-based adhesive. Formulated to adhere smooth back PVC flashings.
a. VOC Content: 199.5 g/L or less.

F. EDGE METALS:
1. SOPRAMETAL: Fascia, Copings and Expansion Joints pre fabricated and provided by the roof membrane manufacturer. Shop broke or contractor provided edge metals will not ne accepted.
a. Meets or exceeds ANSI/SPRI ES-1

G. HIGH TEMPERATURE UNDERLAYMENT
1. LASTOBOND SHIELD HT: Self Adhered membrane to be applied under all edgmetals and expansion joints.
a. High Temperature Resistance of 240 deg F
b. Trilaminate facer

H. PRIMERS:
1. SOPREMA ELASTOCOL 500 Primer: Asphalt cut-back primer. Primer for the preparation of membrane substrates for asphalt, heat-welded, hot asphalt and COLPLY and COLPLY MODIFIED ADHESIVE, solvent-based, cold adhesive-applied and cement applications.
a. Meets or exceeds ASTM D41
b. VOC content: 350 g/L or less.
2. SOPREMA ELASTOCOL STICK Primer: Self-adhesive membrane primer. SBS polymer, resin and, solvent-based primer for the preparation of membrane substrates for self-adhesive SBS membrane and self-adhered SBS flashing applications.

I. GENERAL PURPOSE ROOFING CEMENT AND MASTIC
1. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 5 gallon pails. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.
a. VOC Content: 190 g/L or less.

b. Meets or exceeds ASTM D4586, Type I, Class II.

2. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 10.4 oz caulk tubes. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.
   a. VOC Content: 190 g/L or less.
   b. Meets or exceeds ASTM D4586, Type I, Class II.

J. GENERAL PURPOSE SEALANT
1. SOPREMA SOPRAMASTIC SP1: General purpose, paintable, gun-grade, elastomeric, polyether moisture curing sealant for sealing SBS membrane terminations, Kynar 500 PVDF, horizontal and vertical construction joints.
   a. VOC Content: 20 g/L or less.
   b. Meets or exceeds ASTM C920, Type S, Grade NS, Class 50.
   c. Standard color, custom color.
2. SOPREMA SOPRAMASTIC ALU: Modified bitumen mastic, aluminum hued for application to membrane edge and perimeter metal.
   a. VOC Content: 270 g/L or less.
   b. Standard color.

K. LIQUID-APPLIED REINFORCED FLASHING SYSTEM: (used at penentrations and low flashing heights)
1. ALSAN RS 230 FLASH, Catalyzed polymethacrylate (PMMA) resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully-reinforced waterproofing membrane flashings.
   a. VOC Content: No VOC content.
   b. SOPREMA ALSAN RS CATALYST POWDER: Reactive agent added to the PMMA liquid resin to induce curing.
   c. SOPREMA ALSAN RS FLEECE: Polyester reinforcement fabric.
   d. Color: Flash color and finish to match Field.

L. WALKWAY PROTECTION:
1. SOPREMA SENTINEL WALK-WAY PAD: PVC walkway protection mat.
   a. Width: 30 in (0.762 m)
   b. Length: 50 ft (15.24 m)
   c. Color: grey

PART 3 EXECUTION

3.01 EXAMINATION

A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.

B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.

C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.

D. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of

substrates, eliminating all incompatible materials, and cleaning.

B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3.03 PRIMER APPLICATION

A. Examine all substrates, and conduct adhesion peel tests as necessary, to ensure satisfactory adhesion is achieved.

B. Apply the appropriate specified primer to dry, compatible substrates as required to enhance adhesion of new specified roofing materials.

C. Apply primer using brush, roller, or sprayer at the rate published on the product data sheet. Lightly prime for uniform coverage, do not apply heavy or thick coats of primer.

D. Asphalt Primer: Apply primer to dry compatible masonry, metal, wood and other required substrates before applying asphalt and heat-welded membrane plies. Primer is optional for solvent based solvent-based SBS adhesives and cements. Refer to product data sheets.

E. Self-Adhesive Membrane Primer: Apply to dry, compatible substrates as required to enhance adhesion of self-adhesive membrane plies. Ensure self-adhered membrane primer is tacky to-the-touch, but not wet. Primer should not transfer to the finger tips when touched.

F. Project conditions vary throughout the day. Monitor changing conditions, monitor the drying time of primers, and monitor the adhesion of the membrane plies. Adjust primer and membrane application methods as necessary to achieve the desired results.

3.04 HEAT WELDING

A. The Contractor is responsible for project safety. Where conditions are deemed unsafe to use open flames, manufacturer's alternate membrane application methods shall be used to install SBS modified bitumen membrane and flashings. Acceptable alternate installation methods include hot asphalt, cold adhesive-applied, self-adhered membranes and mechanically fastened plies. Hot-air welding equipment may be used in lieu of roof torches to seal membrane side and end laps where heat welding the laps is necessary. Refer to NRCA CERTA, local codes and building owner's requirements for hot work operations.

B. Single or multi-nozzle, hand-held propane roof torches shall be used to install heat-welded membrane and flashing plies. Multi-nozzle carts (dragon wagons) may also be utilized to install membrane plies. Seven (7) nozzle carts are recommended for more uniform heat application in lieu of five (5) nozzle carts.

3.05 SBS MASTIC AND GENERAL PURPOSE ROOFING CEMENT APPLICATION

A. Apply SOPREMA SOPRAMASTIC general purpose SBS mastic and roofing cement to seal drain leads, metal flanges, seal along membrane edge at terminations, and where specified and required in detail drawings.

B. Do not use general purpose SBS mastics and roofing cement where flashing cement applications are required. Do not use SBS mastics and roofing cement beneath SBS-modified bitumen membrane and flashing plies.

C. Apply general purpose SBS mastic and elastic roofing cement using caulk gun, or notched trowel at 2.0 – 2.5 gallons per square on each surface. Application rates vary based on substrate porosity and roughness. Tool-in as necessary to seal laps

D. Embed matching granules into wet cement where exposed.

3.06 HEAT-WELDED, FULLY ADHERED MEMBRANE APPLICATION

A. Follow material product data sheets and published general requirements for installation instructions.

B. Ensure environmental conditions are safe and satisfactory, and will remain safe and satisfactory, during the application of the heat-welded membrane and flashings.

C. Ensure all primers are fully dry before beginning heat-welding operations.

D. Unroll membrane onto the roof surface and allow time to relax prior to heat welding.

E. Starting at the low point of the roof, lay out the membrane to ensure the plies are installed perpendicular to the roof slope, shingled to prevent back-water laps.

F. Ensure all roofing and flashing substrates are prepared and acceptable to receive the heat-welded membrane.

G. Cut membrane to working lengths and widths to conform to rooftop conditions, and lay out to always work to a selvage edge.

H. Ensure specified side-laps and end-laps are maintained. End-laps should be staggered 3 ft apart.

I. Direct roof torch on the roll as necessary to prevent overheating and damaging the membrane and substrates.

J. As the membrane is unrolled, apply heat to the underside of the membrane until the plastic burn-off film melts away. Continuously move the torch side-to-side across the underside of the roll to melt the bitumen on the underside of the sheet, while continuously unrolling membrane.

K. While unrolling and heating the sheet, ensure approximately ¼ to 1/2 in of hot bitumen flows ahead of the roll as it is unrolled, and there is 1/8 to 1/4 in bleed out at all laps.

L. Adjust the application of heat to the underside of the membrane and to substrate as required for varying substrates and environmental conditions.

M. At the 6 in end-laps, melt the plastic burn-off film from the top surface or embed granules and remove surfacing, where present, using a torch or hot-air welder.

N. At end-laps where T-Joints exist, cut a 45 degree dog-ear away from the selvage edge, or otherwise ensure the membrane is fully heat-welded watertight at all T-joints.

O. Each day, physically inspect all side and end-laps, and ensure the membrane is sealed watertight. Where necessary, use a torch or hot-air welder and a clean trowel to ensure all laps are fully sealed.

P. Inspect the installation each day to ensure the plies are fully adhered. Repair all voids, wrinkles, open laps and all other deficiencies.

Q. Offset cap sheet side and end-laps away from the base ply laps so that cap sheet laps are not located within 18 in of base ply laps.

3.07 PVC MEMBRANE APPLICATION (DUOTACK SPF)

A. Follow material product data sheets and published general requirements for installation instructions.

B. Refer to DUOTACK SPF published product data sheets. The ambient and surface temperature shall be between 50□F (-1□C) and 100□F (38□C) during installation.

C. DUOTACK SPF shall be applied to the SBS modified bitumen base ply or cap sheet in the suggested “Spatter Pattern” indicated in manufacturer’s published product data sheets.

D. Apply adhesive from spray nozzle located 2 to 3 feet above the roof surface using a sweeping motion from side to side to evenly distribute the adhesive at approximately 3,000 square feet

(30 squares) per adhesive kit.

E. Apply adhesive to prevent contact between bare PVC side-laps and the adhesive.

F. Refer to published literature for recommended adhesive “set” time before applying membrane. Monitor changing environmental conditions to ensure satisfactory results as adhesive set time varies with environmental conditions.

G. Unroll the PVC membrane into the adhesive so only the fleece makes contact with adhesive. Prevent contact between bare side laps and adhesive.

H. Unroll the PVC to prevent wrinkles, and apply pressure using a roller or push broom to ensure complete adhesion between the fleece underside and the adhesive.

I. End-laps shall be butted, and a 6 in wide PVC membrane cover-strip shall be welded over the butted end joint.

J. SOPREMA T-JOINT PATCHES shall be hot-air welded to the membrane at all T-joint intersections. Chamfer the welding seam prior to installing T-JOINT PATCHES using an edging tool or by heating the edge and rolling.

K. Hot-air weld all side and end-laps with minimum 1-1/2 in welds.

L. At PVC terminations at roof edges, walls and curbs, fasten the perimeter edge of the membrane with appropriate fasteners, seam plates or flat termination bars to the horizontal deck or vertical substrate along the termination.

M. Fasten membrane termination 12 in on-centers maximum along membrane terminations. Locate the edge of the fastener plate 1 in or more back from the edge of the membrane.

N. Probe all seams/laps once the hot air welds have thoroughly cooled.

O. Repair all seam deficiencies the same day they are discovered

3.08 PVC FLASHING MEMBRANE APPLICATION (SENTINEL S BONDING ADHESIVE)

A. Follow material product data sheets and published general requirements for installation instructions.

B. Ensure field membrane is fastened and secure to the substrate at all membrane terminations before PVC flashing is installed.

C. Ensure PVC membrane and substrates are dry, clean and free of asphalt and all bitumen-based products. Do not allow bare PVC to come in contact with asphalt or bitumen-based products.

D. Where required, cover walls and other flashing substrates using specified wood, gypsum or cement roof boards securely fastened in place.

E. The ambient temperature shall be above 40□F (4.4□C) during adhesive application. Ensure temperature is well above the dew point temperature to prevent condensation during adhesive application.

F. Apply SOPREMA SENTINEL S BONDING ADHESIVE using 3/8 in nap solvent resistant rollers to clean, dry and prepared flashing substrates, and onto the underside of the bare PVC membrane. Refer to product data sheet for application rate.

G. Prevent adhesive from contacting the membrane at the side and end-laps that are to be hot-air welded.

H. Allow the adhesive on both surfaces to dry to the touch. Adhesive may be tacky to-the-touch, but not wet. Adhesive should not transfer to the finger tips when touched.

I. Mate the PVC flashing membrane to the flashing substrate. Prevent air entrapment and wrinkles. Apply pressure with hands, roller or broom to ensure complete adhesion.

J. Hot-air weld all laps with minimum 1-1/2 in welds.

K. Probe all seams/laps once the hot air welds have thoroughly cooled.

L. Repair all seam deficiencies the same day they are discovered

M. Fasten top leading edge of vertical PVC flashings. Refer to detail drawings.

3.09 PVC HOT-AIR WELDING

A. The Contractor is responsible for project safety. Refer to NRCA CERTA, local codes and building owner's requirements for applicable hot work precautions.

B. Hot-air welding shall be used to seal PVC flashings and membrane side-laps and end joints watertight.

C. An automatic welding machine or hand welder shall be used to weld continuous minimum 1-1/2 in welds.

D. Position the membrane so that it overlaps the adjacent membrane at the required side-lap width. Ensure the side-laps are dry, clean and free of foreign material.

E. At end-laps of bare PVC membranes, round the corners by cutting a radius on both corners.

F. SOPREMA T-JOINT PATCHES shall be hot-air welded to the membrane at all T-joint intersections. Chamfer the welding seam prior to installing T-JOINT PATCHES using an edging tool or by heating the edge and rolling.

G. Probe all seams/laps once the hot air welds have thoroughly cooled.

H. Repair all seam deficiencies the same day they are discovered

3.10 LIQUID-APPLIED, (PMMA) MEMBRANE AND FLASHING SYSTEM APPLICATION (ALSAN RS LO)

A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions.

B. Pre-cut SOPREMA ALSAN RS FLEECE polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.

C. Apply the base coat of catalyzed SOPREMA ALSAN RS resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.

D. Immediately apply the SOPREMA ALSAN RS FLEECE reinforcing into the wet base coat of resin. Using a brush or roller, work the (SOPREMA ALSAN FLEECE reinforcing fabric into the wet resin while applying the second coat of catalyzed SOPREMA ALSAN RS resin to completely encapsulate the fleece.

E. Refer to reinforced, polymethacrylate (PMA) specification section and application instructions, details drawings, product data sheets and published general requirements for installation instructions.

3.11 WALKWAYS

A. At areas outlined on the drawings, and around the perimeter of all rooftop equipment and at all door and stair landings, install walkway protection.

B. Cut walkway from end of SOPREMA SENTINEL WALK-WAY PAD.

C. Adhere the center of walkway to the membrane. Mate the membrane to the substrate avoiding any air entrapment or wrinkles. Apply pressure with a roller or push broom to ensure complete bonding.

D. Hot-air weld the entire perimeter of the SOPREMA SENTINEL WALK-WAY PAD to the membrane.

3.12 CLEAN-UP

A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION

SECTION 076200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including sill flashings and counterflashings.

B. Miscellaneous sheet metal accessories

1.02 RELATED REQUIREMENTS

A. Section 042000 - Unit Masonry

B. Section 074213 - Metal Wall Panels

C. Section 075216 - SBS Modified Bituminous Roofing

D. Section 077100 - Roof Specialties: Manufactured copings, flashings, and expansion joint covers.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Coordinate work with this section with interfacing and adjoining work for proper sequencing of each installation.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

C. Store materials in a dry, protected, well vented area.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch (0.61 mm) thick base metal, shop pre-coated with PVDF coating.
   1. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
   2. Thicknesses: 0.022 inch or as indicated.
   3. Color: To match Coping System and Metal Wall Panels when in contact with Roofing materials or wall panel installation. All other areas as selected from Manufacturer's full range of colors..

B. Reglets:
   1. Provide type, material, and profile as indicated.
   2. Formed to provide secure interlocking of separate reglet and counterflashing.
   3. Metals of reglet and counterflashing shall be compatible of same metal.
   4. Provide pre-finished galvanized steel, 0.022 inch thick.

2.02 ACCESSORIES

A. Fasteners: Same material and finish as flashing metal or other non corrosive metal as recommended by sheet manufacturer.

B. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed. noncorrosive, size and gage required for performance.

C. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

D. Sealant to be Concealed in Completed Work: Non-curing butyl sealant. ASTM C 1311, single component, solvent release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked type expansion joints with limited movement.

E. Sealant to be Exposed in Completed Work: ASTM C920; elastomeric sealant, 100 percent silicone with minimum movement capability of plus/minus 25 percent and recommended by manufacturer for substrates to be sealed; clear.

F. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

G. Solder: ASTM B32; Sn50 (50/50) type. For use with steel or copper only.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate in accordance with SMACNA.

C. Fabricate items in a shop to the greatest extent possible.

D. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated.

E. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

F. Form pieces in longest possible lengths.

G. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.

H. Fabricate corners from one piece with minimum 18-inch (450 mm) long legs; seam for rigidity, seal with sealant.

I. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

J. Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

K. Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than one (1) inch deep, filled with butyl sealant concealed within joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch (0.4 mm).

3.03 INSTALLATION

A. Conform to drawing details and install sheet metal roof drainage items and flashing to produce complete roof drainage system according to SMACNA recommendations. Coordinate installation of roof perimeter flashing with installation of roof drainage system. Set units true to line and level, install work with laps, joints, and seams that will be permanently watertight and weather resistant.

B. Insert flashings into reglets to form tight fit; secure in place with lead wedges; pack remaining spaces with lead wool; seal flashings into reglets with sealant.

C. Anchor sheet metal flashing and trim and other components securely in place, with provisions for thermal and structural movements so that completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

D. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

E. Secure flashings in place using concealed fasteners. Use fasteners of sizes that will penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull out resistance.

F. Apply plastic cement compound between metal flashings and felt flashings.

G. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

H. Seal metal joints watertight. Seal all joints as required for weather tight construction.

I. Protect against galvanic action by painting contact surfaces with bituminous coating where dissimilar metals will contact each other.

J. Space cleats no more than 12 inches apart. Anchor each cleat with two fasteners, bend tabs over fasteners.

K. Counterflashings: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with sealant.

L. Sill Flashings: Fabricate sill and similar flashings to extend 4 inches beyond wall openings, Form head and sill flashing with 2 inch high end dams.

M. Through-Wall Flashing in Masonry: Fabricate continuous flashings in minimum 96 inch long, but not exceeding 12 foot long sections under copings, at shelf angles, and where indicated. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings, Form with 2 inch high, end dams where flashing is discontinuous.

N. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.

O. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Provide without causing leaks and still maintaining watertightness.

P. Fold, bead, hem or return exposed edges of fabricated sheet metal; no raw edges will be permitted.

3.04 PROTECTION

A. Protect flashings and sheet metal work during construction to ensure work will be without damage or deterioration, other than natural weathering, at time of substantial completion.

END OF SECTION

SECTION 077123
MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Pre-finished aluminum gutters and downspouts.

B. Precast concrete splash pads.

1.02 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.

B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

F. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

G. ASTM B32 - Standard Specification for Solder Metal 2020.

H. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

I. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Comply with SMACNA (ASMM) for sizing components for rainfall intensity determined by a storm occurrence of 1 in 5 years.

B. Comply with applicable code for size and method of rain water discharge.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.

C. Samples: Submit two samples, 6 inch ([____] mm) long minimum illustrating component design, finish, color, and configuration.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.

B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gutters and Downspouts:
   1. ATAS International, Inc; <>: www.atas.com.
   2. Cheney Flashing Company; <>: www.cheneyflashing.com.

3. OMG Roofing Products; <>: www.omgroofing.com/#sle.
4. SAF Perimeter Systems, a division of Southern Aluminum Finishing Company, Inc.: www.saf.com/persys.
5. W.P. Hickman company: www.wph.com.
6. Or Equal
7. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

A. Pre-Finished Aluminum Sheet: ASTM B209 (ASTM B209M), [____] alloy, [____] temper; 0.032 inch (0.8 mm) thick.
   1. Finish: Plain, shop pre-coated with modified silicone coating.
   2. Color: As selected from manufacturer's standard colors.

2.03 COMPONENTS

A. Gutters: Profile as indicated.

B. Downspouts: SMACNA Rectangular profile.
   1. Size: 3

C. Anchors and Supports: Profiled to suit gutters and downspouts.
   1. Anchoring Devices: In accordance with SMACNA requirements.
   2. Downspout Supports: Brackets. Must have one a min of 24" from bottom of downspout. Color to match downspouts

2.04 FABRICATION

A. Fabricate with required connection pieces.

B. Hem exposed edges of metal.

C. Fabricate gutter and downspout accessories; seal watertight.

D. Fasteners: Stainless steel, with soft neoprene washers.

E. Form gutters and downspouts of profiles and size indicated.

F. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.

2.05 ACCESSORIES

A. Splash Pads: Precast concrete type, size and profiles indicated; minimum 3,000 psi (21 MPa) at 28 days, with minimum 5 percent air entrainment.

2.06 FINISHES

A. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; custom color to match approved sample. Color must match existing downspouts and leader heads. Alll accesories must match color of downspouts and leader heads.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that surfaces are ready to receive work.

3.02 PREPARATION

A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch (0.381 mm).

3.03 INSTALLATION

A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.

B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.

C. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

D. Set splash pads under downspouts.

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Each form and type of joint sealants.

B. Applications for joint sealers.

C. Self-leveling pourable joint sealants.

D. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping: Firestopping sealants.

B. Section 079100 - Preformed Joint Seals: Precompressed foam, gaskets, and strip seals.

1.03 REFERENCE STANDARDS

A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016.

C. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants 2022.

D. ASTM C1311 - Standard Specification for Solvent Release Sealants 2022.

E. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Samples for Verification: Where custom sealant color is specified, obtain directions from Engineer/Architect and submit at least two physical samples for verification of color of each required sealant.

F. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Field Adhesion Test Procedures:
   1. Allow sealants to fully cure as recommended by manufacturer before testing.
   2. Have a copy of the test method document available during tests.
   3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
   4. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Engineer/Architect.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. Bostik Inc; <>: www.bostik-us.com/#sle.
   2. Dow Chemical Company; <>: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   3. Hilti, Inc; <>: www.us.hilti.com/#sle.
   4. Momentive Performance Materials, Inc (formerly GE Silicones); <>: www.momentive.com/#sle.
   5. Sika Corporation; <>: www.usa-sika.com/#sle.
   6. Or Equal.
   7. Substitutions: See Section 016000 - Product Requirements.

B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
   1. Adhesives Technology Corporation; <>: www.atcepoxy.com/#sle.
   2. Bostik Inc; <>: www.bostik-us.com/#sle.
   3. Dow Chemical Company; <>: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   4. Sika Corporation; <>: www.usa-sika.com/#sle.
   5. Or Equal.
   6. Substitutions: See Section 016000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   a. Concrete/Masonry expansion joints.
   b. At Locations of dissimilar metals.
   c. Other locations to properly seal building.
   d. Other joints indicated below.
   2. Wall and Ceiling Joints in Wet Areas: Non-sag polyurethane sealant for continuous liquid immersion.
   3. Floor Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion.
   4. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
   5. Other Floor Joints: Self-leveling polyurethane "traffic-grade" sealant.

B. Interior Wet Areas: Bathrooms, restrooms, kitchens, food service areas, and food processing areas; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

B. Colors: As indicated on the drawings or as selected from Manufacturer's standard colors.

C. Select materials for compatibility and select elasticity and hardness based on Manufacturer's recommendations for application intended.

2.04 JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Non-Staining to Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Color: To be selected by Engineer/Architect from manufacturer's full range.

B. Interior wet areasMildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component Type S, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: White.
   2. Manufacturers:
      a. Sika Corporation; Sikasil GP: www.usa.sika.com/#sle.
      b. Or Equal.
      c. Substitutions: See Section 016000 - Product Requirements.

C. Non-Curing Butyl Sealant: Solvent-based, single component, non-sag, non-skinning, non-hardening, non-bleeding; non-vapor-permeable; intended for fully concealed applications.

D. Type 5 Exterior Concealed Joints between two assembled rigid surfaces in compression: Polyisobutylene sealant tape conforming to AAMA 804.1.

E. Type 6 Acoustical Sealant: Nonskinning, nonhardening, permanently flexible sealant specifically designed for sealing gypsum wallboard.

F. Type 7 Foam Sealants: Equal to Styrofoam Brand Sill Seal Foam Gasket; provide in width required for Metal Stud Sizes.

2.05 SELF-LEVELING SEALANTS

A. Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
   1. Movement Capability: Plus and minus 25 percent, minimum.

2.06 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod, plyethylene-jacketed polyurethane foam, butyl rubber foam, neoprene foam, or other flexible , permanent, durable non abrasive material with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

D. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

E. Fiber Expansion Joint Material: Preformed cellular fiber complying with ASTM D1751.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
   1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
   2. Notify Engineer/Architect of date and time that tests will be performed, at least seven days in advance.
   3. Record each test on Preinstallation Adhesion Test Log as indicated.
   4. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Engineer/Architect.
   5. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

D. Install bond breaker backing tape where backer rod cannot be used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces. Clean adjacent surfaces to eliminate evidence of spillage.

F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

H. Dure sealants and caulking compounds in compliance with Manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

ST. MARTIN BASEBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT

10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

REV A - ISSUED FOR
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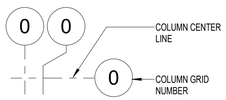
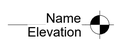
GENERAL GRAPHIC LEGEND

SYMBOL-COLUMN GRID

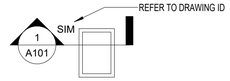


SYMBOL-FINISHED FLOOR ELEVATION

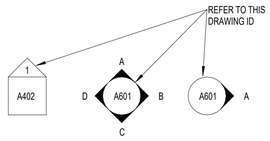


SYMBOL-SPOT ELEVATION

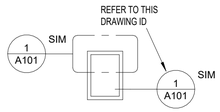
SYMBOL-BUILDING SECTION / WALL SECTION



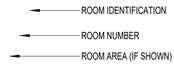
SYMBOL-EXTERIOR ELEVATION / INTERIOR ELEVATION



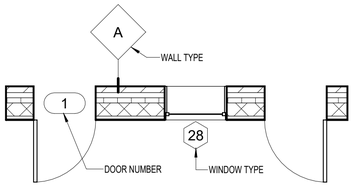
SYMBOL-DETAIL CALLOUT



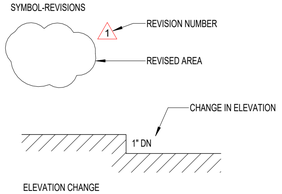
SYMBOL-ROOM TAG



SYMBOL-WALL / DOOR / WINDOW



SYMBOL-REVISIONS



ABBREVIATIONS INDEX

A

&	AND
@	AT
∠	ANGLE
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADDT'L	ADDITIONAL
ADJ	ADJUSTABLE
AF	ACCESS FLOORING
AFD	AUTOMATIC FIRE DAMPER
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT
ASF	ALUMINUM STORE FRONT

B

BTWN	BETWEEN
BIT	BITUMEN
BJ	BAR JOIST
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BLT	BUILT
BM	BEAM
BO	BOTTOM OF
BR	BACKER ROD
BTWN	BETWEEN

C

CAP	CAPACITY
C/C	CENTER TO CENTER
CCTV	CLOSED CIRCUIT TELEVISION
CJ	CONTROL JOINT
CL	CLEAR
CLG	CEILING
CLO	CLOSET
CLR	COLOR
CMU	CONCRETE MASONRY UNIT
CONTR	CONTRACTOR
COL	COLUMN
COMP	COMPRESSION OR COMPRESSED
CONC	CONCRETE
COND	CONDENSATE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPLNG	COUPLING
CPT	CARPET
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTERS CENTER
CW	COLD WATER

D

DIA /	DIAMETER
DB	DRY BULB
DBL	DOUBLE
DEFL	DEFLECTION
DEPT	DEPARTMENT
DET/DTL	DETAIL
DISP	DISPENSER
DK	DARK
DN	DOWN
DP	DAMP PROOFING
DS	DOWNSPOUT
DWG(S)	DRAWING(S)

E

EA	EACH
EDF	ELECTRONIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFC	EACH FACE

E (CONT)

EJ	EXPANSION JOINT
ELEC	ELECTRICAL
EL/ELEV	ELEVATION
EMBED	EMBEDDED
ENGR	ENGINEER
ENT	ENTERING/ ENTRY
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EXPOSED STRUCTURE
EXH	EXHAUST
EXPAN	EXPANSION
EXT	EXTERIOR

F

FA	FIRE ALARM
FAC	FIRE ALARM CABINET
FD	FLOOR DRAIN
FAR	FIRE ALARM REMOTE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FIN	FINISH
FLR	FLOOR
FOC	FACE OF CONC
FOB	FACE OF BRICK
FR	FRAME
FS	FLOW SWITCH
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GF CMU	GROUND FACE CMU
GL	GLASS
GPM	GALLONS PER MIN.
GYP BD	GYPSUM BOARD

H

HB	HOSE BIB
HC	HANDICAP
HDWR	HARDWARE
HM	HOLLOW METAL
HP	HIGH POINT
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HW	HOT WATER
HVAC	HEATING, VENTILATION, AIR CONDITIONING

I

IC	INTERCOM
INSUL	INSULATION
INT	INTERIOR
INV	INVERT

J

JAN	JANITOR
JNT	JOINT
JST	JOIST

K

LAM	LAMINATE(D)
LAT	LAY-IN ACOUSTICAL CEILING
LAV	LAVATORY
LF	LINEAR FEET
LG	LEG
LP	LIGHT POLE

L

LAM	LAMINATE
LAV	LAVATORY
LT	LIGHT

M

MA	MIXED AIR
MAS	MASONRY
MAT'L	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR/MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MAS	MODIFIED
MRV	MOISTURE RELEASE VENT
MT	METAL THRESHOLD
MTD	MOUNTED
MTL	METAL

N

N/A	NOT APPLICABLE
NF	NATURAL FINISH
NIC	NOT IN CONTRACT
NO / #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE

O

OA	OUTSIDE AIR
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OH	OVERHEAD
OPN'G	OPENING
OPP	OPPOSITE
OZ	OUNCE

P

±, +/_	PLUS OR MINUS
PT	PAINT
PART'N	PARTITION
PRE-FIN	PRE FINISH(ED)
PL	PLATE
PPL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRE FAB	PREFABRICATED
PROJ	PROJECTION
PSF	POUNDS/SQUARE INCH
PTD	PAPER TOWEL DISPENSER

Q

QT	QUARRY TILE
GTB	QUARRY TILE BASE
GTY	QUANTITY

R

RA	RETURN AIR
RB	RUBBER BASE
RD	ROOF DRAIN
RE:	REFER TO...
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED
REQ'D	REQUIRED

R (CONT)

RET	RETURN
RM	ROOM
R.O	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SA	SUPPLY AIR
SAN	SANITARY
SAFM	SELF ADHERING FLASHING MEMBRANE
SCHED	SCHEDULE
SCWD	SOLID CORE WOOD
SECT	SECTION
SF	STOREFRONT/ SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SP	SPACING
SPEC	SPECIFIED/ SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUP	SUPPLY
SUSP	SUSPENDED
SYN	SYNTHETIC

T

T&B	TOP & BOTTOM
TBM	TEMPORARY BENCH MARK
TEL	TELEPHONE
T&G	TOUNGE & GROOVE
THRESH	THRESHOLD
TLT	TOILET
T.O.	TOP OF
T.O.B.	TOP OF BEAM
T.O.S.	TOP OF STRUCTURE
TP	TOILET PAPER HOLDER
TRTD	TREATED
TYP	TYPICAL ALL SIMILAR CONDITIONS

U

UC	UNDER COUNTER
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE

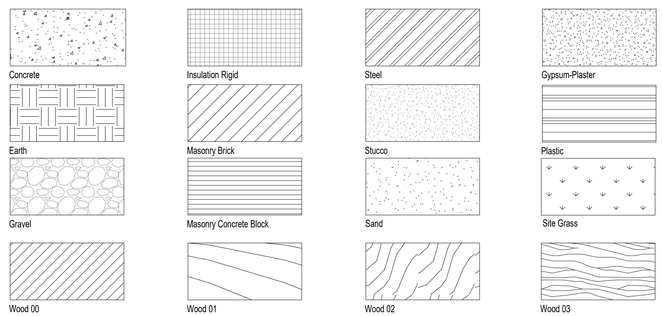
V

VAR	VARIES
VD	VOLUME DAMPER
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
VTR	VENT-THRU-ROOF
VWC	VINYL WALL COVERING

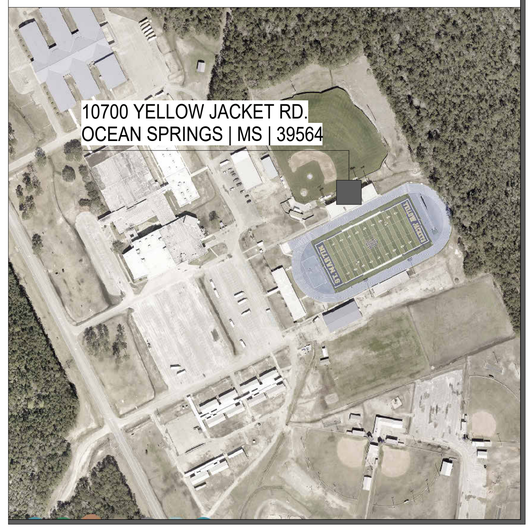
W

W	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WD	WOOD
WG	WATER GAUGE
WGVP	WIRE GLASS VISION PANEL
WH	WATER HEATER
WP	WATERPROOFING
WPMB	WATERPROOFING MEMBRANE

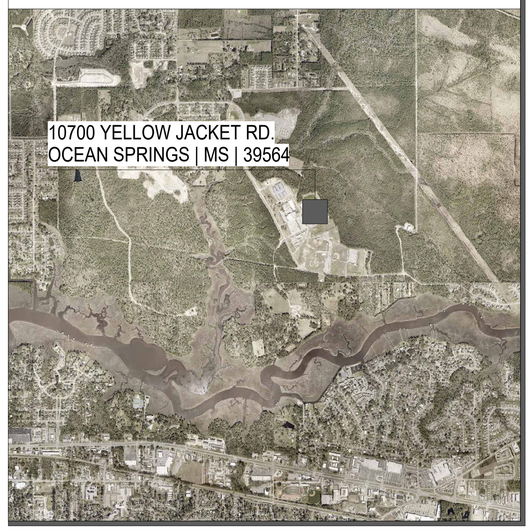
MATERIAL HATCH LEGEND



PROJECT MAP



VICINITY MAP



PROJECT GENERAL NOTES

1. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). THE GENERAL CONTRACTOR SHALL NOT BREAK OUT SECTIONS TO SUB-CONTRACTORS OR VENDORS.
2. DO NOT SCALE DRAWINGS; IF DIMENSIONS ARE IN QUESTION CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
3. BIDDERS SHALL FIELD VERIFY ALL EXISTING CONDITIONS ON THE PROJECT JOB SITE PRIOR TO BIDDING.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.
5. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL ABOVE CEILING WORK TO INSURE ADEQUATE INSTALL FOR ALL COMPONENTS AND TO PREVENT THE ADJUSTMENT OF ANY CEILING COMPONENTS.
6. GENERAL CONTRACTOR IS RESPONSIBLE FOR SECURING AND PROTECTING ALL CONSTRUCTION MATERIALS, EQUIPMENT, TOOLS, AND TEMPORARY FACILITIES ON THE JOB SITE FOR THE DURATION OF THE PROJECT.
7. MATERIALS USED ON THIS PROJECT SHALL NOT CONTAIN ASBESTOS.
8. GENERAL CONTRACTOR SHALL PLACE AND MAINTAIN THROUGHOUT DURATION OF PROJECT SPECIFIED GROUND MATERIAL OVER SOILS ADJACENT TO BUILDING PRIOR TO INSTALLING EXTERIOR WALL FINISH MATERIALS TO PREVENT STAINING ON FINISHED PRODUCT. ALL STAINS ON EXTERIOR WALL MATERIALS SHALL BE CLEANED AND FULLY REMOVED BEFORE SUBSTANTIAL COMPLETION OF PROJECT AT NO ADDITIONAL COST TO THE OWNER. IF STAINS CAN NOT BE REMOVED FROM THE FINISH MATERIALS, THE MATERIAL MUST BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
9. GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS FOR REVIEW AND APPROVAL BEFORE PROCEEDING WITH CONSTRUCTION. CONTRACTOR IS PROCEEDING AT HIS OWN RISK IF MATERIAL OR COMPONENTS ARE INSTALLED PRIOR TO RECEIVING REVIEWED AND EXECUTED SHOP DRAWINGS AND SUBMITTALS. CONTRACTOR SHALL TAKE LIABILITY FOR REMOVAL AND REPLACEMENT, AT NO ADDITIONAL COST TO THE OWNER, OF ALL MATERIAL, COMPONENTS AND LABOR FOR WORK INSTALLED WITHOUT SIGNED/STAMPED/APPROVED SHOP DRAWINGS AND SUBMITTALS.
10. ALL DOOR, FRAME, AND OPENING DIMENSIONS SHALL BE FIELD VERIFIED BEFORE FABRICATION.
11. CONTRACTOR TO COORDINATE & VERIFY ANY/ALL WEEP HOLES IN MASONRY ARE LOCATED ABOVE FINISH GRADE ELEVATION AND BELOW FINISH FLOOR ELEVATION TYPICAL.
12. ALL BID AMOUNTS MUST BE BASED ON THE MOST STRINGENT REQUIREMENT CALLED FOR IN THE COMPLETE CONSTRUCTION DOCUMENT PACKAGE. IN ADDITION, THE MOST STRINGENT REQUIREMENT SHOWN SHALL GOVERN AND TAKE PRECEDENCE IN THE EVENT OF ANY AND ALL CONFLICTS BETWEEN DIFFERENT DRAWINGS (PLANS, ELEVATIONS, DETAILS, SECTIONS, SCHEDULES, ETC...), BETWEEN DIFFERENT SPECIFICATION SECTIONS, WITHIN SPECIFICATION SECTIONS, AND BETWEEN THE DRAWINGS AND THE SPECIFICATIONS. IT WILL BE THE GENERAL CONTRACTORS RESPONSIBILITY TO BRING ANY AND ALL DISCREPANCIES TO THE ARCHITECT'S ATTENTION FOR FURTHER CLARITY PRIOR TO SUBMITTING A FORMAL BID.

PROJECT ALTERNATES

ALTERNATE 1: DEMOLISH, PROVIDE AND INSTALL ALL REQUIRED SCOPE INCLUDING ON ALTERNATE LAYOUT IN LIEU OF BASE BID LAYOUT FOR EAST RESTROOM BUILDING AS SHOWN ON DRAWINGS.

DRAWING INDEX

MP DESIGN GROUP
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Fernanda A. Silva, AIA

REGISTERED ARCHITECT
Fernanda A Silva
#23005
03.03.23
STATE OF MISSISSIPPI

ST. MARTIN BASEBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

SCALE: AS INDICATED
PROJECT NO: 0155.22.001
DRAWN BY: JH
CHECKED BY: FAS

22X34 GENERAL NOTES, ABBREV, SYMBOLS, SHEET INDEX

NO.	DATE	REVISION / SUBMITTAL
REV A	02.27.23	ISSUED FOR OWNER REVIEW

G101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

3/8/2023 4:10:10 PM

ADA & ABA GENERAL NOTES

1. ITEMS, DIMENSIONS, AND CLEARANCES SHOWN ON THESE DIAGRAMS ARE TYPICAL PROJECT TO PROJECT CONDITIONS AND ARE NOT INTENDED TO BE ALL INCLUSIVE, NOR MAY THEY ALL BE APPLICABLE FOR THIS SPECIFIC PROJECT. THEY ARE SHOWN FOR GENERAL REFERENCE PURPOSES ONLY DEPICTING THE MINIMUM REQUIREMENTS ALLOWED BY THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (ADA). THEY DO NOT REPRESENT A COMPLETE LISTING OF GUIDELINES OR STANDARDS NECESSARY TO MEET THE 2010 ADA ACCESSIBILITY CODE REQUIREMENTS. THE OVERALL INTENT OF THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT IS FOR IT TO BE IN FULL COMPLIANCE WITH THE 2010 ADA IN ITS ENTIRETY. IF A SITUATION ARISES DURING CONSTRUCTION WHERE A DISCREPANCY OCCURS BETWEEN A DESIGNED DETAIL OR A BUILT CONDITION AND THE MINIMUM REQUIREMENTS SET FORTH BY THESE DIAGRAMS OR ANY DIAGRAM IN THE 2010 ADA, THEN IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ARCHITECT TO ASSIST WITH MAKING A RESOLUTION PRIOR TO MOVING FORWARD WITH CONSTRUCTION OF THE AFFECTED DETAIL.
2. ALL DIMENSIONS ARE INDICATED IN INCHES UNLESS NOTED OTHERWISE.
3. ALL GRAPHICS SHOWN ARE TAKEN FROM THE LATEST EDITION OF AMERICANS WITH DISABILITIES ACT AND ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES.
4. ADDITIONAL ADA/ABA REQUIREMENTS MAY BE REQUIRED BY LOCAL JURISDICTION, STATE AND LOCAL GOVERNMENT AND LOCAL ORDNANCES. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADDITIONAL REQUIREMENTS AND IMPLEMENTING THESE REQUIREMENTS.
5. IF LOCAL JURISDICTION, STATE AND LOCAL GOVERNMENT AND LOCAL ORDNANCES DIFFER FROM WHAT IS SHOWN ON THIS SHEET THE CONTRACTOR SHALL BRING IT TO THE ARCHITECTS ATTENTION IN WRITING PRIOR TO BIDDING.

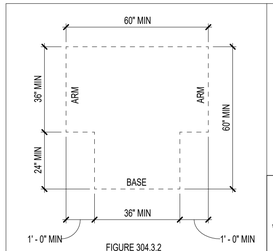


FIGURE 304.3.2
T-SHAPED TURNING SPACE

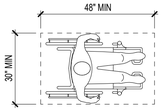
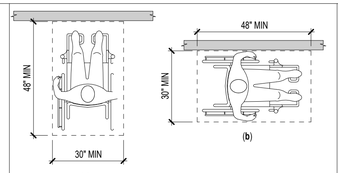


FIGURE 305.3
CLEAR FLOOR OR
GROUND SPACE



(a)
FIGURE 305.5
POSITION OF CLEAR FLOOR OR GROUND SPACE

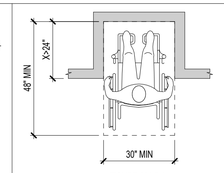


FIGURE 305.7.1
MANEUVERING CLEARANCE IN AND ALCOVE,
FORWARD APPROACH

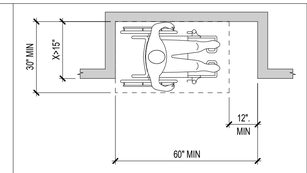


FIGURE 305.7.2
MANEUVERING CLEARANCE IN AND ALCOVE,
PARALLEL APPROACH

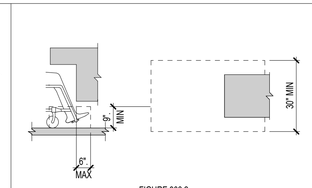


FIGURE 306.2
TOE CLEARANCE

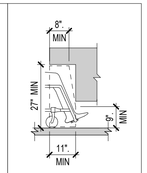


FIGURE 306.3
KNEE CLEARANCE

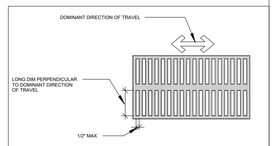
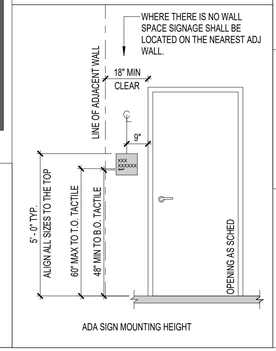


FIGURE 302.3
ELONGATED OPENINGS IN FLOOR OR
GROUND SURFACES



ADA SIGN MOUNTING HEIGHT

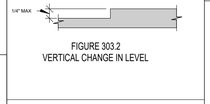


FIGURE 303.2
VERTICAL CHANGE IN LEVEL

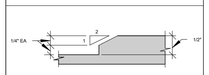


FIGURE 303.3
BEVELED CHANGE IN LEVEL

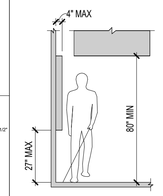


FIGURE 307.2
LIMITS OF PROTRUDING OBJECTS

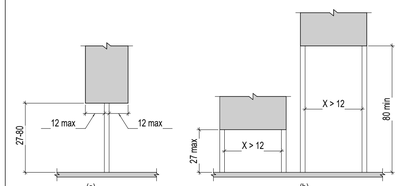


Figure 307.3
Post-Mounted Protruding Objects

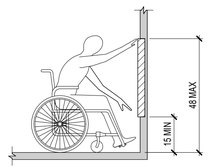


FIGURE 308.2.1
UNOBSTRUCTED FORWARD REACH

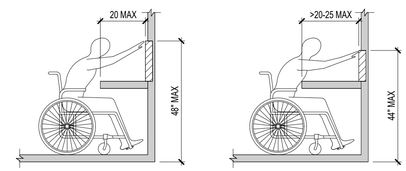


FIGURE 308.2.2
OBSTRUCTED HIGH FORWARD REACH

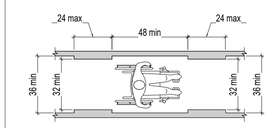
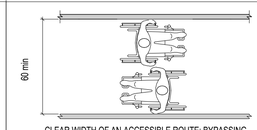


FIGURE 403.5.1
CLEAR WIDTH OF AN ACCESSIBLE ROUTE



CLEAR WIDTH OF AN ACCESSIBLE ROUTE; BYPASSING

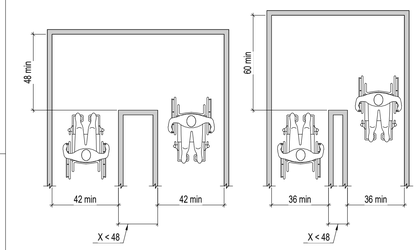


FIGURE 403.5.2
CLEAR WIDTH AT TURN

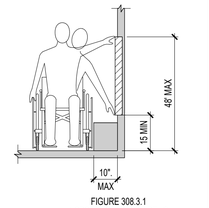


FIGURE 308.3.1
UNOBSTRUCTED SIDE REACH

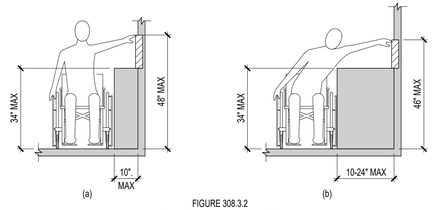


FIGURE 308.3.2
OBSTRUCTED HIGH SIDE REACH

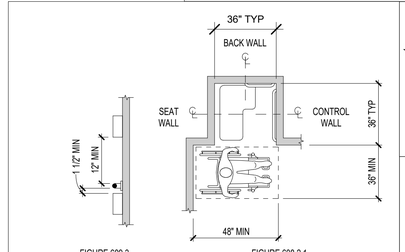


FIGURE 609.3
SPACING OF GRAB BARS

FIGURE 608.2.1
TRANSFER TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

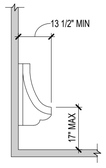


FIGURE 605.2
HEIGHT AND DEPTH OF URINALS
(A) WALL HUNG TYPE

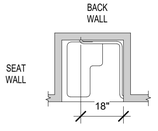


FIGURE 608.3.1
GRAB BARS FOR TRANSFER TYPE SHOWER

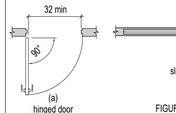


FIGURE 404.2.3
CLEAR WIDTH OF DOORWAYS

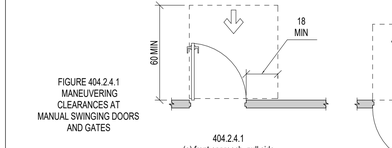
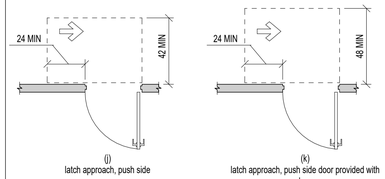


FIGURE 404.2.4.1
MANEUVERING
CLEARANCES AT
MANUAL SWINGING DOORS
AND GATES

404.2.4.1
(a) front approach, pull side
(b)
front approach, push side
(c) front approach, push side
with closure and latch
(d)
hinge approach, pull side
(e)
hinge approach, pull side
(f)
hinge approach, push side
(g)
hinge approach, push side, door provided with
closure and latch
(h)
latch approach, pull side
(i)
latch approach, pull side door provided with closer



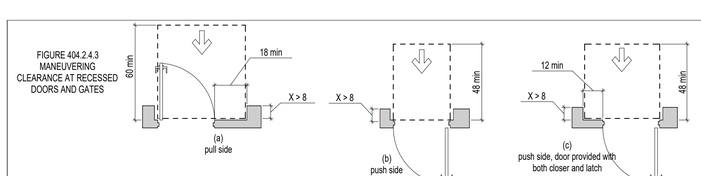


FIGURE 404.2.4.3
MANEUVERING
CLEARANCE AT RECESSED
DOORS AND GATES

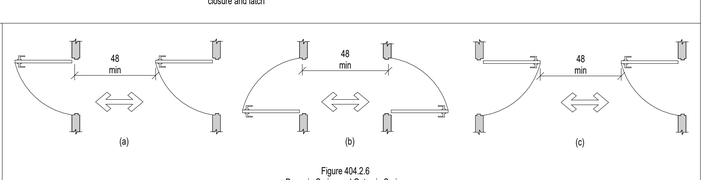
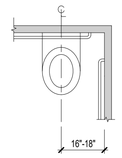
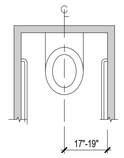


Figure 404.2.6
Doors in Series and Gates in Series



(A) WHEELCHAIR ACCESSIBLE WATER CLOSETS



(B) AMBULATORY ACCESSIBLE WATER CLOSETS

FIGURE 604.2
WATER CLOSET LOCATION

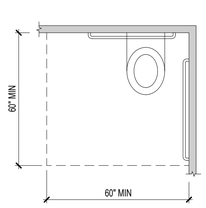


FIGURE 604.3.1
SIZE OF CLEARANCE AT WATER CLOSETS

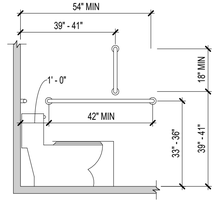


FIGURE 604.5.1
SIDE WALL GRAB BAR FOR WATER CLOSET

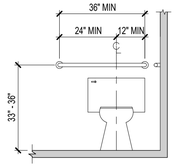


FIGURE 604.5.2
REAR WALL GRAB BAR FOR WATER CLOSET

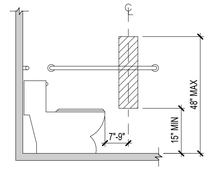
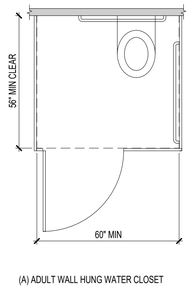
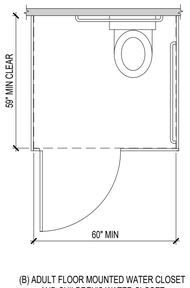


FIGURE 604.7
DISPENSER OUTLET LOCATION



(A) ADULT WALL HUNG WATER CLOSET



(B) ADULT FLOOR MOUNTED WATER CLOSET
AND CHILDREN'S WATER CLOSET

FIGURE 604.8.1.1
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS

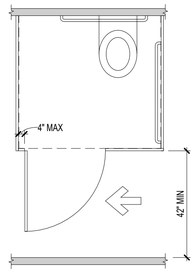


FIGURE 604.8.1.2
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS

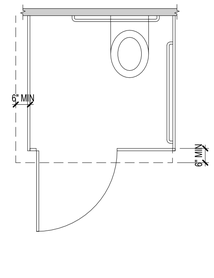


FIGURE 604.8.1.4
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE
CLEARANCE

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REGISTERED ARCHITECT
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STATE OF MISSISSIPPI
03/03/23

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JACKSON COUNTY SCHOOL DISTRICT
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OCEAN SPRINGS | MS | 39564

SCALE: AS INDICATED
PROJECT NO:0155.22.001
DRAWN BY: JH
CHECKED BY:FAS

22X34 ADA & ABA STANDARDS

NO.	DATE	REVISION / SUBMITTAL
REV A	02.27.23	ISSUED FOR OWNER REVIEW

G102

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3/8/2023 4:10:12 PM

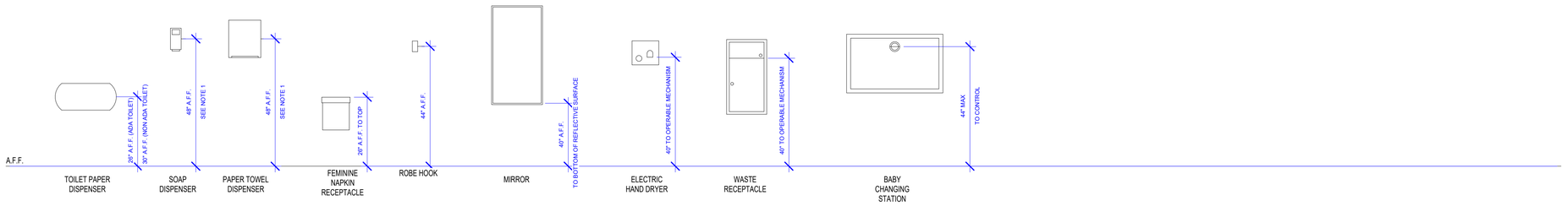
TYP. MOUNTING HEIGHT GENERAL NOTES

1. ANY DEVICE WITH OPERABLE COMPONENTS TO BE 48" MAX TO TOP OF OPERABLE COMPONENT. GC TO NOTIFY ARCHITECT PRIOR TO INSTALLATION OF ANY DEVIATIONS FROM THIS ADA MAXIMUM OPERABLE REACH HEIGHT.

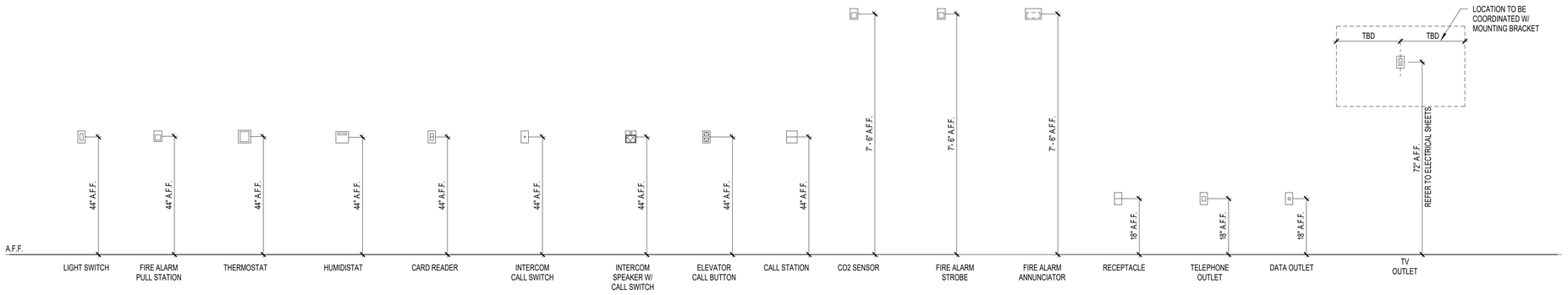
2. ANY DEVICE WITH OPERABLE COMPONENTS TO BE 15" MIN TO BOTTOM OF OPERABLE COMPONENT. GC TO NOTIFY ARCHITECT PRIOR TO INSTALLATION OF ANY DEVIATIONS FROM THIS ADA MINIMUM OPERABLE REACH HEIGHT.

3. ALL TYPICAL MOUNTING HEIGHT DIMENSIONS SHOWN HEREIN ARE TO CENTERLINE OF DEVICE OR FIXTURE U.N.O.

TYPICAL TOILET ACCESSORY MOUNTING HEIGHTS



TYPICAL PLATE AND DEVICE MOUNTING HEIGHTS



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PROJECT NO: 0155.22.001
DRAWN BY: JH
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22X34 TYPICAL MOUNTING HEIGHTS

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GENERAL CONDITIONS

1. MASONRY WALLS ARE NON–SELF–SUPPORTING AND ARE DESIGNED FOR A COMPLETED CONDITION ONLY. A COMPLETED STRUCTURE IS REQUIRED TO PROVIDE LATERAL STABILITY AND RESISTANCE TO WIND AND SEISMIC FORCES. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING REQUIRED TO MAINTAIN STABILITY OF STRUCTURAL SYSTEM.

REINFORCING STEEL

1. MINIMUM COVER (OR CONCRETE PROTECTION) OF ALL CONCRETE REINFORCEMENT MEASURED FROM THE FINISHED CONCRETE FACE TO THE SOIL SHALL BE THREE (3) INCHES FOR FOOTINGS AND GRADE BEAMS (BOTTOM AND SIDE) AND THREE (3) INCHES BOTTOM AND SIDE FOR SLAB ON GRADE.
2. ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE A.C.I. MANUAL OF PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, A.C.I. 315.
3. REINFORCING STEEL SHALL BE PLACED IAW CRSI "PLACING REINFORCING BARS", LATEST EDITION. REINFORCING BARS SHALL BE ASTM A615 GRADE 60.
4. DEFORMED WELDED WIRE FABRIC (WWF) SHALL CONFORM WITH A185.
5. THE LAP SPLICE DEVELOPMENT LENGTH OF STEEL REINFORCEMENT SHALL BE ACHIEVED AND MADE TO DEVELOP FULL STRENGTH OF THE REINFORCEMENT STEEL. WHERE SPLICES IN REINFORCING ARE NECESSARY, REINFORCING SHALL BE LAPPED 48 BAR DIAMETERS IN INCHES (MINIMUM). ALL BAR SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES, UNLESS NOTED OTHERWISE. SPLICES SHALL CONFORM TO A.C.I. 318, LATEST REVISION.
6. REINFORCEMENT STEEL SHALL BE STORED IN SUCH MANNER TO PREVENT EXPOSURE TO THE ELEMENTS AND SHALL BE FREE OF RUST BEFORE PLACEMENT. REINFORCEMENT STEEL SHALL NOT BE WELDED.
7. ALL FOOTING REINFORCEMENT SHALL BE HELD SECURELY FROM THE GROUND USING REBAR CHAIRS OR OTHER APPROVED METHODS. CONCRETE BLOCK OR BROKEN TILE MAY BE USED.
8. ALL TIE REINFORCEMENT SHALL BE NO. 3 UNLESS NOTED OTHERWISE.
9. OUTER BAR OF FOUNDATION REINFORCEMENTS SHALL BE CONTINUOUS AROUND CORNERS OR BY BENDING THE BAR, MINIMUM BAR LAP SHALL BE 25 INCHES.

CONCRETE MASONRY

1. MASONRY CONSTRUCTION SHALL COMPLY WITH ACI 530; BUILDING CODE REQUIREMENTS & SPECIFICATIONS FOR MASONRY STRUCTURES.
2. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C–90, TYPE II, AND HAVE A MINIMUM ULTIMATE COMPRESSIVE PRISM STRENGTH (F'm) OF 1,900 PSI FOR THE MASONRY ASSEMBLAGE.
3. ALL MORTAR SHALL BY TYPE S CONFORMING TO ASTM C270 WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI.
4. CMU WALLS SHALL BE GROUTED IN 4'–0" LIFTS, MAXIMUM.
5. ALL CMU BOND BEAMS, LINTELS, AND CELLS WHICH CONTAIN REINFORCING STEEL SHALL BE FILLED SOLID WITH 2000 PSI CONCRETE GROUT (UNLESS NOTED OTHERWISE).
6. VERTICAL CELLS TO BE FILLED SHALL HAVE A VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL NOT LESS THAN 2" X 3" IN PLAN DIMENSIONS.
7. A CONTINUOUS BOND BEAM WITH (2) #5 BARS SHALL BE PROVIDED NEAR THE TOP AND BOTTOM OF ALL CMU WALLS AND AT INTERVALS OF 4'–0" VERTICALLY, UNLESS NOTED OTHERWISE IN PLANS. ALL BOND BEAMS SHALL BE REINFORCED WITH (2) #5 BARS UNLESS NOTED OTHERWISE IN PLANS.
8. FOUNDATION DOWELS SHALL EXTEND INTO FOUNDATION CONCRETE. SPLICES LENGTHS FOR WALL REINFORCEMENT SHALL BE DEVELOPED A MINIMUM OF 48". BEND DIAMETER FOR REINFORCING BARS SHALL BE A MINIMUM OF 6 x BAR DIA. WITH A MINIMUM EXTENSION OF 7.5", AND HOOK EXTENSIONS SHALL BE A MINIMUM OF 13 x BAR DIA. THERE SHALL BE A FOUNDATION DOWEL FOR EACH VERTICAL WALL REINFORCEMENT.
9. HORIZONTAL REINFORCING SHALL BE KNOCKOUT BOND BEAMS WITH (2) #5 CONTINUOUS UNLESS NOTED OTHERWISE. CORNER BARS SHALL BE INSTALLED IN BOND BEAMS.
10. CORNER BARS SHALL BE PROVIDED FOR ALL HORIZONTAL REINFORCEMENT, WITH A MINIMUM LEG LENGTH OF 2'–0" OR 48" x BAR DIA., WHICHEVER IS GREATER.
11. NORMAL VERTICAL WALL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE TOP OF THE FOUNDATION TO EMBED AT LEAST 6" INTO THE TOP OF WALL BOND BEAM, THE VERTICAL SLOTS IN KNOCKOUT BOND BEAMS SHALL BE AT LEAST 3" INTO THE HEIGHT OF AN 8" HIGH BLOCK UNIT. AN ADDITIONAL #4 HOOKED DOWEL SHALL BE INSTALLED IN THE TOP OF ALL MASONRY WALLS AT EACH VERTICAL WALL CELL CONTAINING VERTICAL REINFORCING. DOWELS SHALL PROJECT 24" INTO THE WALL AND HOOK 6" INTO THE WALL TOP BOND BEAM.
12. AN ADDITIONAL VERTICAL BAR, SAME SIZE AND LENGTH AS THE NORMAL VERTICAL REINFORCING BAR SHALL BE PLACED:
    a. AS SHOWN ON DRAWINGS.
    b. AT A CORNER INTERSECTION OF TWO WALLS.
    c. AT "T" INTERSECTIONS OF TWO WALLS.
    d. AT EACH SIDE ON CONTROL JOINTS.
    e. AT END OF DISCONTINUOUS WALLS AND AT OPENINGS.
13. CORNER BLOCKS SHALL BE INTERWOVEN BETWEEN TWO WALLS.
14. NON–LOAD BEARING WALLS:
    a. PROVIDE CONTINUOUS BOND BEAMS WITH (2) #5 BARS NEAR THE TOP AND BOTTOM OF CMU WALLS AND AT INTERVALS OF 4'–0" VERTICALLY, UNLESS NOTED OTHERWISE IN PLANS.
16. EVERY PIER OR WALL SECTION WITH A WIDTH OF 3'–0" OR LESS SHALL HAVE HORIZONTAL SHEAR STEEL IN THE FORM OF TIES.
17. ALL BOLTS, ANCHORS, REINFORCEMENT AND EMBEDDED ITEMS SHALL BE GROUTED IN PLACE.
18. CONTINUE REINFORCEMENT THROUGH MASONRY CONTROL JOINTS FOR BOND BEAMS AT FLOOR AND TOP OF WALL.

CAST IN PLACE CONCRETE

1. CONCRETE MIX SHALL BE DESIGNED TO DEVELOP STRENGTH OF 3,500 PSI TESTED AT 28 DAYS.
2. CONTRACTOR SHALL VERIFY ALL IN SLAB FIXTURE DIMENSIONS WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL PLANS. ALL SLOTS, SLEEVES AND OTHER EMBEDDED ITEMS SHALL BE SET BEFORE CONCRETE IS PLACED. ALL FOUNDATION PENETRATIONS SHALL BE THROUGH THICKENED SLAB EDGE OR 6" CLEAR BELOW FOOTING. CONDUIT SHALL NOT BE PLACED WITHIN THE SLAB ON GRADE. CONDUIT SHALL BE INSTALLED BELOW THE SLAB ON GRADE. PIPES AND DUCTS SHALL NOT EXCEED ONE–THIRD THE SLAB OR WALL THICKNESS UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
3. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIAL FINISHES, INCLUDING BUT NOT LIMITED TO MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FOR LOCATIONS OF FLOOR FINISHES AND SLAB DEPRESSIONS. CONCRETE SHALL BE PLACED ON COMPACTED FILL OR OTHER SURFACES. SOIL POISONING SHALL BE APPLIED TO THE COMPACTED SOIL UNDER CONCRETE SLAB AREA PRIOR TO PLACEMENT OF THE VAPOR BARRIER (SEE ARCHITECTURAL DRAWINGS/ SPECIFICATIONS FOR DETAILS). VAPOR BARRIER DAMP PROOFING SHALL BE MINIMUM 10–MIL POLYETHYLENE SHEETING INSTALLED WITHIN BUILDING AREA ON TOP OF THE COMPACTED SOIL PRIOR TO PLACING SLAB CONCRETE.
4. ALL HONEY–COMBING, SPALLS, CRACKS, ETC. SHALL BE REPAIRED. EXTENT OF DEFECTIVE AREA SHALL BE DETERMINED BY THE STRUCTURAL ENGINEER.
5. CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH A ¾" DEGREE CHAMFER, UNLESS NOTED OTHERWISE.
6. REFER TO PLANS FOR CONTROL JOINT LOCATIONS. CONSTRUCTION JOINTS MAY BE ADDED AS REQUIRED TO PREVENT THE FORMATION OF CONCRETE COLD JOINTS DURING PLACEMENT OF CONCRETE. CONSTRUCTION JOINTS SHALL BE INSTALLED IN LOCATIONS WHERE THE CONCRETE PLACEMENT OPERATION IS SCHEDULED FOR SEVERAL SEPARATE PLACEMENTS OR WHEREVER THE CONCRETE PLACEMENT IS DELAYED A SUFFICIENT AMOUNT OF TIME TO FORM A CONCRETE COLD JOINT.
7. SLABS ON GRADE SHALL BE A THICKNESS AND REINFORCING AS SHOWN ON PLANS. REINFORCING AS SHOWN ON PLANS AND SHALL BE HELD SECURELY FROM THE GROUND USING REBAR CHAIRS OR OTHER APPROVED METHODS (CUT CONCRETE BRICK OR MAY BE USED) TO ENSURE MESH STAYS AT DEPTH INTENDED.
8. UNDER NO CIRCUMSTANCES WILL DIGGING, TUNNELING OR TRENCHING BE ALLOWED AT OR NEAR ANY CONCRETE STRUCTURE WHICH MIGHT ACT TO UNDERMINE THE STRUCTURE.
9. ANCHOR RODS SHALL CONFORM TO ASTM F1554 STANDARDS, NUTS SHALL CONFORM TO ASTM A563 STANDARDS AND WASHERS TO ASTM F436 STANDARDS.
10. ALL DETAILS SHOWN ARE TYPICAL, SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS.
11. COORDINATE ALL CONSTRUCTION PLANS WITH ARCHITECTURAL PLANS.

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03/08/23

ST. MARTIN FOOTBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
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OCEAN SPRINGS | MS | 39564

SCALE:	AS INDICATED
PROJECT NO:	0155.22.010
DRAWN BY:	BJS
CHECKED BY:	GWK

STRUCTURAL GENERAL NOTES

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

S001

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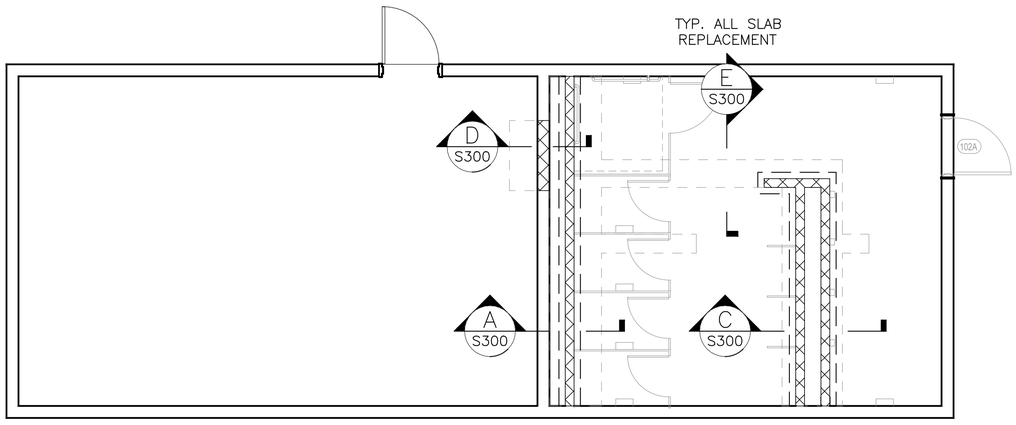
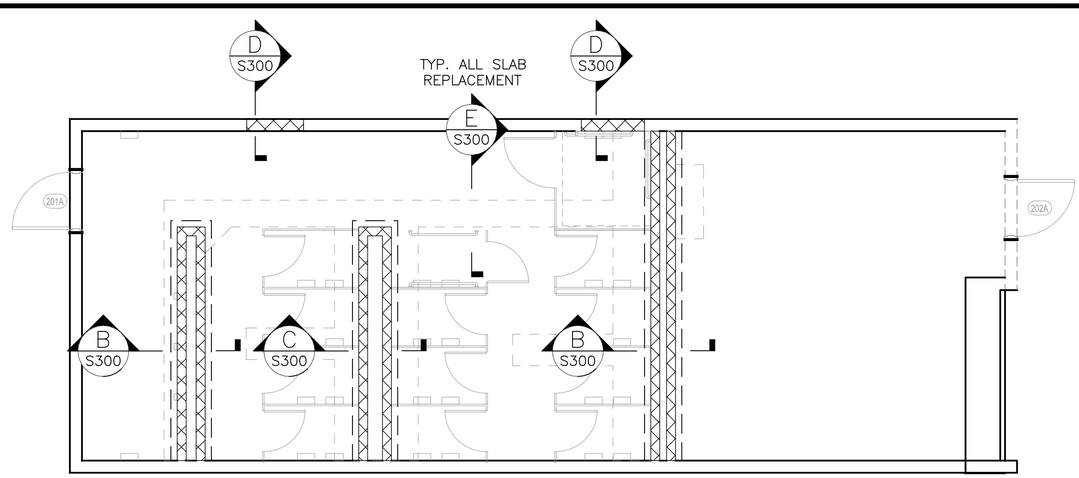
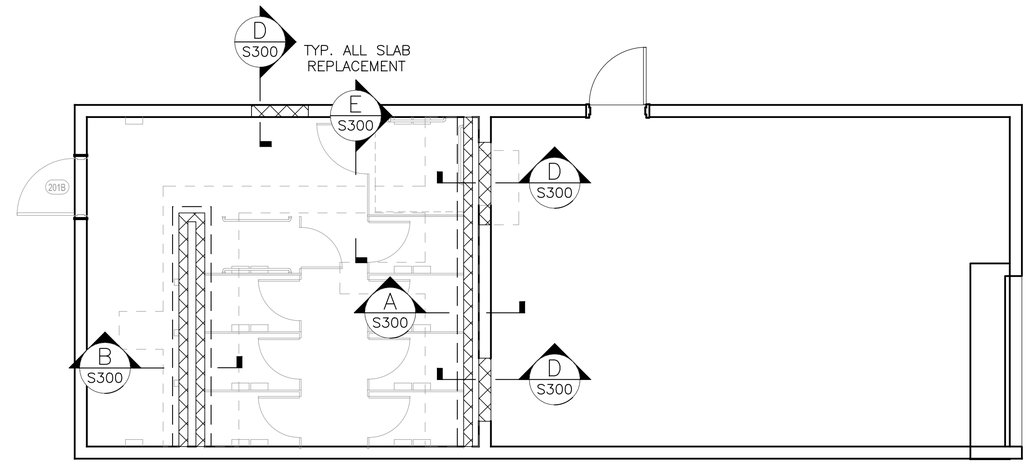


1 FOUNDATION PLAN - WEST BUILDING
SCALE: 1/4 = 1'-0"



3 FOUNDATION PLAN - EAST BUILDING (ALTERNATE)
SCALE: 1/4" = 1'-0"



2 FOUNDATION PLAN - EAST BUILDING (BASE BID)
SCALE: 1/4" = 1'-0"

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BENNIE J. SELLERS III LICENSED PROFESSIONAL ENGINEER 32997 STATE OF MISSISSIPPI 03/08/23

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FOUNDATION PLAN

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

S100

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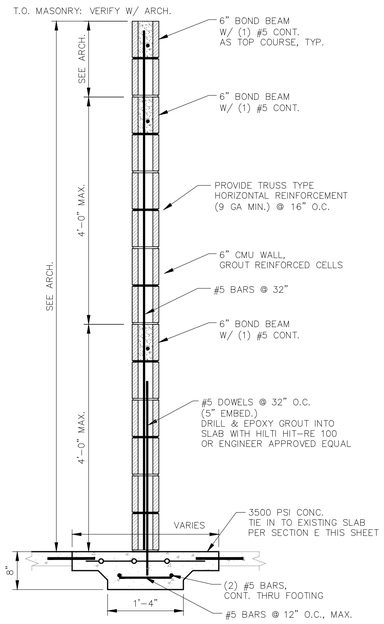
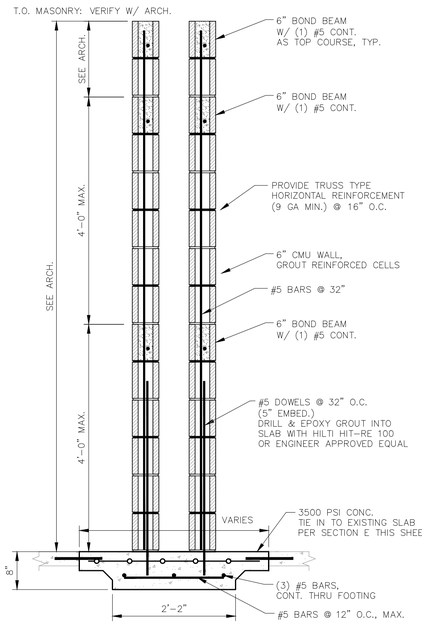


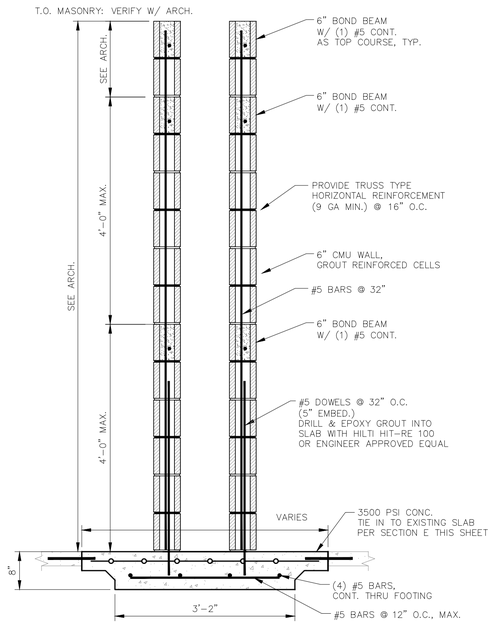
A S100 S300 SECTION - 6" CMU WALL

SCALE: 3/4" = 1'-0"



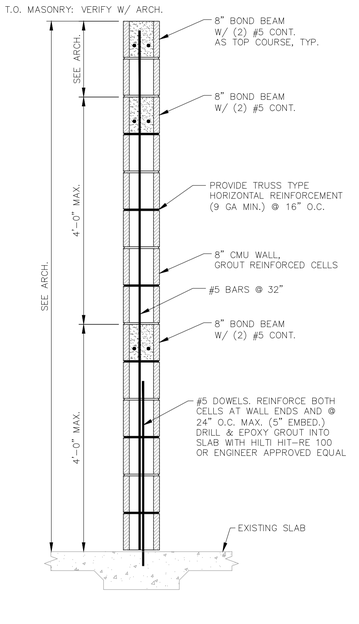
B S100 S300 SECTION - 6" CMU WALL

SCALE: 3/4" = 1'-0"



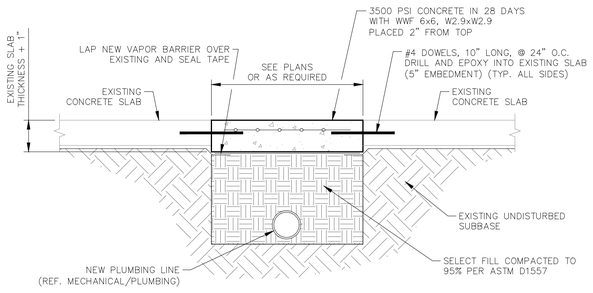
C S100 S300 SECTION - 6" CMU WALL

SCALE: 3/4" = 1'-0"



D S100 S300 SECTION - 8" CMU WALL INFILL

SCALE: 3/4" = 1'-0"



E S100 S300 SECTION - TYP. SLAB REPAIR

SCALE: 1" = 1'-0"

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03/08/23

ST. MARTIN FOOTBALL RESTROOMS

JACKSON COUNTY SCHOOL DISTRICT

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SECTIONS AND DETAILS

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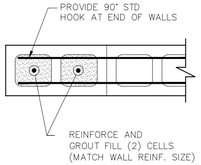
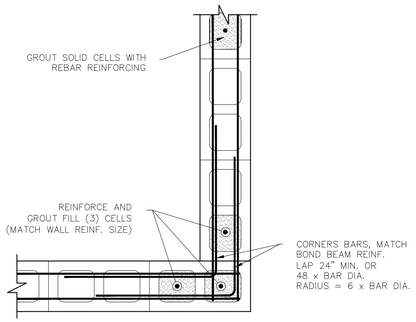
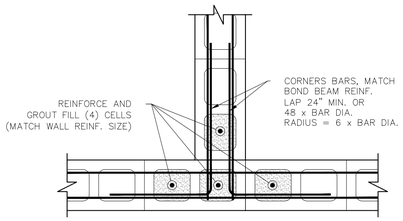


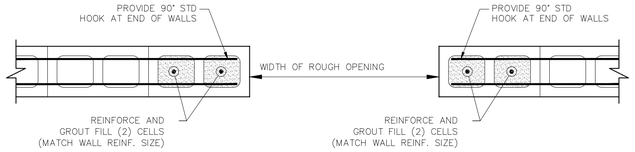
WALL END REINFORCEMENT



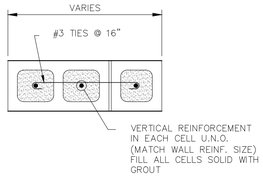
WALL CORNER REINFORCEMENT



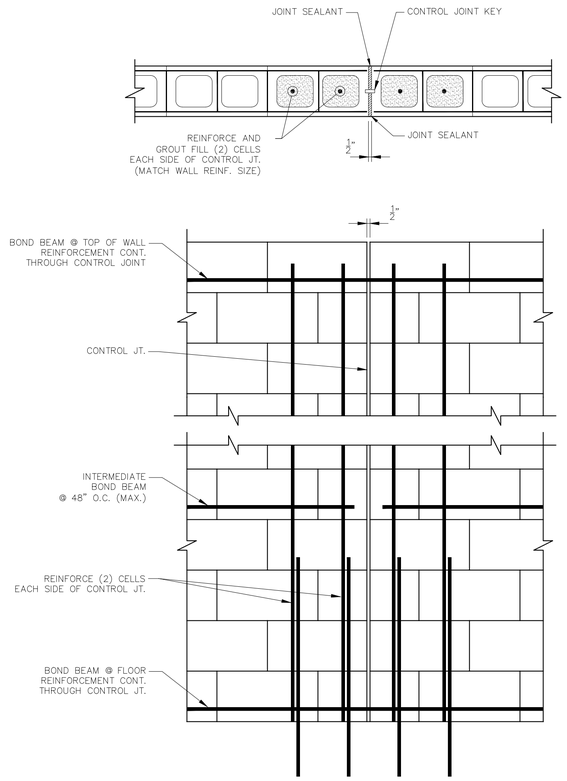
WALL INTERSECTION REINFORCEMENT



WALL ROUGH OPENING (WINDOWS/DOORS) REINFORCEMENT



PIER OR WALL SECTION 3'-0" OR LESS IN WIDTH REINFORCEMENT



MASONRY WALL CONTROL JOINT REINFORCEMENT DETAIL

STANDARD DETAIL
CMU REINFORCEMENT DETAILS

SCALE: NTS

NOTES:
1. REINFORCEMENT SHOWN IS IN addition TO MINIMUM REINFORCEMENT SHOWN ON PLANS.
2. REINFORCEMENT SHALL BE CONTINUOUS FROM FOOTING TO TOP OF WALL. FILL CORES SOLID WITH GROUT AS NOTED IN SPECIFICATIONS, GENERAL NOTES, AND/OR PLANS.

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STATE OF MISSISSIPPI
03/08/23

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JACKSON COUNTY SCHOOL DISTRICT
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OCEAN SPRINGS | MS | 39564

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STANDARD SECTIONS AND DETAILS

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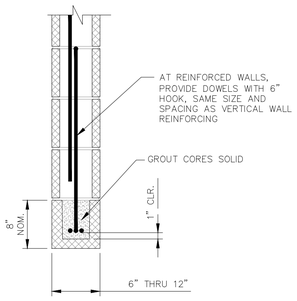
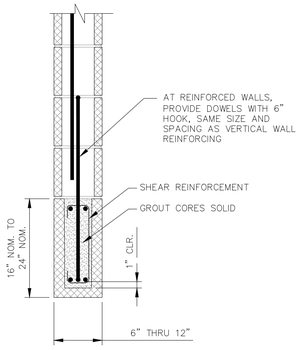
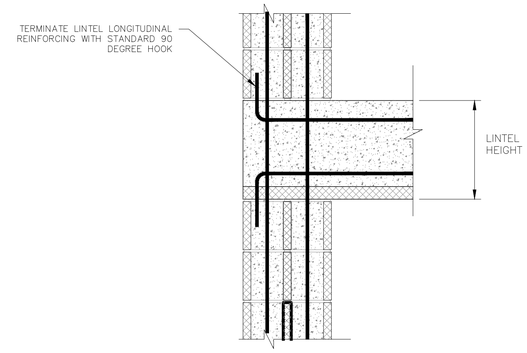


8" DEEP LINTELS



16" DEEP OR DEEPER LINTELS



DETAIL AT LINTEL BEARING

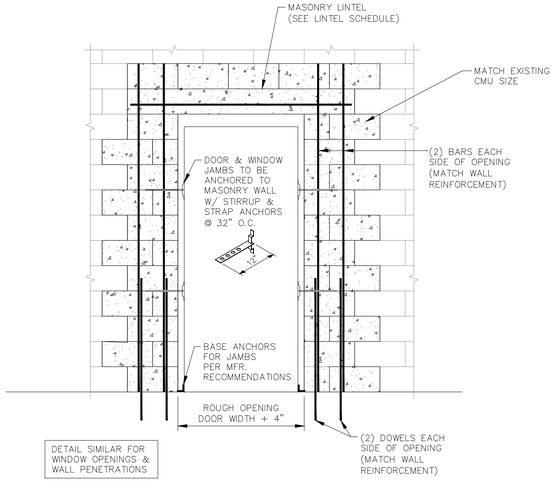
STANDARD DETAIL
CMU LINTEL SECTIONS AND DETAILS

SCALE: NTS

NOTES:
1. SEE STRUCTURAL AND ARCHITECTURAL PLANS FOR SPECIFIC LOCATIONS AND CLEAR OPENING SPANS.
2. LINTELS ARE TO SPAN CONTINUOUS BETWEEN BEARINGS ON EACH SIDE OF OPENING.
3. EXTEND BOTTOM REINFORCEMENT TO END OF BEARING ON EACH SIDE OF OPENING AND EXTEND TOP REINFORCEMENT WHERE POSSIBLE (BASIC DEVELOPMENT STRENGTH). TERMINATE TOP REINFORCEMENT WITH STD HOOK AT CONTROL JOINTS OR FREE EDGES.
4. PROVIDE SOLID GROUTED OR MASONRY JAMB UNDER LINTEL ON EACH SIDE OF OPENING FOR SPANS GREATER THAN 6'–0".

CMU LINTEL OPENING SCHEDULE

CLEAR OPENING SPAN (CO)	HEIGHT	REINFORCING			BEARING EACH END
		BOTTOM BARS	TOP BARS	SHEAR REINF	
0'–0" < CO ≤ 4'–0"	8"	2 – #4 BARS	N/A	N/A	8"
4'–0" < CO < 6'–0"	8"	2 – #4 BARS	N/A	N/A	16"
6'–0" ≤ CO ≤ 12'–0"	16"	2 – #5 BARS	2 – #5 BARS	#3 @ 12"	16"
"L1" LINTEL	24"	2 – #6 BARS	2 – #6 BARS	#3 @ 12"	16"



STD. DETAIL - ROUGH OPENING IN EXISTING WALL

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STANDARD SECTIONS AND DETAILS

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DEMOLITION LEGEND

- EXISTING WALL TO REMAIN
- DEMOLISH ITEM
- EXIST CONCRETE
- DEMOLISH CONCRETE
- AREA NOT IN SCOPE

DEMO RCP LEGEND

- NO WORK REQUIRED
- EXISTING TO REMAIN
- DEMOLISH
- LIGHTING FIXTURE TO BE DEMO
- SUPPLY DIFFUSER TO BE DEMO
- RETURN DIFFUSER TO BE DEMO

DEMOLITION GENERAL NOTES

1. THE DEMOLITION PLANS AND ELEVATIONS INDICATE THE GENERAL SCOPE AND INTENT ITEMS THAT ARE TO BE REMOVED, ABANDONED AND/OR REWORKED; HOWEVER, ALL ITEMS AND AREAS MAY NOT BE DEPICTED OR NOTED.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO FULLY COORDINATE DEMOLITION WITH ALL DISCIPLINES AND REMOVE AS REQUIRED AND PATCH BACK AS REQUIRED TO MATCH ADJACENT AREA(S) THAT MAY NOT BE NOTED.
3. SEE MECHANICAL AND PLUMBING SHEETS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
4. SEE ELECTRICAL SHEETS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
5. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR OWNER REMOVED ITEMS, SUCH AS, BUT NOT LIMITED TO, FURNITURE, TACK BOARDS, WHITE BOARDS, METAL LOCKERS, WOOD SHELVING, WOOD WORK TABLES, ETC. THESE ITEMS ARE NOT INDICATED ON THE PLANS.
6. DIMENSIONS SHOWN ON THIS SHEET ARE APPROXIMATE AND FOR REFERENCE ONLY. THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
7. APPROXIMATE EAVE HEIGHT IS (15' - 8") AND APPROXIMATE RIDGE HEIGHT IS (22' - 7"); GENERAL CONTRACTOR SHALL VERIFY.

DEMOLITION KEY NOTES

A. REMOVE ALL PLUMBING FIXTURES, INCLUDING URINALS, TOILETS, SINKS, SHOWER HEADS/SHOWER UNITS AND FLOOR DRAIN ASSEMBLIES. (UNLESS SPECIFICALLY NOTED OTHERWISE). SEE PLUMBING FOR ADDITIONAL INFORMATION. ANY ABANDONED LINES SHALL BE REMOVED, CAPPED AND PROPERLY SEALED AT THE FACE OF WALL OR ABOVE CEILING FINISH.

B. REMOVE ALL RESTROOMS ACCESSORIES INCLUDING BUT NOT LIMITED TO GRAB BARS, MIRRORS, TOILET TISSUE DISPENSERS, PAPER TOWEL DISPENSERS, HAND DRYERS, SOAP DISPENSERS, AND SANITARY NAPKIN DISPOSALS. (UNLESS SPECIFICALLY NOTED OTHERWISE) ANY HOLES OR IN WALL PENETRATIONS SHALL BE PREPPED AND PATCHED TO RECEIVE NEW FINISHES.

C. REMOVE WITH CARE CMU WALL IN IT'S ENTIRETY/ TO EXTENTS SHOWN FROM CONCRETE FLOOR SLAB TO ABOVE CEILING OR TO ROOF DECK ABOVE TO EXTENTS SHOWN. CMU SHALL BE SAW CUT STRAIGHT AND TRUE AT NEAREST VERTICAL JOINT. NO IRREGULAR CUTS, CHIPS, ETC. SHALL BE ACCEPTED. ENSURE A SMOOTH AND FLUSH WALL SURFACE ON ANY ABUTTING MASONRY WALL TO REMAIN.

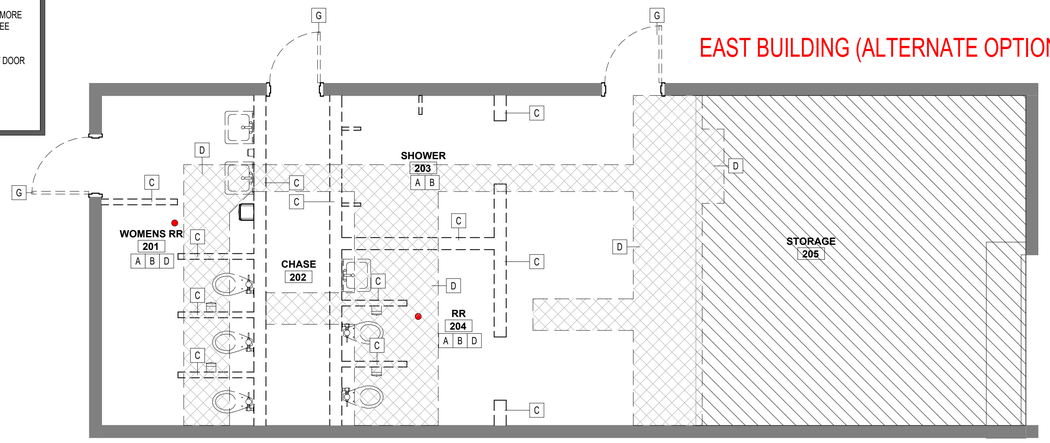
D. DEMO EXISTING CONCRETE SLAB, INCLUDING BUT NOT LIMITED TO, CONCRETE SLAB, WELDED WIRE MESH, VAPOR BARRIER, EXISTING FLOOR DRAIN (EFD) AT EXISTING RESTROOM LOCATIONS, SOILS TO DEPTH AS REQUIRED FOR THE INSTALLATION OF NEW PLUMBING LINES, ETC., EXISTING FLOOR DRAIN LINE SHALL BE CAPPED AND SEALED TIGHT; SEE PLUMBING FOR ADDITIONAL INFORMATION. HATCHED AREA INDICATES APPROXIMATE REMOVAL EXTENTS. CONTRACTOR SHALL FIELD VERIFY AND REMOVE ITEMS AS NEEDED FOR THE INSTALLATION OF NEW PLUMBING WORK.

E. REMOVE WITH CARE IN ITS ENTIRETY CEILING SYSTEM INCLUDING SUBSTRATE (GYPSUM OR PLYWOOD) INCLUDING ANY ASSOCIATED TRIMS, ANCHORS, SCREWS OR SUPPORTS AS REQUIRED TO INSTALL CEILING AS SCHEDULED.

F. REMOVE EXISTING LIGHT FIXTURES AS INDICATED. SEE ELECTRICAL FOR MORE INFORMATION. REMOVE EXISTING MECHANICAL GRILLES AS INDICATED. SEE MECHANICAL FOR MORE INORMATION.

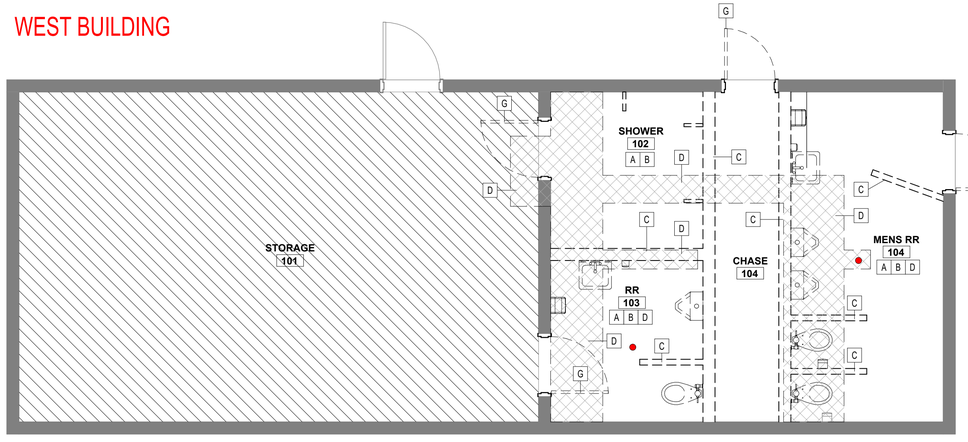
G. REMOVE HM DOOR WITH CARE. REMAIN EXISTING DOOR FRAME FOR NEW DOOR INSTALLATION.

EAST BUILDING (ALTERNATE OPTION)



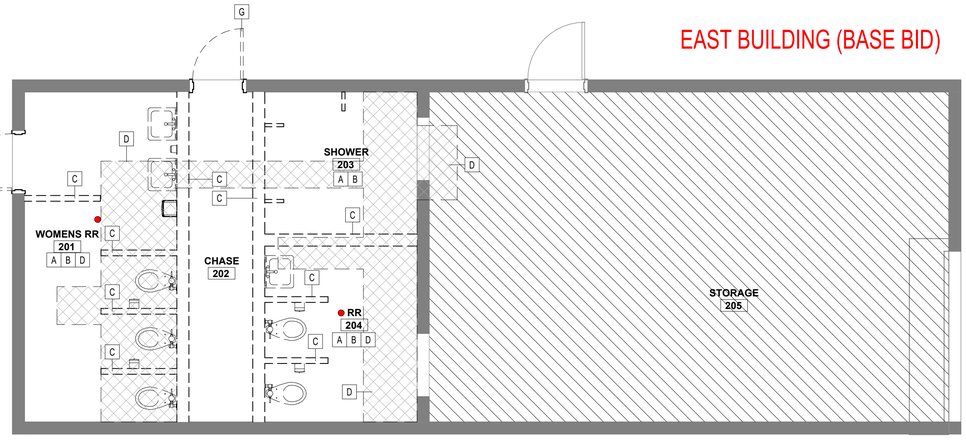
3 D101 FIRST FLOOR PLAN - DEMOLITION
1/4" = 1'-0"

WEST BUILDING



1 D101 DEMO FLOOR PLAN - WEST BUILDING
1/4" = 1'-0"

EAST BUILDING (BASE BID)



2 D101 DEMO FLOOR PLAN - EAST BUILDING
1/4" = 1'-0"

NORTH

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REGISTERED ARCHITECT
Fernanda A Silva
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03/08/23

ST. MARTIN BASEBALL RESTROOMS

JACKSON COUNTY SCHOOL DISTRICT

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DEMOLITION FLOOR PLAN

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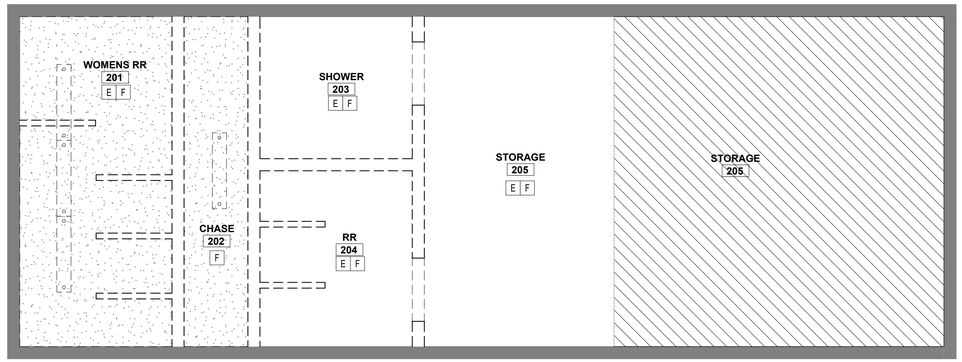
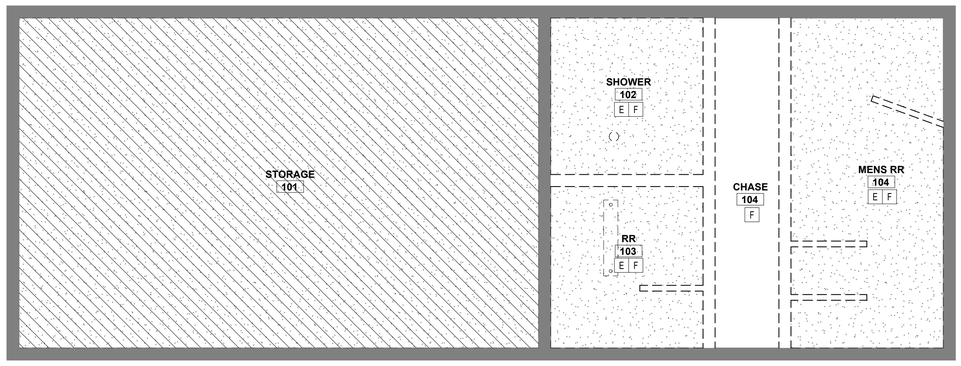


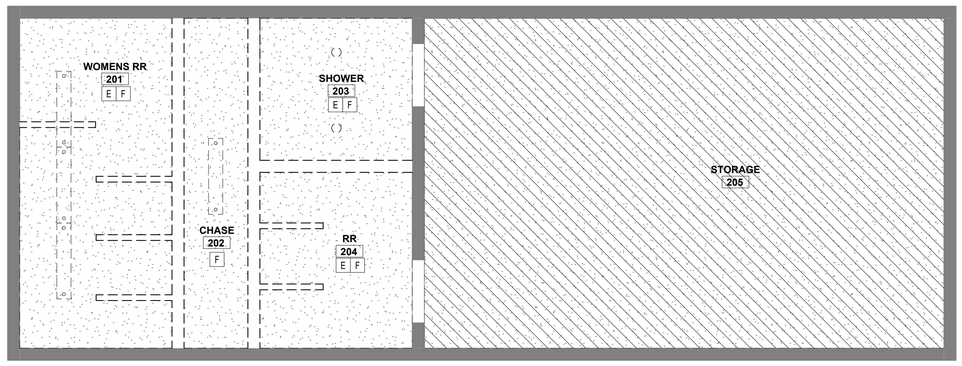
3 D102 DEMO RCP - EAST BUILDING (ALTERNATE)
1/4" = 1'-0"

WEST BUILDING



1 D102 DEMO RCP - WEST BUILDING
1/4" = 1'-0"

EAST BUILDING (BASE BID)



2 D102 DEMO RCP - EAST BUILDING (BASE BID)
1/4" = 1'-0"

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Bradford A. Jones, AIA
Fernanda A. Silva, AIA

REGISTERED ARCHITECT
Fernanda A Silva
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STATE OF MISSISSIPPI
03/08/23

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RESTROOM/JANITOR ACCESSORY SCHEDULE

SYMBOL	ACCESSORY	MOUNTING HEIGHT	NOTES
A	36" GRAB BAR (REAR OF WC)	33" - 36" AFF	1
B	42" GRAB BAR (SIDE OF WC)	33" - 36" AFF	1
C	18" VERTICAL GRAB BAR	39" - 41" AFF TO CL OF ATTACHMENT	1, 5
D	TOILET TISSUE DISPENSER	18" MIN AFF MAX TO BOTTOM OF TISSUE	4
E	SANITARY NAPKIN DISPOSAL		1
F	---NOT USED---	---	
G	MIRROR 18" X 36"	40" AFF MAX TO REFLECTIVE SURFACE	2
H	SOAP DISPENSER	44"-48" MAX TO OPERABLE PART	4
I	PAPER TOWEL DISPENSER/GARBAGE RECEPTACLE	44"-48" MAX TO TOWEL DISPENSER	4
J	GARBAGE RECEPTACLE	---	4
K	34" MOP HOLDER W/ SHELF	---	1
L	FIBERGLASS REINFORCED PANEL (FRP)	---	3
M	ROBE HOOK	42" AFF ON RR SIDE OF DOOR	1

ACCESSORY NOTES

1. FIELD VERIFY MOUNTING HEIGHTS WITH ARCHITECT BEFORE INSTALLATION. ALL MOUNTING HEIGHTS SHALL COMPLY WITH ADA REQUIREMENTS & MANUFACTURER RECOMMENDATIONS.
2. ATTACH MIRROR PER MANUFACTURER RECOMMENDATIONS. CENTER MIRROR WITH LAVATORY OR LAVATORY UNIT BELOW.
3. PROVIDE FRP UP TO 6'-0" TALL AND EXTEND PAST SIDES OF MOP SINK MINIMUM 12 INCHES AND TO FINISH FLOOR OR BASE. PROVIDE TRIM PIECES FOR EXPOSED EDGES OF FRP.
4. NIC- NOT IN CONTRACT; OWNER FURNISHED/OWNER INSTALLED
5. MOUNTING HEIGHT DIMENSION IS TO THE CENTER LINE OF THE BOTTOM ATTACHMENT.

ENLARGED RR NOTES

1. ALL DIMENSIONS ARE TAKEN FROM FINISHED SURFACE OF WALL TO CENTER OF FIXTURE UNLESS NOTED OTHERWISE.
2. SEE STRUCTURAL FOR LOCATIONS OF SLAB RECESSES.
3. ADA TOILET PARTITION STALL DOORS MUST HAVE CLEAR OPENING OF 32" MINIMUM.
4. SEE SHEET G201 FOR GENERAL ADA CLEARANCES AND REQUIREMENTS.

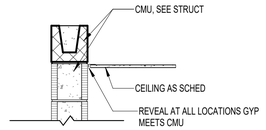
ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	FLOOR	BASE	WALL FINISHES				CEILING TYPE	REMARKS	ROOM NO
				WALL NORTH	WALL EAST	WALL SOUTH	WALL WEST			
102	MEN	EPX	EPX	PT1	PT1	PT1	PT1	GYP1		102
201	WOMEN	EPX	EPX	PT1	PT1	PT1	PT1	GYP1		201
202	STORAGE	---	---	---	---	---	PT1	---		202

FINISH KEY SCHEDULE

ITEM:	MATERAL:	PRODUCT:
FLOOR:		
EPX	EPOXY FLOORING & INTEGRAL BASE	PER SPECIFICATIONS
PAINT:		
PT1	FIELD COLOR	SHERWIN WILLIAMS: COLOR TBD BY OWNER/ARCHITECT
CEILING:		
GYP1	MOISTURE RES GYPSUM BOARD	PER SPECIFICATIONS

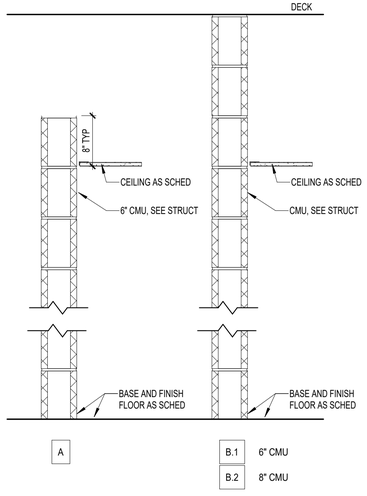
NOTE: GC SHALL VERIFY FINAL FINISHES SELECTIONS WITH OWNER/ARCHITECT PRIOR TO PURCHASE. GC SHALL CONTACT ARCHITECT IF A DISCREPENCY BETWEEN THE FINISH SELECTIONS IN THIS TABLE ARE IN CONFLICT WHITH THAT OF THE SPECIFICATIONS.



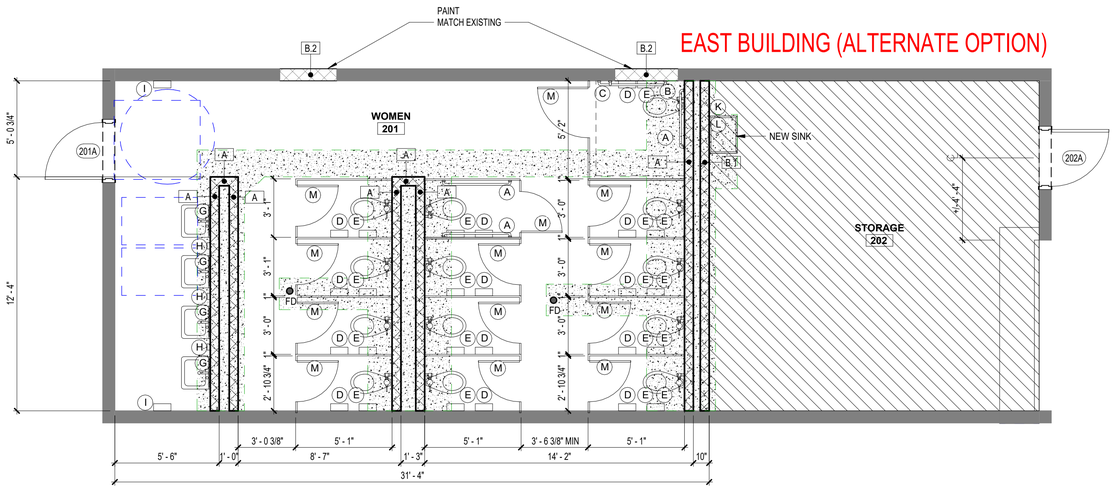
4 / A101 STANDARD CEILING TO WALL DETAILS
3/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. DO NOT SCALE DRAWINGS; IF DIMENSIONS ARE IN QUESTION CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
2. ALL INTERIOR DIMENSIONS ARE TAKEN FROM FACE CMU TO FACE OF CMU U.N.O.
3. PARTITION TYPES ABOVE AND BELOW INTERIOR OPENINGS ARE TO BE THE SAME AS THE ADJACENT PARTITION TYPE UNLESS NOTED OTHERWISE. SEE PARTITION TYPES FOR SPECIFIC WALL TYPE CONSTRUCTION.
4. SEE LIFE SAFETY FLOOR PLANS FOR LOCATIONS OF PARTITION TYPES.
5. SEE LIFE SAFETY FLOOR PLANS FOR DIMENSIONED LOCATIONS OF FIRE EXTINGUISHER CABINETS AND FIRE EXTINGUISHER CABINET DETAILS.
6. NEW CONCRETE FLOOR. SEE 1/A102

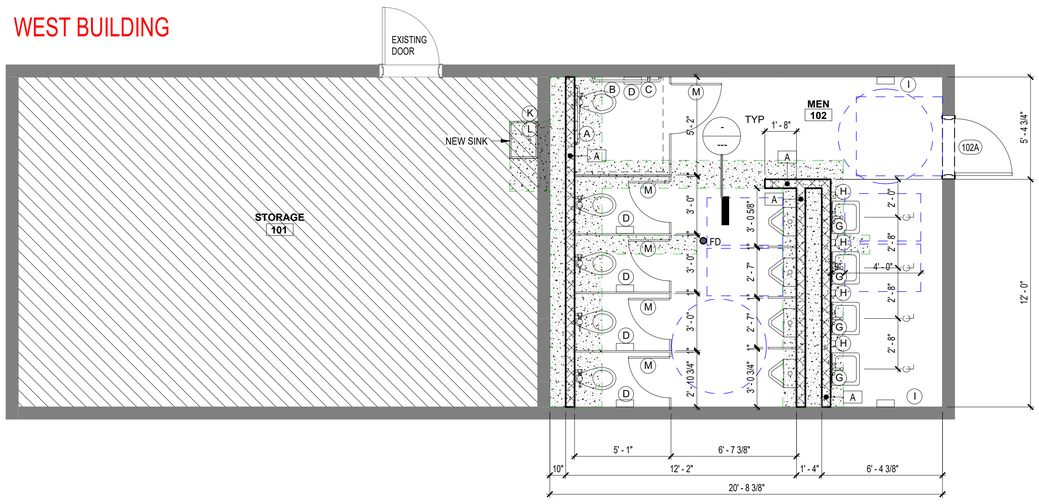


5 / A101 PARTITION TYPES
1" = 1'-0"

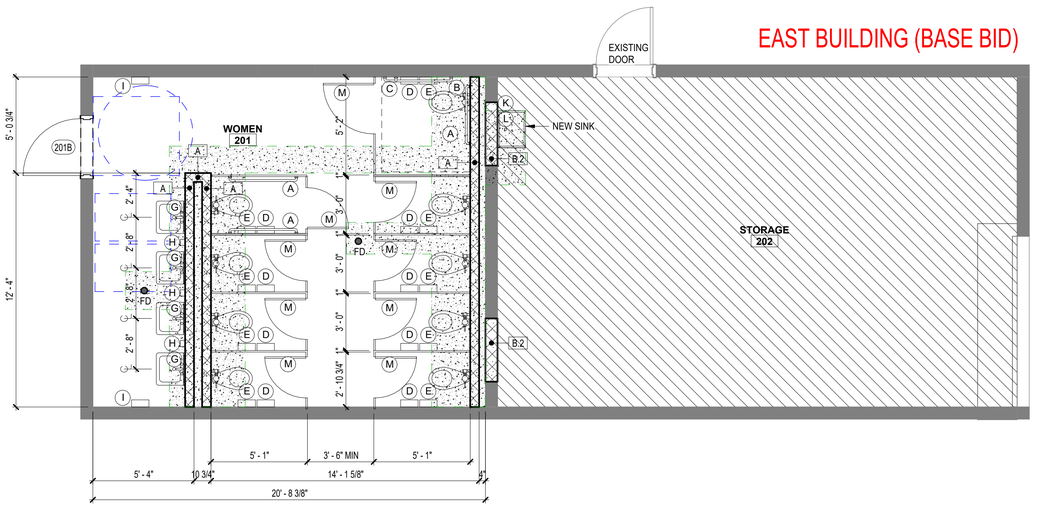


3 / A101 NEW FLOOR PLAN - EAST BUILDING (ALTERNATE)
1/4" = 1'-0"

NORTH



1 / A101 NEW FLOOR PLAN - WEST BUILDING
1/4" = 1'-0"



2 / A101 NEW FLOOR PLAN - EAST BUILDING (BASE BID)
1/4" = 1'-0"

NORTH

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REGISTERED ARCHITECT
Fernanda A Silva
23405
STATE OF MISSISSIPPI
03/03/23

ST. MARTIN BASEBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

SCALE: AS INDICATED
PROJECT NO:0155.22.001
DRAWN BY:
CHECKED BY:

FLOOR PLAN

NO.	DATE	REVISION / SUBMITTAL
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A101

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
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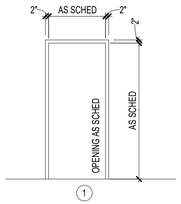
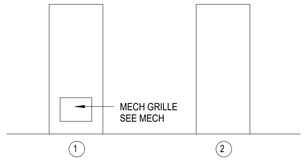
OPENING SCHEDULE

DOOR NO.	DOOR						FRAME			HARDWARE	REMARKS	DOOR NO.
	SINGLE/PAIR	W	H	TYPE	MTL	GLASS	MTL	TYPE	GLASS			
102A	S	3' - 0"	7' - 0"	1	GHM	---	---	---	---	SET 1.0	A/D	102A
201A	S	3' - 0"	7' - 0"	1	GHM	---	---	---	---	SET 1.0	A/B/D	201A
201B	S	3' - 0"	7' - 0"	1	GHM	---	---	---	---	SET 1.0	A/C/D	201B
202A	S	3' - 0"	7' - 0"	2	GHM	---	GHM	1	---	SET 2.0	A/B	202A



3 A102 FRAME TYPES
1/4" = 1'-0"



4 A102 DOOR TYPES
1/4" = 1'-0"

OPENING SCHED REMARKS

A. PROVIDE EXTENDED THRESHOLD TO COVER EXT. EXP JOINT FILLER

B. ALTERNATE

C. BASE BID

D. REUSE EXISTING DOOR FRAME. VERIFY AND MATCH EXISTING DOOR SIZE

OPENING SCHEDULE KEY

GHM	GALVANIZED HOLLOW METAL
HM	HOLLOW METAL

HARDWARE SETS

SET 1.0
Doors: 102A, 201A, 201B
Description: EXT - PANIC

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Rim Exit Device, Nightlatch	ED5200S K157ET M92 MELR	630	RU
1 Door Pull	BF158	US32D	RO
1 Surface Closer / Stop	DC8210 A4	689	RU
1 Door Stop	467	Black	RO
1 Threshold	2005AV MSES25SS		PE
1 Gasketing	303AS TKSP		PE
1 Sweep	315CN		PE

SET 2.0
Doors: 202A
Description: EXT - STORAGE

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Storeroom Lock	ML2057 103W	626	RU
1 Surface Closer / Stop	DC8210 A4	689	RU
1 Threshold	2005AV MSES25SS		PE
1 Gasketing	303AS TKSP		PE
1 Rain Guard	346C x LAR		PE
1 Sweep	315CN		PE
1 Position Switch	DPS-M/W-WH (as required)		SU

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03/03/23

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PROJECT NO: 0155.22.001
DRAWN BY: FAS,MAJ, JH
CHECKED BY: FAS

OPENING SCHEDULE

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RCP HATCH LEGEND

GYP1

RCP GRAPHIC LEGEND

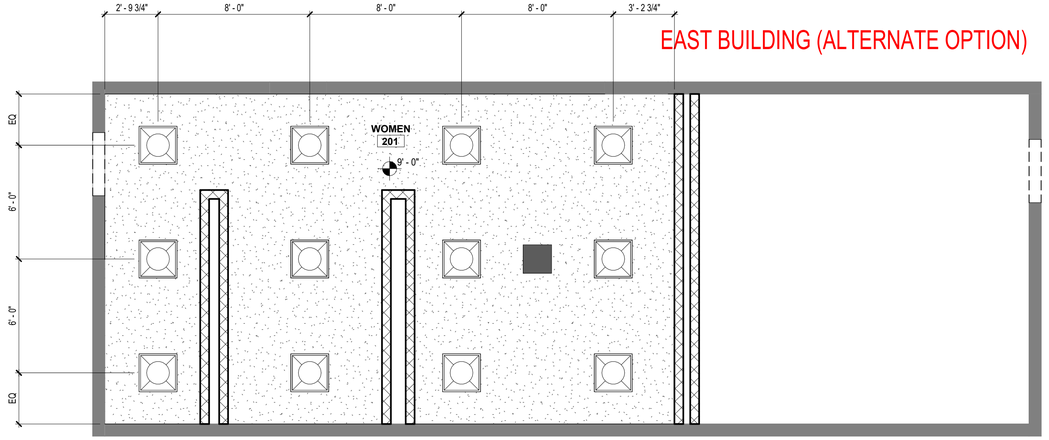
NOTE: SEE ELECTRICAL FOR SPECIFIC LIGHT FIXTURE SCHEDULING. FIXTURE SYMBOLS/GRAPHICS MAY VARY FROM THOSE SHOWN ON ELEC DWGS.

- 2X4 LAY IN LIGHT FIXTURE (NOT USED)
- 2X2 LAY IN LIGHT FIXTURE
- CEILING ACCESS PANEL

RCP GENERAL NOTES

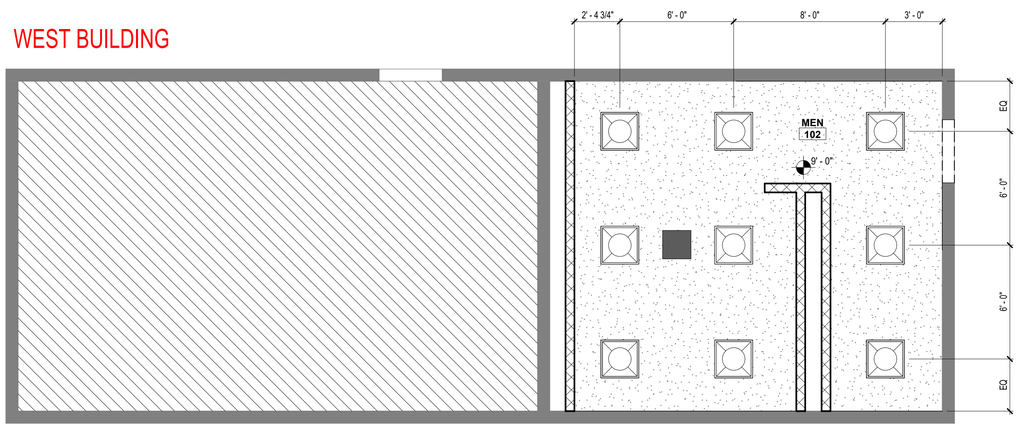
1. SEE MECHANICAL AND ELECTRICAL SHEETS TO VERIFY SIZE, TYPE, NUMBER, AND LOCATION OF FIXTURES.
2. PROVIDE MOISTURE, MOLD, & MILDEW RESISTANT GYPSUM BOARD @ RESTROOMS.

EAST BUILDING (ALTERNATE OPTION)



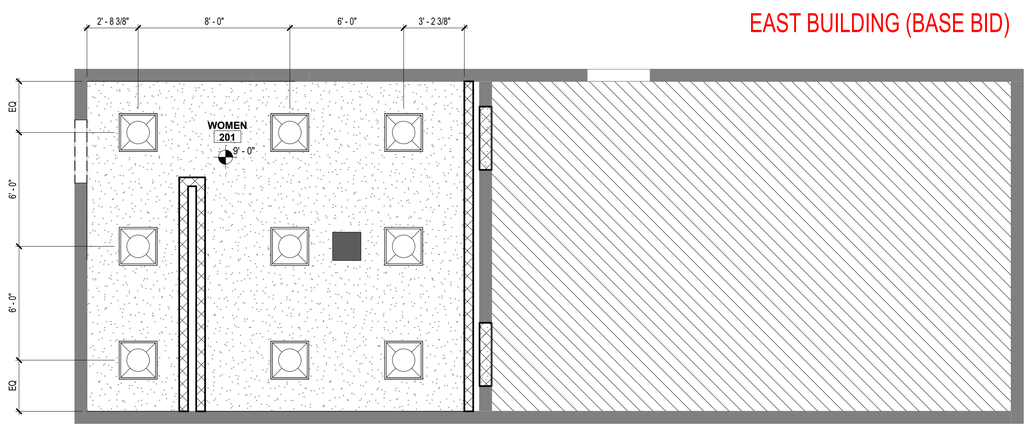
3 A110 NEW RCP - EAST BUILDING (ALTERNATE)
1/4" = 1'-0"

WEST BUILDING



1 A110 NEW RCP - WEST BUILDING
1/4" = 1'-0"

EAST BUILDING (BASE BID)



2 A110 NEW RCP - EAST BUILDING (BASE BID)
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DRAWN BY: FAS, JH
CHECKED BY: FAS

RCP

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PLUMBING NOTES

A. GENERAL

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE INTERNATIONAL CODE AND ALL LOCAL ORDINANCES AS ADOPTED BY THE LOCAL JURISDICTION.

2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION AND OPERATION OF THE SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS AND DRAWINGS EVEN IF NOT SPECIFICALLY SHOWN.

3. THE DRAWINGS ARE, IN PART, DIAGRAMMATIC AND DO NOT ALWAYS SHOW ALL NECESSARY MATERIALS AND EQUIPMENT TO SCALE OR IN EXACT LOCATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL MEASUREMENTS, COORDINATE ALL WORK WITH OTHER TRADES, REVIEW ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS, AND VISIT THE JOBSITE TO MAKE APPROPRIATE MEASUREMENTS.

4. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS AND SHALL PAY ALL ASSOCIATED FEES FOR SCOPE OF WORK.

5. WHEN THE SPECIFICATIONS OR DRAWINGS ARE UNCLEAR OR IN CONFLICT WITH CODES OR OTHER TRADES, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE SUBMITTING A BID.

6. SUBMITTALS AND SHOP DRAWINGS FOR ALL EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE PROVIDED TO THE OWNER AND ENGINEER FOR REVIEW AND COMMENT PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO COMPLY WITH THIS ITEM. IF SUBSTITUTIONS FOR SPECIFIED ITEMS ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE SUBSTITUTIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

7. ALL ACTUAL EQUIPMENT, MATERIALS, AND ACCESSORIES TO BE INSTALLED SHALL BE FULLY COORDINATED WITH THE ELECTRICAL, MECHANICAL, CIVIL, STRUCTURAL, AND ARCHITECTURAL CONTRACTORS PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO ELECTRICAL DATA, WEIGHTS, PLUMBING REQUIREMENTS, DIMENSIONS, PENETRATIONS, ETC. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO COMPLY WITH THIS ITEM.

8. ANY AND ALL DEVIATIONS FROM THE DESIGN DOCUMENTS WITHOUT THIS ENGINEER'S APPROVAL INDICATES ACCEPTANCE BY THIS CONTRACTOR AND/OR OWNER FOR THE RESPONSIBILITY OF THE PERFORMANCE OF THE SYSTEM AFFECTED. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO FOLLOW THE DESIGN DOCUMENTS. IF MODIFICATIONS TO THE SPECIFIED DESIGN ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE MODIFICATIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED. SITE VISITS, INSPECTIONS, CALCULATIONS, COORDINATION, ETC. PERFORMED BY THIS ENGINEER TO INVESTIGATE PROBLEMS ASSOCIATED WITH DESIGN DEVIATIONS WILL ALSO BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

9. ANY ERRORS OR OMISSIONS ON THESE DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND CORRECTION.

10. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). THE GENERAL CONTRACTOR SHALL NOT BREAK OUT SECTIONS TO SUB-CONTRACTORS OR VENDORS.

11. THE CONTRACTOR IS RESPONSIBLE RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.

12. 12. IF DISCREPANCIES ARE ENCOUNTERED BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT PRODUCT OR APPLICATION OVERRIDES IN ALL CASES.

13. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR COSTS ASSOCIATED WITH ERRORS AND/OR OMISSIONS ON THESE DOCUMENTS IN EXCESS OF THE COST AND/OR TIME FOR THIS ENGINEER TO CORRECT THE DOCUMENTS. IN ANY CASE, THE LIMIT OF LIABILITY FOR THIS ENGINEER SHALL BE NO MORE THAN THE COST OF THIS ENGINEER'S INDIVIDUAL FEE, REGARDLESS OF THE TOTAL DESIGN FEE CHARGED FOR THE SET OF CONSTRUCTION DOCUMENTS.

14. TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL LIABILITY IN THE AGGREGATE, OF THIS ENGINEER AND THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND INDEPENDENT PROFESSIONAL ASSOCIATES, AND ANY OF THEM, TO OWNER AND ANY ONE CLAIMING BY, THROUGH OR UNDER OWNER, FOR ANY AND ALL INJURIES, CLAIMS, LOSSES, EXPENSES, OR DAMAGES WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO THIS ENGINEER'S SERVICES, THE PROJECT OR THESE DOCUMENTS, FROM ANY CAUSE OR CAUSES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, MISREPRESENTATION, OR BREACH OF WARRANTY OF THIS ENGINEER; OR THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR INDEPENDENT PROFESSIONAL ASSOCIATES, OR ANY OF THEM, SHALL NOT EXCEED THE TOTAL COMPENSATION RECEIVED BY THIS ENGINEER FOR SERVICES PROVIDED.

15. THE USE OF THESE DOCUMENTS FOR CONSTRUCTION SIGNIFIES THIS OWNER, TENANT, AND CONTRACTOR'S AGREEMENT WITH THE ABOVE REQUIREMENTS REGARDLESS OF ANY OTHER PRIOR, CURRENT, OR FUTURE AGREEMENT AND/OR CONTRACT.

B. CODES, FEES, PERMITS, ETC.: THE PLUMBING CONTRACTOR SHALL BE PROPERLY LICENSED AND SHALL SECURE ALL PERMITS AND PAY ALL FEES AS REQUIRED FOR THE COMPLETE PLUMBING INSTALLATION, INCLUDING SANITARY SEWER AND POTABLE WATER TIE-INS TO THE SERVING UTILITIES. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AS AMENDED BY STATE AND COUNTY AUTHORITIES.

C. SCOPE OF WORK: THE WORK CONSISTS OF MATERIALS AND LABOR FOR A COMPLETE, OPERABLE PLUMBING SYSTEM INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

1. SANITARY SEWER SYSTEM, OUTSIDE UTILITIES, SOIL AND WASTE DRAIN AND VENT PIPING AND FIXTURE CONNECTIONS.

2. DOMESTIC COLD AND HOT WATER SYSTEM TO ALL SINKS & LAVATORIES. VERIFY W/ OWNER. PIPING SHALL BE DISINFECTED I.A.W. THE PLUMBING CODE.

3. ALL PLUMBING FIXTURES AND EQUIPMENT INCLUDING FLOOR DRAINS, HOSE BIBBS, WATER HEATERS, ETC. AS REQUIRED. VERIFY LOCATIONS WITH OWNER.

4. PROVIDE TRAP SEAL PROTECTION DEVICES FOR ALL FLOOR DRAINS AND HUB DRAINS.

5. WATER AND DRAIN PIPING SHALL BE PRESSURE TESTED I.A.W. THE PLUMBING CODE.

6. BUILDING SHALL HAVE A MINIMUM 2" to 2 1/2" WATER SUPPLY.

D. MATERIALS

1. FIXTURES AND EQUIPMENT ALL FIXTURES AND EQUIPMENT SHALL BE STANDARD, FIRST QUALITY COMPLETE WITH ALL TRIM, TRAPS, ETC., AS REQUIRED OR AS SPECIFIED BY OWNER. TOILETS, URINALS, AND LAVATORIES SHALL BE INSTALLED I.A.W. THE ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION.

2. PIPING

a. DRAIN, WASTE, VENT, AND SANITARY SEWER PIPING

a.1. POLYVINYL CHLORIDE (PVC)

a.1.A. CONCEALED AND BELOW GRADE, DRAIN, WASTE, AND VENT AND SANITARY SEWER PIPING SHALL BE DMV SCHEDULE 40 PVC WITH PVC-DMV FITTINGS AND SOLVENT CEMENT JOINTS.

a.2. BRASS

a.2.A. EXPOSED DRAIN AND WASTE PIPING SHALL BE 17 GAUGE CHROME PLATED BRASS. TRAP JOINTS SHALL BE SLIP TYPE WITH CHROME PLATED BRASS NUTS AND COMPRESSION GASKETS. CHROME PLATED BRASS ESCUTCHEON PLATES SHALL BE INSTALLED AT WALL PENETRATIONS

b. DOMESTIC WATER

b.1. ABOVE GRADE- ALL PIPING 2" OR SMALLER SHALL BE ZURNPEX STICKS WITH ZURN EXPANSION FITTINGS OR APPROVED EQUAL. ALL PIPING 2 1/2" OR LARGER SHALL BE POLYPROPYLENE SDR 11 SIMILAR TO THERM GREEN PIPE WITH HEAT FUSION CONNECTIONS AND FITTINGS.

b.2. BELOW GRADE, INSIDE STRUCTURE-POLYETHYLENE COATED TYPE K SOFT COPPER TUBING WITH NO JOINTS BELOW SLAB. COATED PIPE SHALL EXTEND THROUGH THE BUILDING SLAB IF PRESENT.

b.3. BELOW GRADE, OUTSIDE STRUCTURE-POLYETHYLENE COATED TYPE K HARD DRAWN COPPER WITH POLYETHYLENE COATED WROT COPPER FITTINGS AND SOLDERED JOINTS.

b.4. INSULATION

b.4.A. COLD WATER: INSULATE ALL PIPING ABOVE SLAB OR GRADE WITH 1/2" THICK FIBERGLASS WITH VAPOR SEAL.

b.4.B. HOT WATER: INSULATE ALL PIPING 1-1/4" OR SMALLER WITH 1" THICK FIBERGLASS. INSULATE ALL PIPING 1-1/2" OR LARGER WITH 1-1/2" THICK FIBERGLASS.

b.4.C. EXPOSED EXTERIOR PIPE INSULATION SHALL BE JACKETED WITH ALUMINUM, GALVANIZED SHEET METAL, PAINTED CANVAS, OR UV RESISTANT PLASTIC AND SEALED WEATHER TIGHT.

b.5. ALL HOT WATER SUPPLIES SHALL BE EQUIPPED WITH ANTI-SCALD/TEMPERING DEVICES CONFORMING TO ASSE 1070. LAVATORY AND HAND WASH DEVICES SHALL LIMIT THE TEMPERATURE TO NO MORE THAN 110F. THE WATER HEATER SHALL BE SET TO NO MORE THAN 120F.

b.6. PROVIDE WATER HAMMER ARRESTORS FOR HOT AND COLD WATER SUPPLY AT ALL HARD SHUTOFF DEVICES (LAVATORIES, SINKS, DRINKING FOUNTAINS, DISHWASHERS, CLOTHES WASHERS, ETC.).

c. DIELECTRIC UNIONS SHALL BE INSTALLED AT ALL DIS-SIMILAR METAL CONNECTIONS. DIS-SIMILAR HANGER TO PIPE, HANGER TO STRUCTURE, OR PIPE TO STRUCTURE CONTACT SHALL BE ISOLATED. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

c.1. COPPER TO STEEL

c.2. CAST IRON TO STAINLESS STEEL

c.3. STAINLESS STEEL TO STEEL

c.4. BRASS TO STEEL

c.5. BRONZE TO STEEL

E. PRESSURE TESTING

1. SANITARY, DRAIN, WASTE, AND VENT

a. PLUG ALL OPENINGS EXCEPT THOSE AT THE UPPERMOST 10 FT OF THE SYSTEM.

b. FILL SYSTEM WITH WATER TO MAINTAIN NO LESS THAN 10 FT HEAD ON ALL JOINTS AND PIPES BELOW THE UPPERMOST 10 FT OF THE SYSTEM. MAINTAIN PRESSURE FOR 12 HOURS.

c. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

d. DOCUMENT TEST AND PROVIDE TO OWNER. INSPECTION BY LOCAL AUTHORITY MAY BE REQUIRED.

2. WATER SUPPLY

a. ALL SYSTEM PIPES AND JOINTS SHALL BE TESTED.

b. ISOLATE PORTION OF SYSTEM TO BE TESTED WITH SHUTOFF VALVES AND/OR CAPS.

c. FILL SYSTEM WITH AIR (FOR PIPE OTHER THAN PLASTIC) OR WATER (FOR PLASTIC PIPE) TO A PRESSURE OF 100 PSI. MAINTAIN PRESSURE FOR 12 HOURS.

d. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

e. DOCUMENT TEST AND PROVIDE TO OWNER. INSPECTION BY LOCAL AUTHORITY MAY BE REQUIRED.

F. DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

1. PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED, AND CLEAN.

2. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC).

3. INJECT DISINFECTANT (FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM) THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL.

4. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS.

5. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.

6. TEST FOR DISINFECTANT RESIDUAL. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT.

7. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL IS EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.

8. TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING FROM 10 PERCENT OF OUTLETS AND FROM WATER ENTRY. ANALYZE IN ACCORDANCE WITH AWWA C651. REPEAT ENTIRE PROCEDURE IF CONTAMINATION REMAINS.

9. DOCUMENT DISINFECTION AND PROVIDE TO OWNER. INSPECTION BY LOCAL AUTHORITY MAY BE REQUIRED.

G. ALL PIPING SHALL BE LABELED IN ACCORDANCE WITH ASTM STANDARD A13.1. LABELS SHALL INCLUDE PIPING SERVICE (COLD WATER, HOT WATER, HOT WATER RETURN, VENT, ETC.), SIZE, AND DIRECTION OF FLOW.

H. THE FINISHED FLOOR OF ALL AREAS SERVED BY A FLOOR DRAIN SHALL BE SLOPED A MINIMUM OF 1/16" PER FOOT DOWNWARD TOWARD THE FLOOR DRAIN. THE SLOPE SHALL BE CONTINUOUS AND CONSISTENT FOR THE ENTIRE AREA BOUND BY THE ENCLOSING WALLS UNLESS OTHERWISE INDICATED IN THE ARCHITECTURAL OR FOUNDATION PLANS. THE TOP OF THE FLOOR DRAIN STRAINER SHALL BE THE LOWEST POINT IN THE SLOPED AREA. SHALL BE INSTALLED LEVEL, AND SHALL BE INSTALLED FLUSH WITH THE SURROUNDING FINISHED FLOOR. COORDINATE WITH GC.

I. COORDINATE ALL REQUIRED WALL, FLOOR, CEILING, AND ROOF PENETRATION LOCATIONS AND SIZES WITH THE GC PRIOR TO CONSTRUCTION. GC SHALL PROVIDE ALL REQUIRED FRAMED OPENINGS, HEADERS, MASONRY OPENINGS, LINTELS, ETC. AS NECESSARY.

J. COORDINATE ALL PIPE & FIXTURE LOCATIONS, SIZES, AND ROUTING WITH GC PRIOR TO CONSTRUCTION. GC SHALL PROVIDE A CLEAR PATH THROUGH FRAMING AND MASONRY COMPONENTS TO ACCOMMODATE PIPE ROUTING.

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3/08/2023

ST. MARTIN FOOTBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

SCALE: AS INDICATED
PROJECT NO: 0155.22.010
DRAWN BY: MAB
CHECKED BY: JMV

PLUMBING NOTES

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

P001

VERIFY SCALES
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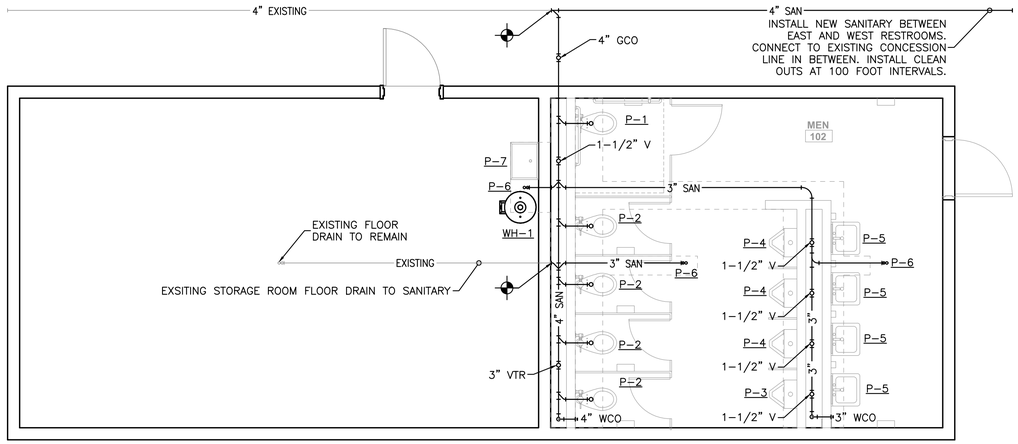
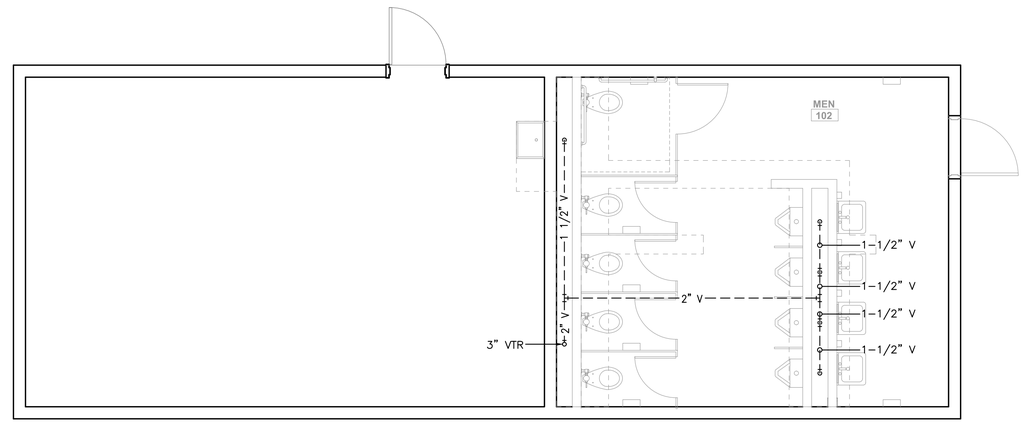
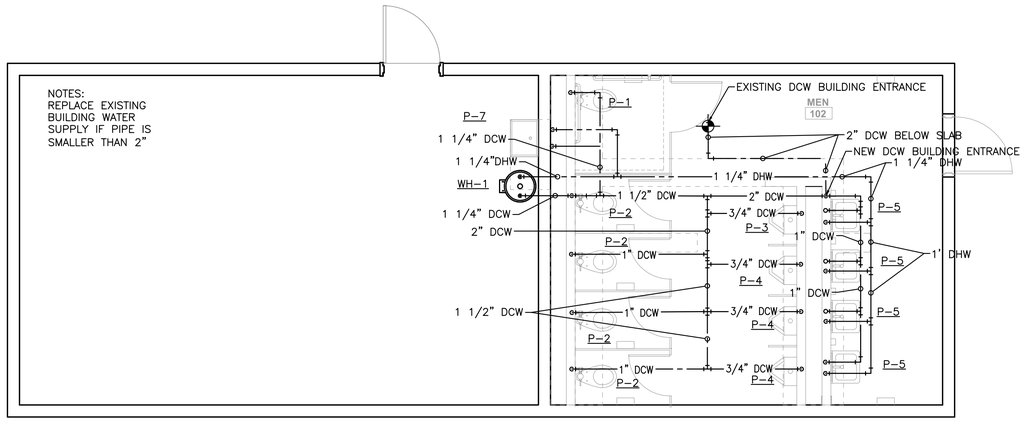


1 WEST RESTROOM - SANITARY PLAN
SCALE: 1/4"=1'-0"



2 WEST RESTROOM - VENT PLAN
SCALE: 1/4"=1'-0"



3 WEST RESTROOM - DOMESTIC WATER PLAN
SCALE: 1/4"=1'-0"

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3/08/2023

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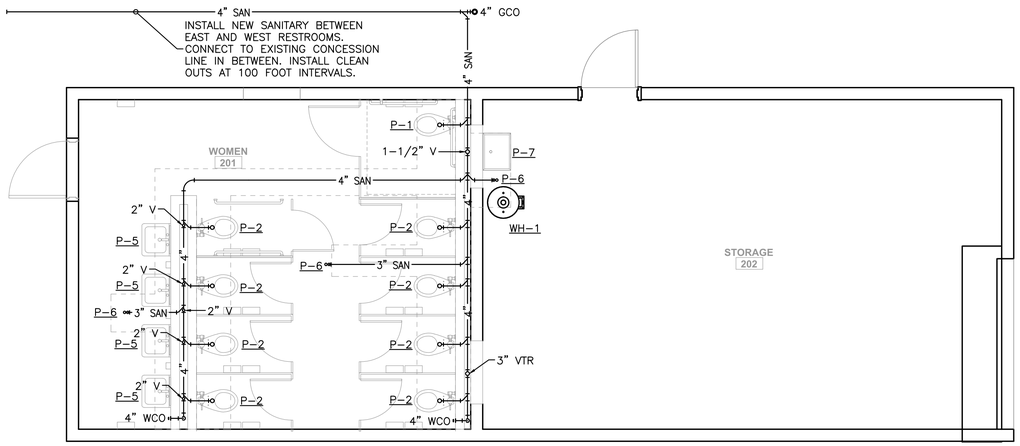
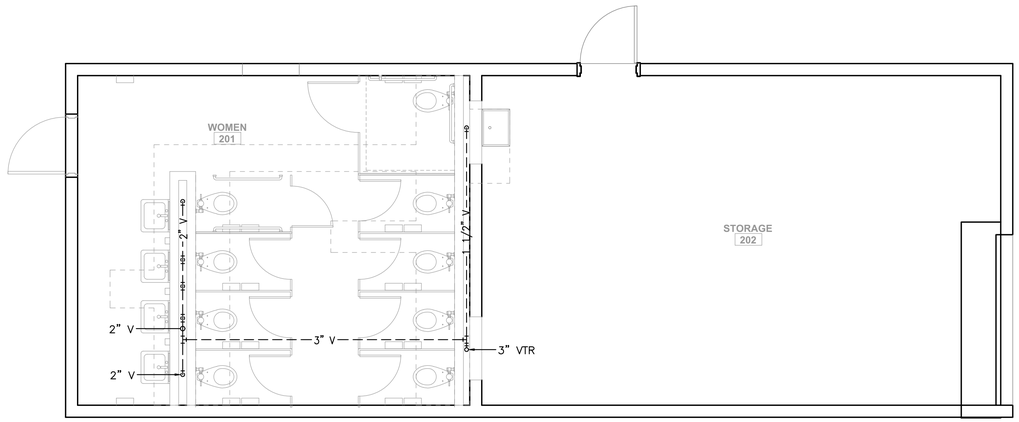
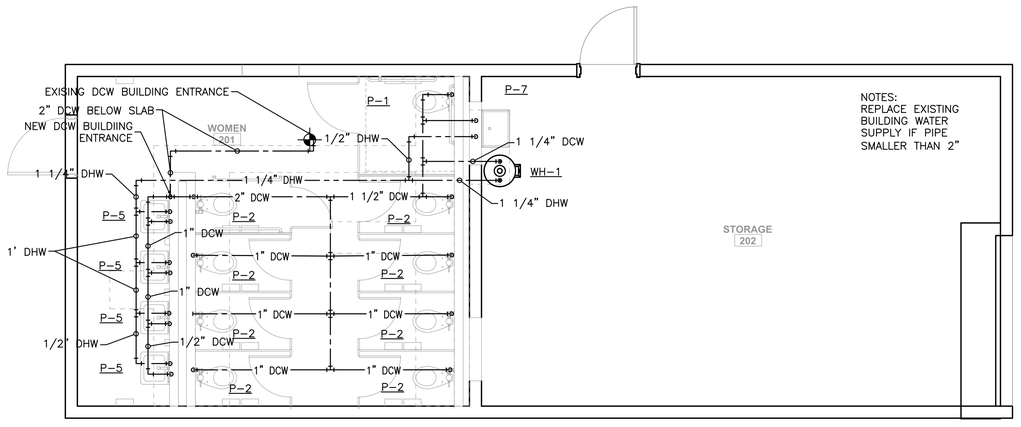


1 EAST RESTROOM - SANITARY PLAN
SCALE: 1/4"=1'-0"



2 EAST RESTROOM - VENT PLAN
SCALE: 1/4"=1'-0"



3 EAST RESTROOM - DOMESTIC WATER PLAN
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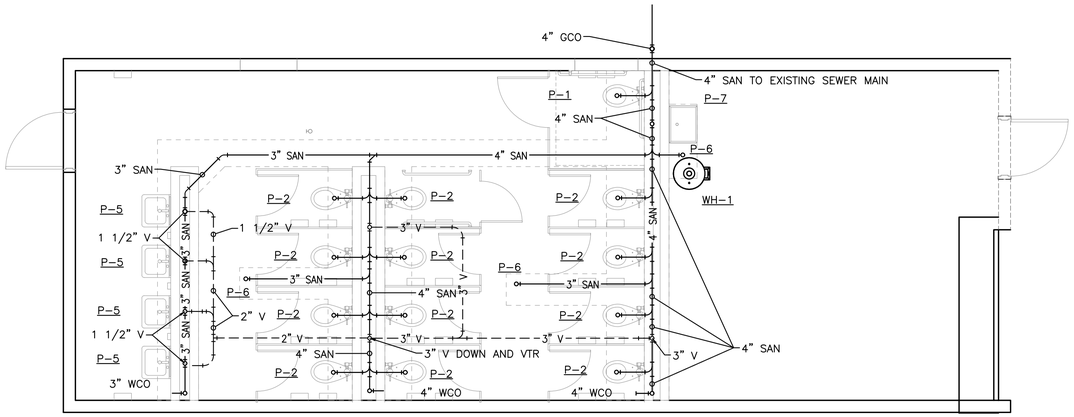
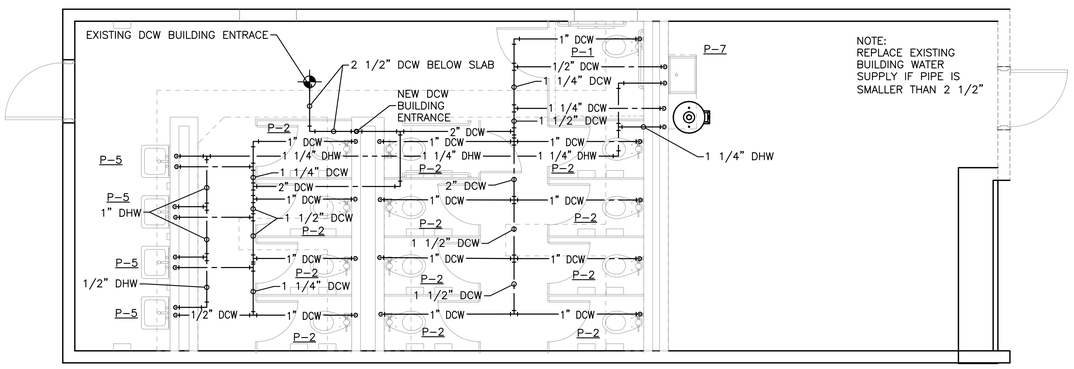


1 EAST RESTOOMM - SANITARY AND VENT PLAN (ALTERNATE 1)
SCALE: 1/4"=1'-0"



2 EAST RESTROOM - DOMESTIC WATER PLAN (ALTERNATE 1)
SCALE: 1/4"=1'-0"

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EAST RESTROOM PLUMBING PLANS (ALTERNATE)

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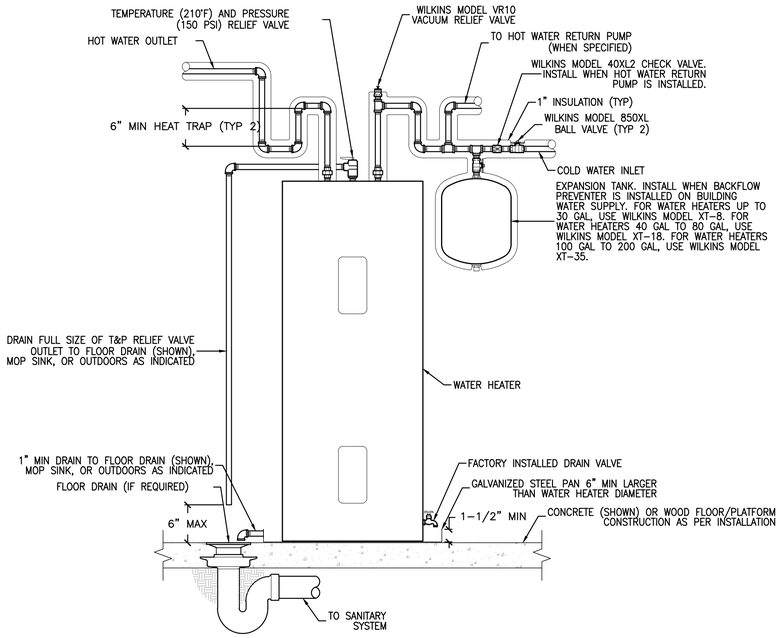
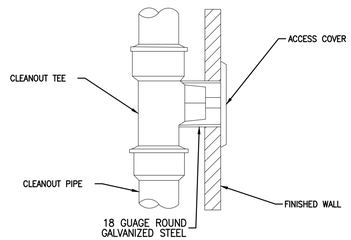
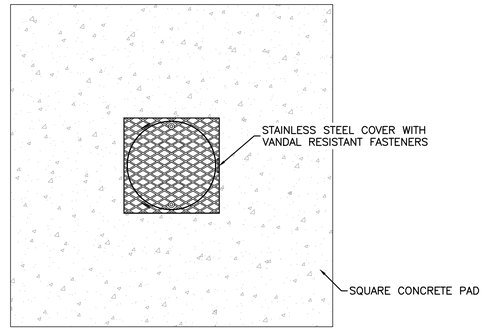


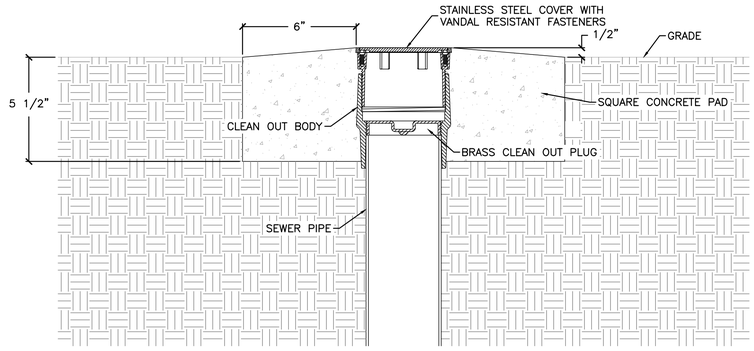
1 WATER HEATER PIPING DETAIL (3/4" TO 2" HW SERVICE)
NTS



3 WALL CLEANOUT DETAIL
NTS



PLAN



SECTION

2 GRADE CLEANOUT DETAIL
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PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MAKE	MODEL	CONNECTIONS				NOTES
				CW	HW	TW	D	
P-1	ADA FLOOR MOUNT WATER CLOSET-FV	AMERICAN STANDARD	3043.001	1"	N/A	N/A	3"	1,2,3
P-2	FLOOR MOUNT WATER CLOSET-FV	AMERICAN STANDARD	3043.001	1"	N/A	N/A	3"	2,3,5
P-3	ADA URINAL	AMERICAN STANDARD	6590.001	3/4"	N/A	N/A	2"	1,6
P-4	URINAL	AMERICAN STANDARD	6590.001	3/4"	N/A	N/A	2"	5,6
P-5	ADA WALLMOUNT LAVATORY	AMERICAN STANDARD	0955.001EC	1/2"	1/2"	3/8"	1-1/4"	1,7,8,9,10,11,12
P-6	FLOOR DRAIN	ZURN	ZS415-BZ1-TSP-VP	N/A	N/A	N/A	3	13,14,15
P-7	UTILITY SINK	ELKAY	B1C18X18X	1/2"	1/2"	N/A	1-1/4"	9,16
3" WCO	3" WALL CLEAN OUT	ZURN	Z1446-BP	N/A	N/A	N/A	3"	17,18,19
4" WCO	4" WALL CLEAN OUT	ZURN	Z1446-BP	N/A	N/A	N/A	4"	17,18,19
4" GCO	4" GRADE CLEAN OUT	ZURN	ZB1400-BP	N/A	N/A	N/A	4"	13,15,17

1 MOUNT WITH ADA CLEARANCES
2 WITH SLOAN 8111-1.28 SERIES BATTERY POWERED SENSOR FLUSH VALVE
3 WITH AMERICAN STANDARD 5901.100 SEAT
4 COORDINATE RIGHT OR LEFT FLUSH VALVE LEVER INSTALLATION WITH ADA (OPEN SIDE)
5 MOUNT WITH STANDARD CLEARENCES
6 WITH SLOAN 8186-.5 BATTERY POWERED SENSOR FLUSH VALVE
7 WITH SLOAN SF-2450 BATTERY POWERED SENSOR FAUCET
8 WITH CHROME PLATED BRASS GRID STRAINER AND TAILPIECE
9 WITH 1-1/4" 17 GAUGE P-TRAP
10 WITH ASSE 1070 COMPLIANT MIXING VALVE
11 WITH BALL STOPS AND FLEXIBLE SUPPLIES
12 WITH AMERICAN STANDARD .0062.00 ACRYLIC SHROUD/KNEE CONTACT GUARD
13 WITH STAINLESS STEEL TOP
14 WITH ASSE 1072 COMPLIANT TRAP SEAL PROTECTION DEVICE
15 WITH VANDAL PROOF TOP
16 WITH ELKAY LK940BP03T4 FAUCET
17 WITH BRONZE PLUG
18 CAP OPEN END AS NECESSARY
19 WITH STAINLESS STEEL COVER
20 WITH ROUND POLISHED BRONZE TOP

WATER HEATER SCHEDULE

TAG	MAKE	MODEL	GAL	100°F RECOVERY	KW	V/PH	FLA	NOTES
WH-1	RHEEM	ELD30-TB	30	36	9	240/1	38	1,2,3,4

1 WITH THERMOSTAT
2 WITH SIMULTANEOUS WIRING
3 WITH TEMPERATURE AND PRESSURE RELIEF VALVE
4 WITH UPPER AND LOWER HEATING ELEMENT
5 WITH REPLACEABLE FILTER IN INLET CONNECTOR

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GENERAL NOTES

A. GENERAL

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE INTERNATIONAL CODE AND ALL LOCAL ORDINANCES AS ADOPTED BY THE LOCAL JURISDICTION.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION AND OPERATION OF THE SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS AND DRAWINGS EVEN IF NOT SPECIFICALLY SHOWN.
3. THE DRAWINGS ARE, IN PART, DIAGRAMMATIC AND DO NOT ALWAYS SHOW ALL NECESSARY MATERIALS AND EQUIPMENT TO SCALE OR IN EXACT LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK ALL MEASUREMENTS, COORDINATE ALL WORK WITH OTHER TRADES, REVIEW ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS, AND VISIT THE JOBSITE TO MAKE APPROPRIATE MEASUREMENTS.
4. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS AND SHALL PAY ALL ASSOCIATED FEES FOR SCOPE OF WORK.
5. WHEN THE SPECIFICATIONS OR DRAWINGS ARE UNCLEAR OR IN CONFLICT WITH CODES OR OTHER TRADES, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE SUBMITTING A BID.
6. SUBMITTALS AND SHOP DRAWINGS FOR ALL EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE PROVIDED TO THE OWNER AND ENGINEER FOR REVIEW AND COMMENT PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO COMPLY WITH THIS ITEM. IF SUBSTITUTIONS FOR SPECIFIED ITEMS ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE SUBSTITUTIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.
7. ALL ACTUAL EQUIPMENT, MATERIALS, AND ACCESSORIES TO BE INSTALLED SHALL BE FULLY COORDINATED WITH THE ELECTRICAL, PLUMBING, CIVIL, STRUCTURAL, AND ARCHITECTURAL CONTRACTORS PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO ELECTRICAL DATA, WEIGHTS, PLUMBING REQUIREMENTS, DIMENSIONS, PENETRATIONS, ETC. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTORS FAILURE TO COMPLY WITH THIS ITEM.
8. ANY AND ALL DEVIATIONS FROM THE DESIGN DOCUMENTS WITHOUT THIS ENGINEER'S APPROVAL INDICATES ACCEPTANCE BY THIS CONTRACTOR AND/OR OWNER FOR THE RESPONSIBILITY OF THE PERFORMANCE OF THE SYSTEM AFFECTED. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO FOLLOW THE DESIGN DOCUMENTS. IF MODIFICATIONS TO THE SPECIFIED DESIGN ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE MODIFICATIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED. SITE VISITS, INSPECTIONS, CALCULATIONS, COORDINATION, ETC. PERFORMED BY THIS ENGINEER TO INVESTIGATE PROBLEMS ASSOCIATED WITH DESIGN DEVIATIONS WILL ALSO BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.
9. ANY ERRORS OR OMISSIONS ON THESE DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND CORRECTION.
10. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). THE GENERAL CONTRACTOR SHALL NOT BREAK OUT SECTIONS TO SUB-CONTRACTORS OR VENDORS.
11. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.
12. 12.IF DISCREPANCIES ARE ENCOUNTERED BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT PRODUCT OR APPLICATION OVERRIDES IN ALL CASES.
13. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR COSTS ASSOCIATED WITH ERRORS AND/OR OMISSIONS ON THESE DOCUMENTS IN EXCESS OF THE COST AND/OR TIME FOR THIS ENGINEER TO CORRECT THE DOCUMENTS. IN ANY CASE, THE LIMIT OF LIABILITY FOR THIS ENGINEER SHALL BE NO MORE THAN THE COST OF THIS ENGINEER'S INDIVIDUAL FEE, REGARDLESS OF THE TOTAL DESIGN FEE CHARGED FOR THE SET OF CONSTRUCTION DOCUMENTS.
14. TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL LIABILITY IN THE AGGREGATE, OF THIS ENGINEER AND THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND INDEPENDENT PROFESSIONAL ASSOCIATES, AND ANY OF THEM, TO OWNER AND ANY ONE CLAIMING BY, THROUGH OR UNDER OWNER, FOR ANY AND ALL INJURIES, CLAIMS, LOSSES, EXPENSES, OR DAMAGES WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO THIS ENGINEER'S SERVICES, THE PROJECT OR THESE DOCUMENTS, FROM ANY CAUSE OR CAUSES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, MISREPRESENTATION, OR BREACH OF WARRANTY OF THIS ENGINEER; OR THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR INDEPENDENT PROFESSIONAL ASSOCIATES, OR ANY OF THEM, SHALL NOT EXCEED THE TOTAL COMPENSATION RECEIVED BY THIS ENGINEER FOR SERVICES PROVIDED.
15. THE USE OF THESE DOCUMENTS FOR CONSTRUCTION SIGNIFIES THIS OWNER, TENANT, AND CONTRACTORS AGREEMENT WITH THE ABOVE REQUIREMENTS REGARDLESS OF ANY OTHER PRIOR, CURRENT, OR FUTURE AGREEMENT AND/OR CONTRACT.

PLUMBING ABBREVIATIONS

A	
A	AMPS
AFF	ABOVE FINISHED FLOOR
ASSE	AMERICAN SOCIETY OF SAFETY ENGINEERS
C	
CFH	CUBIC FEET PER HOUR
CO	CLEAN OUT
CW	COLD WATER
D	
D	DRAIN
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DR	DIMENSION RATIO
E	
EC	ELECTRICAL CONTRACTOR
F	
F	FAHRENHEIT
FCO	FLOOR CLEAN OUT
FT	FOOT/FEET
G	
G	GAS
GAL	GALLONS
GC	GENERAL CONTRACTOR
GCO	GRADE CLEAN OUT
H	
HB	HOSE BIB
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSEPOWER
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
K	
KW	KILOWATT
L	
LBS	POUNDS
LNG	LIQUEFIED NATURAL GAS
LP	LIQUEFIED PETROLEUM (PROPANE OR BUTANE)
LPG	LIQUEFIED PETROLEUM GAS (PROPANE OR BUTANE)

M	
MAX	MAXIMUM
MBH	ONE THOUSAND BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MDPE	MEDIUM DENSITY POLYETHYLENE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N	
NIC	NOT IN CONTRACT
NRS	NON RISING STEM
NTS	NOT TO SCALE
P	
PC	PLUMBING CONTRACTOR
PH	PHASE
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAUGE
PSI	POUNDS PER SQUARE INCH
R	
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
S	
S	SANITARY
SQFT	SQUARE FEET
T	
TW	TEMPERED WATER
T&P	TEMPERATURE AND PRESSURE
TYP	TYPICAL
U	
UV	ULTRA VIOLET
V	
V	VOLTAGE OR VENT
VTR	VENT TO ROOF
W	
W	WATT
WCO	WALL CLEAN OUT
WH	WATER HEATER

PLUMBING SYMBOLS

	COLD WATER
	EXISTING COLD WATER
	HOT WATER
	EXISTING HOT WATER
	HOT WATER RETURN
	EXISTING HOT WATER RETURN
	SANITARY
	EXISTING SANITARY
	VENT
	EXISTING VENT
GAS GAS	GAS
GAS GAS	EXISTING GAS
	FIRE PROTECTION
	EXISTING FIRE PROTECTION
	EXISTING TO BE REMOVED
	LEVER BALL VALVE
	HOSE BIB
	CONNECT TO EXISTING
	CAP AND SEAL

MECHANICAL DEMOLITION NOTES

1. PLANS DO NOT ATTEMPT TO SHOW ALL DEMOLITION ITEMS. SOME HVAC EQUIPMENT, PLUMBING FIXTURES, PACKAGED UNITS, SPLIT SYSTEMS, DUCTWORK, COMPRESSORS, FANS, PUMPS, LOUVERS, WATER HEATERS, BOILERS, GRILLES, VALVES, PIPES. VENTS, ETC. ARE SHOWN FOR INFORMATION PURPOSES AND GENERAL LAYOUT IN THESE AREAS TO BE RENOVATED. HOWEVER, THE ITEMS SHOWN ARE NOT NECESSARILY COMPLETE, MECHANICAL CONTRACTOR (M.C.) TO FIELD VERIFY ALL DEMOLITION ITEMS AND PROVIDE REMOVAL OF ALL EQUIPMENT AND SYSTEMS ACCORDINGLY. SEE RELATED NOTES ON MAINTAINING SERVICE TO NON-DEMOLITION AREAS.
2. M.C. SHALL REMOVE ALL EXISTING PLUMBING FIXTURES, VALVES, PUMPS, PIPES AND ACCESSORIES IN DEMOLITION AREAS. REMOVE THESE ITEMS BACK TO BUILDING ENTRANCE UNLESS RE-USED FOR NEW AND/OR RELOCATED WORKS. FIXTURES NOT INDICATED FOR RE-USE SHALL BE DELIVERED TO A LOCATION TO BE SPECIFIED BY OWNER.
3. DAMAGE TO EXISTING MATERIALS/EQUIPMENT WILL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. RE-SUPPORT ANY REMAINING PIPES OR DUCTS THAT WERE SUPPORTED BY WALLS/MILLWORK BEING REMOVED.
4. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL SCOPE OF DEMOLITION WORK.
5. ALL WORK SHALL BE DONE IN TOTAL COORDINATION WITH THE BUILDING MECHANICAL MAINTENANCE STAFF TO AVOID ANY INTERRUPTION TO EXISTING SERVICES IN USE.
6. ALL OPENINGS IN FIRE RATED PARTITIONS AND CEILINGS SHALL BE FIRE SEALED.

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MECHANICAL DEMO NOTES, SYMBOLS AND ABBREVIATIONS

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

MD001

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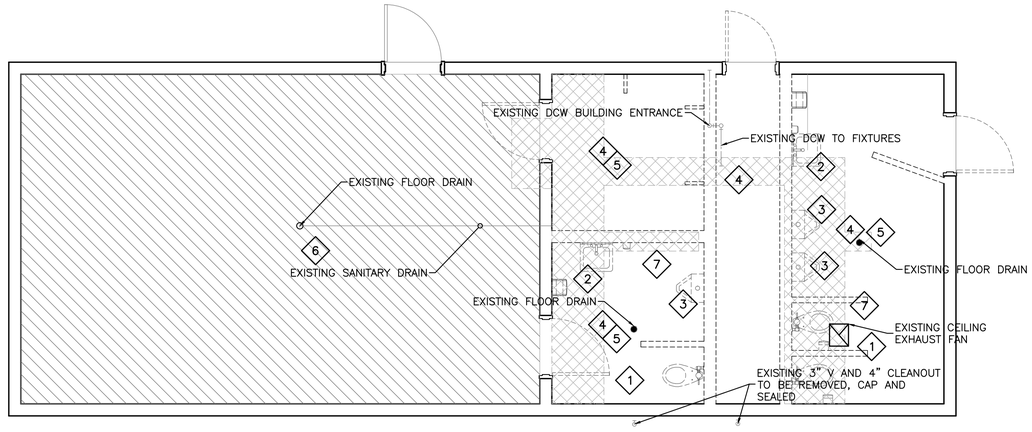
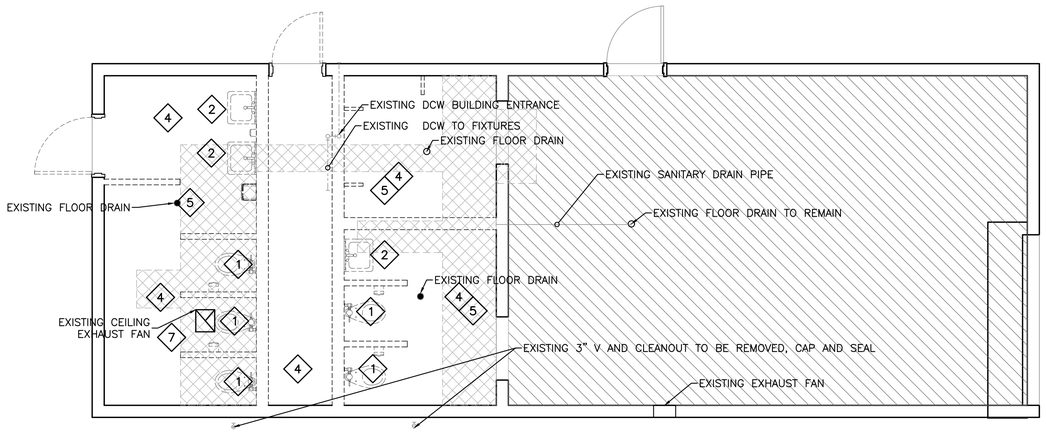


1 WEST RESTROOMS DEMO PLAN
SCALE: 1/4"=1'-0"



2 EAST RESTROOMS - DEMO PLAN
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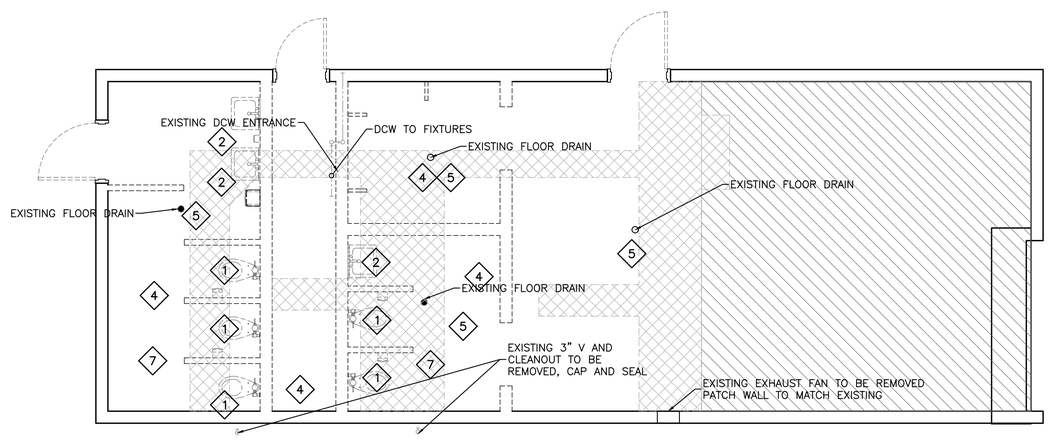

3 EAST RESTROOMS - DEMO PLAN (ALTERNATE 1)
SCALE: 1/4"=1'-0"

PLUMBING DEMOLITION KEY NOTES

1. EXISTING FLOOR MOUNT WATERCLOSET AND FLUSH VALVE TO BE REMOVED, CAP AND SEAL SANITARY BELOW FINISH FLOOR. REMOVE SLAB AS NECESSARY.
2. EXISTING WALL MOUNT LAVATORY, TRAP, STOP, SUPPLY AND FAUCET TO BE REMOVED, CAP AND SEAL SANITARY BELOW FINISH FLOOR. REMOVE SLAB AS NECESSARY.
3. EXISTING WALL MOUNT URINAL AND FLUSH VALVE SHALL BE REMOVED, CAP AND SEAL SANITARY BELOW FINISHED FLOOR. REMOVE SLAB AS NECESSARY.
4. ALL EXISTING DOMESTIC WATER SUPPLY PIPE, FITTINGS, WATER HEATERS AND ACCESSORIES SHALL BE REMOVED TO BUILDING ENTRANCE. PROVIDE TEMPORARY CAPS BELOW SLAB TO PROTECT SUPPLY OPENINGS FOR FUTURE CONNECTION
5. EXISTING FLOOR DRAIN BODY AND STRAINER TO BE REMOVED. REMOVE SLAB AS NECESSARY. CAP AND SEAL BELOW SLAB
6. EXISTING FLOOR DRAIN, BODY AND STRAINER TO BE REMOVED. PRESERVE SANITARY FOR NEW CONNECTION. PROVIDE TEMPORARY CAPS TO PROTECT SANITARY OPENINGS
7. EXISTING FANS AND DUCTWORK TO BE REMOVED

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OCEAN SPRINGS | MS | 39564

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MECHANICAL DEMO PLANS

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MD101

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A. GENERAL

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE INTERNATIONAL CODE AND ALL LOCAL ORDINANCES AS ADOPTED BY THE LOCAL JURISDICTION.

2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION AND OPERATION OF THE SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS AND DRAWINGS EVEN IF NOT SPECIFICALLY SHOWN.

3. THE DRAWINGS ARE, IN PART, DIAGRAMMATIC AND DO NOT ALWAYS SHOW ALL NECESSARY MATERIALS AND EQUIPMENT TO SCALE OR IN EXACT LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK ALL MEASUREMENTS, COORDINATE ALL WORK WITH OTHER TRADES, REVIEW ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS, AND VISIT THE JOBSITE TO MAKE APPROPRIATE MEASUREMENTS.

4. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS AND SHALL PAY ALL ASSOCIATED FEES FOR SCOPE OF WORK.

5. WHEN THE SPECIFICATIONS OR DRAWINGS ARE UNCLEAR OR IN CONFLICT WITH CODES OR OTHER TRADES, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE SUBMITTING A BID.

6. SUBMITTALS AND SHOP DRAWINGS FOR ALL EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE PROVIDED TO THE OWNER AND ENGINEER FOR REVIEW AND COMMENT PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO COMPLY WITH THIS ITEM. IF SUBSTITUTIONS FOR SPECIFIED ITEMS ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE SUBSTITUTIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

7. ALL ACTUAL EQUIPMENT, MATERIALS, AND ACCESSORIES TO BE INSTALLED SHALL BE FULLY COORDINATED WITH THE ELECTRICAL, PLUMBING, CIVIL, STRUCTURAL, AND ARCHITECTURAL CONTRACTORS PRIOR TO ORDER, MANUFACTURE, FABRICATION, AND INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO ELECTRICAL DATA, WEIGHTS, PLUMBING REQUIREMENTS, DIMENSIONS, PENETRATIONS, ETC. FAILURE TO DO SO SHALL NOT RELIEVE THIS CONTRACTOR OF THE RESPONSIBILITY, CONSEQUENCES, AND POSSIBLE COSTS OF SUCH ACTION OR LACK OF ACTION REGARDLESS OF ANY AND ALL ERRORS OR OMISSIONS ON THESE DOCUMENTS. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTORS FAILURE TO COMPLY WITH THIS ITEM.

8. ANY AND ALL DEVIATIONS FROM THE DESIGN DOCUMENTS WITHOUT THIS ENGINEER'S APPROVAL INDICATES ACCEPTANCE BY THIS CONTRACTOR AND/OR OWNER FOR THE RESPONSIBILITY OF THE PERFORMANCE OF THE SYSTEM AFFECTED. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR ANY COSTS ASSOCIATED WITH THIS CONTRACTOR'S FAILURE TO FOLLOW THE DESIGN DOCUMENTS. IF MODIFICATIONS TO THE SPECIFIED DESIGN ARE MADE, IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVE PERFORMANCE, COMPATIBILITY, AND CONFORMANCE WITH THE ORIGINAL DESIGN AND SPECIFICATIONS. RE-DESIGN BY THIS ENGINEER TO ACCOMMODATE MODIFICATIONS SHALL NOT BE PERFORMED. OTHERWISE, IT WILL BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED. SITE VISITS, INSPECTIONS, CALCULATIONS, COORDINATION, ETC. PERFORMED BY THIS ENGINEER TO INVESTIGATE PROBLEMS ASSOCIATED WITH DESIGN DEVIATIONS WILL ALSO BE CONSIDERED ADDITIONAL WORK FOR WHICH COMPENSATION WILL BE REQUIRED.

9. ANY ERRORS OR OMISSIONS ON THESE DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND CORRECTION.

10. THE CONSTRUCTION DOCUMENTS ARE COMPRISED OF BOTH DRAWINGS AND SPECIFICATIONS (PROJECT MANUAL). ALL TRADES ARE INTERDEPENDENT AND MUST BE FULLY COORDINATED TO PROVIDE A COMPLETE PROJECT. THE GENERAL CONTRACTOR SHALL NOT BREAK OUT INDIVIDUAL SECTIONS TO SUB-CONTRACTORS OR VENDORS.

11. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES TO INSURE A USABLE & FUNCTIONAL END PRODUCT. ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CLARIFIED BY THE ARCHITECT/ENGINEER. IF NO CLARIFICATION IS ISSUED THE BIDDER SHALL BID THE MOST STRINGENT PRODUCT OR APPLICATION.

12. IF DISCREPANCIES ARE ENCOUNTERED BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT PRODUCT OR APPLICATION OVERRIDES IN ALL CASES.

13. THIS ENGINEER SHALL NOT BE HELD LIABLE FOR COSTS ASSOCIATED WITH ERRORS AND/OR OMISSIONS ON THESE DOCUMENTS IN EXCESS OF THE COST AND/OR TIME FOR THIS ENGINEER TO CORRECT THE DOCUMENTS. IN ANY CASE, THE LIMIT OF LIABILITY FOR THIS ENGINEER SHALL BE NO MORE THAN THE COST OF THIS ENGINEER'S INDIVIDUAL FEE, REGARDLESS OF THE TOTAL DESIGN FEE CHARGED FOR THE SET OF CONSTRUCTION DOCUMENTS.

14. TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL LIABILITY IN THE AGGREGATE, OF THIS ENGINEER AND THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND INDEPENDENT PROFESSIONAL ASSOCIATES, AND ANY OF THEM, TO OWNER AND ANY ONE CLAIMING BY, THROUGH OR UNDER OWNER, FOR ANY AND ALL INJURIES, CLAIMS, LOSSES, EXPENSES, OR DAMAGES WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO THIS ENGINEER'S SERVICES, THE PROJECT OR THESE DOCUMENTS, FROM ANY CAUSE OR CAUSES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, MISREPRESENTATION, OR BREACH OF WARRANTY OF THIS ENGINEER; OR THIS ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR INDEPENDENT PROFESSIONAL ASSOCIATES, OR ANY OF THEM, SHALL NOT EXCEED THE TOTAL COMPENSATION RECEIVED BY THIS ENGINEER FOR SERVICES PROVIDED.

15. THE USE OF THESE DOCUMENTS FOR CONSTRUCTION SIGNIFIES THIS OWNER, TENANT, AND CONTRACTORS AGREEMENT WITH THE ABOVE REQUIREMENTS REGARDLESS OF ANY OTHER PRIOR, CURRENT, OR FUTURE AGREEMENT AND/OR CONTRACT.

B. DUCTWORK

1. ALL DUCT SIZES ON THE PLANS ARE CLEAR, INSIDE DIMENSIONS.

2. ALL EXHAUST DUCTWORK SHALL BE SHEET METAL CONSTRUCTION. FLEXIBLE DUCTWORK IS NOT ACCEPTABLE.

3. ALL SHEET METAL DUCT CONNECTIONS TO ANY FAN POWERED EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTORS 3" MIN IN LENGTH.

4. LOW PRESSURE DUCTWORK

   a. ALL SUPPLY DUCTWORK, RETURN DUCTWORK, AND EXHAUST DUCTWORK SHALL BE CONSTRUCTED TO 2" WG PRESSURE CLASS STANDARDS AND SHALL CONFORM TO THE LATEST EDITIONS OF THE SMACNA DUCT CONSTRUCTION STANDARD

C. INSULATION

1. ALL CONDENSATE PIPING WITHIN THE BUILDING ENVELOPE, INCLUDING PRIMARY AND SECONDARY LINES, SHALL BE INSULATED WITH 1/2" THICK PIPE INSULATION. ALL JOINTS SHALL BE SEALED.

2. REFRIGERANT SUCTION PIPING LESS THAN 1-1/2" SHALL BE INSULATED WITH 1/2" THICK FLEXIBLE CELLULAR INSULATION. PIPING 1-1/2" OR LARGER SHALL BE INSULATED WITH 1" THICK INSULATION. ALL JOINTS SHALL BE SEALED. LIQUID LINES SHALL BE INSULATED WHEN INSTALLED WITHIN THE BUILDING IN UNCONDITIONED SPACES OUTSIDE OF THE INSULATED AND/OR CONDITIONED ENVELOPE.

3. EXPOSED EXTERIOR PIPE INSULATION SHALL BE JACKETED WITH ALUMINUM AND SEALED WEATHER TIGHT.

E. REFRIGERANT PIPING

1. ALL REFRIGERANT PIPING 1-3/8" AND SMALLER SHALL BE TYPE L-ACR OR TYPE K-ACR HARD DRAWN OR SOFT (AS INDICATED) COPPER UL RATED FOR 700 PSI AT 250°F AND CONFORMING TO ASTM STANDARD B280.

2. ALL REFRIGERANT PIPING LARGER THAN 1-3/8" AND 2-5/8" OR LESS SHALL BE TYPE K-ACR HARD DRAWN OR SOFT (AS INDICATED) COPPER UL RATED TO 700 PSI AT 250°F AND CONFORMING TO ASTM STANDARD B280.

3. ALL REFRIGERANT PIPE FITTINGS SHALL BE WROT COPPER UL RATED TO 700 PSI AT 250°F AND SHALL MEET ANSI/ASME STANDARD B16.22 AND NSF 61G.

4. ALL STRAIGHT RUNS OF REFRIGERANT PIPING SHALL BE SLOPED 1/8" PER FOOT MIN IN THE DIRECTION OF FLOW.

5. IF SOFT COPPER TUBING IS USED, IT SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE WITHOUT EXCESSIVE BENDS, KINKS, OR OTHER OBSTRUCTIONS.

F. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE WITH SETBACK, AUTOMATIC HEAT/COOL CHANGEOVER, MANUAL OVERRIDE, DIGITAL DISPLAY, AND LOCKOUT CAPABILITIES.

G. A CERTIFIED TEST AND BALANCE SHALL BE PERFORMED BY A CERTIFIED, 3RD PARTY TEST AND BALANCE COMPANY. INDIVIDUAL GRILLES SHALL BE BALANCED TO WITHIN 10% OF THE DESIGN AIR FLOWS AND UNITS SHALL BE BALANCED TO WITHIN 5% OF THE DESIGN AIR FLOWS. THE RESTROOMS SHALL BE BALANCED NEGATIVE WITH THE EXHAUST FANS RUNNING. THE TEST AND BALANCE REPORT SHALL BE PROVIDED TO THE OWNER AND THIS ENGINEER FOR REVIEW AND COMMENT.

H. ALL LINE VOLTAGE (120V, 240V, 460V, ETC.) CONTROLS (SWITCHES, TIME CLOCKS, ETC.), ACCESSORIES, AND INTERCONNECTING WIRING SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR EXCEPT THAT ALL DAMPER ACTUATORS SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. ALL LOW VOLTAGE (24V, ETC.) CONTROLS (THERMOSTATS, ETC.), ACCESSORIES, AND INTERCONNECTING WIRING SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR EXCEPT THAT ALL ASSOCIATED SMOKE AND FIRE ALARM WIRING SHALL BE PROVIDED AND INSTALLED BY THE FIRE ALARM CONTRACTOR. ALL NECESSARY TRANSFORMERS (120V TO 24V, ETC.) SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR OR THEIR CONTROLS SUBCONTRACTOR. COORDINATE ALL WORK WITH THE ELECTRICAL AND FIRE ALARM CONTRACTORS.

L. REFRIGERANT SYSTEM TESTS

1. PRESSURE TEST

   a. INTERCONNECTING PIPING

      a.1. EVACUATE ALL REFRIGERANT FROM THE SYSTEM.

      a.2. ISOLATE THE COMPONENT INTERCONNECTING PIPING AND CHARGE WITH DRY, OXYGEN FREE NITROGEN (OFN) TO 1.3 TIMES THE MAXIMUM ALLOWABLE PRESSURE OF THE SYSTEM COMPONENTS. MAINTAIN PRESSURE FOR 12 HOURS. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

   b. ENTIRE SYSTEM

      b.1. EVACUATE ALL REFRIGERANT FROM THE SYSTEM.

      b.2. CHARGE SYSTEM WITH DRY OFN TO THE MAXIMUM ALLOWABLE PRESSURE OF THE SYSTEM COMPONENTS. MAINTAIN PRESSURE FOR 12 HOURS. IF LOSS OF PRESSURE OCCURS, LOCATE AND REPAIR LEAKS AND REPEAT TEST PROCEDURE.

2. VACUUM TEST

   a. FOLLOWING SUCCESSFUL PRESSURE TESTING, EVACUATE THE SYSTEM TO 1500 MICRON. BREAK THE VACUUM WITH DRY OFN TO 1 BAR. REPEAT ONCE.

   b. CONTINUOUSLY EVACUATE THE SYSTEM TO BETWEEN 300 MICRON AND 500 MICRON FOR A MINIMUM OF 1 HOUR. INSPECT VACUUM PUMP FOR SIGNS OF MOISTURE DISCHARGE. CONTINUE EVACUATION AND INSPECT AT 1 HOUR INTERVALS UNTIL MOISTURE IS NOT PRESENT.

   c. MAINTAIN VACUUM FOR FOR 12 HOURS. IF LOSS OF VACUUM OCCURS, REPEAT TEST PROCEDURE.

3. FOLLOWING SUCCESSFUL PRESSURE AND VACUUM TESTING, CHARGE SYSTEM WITH NEW REFRIGERANT. RECOVERED, RECYCLED, OR RECLAIMED REFRIGERANT SHALL BE TREATED TO REMOVE MOISTURE, OIL, ACID, AND PARTICULATE MATTER PRIOR TO USE.

4. DOCUMENT TESTING AND PROVIDE TO OWNER. INSPECTION BY LOCAL AUTHORITY MAY BE REQUIRED.

M. CONDENSATE PIPING

1. ALL CONDENSATE PIPING SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

2. MATERIAL

   a. CONDENSATE PIPING SHALL BE APPROVED, DWV SCHEDULE 40 PVC WITH PVC FITTINGS AND SOLVENT CEMENT JOINTS UNLESS OTHERWISE NOTED.

3. SIZING-CONNECTED LOAD

   a. 2 TONS OR LESS=3/4"

   b. MORE THAN 2 TONS TO 5 TONS=1"

2. MINIMUM SLOPE

   a. 2-1/2" OR LESS=1/4" PER FOOT

   b. 3" TO 5"=1/8" PER FOOT

N. ALL PIPING SHALL BE LABELED IN ACCORDANCE WITH ASTM STANDARD A13.1. LABELS SHALL INCLUDE PIPING SERVICE (REFRIGERANT SUCTION, REFRIGERANT LIQUID, CONDENSATE, ETC.), SIZE, AND DIRECTION OF FLOW.

O. COORDINATE ALL REQUIRED WALL, FLOOR, CEILING, AND ROOF PENETRATION LOCATIONS AND SIZES WITH THE GC PRIOR TO CONSTRUCTION. GC SHALL PROVIDE ALL REQUIRED FRAMED OPENINGS, HEADERS, MASONRY OPENINGS, LINTELS, ETC. AS NECESSARY.

P. COORDINATE ALL DUCT LOCATIONS, SIZES, AND ROUTING WITH GC PRIOR TO CONSTRUCTION. GC SHALL PROVIDE A CLEAR PATH THROUGH FRAMING AND MASONRY COMPONENTS TO ACCOMMODATE DUCT ROUTING.

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HVAC NOTES

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HVAC SYMBOLS

	SQUARE/RECTANGULAR SUPPLY DOWN
	SQUARE/RECTANGULAR SUPPLY UP
	ROUND SUPPLY DOWN
	ROUND SUPPLY UP
	SQUARE/RECTANGULAR RETURN DOWN
	SQUARE/RECTANGULAR RETURN UP
	ROUND RETURN DOWN
	ROUND RETURN UP
	SQUARE/RECTANGULAR EXHAUST DOWN
	SQUARE/RECTANGULAR EXHAUST UP
	ROUND EXHAUST DOWN
	ROUND EXHAUST UP
	SQUARE/RECTANGULAR ELBOW
	SQUARE/RECTANGULAR ELBOW WITH TURNING VANES
	ROUND MAIN WITH CONICAL TAKEOFF
	ROUND MAIN WITH CONICAL TEE
	SQUARE/RECTANGULAR MAIN WITH CONICAL TEE
	ROUND MAIN WITH 45° LATERAL WYE
	SQUARE/RECTANGULAR MAIN WITH 45° LEAD IN TAKEOFF
	ROUND ELBOW
	EXISTING DUCT TO BE REMOVED
	EXISTING DUCT TO REMAIN
	NEW DUCT
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	INTERNALLY INSULATED DUCT
	SQUARE/RECTANGULAR TO ROUND TRANSITION
	CONCENTRIC TRANSITION
	ECCENTRIC TRANSITION
	ROUND NECK CEILING AIR TERMINAL
	SQUARE/RECTANGULAR NECK CEILING AIR TERMINAL
	TRANSFER AIR PATH
C	TIMECLOCK
T	THERMOSTAT
S	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
SD	DUCT SMOKE DETECTOR
	CONNECT TO EXISTING
$	SWITCH
MD	MOTORIZED DAMPER
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
BDD	BACKDRAFT DAMPER
	CAP AND SEAL
	FLEXIBLE CONNECTION

HVAC ABBREVIATIONS

A	
A	AMPS
AC	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
B	
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
C	
CEF	CEILING EXHAUST FAN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CU	CONDENSING UNIT
CW	CONDENSER WATER
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
D	
DC	DIRECT CURRENT
E	
E	EXISTING
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
F	
FC	FAN COIL
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
FT	FOOT/FEET
G	
GA	GAUGE
GC	GENERAL CONTRACTOR
GFM	GLASS FABRIC AND MASTIC
H	
HP	HORSEPOWER OR HEAT PUMP
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
I	
IG	ION GENERATOR
K	
KW	KILOWATT

L	
LBS	POUNDS
M	
MAX	MAXIMUM
MBH	ONE THOUSAND BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N	
NC/PO	NORMALLY CLOSED/POWERED OPEN
NIC	NOT IN CONTRACT
NIS	NEOPRENE IN SHEAR
NO/PC	NORMALLY OPEN/POWERED CLOSED
NTS	NOT TO SCALE
O	
OA	OUTDOOR AIR
OC	ON CENTER
P	
PC	PLUMBING CONTRACTOR
PH	PHASE
R	
RA	RETURN AIR
RFD	ROUND FIRE DAMPER
RGS	RIGID SEALED
RIS	RUBBER IN SHEAR
RPM	REVOLUTIONS PER MINUTE
S	
SA	SUPPLY AIR
SFD	SQUARE FIRE DAMPER
SQFT	SQUARE FEET
T	
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	
UC	UNDERCUT DOOR
UL	UNDERWRITERS LABORATORIES
V	
V	VOLTAGE
VD	VOLUME DAMPER
VIF	VERIFY IN FIELD
W	
W	WATT
WC	WATER COLUMN
WOAC	WALL OPENING ABOVE CEILING

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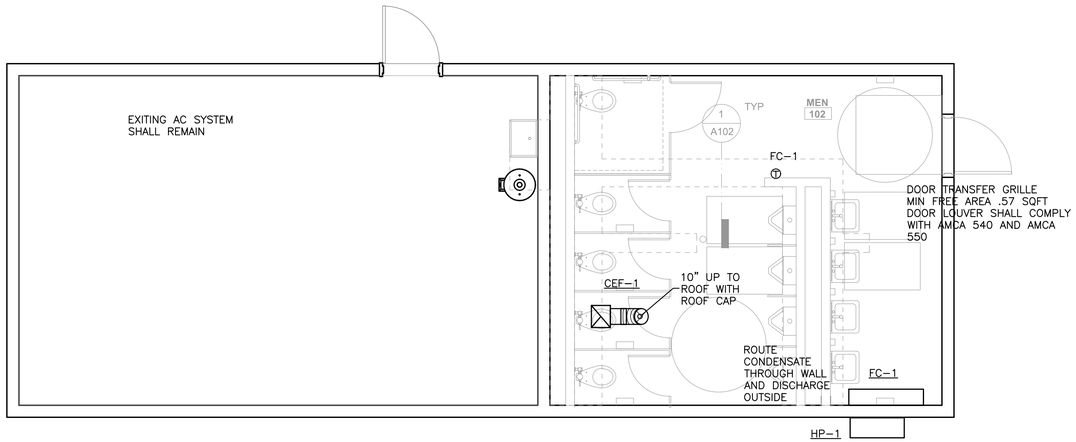

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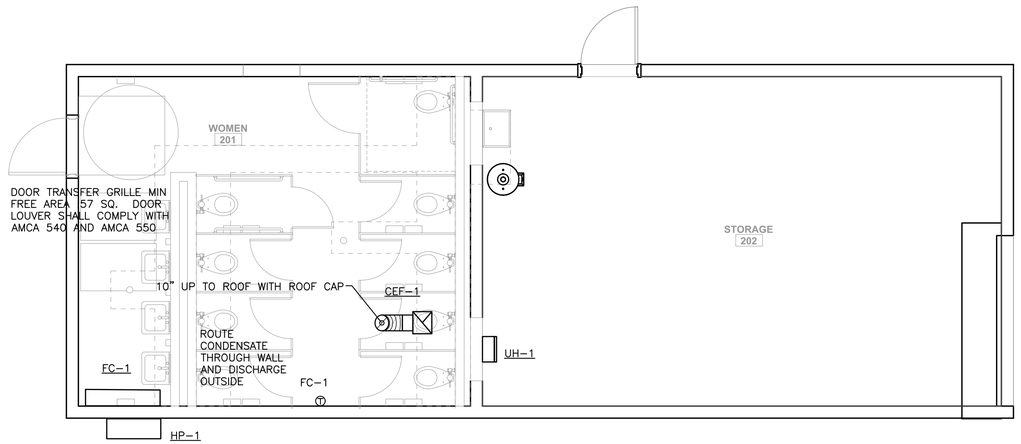

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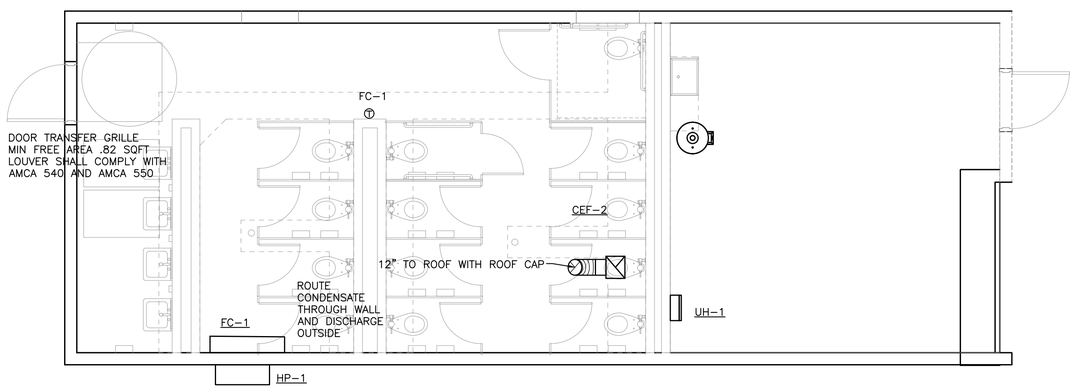

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M101

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BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

HEAT PUMP/CONDENSING UNIT SCHEDULE

TAG	MAKE	MODEL	NOMINAL COOLING (BTUH)	NOMINAL HEATING (BTUH)	LIQUID LINE (IN)	SUCTION LINE (IN)	V/PH	COMPRESSOR RLA	COMPRESSOR FLA	FAN FLA	FAN W	MCA	MFA	LBS	NOTES
HP-1	DAIKIN	RK36NMVJUA	34400	N/A	1/4	5/8	230/1	18.25	N/A	0.83	123	19	20	133	1,2,3,4

1 WITH 10 YEAR WARRANTY

2 MOUNT/SECURE TO BLOCK WALL WITH FACTORY CODED WALL BRACKET

3 COORDINATE REFRIGERANT LINE SIZES, LENGTHS, AND ROUTING WITH MANUFACTURER

4 WITH FACTORY APPLIED PHENOLIC COATING SUITABLE FOR A COASTAL/SALT AIR ENVIRONMENT ON ALL MECHANICAL COMPONENTS DIRECTLY EXPOSED TO THE OUTDOOR AIR (i.e. CONDENSER COILS, CONDENSER FANS, ETC.)

FAN COIL SCHEDULE

TAG	MAKE	MODEL	CFM	OA	ESP	RPM	AUX. HEAT (KW)	V/PH	FAN FLA	HEATER FLA	MCA	MOCP	LBS	NOTES
FC-1	DAIKIN	FTX36NVJU	915	N/A	N/A	HIGH	N/A	N/A	0.37	N/A	N/A	N/A	38	1,2,3

1 WITH WALL MOUNTING PLATE

2 WITH WALL MOUNTED THERMOSTAT

3 LOW VOLTAGE POWER TO UNIT FROM OUTSIDE UNIT BY MC

CEILING EXHAUST FAN SCHEDULE

TAG	MAKE	MODEL	CFM	TSP	RPM	WATTS	FLA	V/PH	LBS	NOTES
CEF-1	GREENHECK	SP-A510-VG	450	.20	1077	224	3.3	120/1	10	1,2
CEF-2	GREENHECK	SP-A700-VG	650	.20	1124	350	3.2	120/1	10	1,2

1 WITH ECM MOTOR

2 WIRED TO LIGHT SWITCH

UNIT HEATER SCHEDULE

TAG	MAKE	MODEL	KW	MBH	V/PH	LBS	NOTES
UH-1	REZNOR	EHC-2	6.0	20.5	240/1	25	1,2,3,4

1 WITH ALMOND CABINET COLOR

2 WITH SURFCACE MOUNTING BOX

3 WITH DISCONNECT SWITCH

4 SET AT 40°F

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MICAH VAN DULL — LICENSED PROFESSIONAL ENGINEER — 16922 — STATE OF MISSISSIPPI
3/08/2023

ST. MARTIN FOOTBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

SCALE: AS INDICATED
PROJECT NO: 0155.22.010
DRAWN BY: MAB
CHECKED BY: JMV

PLUMBING NOTES, SYMBOLS AND ABBREVIATIONS

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

M601

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LIGHTING SYMBOLS

CEILING	WALL	DESCRIPTION
		FLUORESCENT, LED OR H.I.D. LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		FLUORESCENT OR LED STRIP LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE
		FLUORESCENT OR LED LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		"EXIT" LIGHT FIXTURE. DIRECTIONAL ARROWS AS INDICATED. SHADED QUADRANT INDICATE FACE(S). SEE LUMINARE SCHEDULE.
		EMERGENCY BATTERY PACK FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.
		H.I.D. OR LED FLOODLIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE LUMINARE SCHEDULE.

POWER SYMBOLS

FLOOR	WALL	CEIL.	COUNTR	QUAD.	DESCRIPTION
					DUPLEX 20A OUTLET; GFCI=GFCI PROTECTION, WP=WEATHER PROOF COVER, IG=ISOLATED GROUND, USB=USB RECEPTACLE
					SPECIAL OUTLET
SURFACE		FLUSH			480/277V PANELBOARD
					208/120V PANELBOARD
					DISCONNECT SWITCH, AS=FRAME SIZE, AT=FUSE SETTING (NF=NON FUSED), #P=NUMBER POLES, NR=NEMA ENCLOSURE RATING (NEMA 3R UNLESS OTHERWISE NOTED)
					COMBINATION STARTER/CIRCUIT BREAKER, MP=MAX PROTECTION RATING, SS=STARTER SIZE, #P=NUMBER POLES, NR=NEMA ENCLOSURE RATING (NEMA 3R UNLESS OTHERWISE NOTED).
					MAGNETIC MOTOR STARTER. SS=STARTER SIZE, NR=NEMA ENCLOSURE RATING (NEMA 3R UNLESS OTHERWISE NOTED
					MOTOR, SINGLE-PHASE. HP=DENOTES HORSEPOWER
					MOTOR, THREE-PHASE. HP=DENOTES HORSEPOWER
					JUNCTION BOX, HOFFMAN A8086CHNF
					ELECTRICAL CONNECTION
					TRANSFORMER

SYSTEM DEVICES

FLOOR	WALL	CEIL.	DESCRIPTION
			TELEPHONE OUTLET, FLUSH MOUNTED
			COMBINATION DATA/TELEPHONE OUTLET, FLUSH MOUNTED
			CABLE TELEVISION OUTLET, FLUSH MOUNTED
	H	H	FIRE ALARM, COMBINATION AUDIO/VISUAL ANNUNCIATION UNIT. CANDELA AS INDICATED. WALL MOUNTED 7'-6" AFF UNLESS OTHERWISE NOTED, CEILING MOUNTED.
	S	S	STROBE, WALL MOUNTED 7'-6" AFF UNLESS OTHERWISE NOTED. CEILING MOUNTED CANDELA AS INDICATED.
	P		FIRE ALARM PULL STATION. WALL MOUNTED 48" AFF.
	H		HEAT DETECTOR CEILING MOUNTED.
	S		SMOKE DETECTOR CEILING MOUNTED.
	S		DUCT SMOKE DETECTOR, WITH SAMPLING TUBE MOUNTED IN HVAC DUCT.
	FS		FLOW SWITCH
	CM		CONTROL MODULE
	TS		TAMPER SWITCH
	FAP		FIRE ALARM CONTROL PANEL (FACP)
	TX		TRANSCEIVER
	ANN		FIRE ALARM REMOTE ANNUNCIATOR PANEL.
	VFD		VARIABLE FREQUENCY DRIVE
	TBB		TELEPHONE BACK BOARD PANEL

WIRING SYMBOLS

	DESCRIPTION
	WIRING (IN CONDUIT) CONCEALED IN CEILING OR WALL
	WIRING (IN CONDUIT) RUN EXPOSED
	WIRING UNDERGROUND (SITE WORK)
	TELECOMMUNICATION RACEWAY (SITE WORK)
L:1,3	HOMERUN TO PANELBOARD WITH NOMENCLATURE (LETTERS), CIRCUIT NUMBERS (NUMBERS), NUMBER OF CIRCUITS (NUMBER OF ARROWS), EACH CIRCUIT TO HAVE GROUND.
E	ELECTRICAL MANHOLE
T	TELECOMMUNICATION MANHOLE
	GROUND CONNECTION
S	SINGLE-POLE TOGGLE SWITCH.
S_2	DOUBLE-POLE TOGGLE SWITCH.
S_3	THREE-WAY TOGGLE SWITCH.
S_D	SLIDE DIMMER FLUORESCENT.
S_M	SWITCH, MOTOR RATED
S_{MS}	SWITCH, MOTION SENSOR
PC	PHOTO CELL
	CONDUIT TURNED UP
OS2	MOTION SENSOR WITH PHOTOCELL, ACUITY SENSOR SWITCH SBOR 6 ODP BK
	GROUNDING CONNECTION BAR
	10' X 3/4" STAINLESS STEEL GROUND ROD.

REFERENCE SYMBOLS

	DESCRIPTION
1	SPECIFIC NOTE REFERENCE.
100	FEEDER REFERENCE.
A / E2 ; 1 / E2	DETAIL/SECTION REFERENCE: "1" DENOTES DETAIL "A" DENOTES SECTION "E2" DENOTES DRAWING NUMBER WHERE DETAIL/SECTION IS DRAWN

ONE-LINE SYMBOLS

	DESCRIPTION
M	METER ENCLOSURE
M	METER
	CIRCUIT BREAKER
	SWITCH, SINGLE POLE-SINGLE THROW
	FUSE
	FUSE
	FUSED SWITCH
	FUSED SWITCH
	DRY TYPE TRANSFORMER
PANEL	PANELBOARD
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
LC	LIGHTING CONTACTOR
GFM	GROUND FAULT MONITORING
K	KIRK-KEY MECHANICAL INTER-LOCK
	GROUND SYSTEM TEST WELL WITH GROUND ROD CONNECTION
	EXOTHERMIC WELD GROUND ROD CONNECTION
	EXOTHERMIC WELD CONNECTION
	4-WAY SF_6 SWITCH
	6-WAY SF_6 SWITCH
	TYPICAL DUAL CIRCUIT AIR BREAK TRANSFORMER DESIGN
400A / 4400	TRANSFORMER STATION NUMBER BUILDING NUMBER OR LOCATION
	LOAD BREAK SWITCH
1	MOTOR STARTER (NUMBER INDICATES NEMA SIZE), ALL STARTERS SHALL BE PROVIDED WITH H.O.A SWITCH
27	UNDERVOLTAGE RELAY
V	VOLT METER
A	AMMETER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION

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17411
STATE OF MISSISSIPPI

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OCEAN SPRINGS | MS | 39564

SCALE: NTS
PROJECT NO: 0155.22.010
DRAWN BY: KDB
CHECKED BY: KDB

ELECTICAL SYMBOLS

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REV.0	03.08.2023	ISSUE FOR CONSTRUCTION

E001

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ABBREVIATIONS

A

A	AMPERE(S)
AC	ALTERNATING CURRENT
AD	AIR DRYER
A/C	AIR CONDITIONING
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
ALUM	ALUMINUM
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAGE
AHU	AIR HANDLING UNIT

C

C	CONDUIT
CB	CIRCUIT BREAKER
CC	COMPRESSOR
CKT	CIRCUIT
CL	CLASS
COND	CONDUCTOR(S)
CT	CURRENT TRANSFORMER
CU	COPPER
COMM	COMMUNICATION
CWP	CHILLED WATER PUMP

D

DC	DIRECT CURRENT
DET.	DETECTOR

E

E.C.	ELECTRICAL CONTRACTOR
EH	ELECTRIC HEATER
EF	EXHAUST FAN
EL.	ELEVATION
EM	EMERGENCY
ESD	EMERGENCY SHUTDOWN
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING

F

FC	FOOT CANDLE
FC	FAN COIL UNIT
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FL	FLUORESCENT
FREQ.	FREQUENCY
FT.	FOOT; FEET

G

G	GROUND
GALV	GALVANIZED
GFI	GROUND FAULT INTERRUPTER
GND	GROUND

H

HP	HORSEPOWER
HP	HEAT PUMP UNIT
HV	HIGH VOLTAGE
HZ	HERTZ

J

JB	JUNCTION BOX

K

KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT.AMPERES
KW	KILOWATT

L

LBS.	POUNDS
LEV	LEVEL
LTG.	LIGHTING
LV	LOW VOLTAGE

M

MCB	MAIN CIRCUIT BREAKER
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MH	MOUNTING HEIGHT

N

N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NF	NONFUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NL	UN SWITCHED NIGHT LIGHT
NTS	NOT TO SCALE

O

OC	ON CENTER
OL	OVERLOAD CONTACT

P

ø	PHASE
PNL	PANEL
PR	PAIR
PE	PHOTO ELECTRIC
PHWP	HEAT PUMP
PRI	PRIMARY
PIR	PASSIVE INFRARED
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER

R

REC	RECEPTACLE
REQ'D.	REQUIRED
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RT	RAINTIGHT

S

SEC	SECONDARY
SMK	SMOKE
SPC	SINGLE POINT CONNECTION
SR	SUNRISE
SS	SUNSET
STD	STANDARD
SUPVR	SUPERVISORY
SWBD	SWITCHBOARD

T

TYP	TYPICAL

U

UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES

V

V	VOLTS
VAC	VOLTAGE, ALTERNATING CURRENT
VDC	VOLTAGE, DIRECT CURRENT

W

W	WATTS, WIRE, WIDTH
WH	WATER HEATER
WP	WEATHERPROOF

X

XFMR	TRANSFORMER

FEEDER SCHEDULE

TYPE THHN/THWN INSUL. COPPER CONDUCTOR AMPACITY BASED ON (75° TEMP. RATING) IN RIGID METAL CONDUIT
DRY INTERIOR LOCATIONS: EMT WITH CAST COMPRESSION FITTINGS
WET EXTERIOR LOCATIONS: RGS WITH CAST FITTINGS
UNDERGROUND INSTALLATIONS: SCHEDULE 80 PVC
BASED ON 40% FILL CAPACITIES, MINIMUM CONDUIT SIZE – 3/4"

FEEDER DESIGNATION	3PH+G PHASE + GND. CONDUCTORS AND CONDUIT SIZE	FEEDER DESIGNATION	3PH+N+G PHASE + NEUTRAL + GND. CONDUCTORS AND CONDUIT SIZE	FEEDER DESIGNATION	2 WIRE + GND. OR 1 WIRE + NEUTRAL + GND. CONDUCTORS AND CONDUIT SIZE
20	3#12+#12 GND., 3/4"C	20N	4#12+#12 GND., 3/4"C	20S	2#12+#12 GND., 3/4"C
30	3#10+#10 GND., 3/4"C	30N	4#10+#10 GND., 3/4"C	30S	2#10+#10 GND., 3/4"C
50	3#8+#10 GND., 1"C	50N	4#8+#10 GND., 1"C	50S	2#8+#10 GND., 1"C
65	3#6+#8 GND., 1"C	65N	4#6+#8 GND., 1 1/4"C	65S	2#6+#8 GND., 1"C
85	3#4+#8 GND., 1 1/4"C	85N	4#4+#8 GND., 1 1/4"C	85S	2#4+#8 GND., 1 1/4"C
100	3#3+#8 GND., 1 1/4"C	100N	4#3+#8 GND., 1 1/2"C	100S	2#3+#8 GND., 1 1/4"C
115	3#2+#6 GND., 1 1/2"C	115N	4#2+#6 GND., 1 1/2"C	115S	2#2+#6 GND., 1 1/2"C
130	3#1+#6 GND., 1 1/2"C	130N	4#1+#6 GND., 2"C	130S	2#1+#6 GND., 1 1/2"C
150	3#1/0+#6 GND., 2"C	150N	4#1/0+#6 GND., 2"C	150S	2#1/0+#6 GND., 2"C
175	3#2/0+#6 GND., 2"C	175N	4#2/0+#6 GND., 2 1/2"C	175S	2#2/0+#6 GND., 2"C
200	3#3/0+#6 GND., 2"C	200N	4#3/0+#6 GND., 2 1/2"C	200S	2#3/0+#6 GND., 2"C
230	3#4/0+#4 GND., 2 1/2"C	230N	4#4/0+#4 GND., 3"C	230S	2#4/0+#4 GND., 2 1/2"C
255	3#250+#4 GND., 2 1/2"C	255N	4#250+#4 GND., 3"C	255S	2#250+#4 GND., 2 1/2"C
285	3#300+#4 GND., 3"C	285N	4#300+#4 GND., 3"C	285S	2#300+#4 GND., 3"C
310	3#350+#3 GND., 3"C	310N	4#350+#3 GND., 4"C	310S	2#350+#3 GND., 3"C
335	3#400+#3 GND., 3"C	335N	4#400+#3 GND., 4"C	335S	2#400+#3 GND., 4"C
380	3#500+#3 GND., 4"C	380N	4#500+#3 GND., 4"C	380S	2#500+#3 GND., 4"C
400	2 SETS(3#3/0+#3 GND., 2"C)	400N	2 SETS(4#3/0+#3 GND., 2 1/2"C)		
420	3#600+#2 GND., 4"C	420N	4#600+#2 GND., 4"C		
460	2 SETS(3#4/0+#2 GND., 2"C)	460N	2 SETS(4#4/0+#2 GND., 2 1/2"C)		
510	2 SETS(3#250+#1 GND., 2 1/2"C)	510N	2 SETS(4#250+#1 GND., 3"C)		
570	2 SETS(3#300+#4 GND., 2 1/2"C)	570N	2 SETS(4#300+#4 GND., 3"C)		
620	2 SETS(3#350+#1/0 GND., 3"C)	620N	2 SETS(4#350+#1/0 GND., 3"C)		
760	2 SETS(3#500+#1/0 GND., 3"C)	760N	2 SETS(4#500+#1/0 GND., 4"C)		
840	2 SETS(3#600+#2/0 GND., 4"C)	840N	2 SETS(4#600+#2/0 GND., 4"C)		
855	3 SETS(3#300+#2/0 GND., 2 1/2"C)	855N	3 SETS(4#300+#2/0 GND., 3"C)		
1005	3 SETS(3#400+#3/0 GND., 3"C)	1005N	3 SETS(4#400+#3/0 GND., 3"C)		
1240	4 SETS(3#350+#4/0 GND., 3"C)	1240N	4 SETS(4#350+#4/0 GND., 4"C)		
1650	5 SETS(3#400+#250 GND., 3"C)	1650N	5 SETS(4#400+#250 GND., 4"C)		
2010	6 SETS(3#400+#350 GND., 3"C)	2010N	6 SETS(4#400+#350 GND., 4"C)		
2660	7 SETS(3#500+#450 GND., 4"C)	2660N	7 SETS(4#500+#400 GND., 4"C)		
3040	8 SETS(3#500+#500 GND., 4"C)	3040N	8 SETS(4#500+#500 GND., 4"C)		
4180	11 SETS(3#500+#700 GND., 4"C)	4180N	11 SETS(4#500+#700 GND., 4"C)		

LUMINARE SCHEDULE

TAG	NOTES	DESCRIPTION	CATALOG	VOLTAGE	LAMP	CATALOG NUMBER
F1	1,4	2'X2' LED PANEL	LITHONIA LIGHTING CPX SERIES	120	LED 27W	CPX 2X2 3200LM 80CRI 40K SWL MIN1 DGA22
F2	2,3,4,5	LED WALL SCONCE	LITHONIA LIGHTING WSR LED SERIES	120	LED 29W	WSR LED P2 40K SR3 MVOLT PE FINISH

LUMINARE SCHEDULE NOTES:

1. CONTRACTOR SHALL COORDINATE FIXTURE TRIM TYPE WITH ARCHITECTURAL CEILING TYPE. SEE ARCHITECTURAL RCP.
2. UL LISTED AND APPROVED FOR WET LOCATIONS.
3. COORDINATE BUILDING PENETRATIONS WITH EXTERIOR BUILDING SURFACE MATERIALS. PROVIDE MANUFACTURERS LISTED PENETRATION SEALS. ALL PENETRATIONS SHALL BE MADE WATERPROOF. COORDINATE WITH OTHER TRADES REQUIREMENTS WHERE APPLICABLE.
4. WHEN FIXTURE IS DENOTED WITH AN "E", EXAMPLE – F1E, PROVIDE 90 MINUTE EMERGENCY OPERATION WITH ACCESSIBLE SELF TEST SWITCH. WITH 5 YEAR WARRANTY. TEST SWITCH SHALL BE FIXTURE MOUNTED FOR ALL LOCATIONS, EXTERIOR FIXTURE TEST SWITCHES SHALL BE WEATHERPROOF. ALL LIGHTING FIXTURES WITH BATTERY PACKS REQUIRE A SEPARATE, NON–SWITCHED, HOT CONDUCTOR FOR OPERATION. DISCONNECTING POWER TO BATTERY PACKS WILL CAUSE THEM TO DISCHARGE. FOR FIXTURES THAT CAN'T BE ORDERED WITH A FIXTURE MOUNTED BATTERY, CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED INVERTER TO FEED LIGHT FIXTURES.
5. WITH FIXTURE MOUNTED PHOTOCELL.

GENERAL NOTES

1. EQUIPMENT SHALL BE MOUNTED ON MATERIALS SUITABLE FOR THE ENVIRONMENT WHICH IT IS INSTALLED WITH THE APPROPRIATE NEMA ENCLOSURE RATING.
2. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH ARTICLE 110 AND 408.
3. THE DEDICATED ELECTRICAL SPACE EXTENDED FROM THE FLOOR TO THE STRUCTURAL CEILING WITH THE WIDTH AND DEPTH OF THE PANEL–BOARD OR SWITCHBOARD, MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH THE NEC 110 & 408. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGHING IN EQUIPMENT.
4. ALL ELECTRICAL EQUIPMENT AND THE RESULTANT INSTALLATION OF SUCH EQUIPMENT, DEVICES, ETC., SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND THE STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE NFPA 70E.
5. DRAWINGS AND SPECIFICATIONS FORM A COMPLETE SET OF DOCUMENTS FOR THE WORK IN THIS PROJECT. NEITHER IS COMPLETE WITHOUT THE OTHER. ANY ITEM MENTIONED IN ONE SHALL BE BINDING AS MENTIONED IN BOTH.
6. CONTRACTOR SHALL TAKE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL DIMENSIONS AND LOCATIONS OF EXISTING, RELOCATED AND NEW EQUIPMENT AND SHALL BE RESPONSIBLE FOR COORDINATION WITH THE WORK OF OTHER TRADES NECESSARY TO THE PROJECT.
7. THESE DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED TO PROVIDE A COMPLETE AND OPERABLE PROJECT CONCLUSION. ALL MISCELLANEOUS COMPONENTS, PARTS, FASTENERS, SPLICES AND OTHER INCIDENTAL ITEMS NECESSARY TO PROVIDE A COMPLETED PROJECT SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY NOTED.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS ARISING FROM DISCOVERED CONDITIONS AT ANY PHASE OF THE PROJECT.
9. ALL BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL AND GROUND.
10. ALL ABOVE GROUND EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL.
11. LOCATIONS OF OTHER EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATION IN FIELD PRIOR TO ROUGHING IN AND ROUTING CONDUIT.
12. CONDUITS ARE NOT NECESSARILY SHOWN ON PLAN DRAWINGS FOR SAKE OF CLARITY. PROVIDE CONDUITS BETWEEN DEVICES AND TO PANELS PER REQUIREMENTS LISTED IN DIVISION 26 SPECIFICATIONS. INDICATE EXACT ROUTING OF CONDUIT ON PLAN DRAWINGS AS PART OF AS BUILD DOCUMENTATION TO BE SUBMITTED AFTER FINAL COMPLETION.
13. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH SEALTITE FLEXIBLE CONDUIT CONNECTION.
14. ALL EXIT, NIGHT LIGHT, AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.
15. GENERAL CONTRACTOR SHALL FIELD–VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.
16. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AT LEAST 2 WEEKS IN ADVANCE OF ANY WORK WHICH SHALL OR REASONABLY COULD, RESULT IN OUTAGE OF POWER OR COMMUNICATIONS.
17. ELECTRICAL CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS AND SPECIFICATION TO OBTAIN LOCATIONS, WIRING REQUIREMENTS, CONTROL WIRING SCHEMES, INTERLOCK WIRING AND THERMOSTAT LOCATIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL LOW VOLTAGE WIRING AND CONDUIT. FURNISH TO OWNER AND ENGINEER IN AS–BUILT DOCUMENTATION PACKAGE.
18. ALL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO QUANTIFY THE MATERIALS SPECIFIED AND INDICATED THEIR INTENDED RELATIONSHIP TO EACH OTHER. THE DRAWINGS ARE NOT TO BE SCALED. THE VARIOUS SCALES USED ON THE DRAWINGS MAY NOT ALLOW FOR ALL FITTINGS, OFFSETS, AND ACCESSORIES THAT MAY BE REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE CONDITIONS THAT WOULD AFFECT THE WORK TO BE PERFORMED AND SHALL ARRANGE SUCH WORK AS NECESSARY TO COMPLY WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS.
19. ALL SAFETY SWITCHES AND DISCONNECT SWITCHES SHALL BE HEAVY DUTY.

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STATE OF MISSISSIPPI

ST. MARTIN FOOTBALL RESTROOMS
JACKSON COUNTY SCHOOL DISTRICT
10700 YELLOW JACKET RD.
OCEAN SPRINGS | MS | 39564

SCALE: NTS
PROJECT NO: 0155.22.010
DRAWN BY: KDB
CHECKED BY: KDB

ELECTICAL ABBREVIATIONS & SCHEDULES

NO.	DATE	REVISION / SUBMITTAL
REV 0	03.08.2023	ISSUE FOR CONSTRUCTION

E002

VERIFY SCALES
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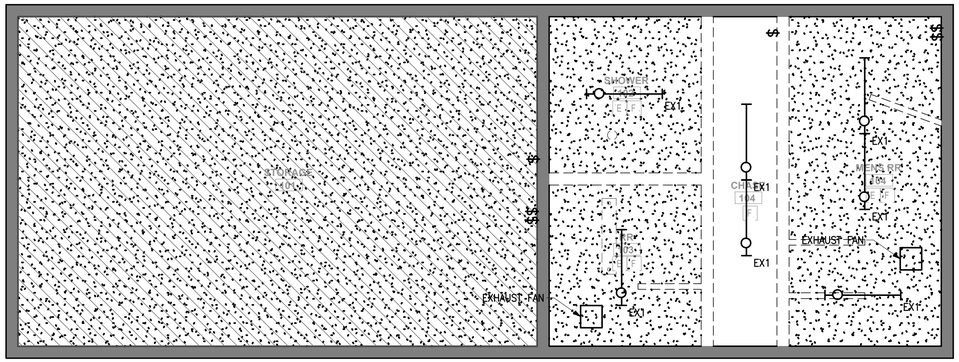
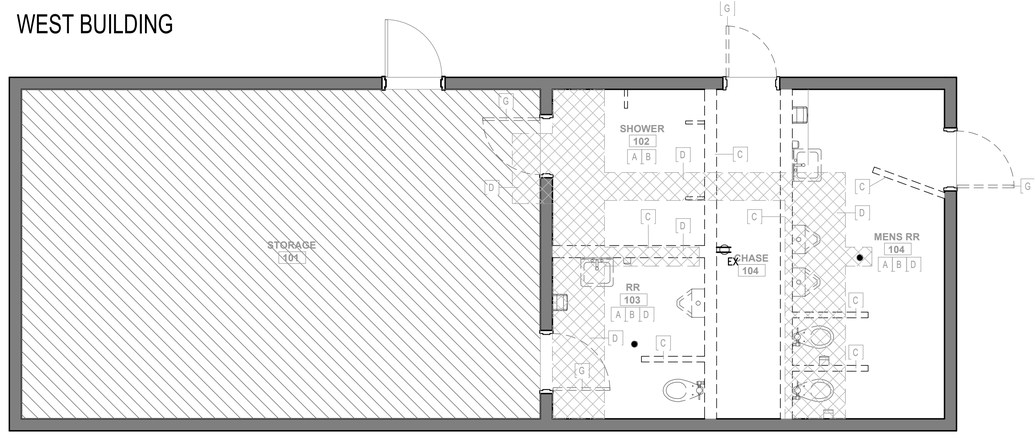
WEST BUILDING



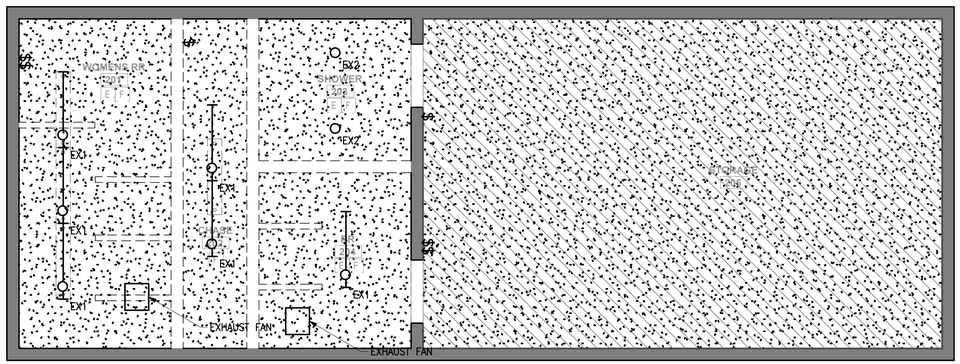
1 ELECTRICAL DEMO RCP PLAN - WEST BUILDING
SCALE: 1/4" = 1'

WEST BUILDING



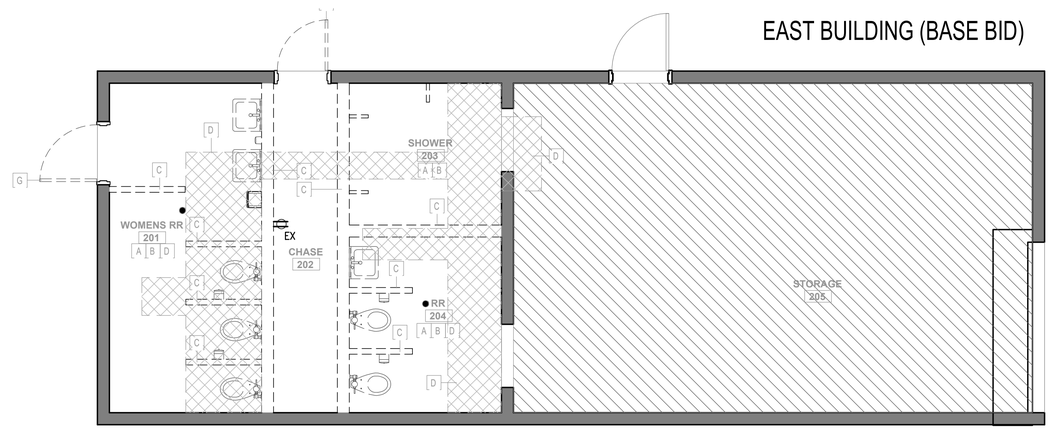
3 ELECTRICAL DEMO FLOOR PLAN - WEST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (BASE BID)



2 ELECTRICAL DEMO RCP PLAN - EAST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (BASE BID)



4 ELECTRICAL DEMO FLOOR PLAN - EAST BUILDING
SCALE: 1/4" = 1'

DRAWING E011 NOTES

1. CONTRACTOR SHALL DEMOLISH ALL LIGHT FIXTURES. CONTRACTOR SHALL DEMOLISH BRANCH CIRCUIT BACK TO NEAREST JUNCTION BOX.
2. CONTRACTOR SHALL DEMOLISH ALL LIGHT SWITCHES. CONTRACTOR SHALL DEMOLISH SWITCH LEG BACK TO NEAREST JUNCTION BOX.
3. CONTRACTOR SHALL DEMOLISH ALL EXHAUST FANS. CONTRACTOR SHALL DEMOLISH BRANCH CIRCUIT BACK TO NEAREST JUNCTION BOX.

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ELECTICAL DEMOLITION PLAN

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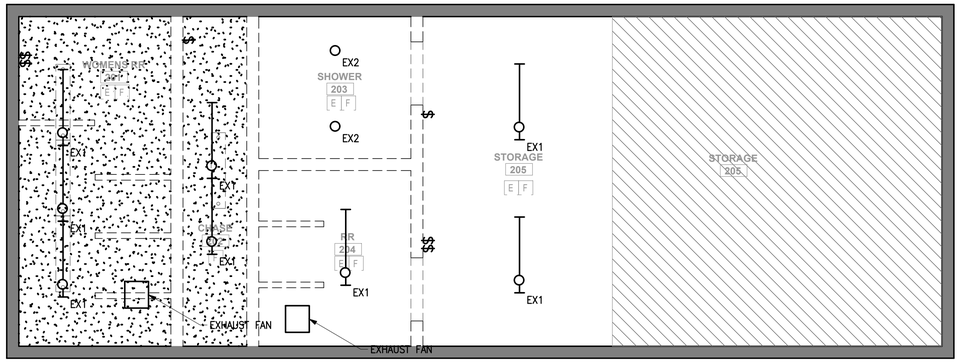
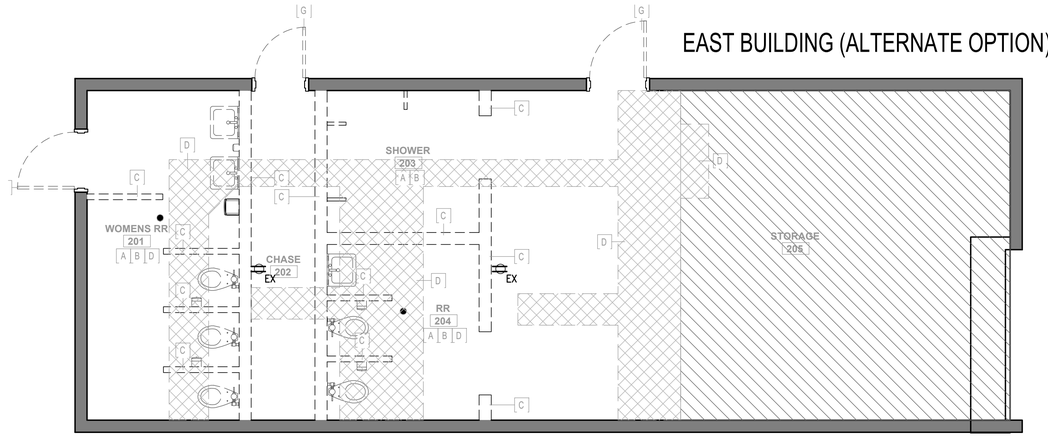
EAST BUILDING (ALTERNATE OPTION)



1 ELECTRICAL DEMO RCP PLAN - EAST BUILDING - ALTERNATE

SCALE: 1/4" = 1'

EAST BUILDING (ALTERNATE OPTION)



2 ELECTRICAL DEMO FLOOR PLAN - EAST BUILDING - ALTERNATE

SCALE: 1/4" = 1'

DRAWING E012 NOTES

1. CONTRACTOR SHALL DEMOLISH ALL LIGHT FIXTURES. CONTRACTOR SHALL DEMOLISH BRANCH CIRCUIT BACK TO NEAREST JUNCTION BOX.
2. CONTRACTOR SHALL DEMOLISH ALL LIGHT SWITCHES. CONTRACTOR SHALL DEMOLISH SWITCH LEG BACK TO NEAREST JUNCTION BOX.
3. CONTRACTOR SHALL DEMOLISH ALL EXHAUST FANS. CONTRACTOR SHALL DEMOLISH BRANCH CIRCUIT BACK TO NEAREST JUNCTION BOX.

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ELECTICAL DEMOLITION PLAN -- ALTERNATE

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E012

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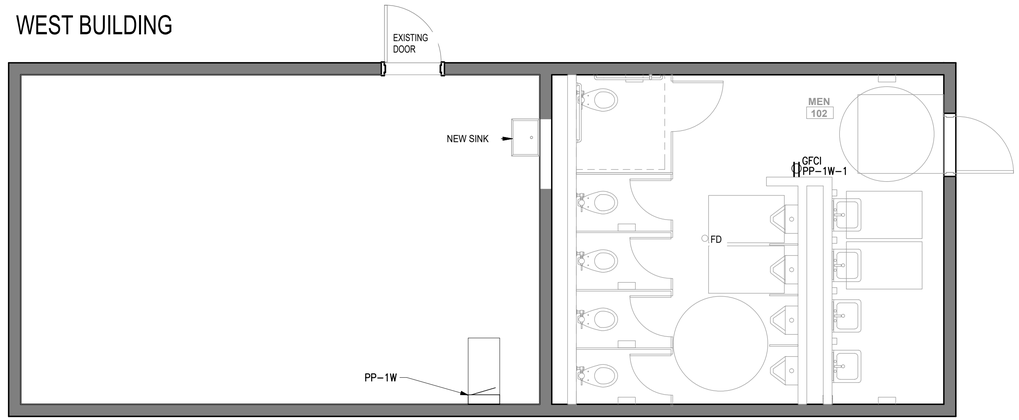
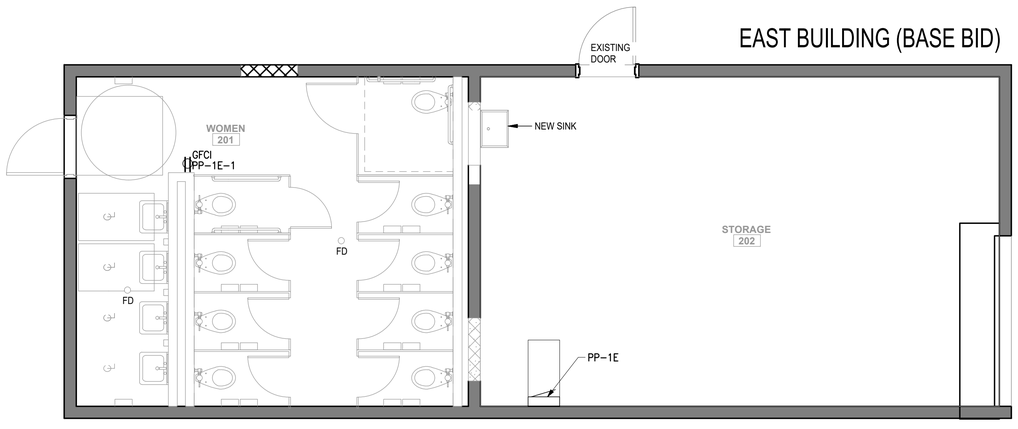
WEST BUILDING



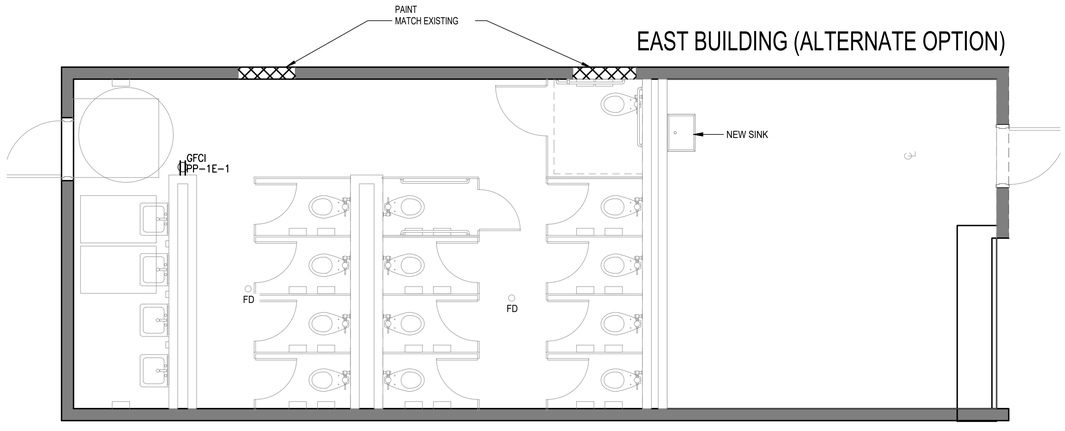
1 ELECTRICAL POWER PLAN - WEST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (BASE BID)



2 ELECTRICAL POWER PLAN - EAST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (ALTERNATE OPTION)



3 ELECTRICAL POWER PLAN - EAST BUILDING - ALTERNATE
SCALE: 1/4" = 1'

DRAWING E111 NOTES

1. ALL RECEPTACLE CIRCUITS SHALL BE #12 AWG UNLESS OTHERWISE NOTED. IF MORE THAN 100'-0" TO THE FIRST CURRENT-CONSUMING DEVICE, THEN CONDUCTOR SHALL BE #10 AWG.
2. ALL RECEPTACLES SHALL BE MOUNTED 18" AFF UNLESS OTHERWISE NOTED.
3. ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL.

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ELECTICAL POWER PLAN

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E111

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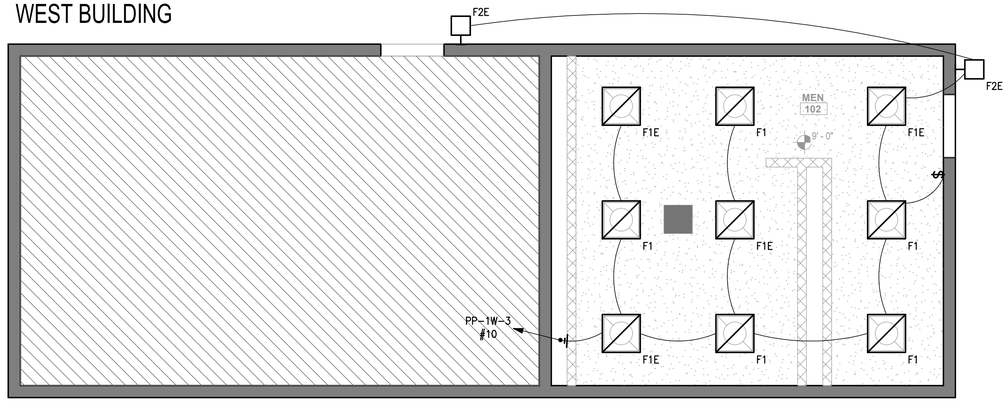
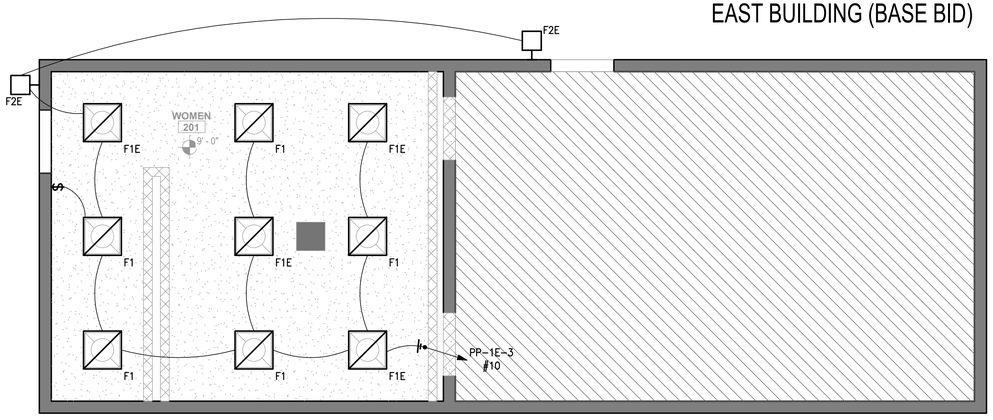
WEST BUILDING



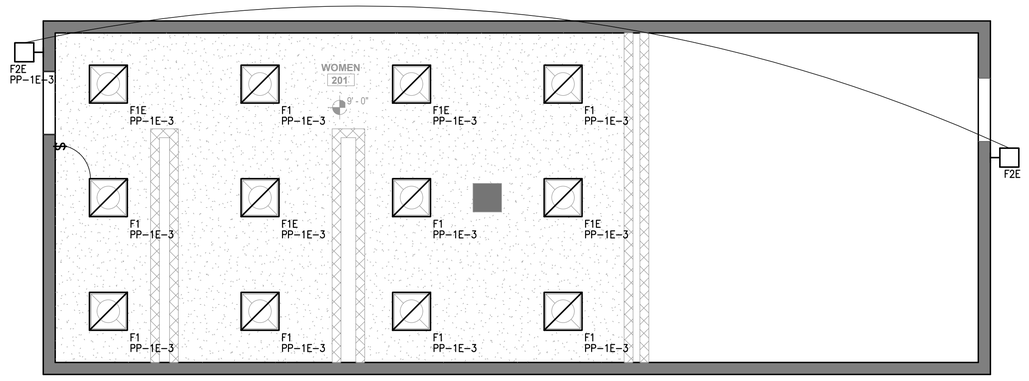
1 ELECTRICAL LIGHTING PLAN - WEST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (BASE BID)



2 ELECTRICAL LIGHTING PLAN - EAST BUILDING
SCALE: 1/4" = 1'

EAST BUILDING (ALTERNATE OPTION)



3 ELECTRICAL LIGHTING PLAN - EAST BUILDING - ALTERNATE
SCALE: 1/4" = 1'

DRAWING E121 NOTES

1. ALL LIGHTING CIRCUITS SHALL BE #12 AWG UNLESS OTHERWISE NOTED. IF MORE THAN 100'-0" TO THE FIRST CURRENT-CONSUMING DEVICE, THEN CONDUCTOR SHALL BE #10 AWG.
2. REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT MOUNTING LOCATIONS IN ARCHITECTURAL FINISHES.
3. REFERENCE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHTS OF LIGHT FIXTURES.

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ELECTICAL LIGHTING PLAN

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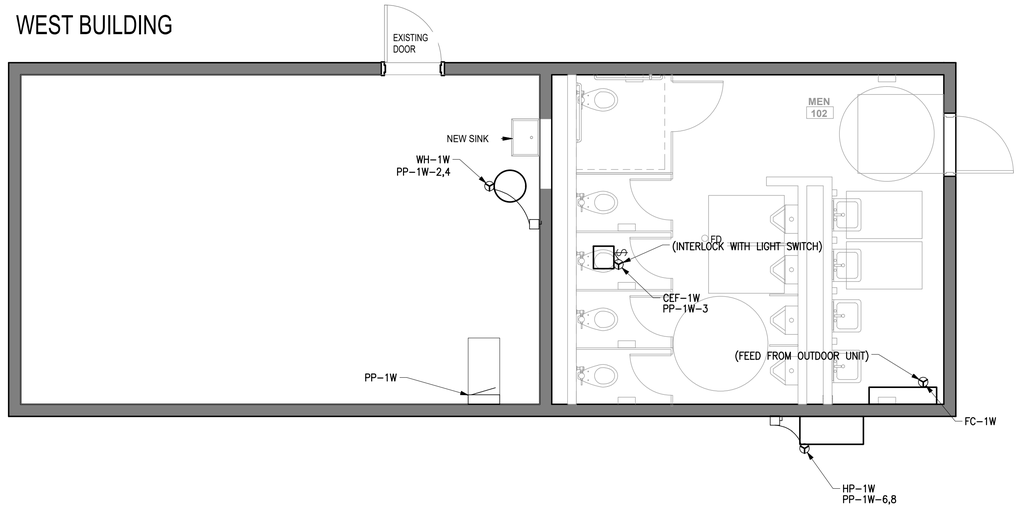
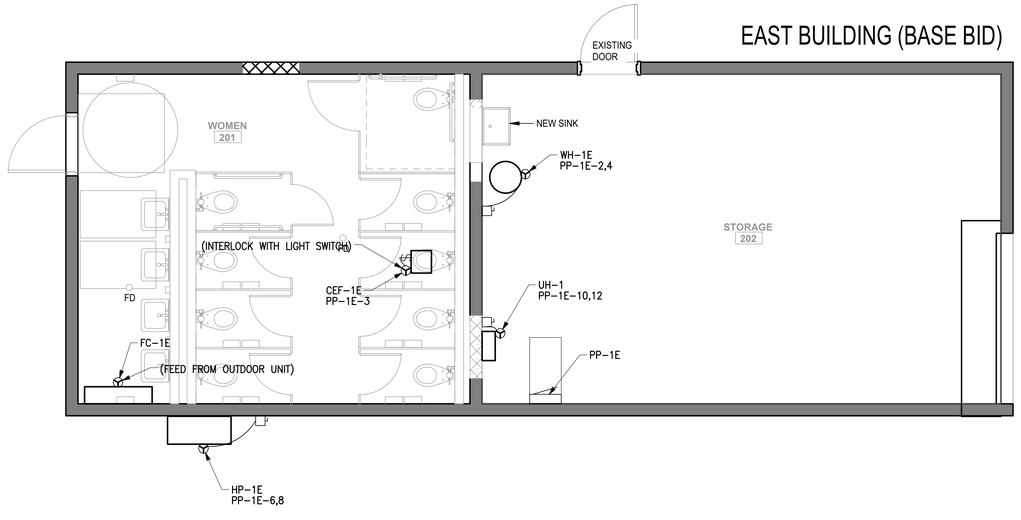
WEST BUILDING



1 MECHANICAL POWER PLAN - WEST BUILDING
SCALE: 1/4" = 1'

N

EAST BUILDING (BASE BID)



2 MECHANICAL POWER PLAN - EAST BUILDING
SCALE: 1/4" = 1'

N

DRAWING E151 NOTES

1. ALL SAFETY SWITCHES SHALL BE PROVIDED AND MOUNTED BY THE E.C. COORDINATE EXACT REQUIREMENTS WITH THE EQUIPMENT MANUFACTURER. ALL SAFETY SWITCHES SHALL BE HEAVY DUTY. INDOORS – NEMA 1, OUTDOORS – NEMA 3R.
2. COORDINATE EXACT WIRING REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGHING IN.

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MECHANICAL POWER PLAN

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PP–1W

ROOM WEST BUILDING STORAGE | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 150 | MAIN BKR 150
FED FROM DP | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	20/1	RECEPTACLE	0.18		2	50/2	WH–1W	4.5	
3	20/1	CEF–1W, LIGHTING		0.541	4	|			4.5
5	20/1	SPARE	0		6	30/2	HP–1W	2.23	
7	20/1	SPARE		0	8	|			2.23
9	20/1	SPARE	0		10	20/2	SPARE	0	
11	20/1	SPARE		0	12	|			0
13	20/1	SPARE	0		14	20/1	SPARE	0	
15	20/1	SPARE		0	16	20/1	SPARE		0
17	20/1	SPARE	0		18	20/1	SPARE	0	
19	20/1	SPARE		0	20	20/1	SPARE		0
21	20/1	SPARE	0		22	20/1	SPARE	0	
23	20/1	SPARE		0	24	20/1	SPARE		0
25	20/1	SPARE	0		26	20/1	SPARE	0	
27	20/1	SPARE		0	28	20/1	SPARE		0
29	20/1	SPARE	0		30	20/1	SPARE	0	
							TOTAL CONNECTED KVA BY PHASE	6.91	7.28
							TOTAL CONNECTED AMPS BY PHASE	57.6	60.6

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.317	0.396	(125%)	MOTORS	4.69	4.69	(100%)
LARGEST MOTOR	4.38	1.1	(25%)	RECEPTACLES	0.18	0.18	(50%>10)
				HEATING	9	9	(100%)
				TOTAL LOAD		15.4	
				BALANCED LOAD		64 A	

50 — 4
30 — 5

PP–1E

ROOM EAST BUILDING STORAGE | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 150 | MAIN BKR 150
FED FROM DP | NEUTRAL 100% | LUGS STANDARD
NOTE

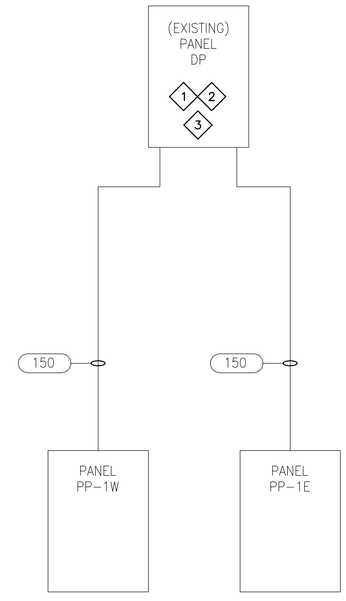
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	20/1	RECEPTACLE	0.36		2	50/2	WH–1E	4.5	
3	20/1	CEF–1E, LIGHTING		0.954	4	|			4.5
5	20/1	SPARE	0		6	30/2	HP–1E	2.23	
7	20/1	SPARE		0	8	|			2.23
9	20/1	SPARE	0		10	40/2	UH–1	3	
11	20/1	SPARE		0	12	|			3
13	20/1	SPARE	0		14	20/1	SPARE	0	
15	20/1	SPARE		0	16	20/1	SPARE		0
17	20/1	SPARE	0		18	20/1	SPARE	0	
19	20/1	SPARE		0	20	20/1	SPARE		0
21	20/1	SPARE	0		22	20/1	SPARE	0	
23	20/1	SPARE		0	24	20/1	SPARE		0
25	20/1	SPARE	0		26	20/1	SPARE	0	
27	20/1	SPARE		0	28	20/1	SPARE		0
29	20/1	SPARE	0		30	20/1	SPARE	0	
							TOTAL CONNECTED KVA BY PHASE	10.1	10.7
							TOTAL CONNECTED AMPS BY PHASE	84.1	89.1

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.73	0.913	(125%)	MOTORS	4.69	4.69	(100%)
LARGEST MOTOR	4.38	1.1	(25%)	RECEPTACLES	0.36	0.36	(50%>10)
				HEATING	15	15	(100%)
				TOTAL LOAD		22.1	
				BALANCED LOAD		91.9 A	

50 — 4
30 — 5
50 — 4

DRAWING E621 SPECIFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL (1) 150A/2P CIRCUIT BREAKER IN EXISTING PANEL DP TO FEED NEW PANEL PP–1W. CONTRACTOR SHALL MODIFY EXISTING PANEL DP AS REQUIRED.
2. CONTRACTOR SHALL PROVIDE AND INSTALL (1) 150A/2P CIRCUIT BREAKER IN EXISTING PANEL DP TO FEED NEW PANEL PP–1E. CONTRACTOR SHALL MODIFY EXISTING PANEL DP AS REQUIRED.
3. EXISTING PANEL DP IS LOCATED UNDER THE HOME SIDE PRESS BOX AT GRADE LEVEL.
4. CONTRACTOR SHALL PROVIDE AND INSTALL A 240V, 60A/2P, NEMA 1 HEAVY DUTY SAFETY SWITCH.
5. CONTRACTOR SHALL PROVIDE AND INSTALL A 240V, 30A/2P, NEMA 3R HEAVY DUTY SAFETY SWITCH



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ELECTRICAL PANELBOARD SCHEDULES

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PROJECT MANUAL

ST. MARTIN FOOTBALL RESTROOMS

10700 Yellow Jacket Rd, Ocean Springs, MS 39564

Jackson County School District
4700 Colonel Vickery Rd. | Vancleave, Mississippi 39565

REGISTERED ARCHITECT
Fernanda A. Silva
5425
03/08/23
STATE OF MISSISSIPPI

BRADLEY P. PATANO
LICENSED PROFESSIONAL
ENGINEER
3/8/23
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MP Design Group Project # 0155.22.010
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SECTION 000102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: St. Martin Football Restrooms, located at the following address:

10700 Yellow Jacket Rd..

Ocean Springs, Mississippi39564.

B. The Owner, hereinafter referred to as Owner: Jackson County School District

C. Owner's Project Manager: Engineer/Architect.

1.02 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to General Contractors for the construction of the project described below.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: This project will consist of the following general scope of work. This description is provided for convenience purposes only and shall not be considered all inclusive. It is the general contractor's responsibility to become fully famliar with the existing conditions, review all of the construction document drawings, specifications, and any additional information documents in their entirety and bring forth any and all questions regarding scope confusion, misinterpretations, and/or possible errors and omissions to the Architect and/or Engineer prior to bid submission and/or start of construction.
   1. This project consists of existing restrooms renovations and associated scope of work as described in the Construction Documents and Specifications.

B. Contract Terms: Lump sum (fixed price, stipulated sum).

C. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

D. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8:00 AM to 5:00 PM.

1.04 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Engineer/Architect: MP Design Group.
   1. Address: 918 Howard Avenue, Suite F.
   2. City, State, Zip: Biloxi, MS 39530.
   3. Phone: 228-388-1950.
   4. Fax: 228-388-1971
   5. Website: www.mpdesigngroup.us
   6. Plan Room: www.mpengplans.us
   7. Project E-mails: bpatano@mpdesigngroup.us, fsilva@mpdesigngroup.us.

1.05 PROCUREMENT TIMETABLE

A. A non-mandatory Pre-Bid Meeting and site walk: Tuesday, April 4, 2023 at 10 AM local time at the front entry lobby of District's Central Office Building at 4700 Col Vickrey Rd. , Vancleave, Mississippi39565. Following the meeting, a site walkthrough will be conducted.

B. Last Request for Substitution Due: 7 days prior to due date of bids.

C. Last Request for Information Due: 7 days prior to due date of bids.

D. Bid Due Date: As described in Document 001113 - Advertisement for Bids.

E. Bid Opening: Same day, after the bids are due at the descretion of the Onwer and a time that is best determined by the Owner.

F. Notice to Proceed: Will be issued after bid due date with anticipated starts dates as shown below..

G. Bids May Not Be Withdrawn Until: 60 days after due date.

H. Contract Time: As described in Document 004100 - Bid Form.

I. Final Completion date is critical due to requirements of Owner's operations.

J. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.06 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained:
   1. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.
   2. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

B. Documents may be viewed at Office of the Architect.

1.07 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.

PART 2 PRODUCTS (NOT USED)

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END OF SECTION

SECTION 001113
ADVERTISEMENT FOR BIDS

FROM:

1.01 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

A. Jackson County School District

B. Address:
4700 Col Vickrey Rd.
Vancleave, Mississippi, 39565

1.02 AND THE ENGINEER/ARCHITECT (HEREINAFTER REFERRED TO AS ENGINEER/ARCHITECT):

A. MP Design Group

B. Address:
918 Howard Avenue, Suite F
Biloxi, MS 39530
Phone: 228-388-1950
1. Fax: 228-388-1971
2. Web Site: www.mpdesigngroup.us
3. Plan Room: www.mpengplans.us

1.03 TO: POTENTIAL BIDDERS

A. Your firm is invited to submit an offer under seal to Owner for existing restrooms renovations and associated scope of work located at:
10700 Yellow Jacket Rd.
Ocean Springs, Mississippi 39564

Before 10:00 am local standard time on the 18th day of April, 2023, for:

B. Project Name: St. Martin Football Restrooms

C. Project Number: 0155.22.001

D. Project Description: This project consists of existing restrooms renovations and associated scope of work as described in the Construction Documents and Specifications.

E. Bid Documents for a Stipulated Sum contract may be obtained from the website of the Architect at www.mpengplans.us upon receipt of a non-refundable deposit, by cash or check, in the amount indicated on the plan room site<> for one set delivered in electronic PDF format.

F. Bidders will be required to provide Bid security in the form of a Bid Bond of a sum no less than 5 percent of the Bid Amount or a certified check for a sum no less than 5 percent of the Bid Amount.

G. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders and Document 003100 - Available Project Information.

H. Submit your offer on the Bid Form provided. Bidders may supplement this form as appropriate.

I. If Bids are mailed or hand delivered, then they must be contained in a sealed envelope marked on the outside with the project name. They must be on file as received or delivered by the time stated above to the address of the Owner stated above. Do not deliver Bids to the project address or the Architect's address.

J. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must be included and must be clearly indicated as such in the file name.

K. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi certificate of responsibility number as issued by the Mississippi Board of Contractors along with a copy of the General Contractor's proof of Mississippi license.

L. Your offer will be required to be submitted under a condition of irrevocability for a period of 60 days after submission.

M. The Owner reserves the right to accept or reject any or all offers.

END OF SECTION

SECTION 002113
INSTRUCTIONS TO BIDDERS

INVITATION

1.01 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner as Described in Document 001113 - Advertisement for Bids.

B. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

C. Offers submitted after the above time will be returned to the bidder unopened.

D. Offers will be opened publicly after the time for receipt of bids.

1.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete a existing restrooms renovations and associated scope of work located at Ocean Springs, Mississippi for a Stipulated Sum contract, in accordance with the Contract Documents.

1.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises remodeling and demolition, including general construction, mechanical, and electrical Work.

B. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor’s responsibility to bring any and all discrepancies to the architect’s attention for further clarity prior to submitting a formal bid.

1.04 BUILDING PERMITS AND PLAN REVIEW

A. Refer to 011000 Summary

1.05 CONTRACT TIME

A. Perform the Work in time as described in Document 000102 - Project Information.

B. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additioinal request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for addtional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

BID DOCUMENTS AND CONTRACT DOCUMENTS

2.01 DEFINITIONS

A. Bid Documents include the Advertisement for Bids, Instructions to Bidders, Bid Form, Information Available to Bidders, Supplements To Bid Forms and Appendices, other sample bidding and contract forms, and the proposed Contract Documents including any Addenda issued prior to receipt of bid. The Contract Documents proposed for the Work consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary, and other Conditions), the Drawings, the Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract.

B. All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

C. Addenda are written or graphic instructions issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

D. A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

E. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added or from which work may be deleted for sums stated in Alternate Bids.

F. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

G. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Document.

H. A bidder is a person or entity who submits a Bid.

I. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials or labor for a portion of the work.

2.02 CONTRACT DOCUMENTS IDENTIFICATION

A. The Contract Documents are identified as St. Martin Football Restrooms; Number 0155.22.001, as prepared by Engineer/Architect , and with contents as identified in the Project Manual.

2.03 AVAILABILITY

A. Bid Documents can also be obtained from the Plan Room website of the Architect at www.mpengplans.us upon receipt of a nonrefundable deposit, by cash or check, in the amount indicated on the plan room site for one set delivered in PDF format.

B. Bid Documents can be obtained from PlanHouse printing in Gulfport, MS. Contact PlanHouse Printing at (228) 248-0181 for more detailed information on pricing and available construction document delivery formats.

C. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

2.04 EXAMINATION

A. Bid Documents may be viewed at the office of Engineer/Architect .

B. Upon receipt of Bid Documents verify that documents are complete. Notify Engineer/Architect should the documents be incomplete.

C. Immediately notify Engineer/Architect upon finding discrepancies or omissions in the Bid Documents.

2.05 INQUIRIES/ADDENDA AND INTERPRETATIONS

A. Direct questions to Brad Patano or Fernanda Silva, at email: bpatano@mpdesigngroup.us and fsilva@mpdesigngroup.us respectively.

B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

C. Verbal answers are not binding on any party.

D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients .

E. Any interpretation, correction or change of the Bidding Documents will be made by Addendum issued during the bidding period. All Addenda become part of the Contract Documents. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding.

F. Failure of any bidder to receive addendum issued, or to acknowledge receipt on the bid form, shall not relieve such bidder from any obligation under this bid as submitted.

G. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid. No other method of estimating shall be used in preparing the bid proposal, unless contrary instructions are issued in the form of an Addendum before bid proposal due date.

H. Any claim by the Contractor or Subcontractors that they, in submitting their respective bid proposals, did not include all items as shown in the Contract Documents will be given no consideration for an adjustment of any kind. If any item is specified in a Section which would not normally furnish this item, it shall be the responsibility of the Contractor to provide the work in question, without any additional cost to the Owner.

2.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:

B. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 7 days before receipt of bids.

C. Substitution Request Form:
   1. Submit substitution requests by completing the form in Section 004325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

D. Review and Acceptance of Request:
   1. When a request to substitute a product is made, Engineer/Architect may approve the proposed substitution and will issue an Addendum to known bidders.
   2. The submission shall provide sufficient information to determine acceptability of such products.
   3. Provide complete information on required revisions to other work to accomodate each proposed substitution.
   4. Provide products as specified unless substitutions are submitted in this manner and accepted.

E. Submit substitution requests by completing the form in Section 004325 - Substitution Request Form - During Procurement; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable. If this form is not completed in its entirety, then it will be rejected and will have to be resubmitted.

F. See Section 012500 - Substitution Procedures for additional requirements.

SITE ASSESSMENT

3.01 SITE EXAMINATION

A. Examine the project site before submitting a bid.

B. A visit to the project site has been arranged for bidders as follows: Immediately following the Pre-Bid Conference

C. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 8 AM to 5 PM.
   2. Contractor will be require to contact the Owner prior to arriving to schedule a time for exmination.

3.02 PREBID CONFERENCE

A. A bidders conference has been scheduled as described in Document 000102 - Project Information. Meet in the main lobby of the Building. We will then relocate to a designated area as directed by the staff for the formal meeting. After the Pre-Bid Meeting we will tour the site as a group.

B. All general contract bidders and suppliers are invited.

C. Representatives of Engineer/Architect will be in attendance.

D. Summarized minutes of this meeting may be circulated to all known bidders. These minutes will not form part of the Contract Documents.

E. No verbal answers during this meeting are binding nor do they become a part of the Bid Documents. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

QUALIFICATIONS

4.01 SUBCONTRACTORS/SUPPLIERS/OTHERS

A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

B. Refer to General Conditions.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealedwith the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Owner's name on the outside. If Bids are electronically submitted, then a title page containing the same information as would occur on the front of a sealed envelope must be included and must be clearly indicated as such in the file name (i.e. "open first," or "Envelope Information," etc...), so that it will to be the first item opened.

C. Bids in excess of $50,000.00 must be marked on the outside of the envelope with the contractor's Mississippi Certificate of Responsibility Number as issued by the Mississippi Board of Contractors along with a copy of the General Contractor's proof of Mississippi license.

D. Electronic Bid Submission will be accepted on this project. Online bids can be placed on the website of the Architect at www.mpengplans.us.

5.02 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.

C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Owner, invalidate the bid.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amounton AIA A310 Bid Bond Form.
   -OR-
   2. Certified check in the amount of a sum no less than 5 percent of the Bid Amount.

B. Endorse the certified check in the name of the Owner.

C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

D. Include the cost of bid security in the Bid Amount.

E. If no contract is awarded, all security deposits will be returned.

6.02 PERFORMANCE ASSURANCE

A. Accepted Bidder:
   1. Provide a Performace Bond
   2. Provide a Payment Bond
   3. Provide a Schedule of Values
   4. Provide a Construction Schedule

B. Include the cost of Performance and Payment Bonds in the Bid Amount.

6.03 INSURANCE

A. Provide an executed "Undertaking of Insurance" letter on official letterhead provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents. This is nothing more than a letter. There is no special form required. The intent is to assure the Owner that the Bidder is capable of obtaining insurance coverage requirements set forth herein for this specific project.

6.04 NON COLLUSIVE AFFIDAVITT

A. Bids shall be accompanied with 004105 Form of Non Collusive Affidavit.

6.05 CONTRACTOR'S LICENSE

A. Bids shall be accompanied with a current proof of contractor's state license.

6.06 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

6.07 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows:
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.
   2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature.
   3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.

6.08 ADDITIONAL BID INFORMATION

A. Upon request by the Architect, the selected Bidder shall within seven days thereafter submit the following:
   1. A schedule of values for each major item of work included in the bid.

2. A list of the work to be performed by the Bidder with his own work forces.
3. A list of Subcontractors or other persons or organizations proposed for use on this project. The Bidder will be required to establish to the Architect, Owner and the Owner's Representative the reliability and responsibility of the proposed Subcontractors to furnish and perform the work. Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner, Architect, and the Owner's Representative must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner, Architect and Owner's Representative.

6.09 SELECTION AND AWARD OF ALTERNATES

A. Bids will be evaluated on the total of the base bid price and any combination of the Alternates. After determination of the successful bidder, consideration will be given to which Alternates will be included in the Work.

6.10 QUALIFICATION OF BIDDERS

A. If required, a Bidder shall submit to the Architect a properly executed Contractor's Qualification Statement AIA Document A305, within five (5) days from request.

B. The successful low bidder(s) will have to meet the following criteria to the Owners' satisfaction, prior to award of bid. Failure to do so may result in the rejection of the defaulting Contractors' Bid.
   1. The Contracting Company's ability to perform the designated scope of work.
   2. Qualified personnel and adequate work force capable of completing the specified project Work.
   3. Satisfactory construction plan.
   4. Satisfactory safety plan and work history related to safety and reportable OSHA related incidences.
   5. Successful completion of a similar project and no documented letters of dissatisfaction from similar owners.

C. Independent Contractor Status: It is understood and agreed that the contractor is an independent Contractor and not an employee of the Owner and that the Contractor shall be responsible for all necessary licenses, federal and state taxes, liability insurance, worker's compensation coverage and other obligations imposed upon him and his employees as an independent Contractor under applicable laws, rules and regulations.

D. Indemnity to the Owner: It is understood and agreed that the Contractor shall hold the Owner harmless and indemnify the Owner against any losses, damages, or liabilities resulting from the performance of the aforesaid services by said Contractor. Contractor shall be responsible for all employee withholding, payroll and FICA taxes, and shall maintain any and all Worker's Compensation Insurance on its laborers as required by law and shall hold the Owner harmless from all claims, if any, concerning Contractor's employees or subcontractors.

E. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the scope of Work. Conditional bids will not be accepted. The Owner may consider either of the following reasons as being sufficient for the disqualification of a bidder and the rejection of the bidder's proposal:
   1. Submission of more than one proposal for the same work from an individual, partnership, firm or corporation under the same or different name(s),
   2. Evidence of collusion among bidders. Participants of such collusion may be disqualified for future Work of the Owner, and
   3. If the Bidder has been placed in default on another project with the Owner.

6.11 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

6.12 ACCEPTANCE/ REJECTION OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. The Bidder acknowledges the right right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to furnish required bid security or to submit the data required by the bidding documents, or if the bid is in any way incomplete or irregular. Each actual or prospective bidder agrees to waive any claim it has or may have against the Owner, or against the Architect, or against the Owner's Representative, and their respective employees and agents, arising out of or in connection with the bidding process specifically including the receipt, evaluation, recommendation, and administration of any bid.

C. The Owner intends to award a Contract to the lowest and best Bidder within available funds, based on the sum of the base bid plus accepted alternates, if any. A bidder may be disqualified for any legally permissible reason. In making award, the Owner reserves the right to consider a bidder's experience, quality of previous work, availability of appropriate financial, material, facility, managerial or personal resources, warranties, life cycle cost and any other legal factors related to evaluating the bidder's capability to perform contract requirements in a timely and proper manner.

D. The Owner reserves the right to cancel the award of a contract any time prior to the execution by all parties without liability against the Owner.

E. Any protest from any bidder must be delivered to the Owner in writing within seventy-two (72) hours of bid opening.

F. Any claim of error and request to be released from the bid by any bidder must be delivered to the Owner within twenty-four (24) hours of bid opening. Sufficient documentation and proof must accompany this written request clearly showing an error was made by the bidder.

G. The Contract will provide for Liquidated Damages in the amounts indicated on the Bid Form. Amounts indicated are to be paid per day by the Contractor for this Project to the Owner for each calendar day after the date of substantial completion.

H. After acceptance by Owner, Engineer/Architect on behalf of Owner, will issue to the successful bidder, a written Notice To Proceed.

6.13 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

A. The successful Bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within seven (7) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the difference between his bid and the next acceptable bid, up to the maximum amount of the Bid Security.

B. Refer to the Bid Form for the Amount and Time Frame for the Liquidated Damages.

6.14 TIME OF COMPLETION

A. Bidder must agree to commence work on a date to be specified in a written "Notice to Proceed" and to substantially complete the Work within the number of calendar days indicated on the bid form.

B. Bidders shall substantially complete all the work involved in its contract within the calendar days stated and shall be subject to damages for each calendar day of delay thereafter in accordance with the General Conditions of the Contract for Construction.

END OF SECTION

SECTION 004000
PROCUREMENT FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the procurement requirements.

B. Bid Form: Section 004100 - Bid Form.

C. Procurement Form Supplements:
   1. Certificate of Responsibilty Number: Required on the Outside of the Envelope
   2. Bid Bond Form: AIA A310. Required to be submitted with the Bid.
   3. Proposed Schedule of Values Form: AIA G703. This does not have to be submitted with the bid, but must be provided to the Architect within seven (7) if so requested.
   4. Form of Non Collusive Affidavit: 004105 Form of Non Collusive Affidavit. Required to be submitted with the Bid.

1.02 REFERENCE STANDARDS

A. AIA A310 - Bid Bond 2010.

B. AIA G703 - Continuation Sheet 1992.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. Jackson County School District (Owner)
4700 Col Vickrey Rd.
Vancleave, Mississippi 39565

1.02 FOR:

A. Project Name: St. Martin Football Restrooms

B. Architect's Project Number: 0155.22.001

C. Project Address:
10700 Yellow Jacket Rd.
Ocean Springs, Mississippi39564

1.03 DATE: _____

1.04 CERTIFICATE OF RESPONSIBILITY NUMBER: _____

1.05 SUBMITTED BY:

A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip _____

1.06 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by MP Design Group for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work, within the time set forth herein for the Sum of:

B. **BASE BID LUMP SUM PRICE:**

_____
_____ dollars
($_____), in lawful money of the United States of America.

C. **BID ALTERNATE NO. 01:**

MUST CIRCLE ONE: ADDITIVE ALTERNATE DEDUCTIVE ALTERNATE

_____
_____ dollars
($_____), in lawful money of the United States of America.

D. We have included the required security Bid Bond as required by the Instruction to Bidders.

E. We have included the required Non Collusive Affidavit Form as required by the Instructions to Bidders.

F. We have included the cost of the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.

G. We have included the cost of all local jurisdiction building permits required to complete the construction of this project in our Base Bid amount unless specifically called for otherwise in Section 012100 Allowances.

H. All applicable federal taxes are included and State of Mississippi taxes are included in the Bid Sum.

I. All Cash and Contingency Allowances described in Section 012100 - Allowances are included in the Bid Sum.

1.07 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we will:
   1. Furnish the required bonds within seven days of receipt of Notice of Award.
   2. Commence work within seven days after written Notice to Proceed of this bid.

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.08 CONTRACT TIME

A. Complete the Work by the 18th day of August 2023.

B. If the Substantial Completion date falls beyond the above date based on days, we will pay to the Owner the following amount as liquidated damages, not as a penalty, for each calendar day of delay for the Project until the actual date of Substantial Completion of the Project:

   ***** UP TO $500.00 PER CALENDAR DAY *****

1.09 CHANGES TO THE WORK

A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
   1. Ten percent overhead and profit on the net cost of our own Work;
   2. Ten percent on the cost of work done by any Subcontractor.

1.10 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.
   3. Addendum # _____ Dated _____.
   4. Addendum # _____ Dated _____.
   5. Addendum # _____ Dated _____.

1.11 BID FORM SUPPLEMENTS

A. The following information is to be included with Bid submission:
   1. Non Collusive Affidavit
   2. Bid Bond: Form AIA Document A310
   3. Letter from Insurance Company
   4. Proof of Mississippi license

B. If so requested by the Architect, we agree to submit the following Supplements to Bid Forms within 7 days after submission of this bid for additional bid information:
   1. Proposed Schedule of Values Form

1.12 BID FORM SIGNATURE(S)

A. The Corporate Seal of

B. _____
C. (Bidder - print the full name of your firm)
D. was hereunto affixed in the presence of:
E. _____
F. (Authorized signing officer, Title)
G. (Seal)
H. _____
I. (Authorized signing officer, Title)

1.13 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

SECTION 004105
FORM OF NON COLLUSIVE AFFIDAVIT

PART 1 GENERAL

1.01 FORM OF NON-COLLUSION AFFIDAVIT IS AS FOLLOWS:

A. A copy of the Non-Collusion Affidavit is attached to the end of this Section. It will be the General Contractor's (Bidders) responsibility to complete this form in its entirety and submit it with and in his bid package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

NON-COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he/she has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He/She further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee gift, commission or thing of value on account of such sale.

OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated this ____ day of _____, _____

_____
General Contractor (GC) Company Name

_____ _____
Printed Name and Title of GC's Representative Signature of GC's Representative

NOTARY PUBLIC ACKNOWLEDGEMENT

STATE OF _____ COUNTY OF _____

Before me, a Notary Public, personally appeared the above named and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to me this _____ day of _____, _____.

SEAL

_____
Signature

My Commission Expires: _____

SECTION 004325
SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

PART 1 GENERAL

1.01 SUBSTITUTION REQUEST FORM IS AS FOLLOWS:

A. A copy of the Substitution Request Form that must be used is attached at the end of this section.
   1. No other forms will be allowed.
   2. Any additional information that can be provided to substantiate the substitution request will be gladly accepted.
   3. An incomplete Substitution Request Form will be immediately rejected.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DESIGN GROUP
ARCHITECTURE + ENGINEERING

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project:_____

Specification Section Number and Paragraph: _____

Contract Drawings Affected: _____

Proposed Manufacturer: _____

Proposed Product Substitution:_____

Proposed Product Description: _____

EFFECTS OF PROPOSED PRODUCT SUBSTITUTION

PROVIDE THE FOLLOWING:

1. Attach list of at least 3 projects where proposed substitution has been used within past 6 to 12 months include name, address, and telephone number of Owner and Architect.

2. Does substitution affect dimensions indicated on Drawings? (Y/N) _____

3. Does substitution affect Work of other Specification Sections? (Y/N) _____

4. Does substitution require modifications to design, changes to Drawings, or revisions to specifications? (Y/N) _____

CONTRACTOR'S / BIDDER'S RESPONSIBILITY

Undersigned accepts responsibility for coordination of proposed substitution and accepts all additional costs resulting from the incorporation of proposed substitution into the Project per Section 01600. The only response to this Request for Substitution will be by Addendum.

SUBMITTED BY

(Include name, address, telephone, and contract person of manufacturer/supplier of proposed substitution)

Contact Name:_____

Contact Address:_____

Contact Telephone:_____

Signature and date:_____

ARCHITECT / ENGINEER REVIEW

Reviewed by:_____ Date: _____

Comments:_____

_____

_____

_____

_____

SECTION 005000
CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 005200 - Agreement Form for the Agreement form to be executed.

B. See Section 007200 - General Conditions for the General Conditions.

C. The Agreement is based on AIA A101.

D. The General Conditions are based on AIA A201.

1.02 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in Contract Documents.

B. Bond Forms:
   1. Bid Bond Form: AIA A310.
      a. Must be submitted with the Bid Form.
   2. Performance and Payment Bond Form: AIA A312.
      a. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.
      b. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3 l 2.
      c. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.
      d. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.
      e. All bonds must be accompanied by an appropriate Power of Attorney.

C. Post-Award Certificates and Other Forms:
   1. Architect's Submittal Transmittal Letter Form: Attached at the end of this section.
   2. Schedule of Values Form: AIA G703.
   3. Application for Payment Forms: AIA G702 with AIA G703 (for Contractors).

D. Clarification and Modification Forms:
   1. Architect's Request for Interpretation Form: Attached to the end of this section.
   2. Architect's Substitution Request Form (During the Bidding/Negotiating Stage): Attached at the end of this section.
   3. Architect's Supplemental Instructions Form: AIA G710.
   4. Construction Change Directive Form: AIA G714.
   5. Change Order Form: AIA G701.

E. Closeout Forms:
   1. Certificate of Substantial Completion Form: AIA G704.
   2. Affidavit of Release of Liens Form: AIA 706A.

1.03 REFERENCE STANDARDS

A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum 2017.

B. AIA A201 - General Conditions of the Contract for Construction 2017.

C. AIA A310 - Bid Bond 2010.
D. AIA A312 - Performance Bond and Payment Bond 2010.
E. AIA G701 - Change Order 2017.
F. AIA G702 - Application and Certificate for Payment 1992.
G. AIA G703 - Continuation Sheet 1992.
H. AIA G704 - Certificate of Substantial Completion 2017.
I. AIA G710 - Architect's Supplemental Instructions 2017.
J. AIA G714 - Construction Change Directive 2017.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

Project Name:

Project Number:

RFI Number	Submitted To	Submitted By	Copies To
Date			

Subject	Discipline	Co-Author

Specification Section	Drawing Reference	

Information Requested (suggest solution, if possible):	Date Requested:

Response

By responding to the RFI, we do not agree to any additional costs and/or time. Any additional costs and/or time shall be submitted in accordance with the Contract Documents.

Date Answered: Answered By:

David J. Machado, PE
Brad P. Patano, PE
Gerrod W. Kilpatrick, PE
Bradford A. Jones. AIA
Fernanda A.Silva, AIA

SUBMITTAL IDENTIFICATION

Submittal No. _____

Contractor to Complete

Project Name: Biloxi Misc. Athletic Projects

MP Project Number: 0148.21.002

General Contractor: Starks Contracting Co., Inc.

Submittal Subcontractor: _____

Date Submitted to MP: _____

Specification Number: _____

Specification Description: _____

_____

Architect/Engineer to Complete

Date Returned: _____

Method Returned: Online Via Procore

Returned To: Chistopher Gutterrez; Starks Construction Co., Inc.

SECTION 005200
AGREEMENT FORM

PART 1 GENERAL

1.01 FORM OF AGREEMENTS ARE AS FOLLOWS:

A. Standard Form of Agreement Between Owner and Contractor, American Institute of Architects Document A101, 2017 Edition will be used for the Contract.

B. Standard Form Insurance and Bonds, American Institute of Architects Document A101, 2017 Exhibit A will be used for the Contract.

C. Prospective bidders should read and understand the Agreement forms before submitting bids or executing the Agreement.

D. Draft copies of these Agreements are available at the Architect's office for the Contractor's examination M-F from 8-5. The Agreements are incorporated by reference as though fully written herein.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 006200
INSURANCE AND BONDS

PART 1 GENERAL

1.01 INSURANCE

A. The Contractor is responsible for maintaining the following insurance coverages described herein.

B. **PROPERTY INSURANCE (BUILDER'S RISK)**

1. The Contractor shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a Builder's Risk “all-risks” completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner’s property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

C. **COMMERCIAL GENERAL LIABILITY (CGL) INSURANCE**

1. Commercial General Liability Insurance for the Project shall be written on an occurrence form with policy limits of not less than Two Million Dollars ($2,000,000) each occurrence, Four Million Dollars ($4,000,000) general aggregate, and Two Million Dollars ($2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including:
    a. damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
    b. personal injury and advertising injury;
    c. damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
    d. bodily injury or property damage arising out of completed operations; and
    e. the Contractor’s indemnity obligations under the General Conditions.
2. The Contractor’s Commercial General Liability policy shall not contain an exclusion or restriction of coverage for the following:
    a. Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
    b. Claims for property damage to the Contractor’s Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
    c. Claims for bodily injury other than to employees of the insured.
    d. Claims for indemnity of the General Conditions arising out of injury to employees of the insured.
    e. Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
    f. Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
    g. Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
    h. Claims related to roofing, if the Work involves roofing.
    i. Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

j. Claims related to earth subsidence or movement, where the Work involves such hazards.
k. Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

D. **AUTOMOBILE LIABILITY INSURANCE**
1. Automobile Liability Insurance covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than One Million Dollars ($1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

E. **EMPLOYERS' LIABILITY INSURANCE (WORKER'S COMP)**
1. Employers' LiabilityInsurance with policy limits not less than One Million Dollars ($1,000,000) each accident, One Million Dollars ($1,000,000) each employee, and One Million Dollar ($1,000,000) policy limit by not less than per statute.

1.02 SECURITY BONDS FOR FAITHFUL PERFORMANCE

A. A Performance Bond and a Payment (Labor and Material) Bond are required as a condition of this Contract.

B. Simultaneous with delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract in the amount of 100% of the contract sum for payment, executed on AIA Document A3l2.

C. The surety on such bond or bonds will be a duly authorized surety company who is licensed by the State of Mississippi's Commissioner of Insurance and who has a B++ or higher rating in accordance with the most recent edition of the A.M. Best Company, Inc., Key Rating Guide.

D. All bonds shall be countersigned by a Mississippi resident agent with the name and address typed or lettered legibly.

E. All bonds must be accompanied by an appropriate Power of Attorney.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 007200
GENERAL CONDITIONS

PART 1 GENERAL

1.01 GENERAL CONDITIONS ARE AS FOLLOWS:

A. Standard Form of General Conditions of the Contract for Construction, American Institute of Architects Document A201, 2017 Edition will be used for the Contract.

B. If a conflict exists between the General Conditions and the Specifications, the Specifications shall rule. Any party discovering a conflict between the Specifications and the General Conditions shall immediately notify the Architect in writing.

C. Prospective bidders should read and understand the General Conditions before submitting bids or executing the Agreement.

D. A copy of the Agreement is available at the Architect's office for the Contractor's examination on M-F from 8-5. The Agreement is incorporated by reference as though fully written herein.

END OF SECTION

SECTION 009000
ADDENDA

PART 1 GENERAL

1.01 SUMMARY

A. Any addenda to the drawings or specifications issued before or during the time of bidding shall be included in the proposal and become a part of the Contract.

B. Indicate receipt of addenda on the proposal form.

1.02 PART 2 PRODUCTS (NOT USED)

1.03 PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 011000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: St. Martin Football Restrooms

B. Owner's Name: Jackson County School District.

1.02 PROJECT DESCRIPTION

A. Description: Refer to Section 000102 Project Information

B. Alternates: refer to Division 1 Section "Alternates" for information.

C. All accessories or incidental items not specifically shown and detailed in the specifications herein, which are necessary and/or required to complete the work within the intent of the specifications, shall be included by the Contractor without additional cost to the Owner.

D. All bid amounts must be based on the most stringent requirement called for in the complete construction document package. In addition, the most stringent requirement shown shall govern and take precedence in the event of any and all conflicts between different drawings (plans, elevations, details, sections, schedules, etc...), between different specification sections, within specification sections, and between the drawings and the specifications. It will be the General Contractor's responsibility to bring any and all discrepancies to the architect's attention for further clarity prior to submitting a formal bid.

1.03 BUILDING PERMITS AND PLAN REVIEW

A. Building Permits:
   1. All Building Permits including all special subcontractor permits will be required for this project.
   2. The General Contractor will be required to apply for and pull all permits in their name.
   3. The General Contractor will be required to pay for all permits. Refer to Allowances section for any specified amount that may be allocated for the paying of said permits. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of all permits in his base bid amount.

B. Plan Review:
   1. The project will be required to go through the plans review process with the Authority Having Jurisdiction (AHJ).
   2. The General Contractor will be required to pay for all plans review fees. Refer to Allowances section for any specified amount that may be allocated for the paying of said plan review. If there is no set allowance provided, then it will be the General Contactor's responsibility to coordinate with the AHJ and provide for the costs of the plan review in his base bid amount.
   3. The General Contractor will be responsible for providing and paying for all hard copy sets of plans and specifications required by the AHJ for their completion of the plan review process.

1.04 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings.

B. Scope of alterations work is indicated on drawings.

C. Owner will remove the following items before start of work:
   1. All loose items and furniture.

D. Contractor shall remove and store the following prior to start of work, for later reinstallation by the Food Service Equipment Contractor:
   1. N/A.

1.05 WORK BY OWNER (EXCLUDED FROM BID WORK)

A. Some items will be furnished and installed by Owner under separate contracts. Contractors shall coordinate and cooperate with these separate contractors including scheduling, delivery and installation dates, storage of materials, and use of utilities.
   1. Toilet Paper Dispensers
   2. Paper Towel Dispensers
   3. Soap Dispensers

1.06 GENERAL INFORMATION

A. All work shall be performed in a professional manner and workmanlike manner.

B. Submittals: Submittals shall be submitted in accordance with Division 1 Section "Submittals".

C. Scheduling: The contractor shall prepare a construction schedule showing each construction activity, based on the project specification divisions, prior to starting work.

D. The Contractor will be expected to cooperate with the Owner and his representative in pursuing work continuously and with the highest degree of efficiency possible.

E. The Contractor will be required to finish the job and leave the site in a condition similar to starting project.

F. Inclement Weather: The Contract Time for the project has incorporated all days for inclement weather. No additional request inclement weather days will be allowed during the project duration. The only inclement weather delays that will be considered to be above and beyond standard adverse conditions and will be considered appropriate for the Contractor's request for additional time will be Acts of God that have directly effected the project site as follows:
   1. Named Storms
   2. Earthquakes
   3. Tornadoes
   4. Floods
   5. Hail Storms

G. Storm Damage: Should warnings of winds of gale force or stronger be issued, the Contractor shall take every practical precaution to minimize danger to persons and damage to property. These precautions shall be coordinated through the Owner’s Representative and shall include closing all openings; removing all loose materials, tools, and equipment from exposed locations; as well as removing or securing scaffolding and other temporary work.

H. Interruption of Utility Service: Interruptions to utility services shall be minimized. Necessary outages shall be coordinated with the Owner a minimum of 10 days in advance of the planned outage.

1.07 OWNER OCCUPANCY/WORKING CONDITIONS

A. Owner intends to not occupy area of scope portions of the existing building during the entire construction period.

B. Workmen shall be limited to the use of only those areas necessary to perform the work.

C. Owner intends to occupy the Project upon Substantial Completion.

D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

E. The Contractor shall take all necessary and prudent safety precautions to ensure the safety of the workforce and other exposed personnel.

1.08 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas permitted by Law, Ordinances, Permits, and Contract Documents..

B. Provide access to and from site as required by law and by Owner:

1. Do not obstruct roadways, sidewalks, or other public ways without permit and/or permission by Owner.
2. Deliveries and access/exit to project site is not available during the student drop off/unloading and student pick up/unloading times in the morning hours of 7:15 a.m. to 8:00 a.m. and during the afternoon hours of 3:15 to 4:00 p.m. General Contractor shall coordinate with Owner and not schedule or maneuver equipment during this time to obstruct traffic flow of buses and parents entering/exiting the school grounds during these time frames.

C. Existing building spaces and portions of site occupied by Owner for daily use may not be used for storage.

D. Contractor shall not unreasonably encumber site with materials or equipment.

E. Contractor shall assume full responsibility for protection and safe-keeping of products sorted on premises.
   1. Move any stored materials/products which interfere with operations of other Contractors.
   2. Obtain and pay for, use of additional storage or work areas needed for operations.
   3. Refer to Division 1 Section "Temporary Facilities and Controls" for additional information.

F. No Smoking (Tobacco) Policy:
   1. Smoking and other tobacco products including vaping are prohibited within and outside of all buildings. This applies to **ALL** buildings including the project site during all times of construction.

G. No Weapons Policy:
   1. No deadly weapons of any kind are permitted on the property.

H. No Alcohol Policy:
   1. No alcoholic beverages of any kind are permitted on the property.

I. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the existing surrounding building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 005000 - Contracting Forms and Supplements: Forms to be used.

B. Section 007200 - General Conditions.

C. Section 012100 - Allowances.

1.03 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Engineer/Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization, bonds and insurance, and allowances .

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Forms filled out by hand will not be accepted.

C. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

D. Notarize certification by signature of authorized officer.

E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

G. Submit one electronic and three hard-copies of each Application for Payment.

H. Include the following with the application:

1. Transmittal letter as specified for submittals in Section 013000.
2. Construction progress schedule, revised and current as specified in Section 013000.
3. Allowance Tracking Report/Spreadsheet
4. Current construction photographs specified in Section 013000.
5. Partial release of liens from major subcontractors and vendors.
6. Back up information and pictures will be required for stored materials.
7. Monthly OAC Meeting agenda and Meeting minutes.

I. When Engineer/Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Engineer/Architect will issue instructions directly to Contractor.

B. For other required changes, Engineer/Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Engineer/Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change Contractor shall prepare and submit a fixed price quotation within 7 days.

D. Contractor may propose a change by submitting a request for change to Engineer/Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Engineer/Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Engineer/Architect.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

G. Execution of Change Orders: Engineer/Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the

Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

END OF SECTION

SECTION 012100
ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. This Section sets forth the following allowances to be included in the Contract:
   1. Contingency Allowance

1.02 ALLOWANCE CONDITIONS AND REQUIREMENTS

A. The Contractor shall include in his Base Bid the cash and/or material allowances as described hereinafter for the purchase of materials as described or as to be determined herein.

B. Purchase products under allowance as directed by Architect/Engineer or as specified herein.

C. All specified allowances shall appear as a seperate line item amount, matching the amount specified herein, on the contractor’s AIA Document G703, Schedule of Values.

D. Use of any allowance shall be specifically authorized in writing upon approval by authorized Owner Representative AND the Architect. A final accounting of all contingency funds used will be made by issuance of a change order at the end of the project.

E. At close-out of Contract, funds remaining in Allowances will be credited to owner by Change Order. In addition to the balance of the allowance all applicable costs for overhead, profit, bond, insurance and taxes will be added to the allowance change order credit. Overhead amounts that can be clearly documented as being expended over the course of the project will be excluded from this added amount to the allowance credit. Refer to AIA A201 General Conditions for further information.

F. Contractor shall solicit a minimum of three (3) quotes for material and labor to be performed under all allowances.

G. General Contractor's overhead, profit, bond, insurance, and tax amounts or any other additoinal costs CANNOT be included in these proposals or the final proposal. The General Contractor's overhead, profit, bond, insurance, and tax amounts in relation to all allowances shall be included in the General Contractor's Base Bid amount. In addition, the GC's Base Bid included overhead amounts allocated to these allowances shall include all GC associated costs, whether direct or indirect, that may be tied to any and all additional work required. These items shall include but are not limited to the following:
   1. Additional Man Hours (both standard and overtime)
   2. Drive Time
      a. Vehicle maintenance or wear and tear
      b. Fuel Costs
      c. Research
      d. Paperwork
      e. Phone Calls
      f. Equipment Rental

H. Sub Contractor's costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts.
   1. Net cost of product
   2. Delivery to site
   3. Installation
   4. Labor
   5. Insurance
   6. Payroll
   7. Taxes
   8. Bonding
   9. Sub Contractor's Overhead and Profit (O&P).

10. Equipment Rental

I. Engineer/Architect Responsibilities:
   1. Consult with Contractor for consideration and selection of products, suppliers , and installers.
   2. Select products in consultation with Owner and transmit decision to Contractor.
   3. Prepare Change Order.

J. Contractor Responsibilities:
   1. Assist Engineer/Architect in selection of products, suppliers , and installers.
   2. Obtain proposals from suppliers and installers and offer recommendations.
   3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
   4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
   5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

K. Differences in costs will be adjusted by Change Order.

1.03 ALLOWANCE SCHEDULE:

A. **General Contingency Allowance:**
   1. In addition to the work shown on the contract documents, the contractor shall include in the base bid contract amount the following lump sum cash allowance amount:
      a. Thirty Thousand Dollars ($30,000).

1.04 SELECTION/DELIVERY/INSTALLATION PROCESS

A. Architect shall consult with Contractor in coordination of products and suppliers and shall make selection of products to be used.

B. Contractor shall assist Architect in determining qualified suppliers, obtain proposals from suppliers for Architect's review, and enter into purchase agreement with designated supplier chosen.

C. Contractor is responsible for arranging delivery, unloading and inspecting products for damage and defects.

D. Contractor shall comply with requirements of referenced specification section for installation and/or install per Manufacturer's recommendations.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012200
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Measurement and payment criteria applicable to Work performed under a unit price payment method.

1.02 RELATED REQUIREMENTS

A. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Unit Prices.

B. Section 012000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 COSTS INCLUDED

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.04 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.05 MEASUREMENT OF QUANTITIES

A. Contractor will take all measurements and compute quantities. Measurements and quantities will be verified by Engineer/Architect or Engineer of Record.

B. Assist by providing necessary equipment, workers, and survey personnel as required.

C. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness. Soils muck out volume will be determined by Field Measure (FM).

D. Measurement by Area: Measured by square dimension using mean length and width or radius. Area will be determined by Field Measure (FM).

1.06 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Engineer/Architect, multiplied by the unit price.

B. Only payment for unforseen unsuitable soils above and beyond what is already called out to be removed in the Geotech Report or any of the Construction Document Drawings shall will be deducted from the Removal/Replacement of Unsuitable Soils Allowance amount.

C. Payment will not be made for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products not completely unloaded from the transporting vehicle.
   4. Products placed beyond the lines and levels of the required Work.
   5. Products remaining on hand after completion of the Work.
   6. Loading, hauling, and disposing of rejected Products.

1.07 DEFECT ASSESSMENT

A. Replace Work, or portions of the Work, not complying with specified requirements.

1.08 SCHEDULE OF UNIT PRICES

A. The General Contractor shall provide a unit price per cubic yard (CY) field measured (FM) for the removal (muck out / haul off) and replacement (put back) of unsuitable soil material. The

imported material shall be a borrow fill select sand material approved by the engineer and as per specified under 312323 - Fill. If unsuitable material is encountered below the plan subgrade this unit pricing amount will be used to charge against either the general contingency allowance or a specific unsuitable soils allowance as called for under 012100 Allowances.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012300
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of administrative and procedural requirements for Alternates.

B. Description of Alternates.

1.02 RELATED REQUIREMENTS

A. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate designated in the Contract.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
2. Execute accepted alternates under the same conditions as other work of the Contract.

1.04 SCHEDULE OF ALTERNATES

A. Alternate No. 01 - DEMOLISH, PROVIDE AND INSTALL ALL REQUIRED SCOPE INCLUDING ON ALTERNATE LAYOUT IN LIEU OF BASE BID LAYOUT FOR EAST RESTROOM BUILDING AS SHOWN ON DRAWINGS.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Engineer/Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Section 002113 - Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing the form included in this project manual. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form attached to this project manual. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Engineer/Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Engineer/Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Engineer/Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Engineer/Architect will notify Contractor in writing of decision to accept or reject request.
   1. Engineer/Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.
B. Preconstruction meeting.
C. Progress meetings.
D. Contractor Driven Site Meetings or Site Inspections.
E. Construction progress schedule.
F. Progress photographs.
G. Coordination drawings.
H. Submittals for review, information, and project closeout.
I. Number of copies of submittals.
J. Requests for Interpretation (RFI) procedures.
K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 016000 - Product Requirements: General product requirements.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COLLABORATION SOFTWARE

A. Summary
   1. The Contractor will be required to utilize a web based construction project management collaboration software to submit, track, distribute and collaborate on project documentation and action items.
   2. The intent of utilizing a web based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.

B. Software
   1. General Contractor will be required to use Procore (www.procore.com)
   2. Access to said software be provided by the Architect/Engineer at no cost to the General Contractor.
   3. If unfamiliar, the Architect/Engineer's staff will assist the General Contractor in using the software or they will provide the resources necessary for the General Contractor to understand how to use the software.

C. Architect/Engineer Responsibilities
   1. Upload signed/stamped drawings and any subsequent Architect/Engineer driven changes or revisions to the drawings.
   2. Upload signed/stamped specifications and any subsequent Architect/Engineer driven changes or revisions to the specifications.
   3. Add Design Team and Onwer Contact Information
   4. Uploading all WCPR's as deemed necessary by the Architect/Engineer.

5. Uploading all ASI's as deemed necessary by the Architect/Engineer.
6. Uploading all contracts as deemed necessary by the Architect/Engineer.
7. Creation of set distribution lists to the design team and Owner only.
8. Creation of Defficiency Reports as deemed necessary by the Architect/Engineer.
9. Site Visit Reports as deemed necessary by the Architect/Engineer.

D. Contractor's Responsibilities:
   1. Do not remove people from a set distribution list that preloads on RFIs and Submittals; only add to it.
   2. Make sure attachments actually attach in all RFIs, Submittals, and transmittals. Transmittals mostly because they have to select the ‘ADD’ button once the attachment is uploaded.
   3. Provide us with a Subcontractor list so that they are able to easily distribute information to their subs via Procore.
   4. Submittals must be created in the software:
      a. Submittal titles must be by specification section. Grouping multiple specification sections into one submittal will result in immediate rejection.
      b. The Contractor will be responsible for submitting all RFIs and Submittals through the software and assigning them to the appropriate parties.
      c. Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the software, including all relevant attachments.
      d. The Contractor will distribute responses to all affected subcontractors and confirm agreement with the response by closing the item.
      e. GC is the only one to create submittals. They will create them on behalf of their subs when needed. The subs should never create the submittal themselves.
      f. Once a submittal is labeled as ‘Reject and Resubmit’ the GC needs to close it out and create the revision as a completely new submittal. Never create the revision WITHIN the original submittal.
      g. Distribute and CLOSE all submittals once you have received a sufficient review/response from the Architect/Engineer.
      h. Be sure to select a spec section for submittals.
   5. Project Schedules must be uploaded to the software in one of the follwoing accepted formats:
      a. Microsoft Project
      b. Primavera P3
      c. Primavera P6
      d. Asta Powerpoint
   6. Emails must be generated in the software
   7. Daily Logs must be created in the software
   8. RFI's must be created in the software
   9. All project photos must be uploaded to the software

3.02 PRECONSTRUCTION MEETING

A. Engineer/Architect will schedule a meeting within 7 days after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Engineer/Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.

4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
5. Owners requirements and work constraints.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
1. Contractor.
2. Owner.
3. Engineer/Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 CONTRACTOR DRIVEN SITE MEETINGS AND PROJECT INSPECTIONS

A. All site inspections, site visits, site meetings, etc.… not previously scheduled, which are required for any reason, arranged, or scheduled by the general contractor, or any of the project’s subcontractors, venders, suppliers, etc.... that require the involvement of any employee of MP Design Group or any consultant of MP Design Group shall be arranged and finalized in writing at least forty-eight (48) hours in advance with MP Design Group.

3.05 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 7 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 3 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.06 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
   2. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 016000 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
   4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Engineer/Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date, and requested reply date.
   5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Maintain on the Electronic Document Submittal Service.

G. Review Time: Engineer/Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the

following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Engineer/Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.07 SUBMITTAL SCHEDULE

A. Submit to Engineer/Architect for review a schedule for submittals in tabular format.
1. Submit at the same time as the preliminary schedule specified in Section - 013216 - Construction Progress Schedule.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
1. Product data.
2. Shop drawings.
3. Samples for selection.
4. Samples for verification.

B. The contractor who prepared the submittals for review must represent that they are licensed and qualified to perform the work in the submittal, and said work is in full compliance with applicable codes.

C. Stamping the Submittals: The General Contractor is not required to stamp the submittal prior to submission to the Architect/Engineer for their review. However; it is highly encouraged, and if there is no General Contractor review stamp on a submittal then by default the General Contractor has agreed with the following statement:
1. Acceptance is for general compliance with the contract documents only. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques for construction; coordinating its work with that of all other trades; and performing its work in a safe and satisfactory manner.

D. The contractor agrees that all submittals have been reviewed by the Architect and/or Engineer only for conformance with the design concept of the project and with the information delineated in the contract drawings and specifications. A returned review whether marked as "No Exceptions" or "Exceptions as Noted" does not waive any provisions of the contract documents. Contractor shall verify all details, dimensions and quantities, and coordinate with the work of other trades. Architect and/or Engineer's review of a submittal shall not relieve the contractor from responsibility for deviations, errors, or omissions in the shop drawings or submittals.

E. Samples will be reviewed for aesthetic, color, or finish selection.

F. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Transmit using approved form.
      a. Use Contractor's form, subject to prior approval by Engineer/Architect.
   3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
   6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
      a. Upload submittals in electronic form to Electronic Document Submittal Service website.
   7. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 10 working days excluding delivery time to and from the Contractor.
      b. For sequential reviews involving Engineer/Architect's consultants, Owner, or another affected party, allow an additional 7 working days.
   8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
   9. When revised for resubmission, identify all changes made since previous submission.
   10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Do not submit (Material) Safety Data Sheets for materials or products.
   4. Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be immediately rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
   2. Do not reproduce Contract Documents to create shop drawings.
   3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
   4. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Typical drawings, unless they specifically apply to the project, will be immediatly rejected.**

D. Samples Procedures:
   1. Transmit related items together as single package.
   2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
   3. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
      a. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
      b. **All submisions for the chosing of a products color must be physical samples indicating the products true and final color.** Digital and or printed samples will not be accepted.

E. Transmit each submittal with a copy of approved submittal identification form.

F. Contractor bears responsibility for all additional costs or work associated with work performed or materials installed prior to a returned apporved submittal.

3.12 SUBMITTAL REVIEW

A. Submittals for Review: Engineer/Architect will review each submittal, and provide no exceptions, or take other appropriate action.

B. Submittals for Information: Engineer/Architect will acknowledge receipt and review. See below for actions to be taken.

C. Engineer/Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Engineer/Architect's actions on items submitted for review:
   1. No Exceptions
      a. Purchase, Fabrication, delivery, and/or installation may take place.
   2. Exceptions as Noted
      a. Contractor's option to resubmit. However; all mark ups must be incorporated in the construction whether acknowledged in a resubmittal or not.
   3. Revise and Resbubmit
      a. Must be resubmitted
   4. Incomplete Submittal

a. Must be resubmitted

5. Submit Specified Item
   a. Must be resubmitted
6. Submittal Rejected
   a. Must be resubmitted

E. Engineer/Architect's and consultants' actions on items submitted for information:

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Contractor's construction-related professional design services.

F. Contractor's design-related professional design services.

G. Control of installation.

H. Mock-ups.

I. Tolerances.

J. Manufacturers' field services.

K. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2019).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2022a.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

G. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

H. **CIRCLE ONE: ADDITIVE ALTERNATE DEDUCTIVE ALTERNATE**

1.03 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
   1. Temporary sheeting, shoring, or supports.
   2. Temporary bracing.

1.04 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Base design on performance and/or design criteria indicated in individual specification sections.

C. Scope of Contractor's Professional Design Services: Provide for the following items of work:
   1. Structural Design of Steel Trusses: As described in Section 054400 - Cold-Formed Metal Trusses.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer/Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Engineer/Architect, provide interpretation of results.

C. Certificates: When specified in individual specification sections or by code, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer/Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Erection Drawings: Submit drawings for Engineer/Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

1.07 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Engineer/Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner shall employ and pay for services of an independent testing agency to perform specified testing and inspection. General contractor shall coordinate required testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Owner Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
   2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
   3. Laboratory: Authorized to operate in the State in which the Project is located.
   4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
   5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Engineer/Architect will use to judge the Work.

C. Integrated Exterior Mock-ups: Construct integrated exterior mock-up as indicated on drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.

D. Notify Engineer/Architect seven (7) working days in advance of dates and times when mock-ups will be constructed.

E. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

F. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

G. Obtain Engineer/Architect's approval of mock-ups before starting work, fabrication, or construction.
   1. Engineer/Architect will issue written comments within five (5) working days of initial review and each subsequent follow up review of each mock-up.
   2. Make corrections as necessary until Architect's approval is issued.

H. Engineer/Architect will use accepted mock-ups as a comparison standard for the remaining Work.

I. Where mock-up has been accepted by Engineer/Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Engineer/Architect.

2.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

2.04 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of Work or products.
   6. Perform additional tests and inspections required by Engineer/Architect.
   7. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
   5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

2.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Engineer/Architect, it is not practical to remove and replace the work, Engineer/Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 014100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project that all work shall comply with are as follows:

B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice current edition.

C. 28 CFR 36 - Nondiscrimination by Public Accommodations and in Commercial Facilities; Final Rule; Department of Justice current edition.

D. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.

E. 49 CFR 37 - Transportation Services for Individuals with Disabilities (ADA) current edition.

F. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

G. 29 CFR 1910 - Occupational Safety and Health Standards Current Edition.

H. City of Biloxi Land Development Ordinance

I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

J. Building Code: ICC (IBC) - International Building Code 2018.

K. Plumbing Code: ICC International Plumbing Code 2018.

L. Mechanical Code: ICC International Mechanical Code 2018.

M. Fuel Gas Code: ICC Fuel Gas Code 2018.

N. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. Elevator Code: ASME A17.1-2016 - Safety Code for Elevators and Escalators.

P. Erosion and Sedimentation Control Regulations: All MS DEQ Guidelines.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

1.02 DEFINITIONS

A. Code or Building Code: AHJ's currently adopted edition of the International Building Code and, more specifically, Chapter 17 - Structural Tests and Inspections, of same.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspection:
   1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
   2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.03 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

B. AISC 360 - Specification for Structural Steel Buildings 2022.

C. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field 2022.

D. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete 2017.

E. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

F. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

G. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel 2018, with Errata (2022).

H. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars 2018, with Amendment (2020).

I. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

J. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
   1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
   3. Submit certification that Special Inspection Agency is acceptable to AHJ.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:
   1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
   3. Submit certification that Testing Agency is acceptable to AHJ.

D. Special Inspection Reports: After each special inspection, Special Inspector is required to promptly submit at least two copies of report; one to Engineer/Architect and one to the AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of Special Inspector.
      d. Date and time of special inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of special inspection.
      h. Date of special inspection.
      i. Results of special inspection.
      j. Compliance with Contract Documents.

E. Test Reports: After each test or inspection, promptly submit at least two copies of report; one to Engineer/Architect and one to AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test or inspection.
      h. Date of test or inspection.
      i. Results of test or inspection.
      j. Compliance with Contract Documents.

1.05 SPECIAL INSPECTION AGENCY

A. The Owner will pay for and employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code. Contractor shall coordinate testing(s).

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.06 TESTING AND INSPECTION AGENCIES

1.07 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC291.

B. Testing Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC89.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
   2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.02 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

A. High-Strength Bolt, Nut and Washer Material:
   1. Verify identification markings comply with ASTM standards specified in the approved contract and to AISC 360, Section A3.3; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

B. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
   1. Snug tight joints; periodic.

C. Structural Steel and Cold Formed Steel Deck Material:
   1. Structural Steel: Verify identification markings comply with AISC 360, Section M3.5; periodic.
   2. Other Steel: Verify identification markings comply with ASTM standards specified in the approved Contract Documents; periodic.
   3. Submit manufacturer's certificates of compliance and test reports; periodic.

D. Weld Filler Material:
   1. Verify identification markings comply with AWS standards specified in the approved Contract Documents and to AISC 360, Section A3.5; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

E. Welding:
   1. Structural Steel and Cold Formed Steel Deck:
      a. Complete and Partial Joint Penetration Groove Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      b. Multipass Fillet Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      c. Single Pass Fillet Welds Less than 5/16 inch (7.94 mm) Wide: Verify compliance with AWS D1.1/D1.1M; periodic.
      d. Plug and Slot Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      e. Single Pass Fillet Welds 5/16 inch (7.94 mm) or Greater: Verify compliance with AWS D1.1/D1.1M; continuous.
      f. Floor and Roof Deck Welds: Verify compliance with AWS D1.3/D1.3M; continuous.
   2. Reinforcing Steel: Verify items listed below comply with AWS D1.4/D1.4M and ACI 318, Section 3.5.2.
      a. Verification of weldability; periodic.
      b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as where it is referenced in older codes. Elements of special structural walls of concrete and shear reinforcement; continuous.
      c. Shear reinforcement; continuous.
      d. Other reinforcing steel; periodic.

F. Steel Frame Joint Details: Verify compliance with approved Contract Documents.
   1. Details, bracing and stiffening; periodic.

2. Member locations; periodic.
3. Application of joint details at each connection; periodic.

3.03 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcing Steel, Including Prestressing of Tendons and Placement: Verify compliance with approved Contract Documents and ACI 318, Sections 3.5 and 7.1 through 7.7; periodic.

B. Reinforcing Steel Welding: Verify compliance with AWS D1.4/D1.4M and ACI 318, Section 3.5.2; periodic.

C. Design Mix: Verify plastic concrete complies with the design mix in approved Contract Documents and with ACI 318, Chapter 4 and 5.2; periodic.

D. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172/C172M, ASTM C31/C31M and ACI 318, Sections 5.6 and 5.8 and record the following, continuous:
   1. Slump.
   2. Air content.
   3. Temperature of concrete.

E. Specified Curing Temperature and Techniques: Verify compliance with approved Contract Documents and ACI 318, Sections 5.11 through 5.13; periodic.

F. Concrete Strength in Situ: Verify concrete strength complies with approved Contract Documents and ACI 318, Section 6.2, for the following.

G. Formwork Shape, Location and Dimensions: Verify compliance with approved Contract Documents and ACI 318, Section 6.1.1; periodic.

3.04 SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION

A. Masonry Structures Subject to Special Inspection:
   1. Empirically designed masonry, glass unit masonry and masonry veneer in structures designated as "essential facilities".
   2. Engineered masonry in structures classified as "low hazard..." and "substantial hazard to human life in the event of failure".

B. Verify each item below complies with approved Contract Documents and the applicable articles of TMS 402/602.
   1. Inspections and Approvals:
      a. Verify compliance with the required inspection provisions of the approved Contract Documents; periodic.
      b. Verify approval of submittals required by Contract Documents; periodic.
   2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction unless specifically exempted by code; periodic.
   3. Slump Flow and Visual Stability Index (VSI): Verify compliance as self consolidating grout arrives on site; continuous.
   4. Joints and Accessories: When masonry construction begins, verify:
      a. Proportions of site prepared mortar; periodic.
      b. Construction of mortar joints; periodic.
      c. Location of reinforcement, connectors, prestressing tendons, anchorages, etc; periodic.
   5. Structural Elements, Joints, Anchors, Protection: During masonry construction, verify:
      a. Size and location of structural elements; periodic.
      b. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; periodic.
      c. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
      d. Welding of reinforcing bars; continuous.

6. Grouting Preparation: Prior to grouting, verify:
   a. Grout space is clean; periodic.
   b. Correct placement of reinforcing, connectors, prestressing tendons and anchorages; periodic.
   c. Correctly proportioned site prepared grouts and prestressing grout for bonded tendons; periodic.
   d. Correctly constructed mortar joints; periodic.
7. Preparation of Grout Specimens, Mortar Specimens and Prisms: Observe preparation of specimens; periodic.

3.05 SPECIAL INSPECTIONS FOR SOILS

A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Design bearing capacity of material below shallow foundations; periodic.
   2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
   3. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.
   4. Subgrade, prior to placement of compacted fill verify proper preparation; periodic.

B. Testing: Classify and test excavated material; periodic.

3.06 SPECIAL INSPECTIONS FOR WIND RESISTANCE

A. Cold-Formed Steel Light Frame Construction:
   1. Field welding; periodic.
   2. Screw attachment, bolting, anchoring and other fastening of components within the main wind force-resisting system; periodic

B. Wind Resisting Components:
   1. Roof covering, roof deck, and floor framing connections; periodic.
   2. Exterior wall covering and wall connections to roof and floor diaphragms and framing; periodic.

3.07 OTHER SPECIAL INSPECTIONS

A. Provide for special inspection of work that, in the opinion of the AHJ, is unusual in nature.

3.08 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   1. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified reference standards.
   3. Ascertain compliance of materials and products with requirements of Contract Documents.
   4. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
   5. Perform additional tests and inspections required by Engineer/Architect.
   6. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Engineer/Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.09 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:
   1. Test samples submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Engineer/Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Engineer/Architect and Contractor of observed irregularities or non-compliance of work or products.
   6. Perform additional tests and inspections required by Engineer/Architect.
   7. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the work.

C. On instructions by Engineer/Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.

D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.10 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
   1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
   2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to work to be tested or inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
      c. To facilitate tests or inspections.
      d. To provide storage and curing of test samples.
   4. Notify Engineer/Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
   5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

B. Contractor Responsibilities, Wind Force-Resisting System and Wind Force-Resisting Component: Submit written statement of responsibility for each item listed in the Statement of Special Inspections to AHJ and Owner prior to starting work. Statement of responsibility shall acknowledge awareness of special construction requirements and other requirements listed.

END OF SECTION

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers and enclosures.

D. Vehicular access and parking.

E. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

A. Provide and pay for every utility required to complete construction including but not limited to all electrical power, lighting, water, heating, cooling, sanitary, waste, and ventilation. The General Contractor will be required to continue to pay all costs associated with these temporary utilities until a Certificate of Occupancy has been issued from the Authority Having Jurisdiction to the Ower.

B. Existing facilities may not be used.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.04 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.06 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.07 SECURITY

A. Coordinate with Owner's security program.

1.08 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

G. Do not interupt, alter, or disrupt bus or parent standard drop off or pick up times, procedures, or operations. Coordinate with Owner.

1.09 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

1.11 TEMPORARY STORAGE

A. General Contractor will be required to provide lockable temprary storage as required or necessary to complete the job. Existing facilities will not be allowed to be used for storage of any king.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 015713
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.

C. Monitoring and inspection of erosion and sediment control devices.

D. Restoration of areas eroded due to insufficient preventive measures.

E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 REFERENCE STANDARDS

A. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit Current Edition.

B. Mississippi Department of Environmental Quality (MDEQ) Small Construction General Permit.

C. Mississippi Standard Specifications for Road and Bridge Construction, 2004.

1.03 PERFORMANCE REQUIREMENTS

A. Comply with requirements of EPA (NPDES) for erosion and sedimentation control, as specified by the NPDES, for Phases I and II, and in compliance with requirements of Construction General Permit (CGP), whether the project is required by law to comply or not.

B. Comply with requirements of State of Mississippi Small Construction General Permit.

C. Complete a Small Construction Notice of Intent (SCNOI) and all relative forms within the Small Construction General Permit. A copy of the Small Construction General Permit can be obtained from the MDEQ website.

D. Follow an Storm Water Pollution Prevention Plan.

E. Submit appropriate monitoring and inspection reports on a monthly basis.

F. Maintain a copy of the Construction General Permit, Storm Water Pollution Prevention Plan, monitoring reports, and other relative information shall be maintained on the construction site and be made available upon request.

G. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.

H. Timing: Put preventive measures in place prior to disturbance of surface cover and before precipitation occurs.

I. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
   1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.

J. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
   1. Control movement of sediment and soil from temporary stockpiles of soil.
   2. Prevent development of ruts due to equipment and vehicular traffic.
   3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

K. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
   1. Prevent windblown soil from leaving the project site.
   2. Prevent tracking of mud onto public roads outside site.
   3. Prevent mud and sediment from flowing onto sidewalks and pavements.
   4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

L. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
   2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.

M. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.

N. Open Water: Prevent standing water that could become stagnant.

O. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished. Reports shall be submitted on a monthly basis.

PART 2 PRODUCTS

2.01 MATERIALS

A. Mulch: Use one of the following:
   1. Straw or hay.

B. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.

C. Silt Fence Fabric: Silt fence mateial shall be in accordance with Section 234.02 of the MDOT Specificatoins.

D. Large Course Aggregate shall consist of No. 4 Railroad Ballast as approved by the Engineer.

PART 3 EXECUTION

3.01 GENERAL

A. Implementation of all stormwater management and pollution prevention items of construction will be accomplished prior to any other construction activities which disturb ANY existing ground surface within the project limits.

3.02 EXAMINATION

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.03 PREPARATION

A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.04 SCOPE OF PREVENTIVE MEASURES

A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.

B. Construction Entrances: Construction entrances/exits shall be constructed of 6" large course aggregate (No. 4 Railroad Ballast) at locations and dimensions shown on the plans and details or as directed by the Engineer.

C. Perimeter Controls: Made of silt fences. Place Perimeter Controls at locations shown on the drawings or as directed by the Engineer. Generally Perimeters shall be placed along downhill perimeter edge of disturbed areas, including soil stockpiles

D. Storm Drain Inlet Protection: All storm drain structures and piping within the land disturbance area shall be protected by an appropriate Best Management Practice as detailed on the drawings or as directed by the Engineer.

E. Soil Stockpiles: Protect using an appropriate Perimeter Control or as directed by the Engineer.

F. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.

G. Temporary Seeding: Use where temporary vegetated cover is required.

3.05 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches (13 mm) or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Clean out temporary sediment control structures weekly and relocate soil on site.

D. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Engineer/Architect.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

SECTION 016000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

F. Non Asbestos containing materials certification.

1.02 SUBMITTALS

A. Refer to Section 013000 Administrative Requirements for additional submittal requirements not indicated herein.

B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 7 days after date of Agreement of Notice of intent to award, whichever is sooner..
   2. For products specified only by reference standards, list applicable reference standards.

C. Product Data Submittals: Submit manufacturer's standard published data. **Where multiple choices occur on a submittal, it will be the Contractor's responsibility to cleary mark in contrasting color by means of underlining, highlighting, circling, ect... each copy to identify applicable products, models, options, and other data.** Unmarked copies will be rejected and sent back to the General Contractor. Supplement manufacturers' standard data to provide information specific to this Project.

D. Shop Drawing Submittals: All shop drawings and details MUST be prepared specifically for this project; indicate all materials, all products, all connections, all dimensions, all utility and electrical characteristics, all utility connection requirements, and location of utility outlets for service for functional equipment and appliances. **Canned or Product/Company Typical drawings, unless they specifically apply to the project, will be rejected - No Exceptions.**

E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection of product finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
   2. All submisions for the chosing of a products color must be physical samples indicating the products true and final color. Digital, web site links, and or printed samples will not be accepted and will be rejected - no expetions.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Containing lead, cadmium, or asbestos.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
   1. Where more than one manufacturer is specified for one use, the Drawings have been prepared for the one listed first; and building adjustments may be necessary to accommodate the others. The Contractor will be responsible for any changes in the building construction required due to product selection and shall make any such changes to the satisfaction of the Architect.

C. If products are specified by naming one or more manufacturers with a provision for substitutions by "or approved equal" or "equal as approved," then the Bidder shall submit a request for substitution for any manufacturer not named **PRIOR TO BIDDING**. It must be approved by the Architect/Engineer through formal addendum in order for it to be accepted as a substitution.

D. If products are specified by naming one or more manufacturers with a provision for substitutions by "or equal," then the General Contractor after bid award shall submit a request for substitution for any manufacturer not named. After review by the Architect/Engineer, if the substitution manufacturer or product is found not to be equal to those items specified, then the General Contractor will be required to provide those products specified or find an or equal product.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 012500 - Substitution Procedures.

B. Substitution Submittal Procedure:
   1. Submit substitution request at least 10 days prior to bid.
   2. The Architect/Engineer will notify all bidders via addendum of decision to accept a request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 017419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

3.04 PRODUCT CERTIFICATION

A. Submit letter on company letterhead and signed by company executive stating and certifying that "This project (insert project name, description, and location) has been completed and that no asbestos containing materials were found at the project site that were not properly remedied and that no new materials were used or installed that contain asbestos." Final pay application will not be processed until certification is received.

END OF SECTION

SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances , [_____].

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

G. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.

B. Section 015000 - Temporary Facilities and Controls: Temporary interior partitions.

C. Section 078400 - Firestopping.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

1.04 QUALIFICATIONS

A. For asbestos demolition work, employ a firm specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
   2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means

acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section. A preinstall meeting with the contractor, roofing vendor, and Architect/Engineer will be required.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Engineer/Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer/Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Engineer/Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 015000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.
   3. Relocate items indicated on drawings.

4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
   b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer/Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer/Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.

J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 FINAL CLEANING

A. Execute final cleaning after Substantial Completion but before making final application for payment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, and overflow drains.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer/Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Engineer/Architect when work is considered ready for Engineer/Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer/Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer/Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer/Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Engineer/Architect when work is considered finally complete and ready for Engineer/Architect's Substantial Completion final inspection.

H. Complete items of work determined by Engineer/Architect listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than 2 years from the Date of Substantial Completion or the length of the specified warranty,

whichever is longer.

C. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 017800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions and 007300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Engineer/Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer/Architect comments. Revise content of all document sets as required prior to final submission.
   3. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 3 EXECUTION

2.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Record Drawings: Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.

2. Details not on original Contract drawings.

2.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

2.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

2.04 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 024100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 028200 - Asbestos Abatement

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.04 DEFINITIONS

A. Removal of Obstructions: This work shall consists of the removal and satisfactory disposal of all items and obstructions which are not designated to remain. This work also consist of necessary excavation incidental to the removal of structures and obstructions.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
   2. Demolition firm qualifications.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.06 QUALITY ASSURANCE

A. Asbestos Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: See Section 312323.

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove items as indicated on the drawings.

B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 312200.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Use of explosives is not permitted.
3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements to remain in place and not removed.
1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Asbestos containing materials do occur in the existing Cafeteria Building. Refer to Section 028200 Asbestos Abatement for additional requirements.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
1. Verify construction and utility arrangements are as indicated.
2. Report discrepancies to Engineer/Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

C. Remove existing work as indicated and required to accomplish new work.
   1. Remove items indicated on drawings.

D. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
   1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. Verify that abandoned services serve only abandoned facilities before removal.
   4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
   1. Prevent movement of structure. Provide shoring and bracing as required.
   2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch to match new work.

3.05 REPAIR

A. Unless otherwise indicated or directed on the drawings or elsewhere in the specifications, it will be the Contractor's responsibility to patch and repair all surfaces to match adjacent existing conditions where items are removed or altered.

B. Exterior wall repair must not compromise the exsiting drainage plain.

C. Roof repairs must not void or compromise the existing roof waranty.

D. The Contractor will be required to conduct a site visit to field inspect and verify all existing conditions as it relates to the scope of work described in the drawings and specifications, and if necessary, submit an RFI to the Architect/Engineer and the Owner to bring up any potential conflicts.

3.06 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove materials not to be reused on site; comply with requirements of Section 017419 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 030516
UNDERSLAB VAPOR BARRIER - STEGO

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheet vapor barrier under concrete slabs on grade.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Preparation of subgrade, granular fill, placement of concrete.

1.03 REFERENCE STANDARDS

A. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs 2018a.

B. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs 2017.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products.

C. Samples: Submit samples of underslab vapor barrier to be used.

D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Underslab Vapor Barrier:
   1. Water Vapor Permeance: Not more than 0.010 perms (0.6 ng/(s m2 Pa)), maximum.
   2. Complying with ASTM E1745 Class A.
   3. Thickness: 15 mils (0.4 mm).
   4. Basis of Design:
      a. Stego Industries LLC; Stego Wrap Vapor Barrier (15-mil): www.stegoindustries.com/#sle.
      b. Tex-Trude; XTreme Vapor Barrier (15 mil): www.textrude.com
      c. Raven Industries; Vaporblock VB15 (15 mil blue); www.ravenind.com.
      d. Insulation Solutions; Viper II (15 mil blue); insulationsolutions.com.
      e. Husky / Poly-America; Yellow Guard Vapor Barrier (15 mil): www.yellowguard.com
      f. Substitutions: See Section 016000 - Product Requirements.

B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.
   1. Seam Tape:
      a. Water Vapor Transmission Rate: ASTM E 96, 0.3 perms or lower
      b. Stego Industries LLC; Stego Tape Or Equal.
   2. Vapor Proofing Mastic:
      a. Water Vapor Transmission Rate: ASTM E 96, 0.3 perms or lower
      b. Stego Industries LLC; Stego Mastic Or Equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surface over which vapor barrier is to be installed is complete and ready before proceeding with installation of vapor barrier.

3.02 INSTALLATION

A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.

B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.

C. Unroll vapor barrier with the longest dimension parallel with the direction of the pour.

D. Lap joints minimum 6 inches (150 mm) and seal with manufacturer's approved tape.

E. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.

F. No penetration of vapor barrier is allowed except for reinforcing steel and permanent utilities.

G. Repair damaged vapor retarder before covering with other materials. Repair damaged areasby cutting patches of vapor retarder, overlapping dmaged area 6 inches minimum and taping all four sides with tape.

END OF SECTION

SECTION 032000
CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Reinforcing steel for cast-in-place concrete.

B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories.

B. Section 033000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ACI 301 - Specifications for Concrete Construction 2020.

B. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

C. ACI SP-66 - ACI Detailing Manual 2004.

D. ASTM A184/A184M - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement 2019.

E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

F. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement 2019, with Editorial Revision.

G. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement 2022.

H. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.

I. CRSI (DA4) - Manual of Standard Practice 2018, with Errata (2019).

J. CRSI (P1) - Placing Reinforcing Bars, 10th Edition 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings

C. Indicate size, spacing, location and quantities of reinforcing steel and wire fabric, bending, and cutting schedules, splice lengths, stirrup spacing, supporting and spacing devices. Detail reinforcing steel in accordance with ACI 315 and CRSI Standards.

D. Written description of reinforcement without adequate sections, elevations, and details is not acceptable.

E. Reproduction of Strucutral Drawings for shop drawings is not permitted, Electronic drawing files will not be provided to the contractor.

F. Submit manufacturer's data for tension or compression splicers.

1.05 STORAGE AND PROTECTING

A. Store reinforcing steel above ground so that it remains clean. Maintain steel surfaces free from materials and coating that might impair bond.

PART 2 PRODUCTS

2.01 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa) minimum.

B. Welded Steel Wire Fabric: ASTM A185 (Flat Sheets only)

C. Reinforcement Accessories:
   1. Tie Wire: Annealed, 16.5 gauge minimum.
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement. Bar Supports shall be Plastic-tipped steel Class I bar supports conforming to CRSI Specifications. Concrete brick may be used to support reinforcement to obtain proper clearance from earth.

2.02 RE-BAR SPLICING:

A. Tension Splicers: Capable of developing 125% of the reinforcing steel ASTM specified minimum yield strength.

B. Compression Splicers: Machanical type such that the compression stress is transmitted by end bearing held in concentric contact.

2.03 FABRICATION

A. Fabricate reinforcing steel in accordance with ACI 318 and CRI standards.

B. Bend bars cold. Do not heat or flame cut bars. No filed bending of bars partially embedded in the concrete is permitted, unless specifically approved by the Structural Engineer and checked by the Testing and Inspection Agency for cracks.

C. Weld only as indicated. Perform welding in accorance with AWS D1.4 and AWS D12.1.

D. Tag reinforcing steel for easy identification.

PART 3 EXECUTION

3.01 PLACEMENT

A. Before placing concrete, clean reinforcement of foreign particles and coatings.

B. Place, support and secure reinforcement against displacement in accordance with ACI 318 and CRSI standards. Do not deviate from alignment or measurement.

C. Place concrete beam reinforcement support parallel to main reinforcement.

D. Do not displace or damage vapor barrier.

E. Locate welded wire reinforcement in top 1/3 of slabs. Overlap mesh one lap plus two inches each side and and joints.

F. Furnish and install dowels or mechanical splices at intersections of walls, columns, and piers to permit continuous reinforcement or development lengths at such intersections.

G. Maintain cover and tolerances in accordance with ACI and CRSI Specifications, unless otherwise indicated in Structural Drawings.

H. Accommodate placement of formed openings.

3.02 DOWEL BAR ANCHORS

A. Dowel bar anchors (DBA) shall be stud welded to embed plates and are NOT permitted to be fillet welded.

3.03 SPLICES

A. Do not splice reinforcement except as indicated on Structural Drawings.

B. Tension couplers may be used and installed in accordance with manufacturer's recommendations.

3.04 DOWELS IN EXISTING CONCRETE

A. Install dowels and dowel adhesive in accordance with manufacturer's recommendations.

B. Minimum embedment length into existing concretre shall be 12 bar diameters, unless not otherwise in Structural Drawings.

3.05 FIELD QUALITY CONTROL

A. An independent testing agency, as specified in Section 014000 - Quality Requirements, will inspect installed reinforcement for compliance with contract documents before concrete placement.

END OF SECTION

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Floors and slabs on grade.

B. Concrete foundations.

C. Joint devices associated with concrete work.

D. Miscellaneous concrete elements, including equipment pads, equipment pits, light pole bases, flagpole bases, thrust blocks, and manholes.

E. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories: Forms and accessories for formwork.

B. Section 032000 - Concrete Reinforcing.

C. Section 079200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

1.03 REFERENCE STANDARDS

A. ACI 117 - Specification for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).

B. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.

C. ACI 301 - Specifications for Concrete Construction 2020.

D. ACI 302.1R - Guide to Concrete Floor and Slab Construction 2015.

E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).

F. ACI 305R - Guide to Hot Weather Concreting 2020.

G. ACI 306R - Guide to Cold Weather Concreting 2016.

H. ACI 308R - Guide to External Curing of Concrete 2016.

I. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

J. ACI 347R - Guide to Formwork for Concrete 2014 (Reapproved 2021).

K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

L. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.

M. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.

N. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.

O. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2022a.

P. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens) 2021.

Q. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.

R. ASTM C150/C150M - Standard Specification for Portland Cement 2022.

S. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete 2020.

T. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method 2016.

U. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).

V. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete 2019.

W. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019, with Editorial Revision (2022).

X. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2022.

Y. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink) 2020.

Z. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures 2020.

AA. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2018.

BB. ASTM D2103 - Standard Specification for Polyethylene Film and Sheeting 2015.

CC. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers 2020.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
   2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.

C. Test Reports: Submit report for each test or series of tests specified.

D. Sustainable Design Submittal: If any fly ash, ground granulated blast furnace slag, silica fume, rice hull ash, or other waste material is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.01 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
   2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Type: Deformed billet-steel bars.

2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
1. WWR Style: As indicated on drawings.

C. Reinforcement Accessories:
1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch (1.29 mm).
2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type. Provide [_____] manufactured by [_____] .
1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
1. Acquire aggregates for entire project from same source.

C. Fly Ash: ASTM C618, Class C or F.

D. Calcined Pozzolan: ASTM C618, Class N.

E. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.

F. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

2.05 ACCESSORY MATERIALS

A. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
1. Grout: Comply with ASTM C1107/C1107M.
2. Minimum Compressive Strength at 48 Hours, ASTM C109/C109M: 2,000 pounds per square inch (13.7 MPa).

2.06 BONDING AND JOINTING PRODUCTS

A. Slab Isolation Joint Filler: 1/2 inch (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) deep sealant pocket after removal.

B. Slab Contraction Joint Device: Preformed linear strip intended for pressing into wet concrete to provide straight route for shrinkage cracking.

2.07 CURING MATERIALS

A. Polyethylene Film: ASTM D2103, 15 mil ([____] mm) thick, clear.

2.08 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
1. For trial mixtures method, employ independent testing agency acceptable to Engineer/Architect for preparing and reporting proposed mix designs.

C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

D. Normal Weight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch (27.6 MPa).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

D. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

E. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
   1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as indicated on drawings. Do not use sand.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Notify Engineer/Architect not less than 24 hours prior to commencement of placement operations.

D. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

E. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

F. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
   1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. An independent testing agency, as specified in Section 014000, will inspect finished slabs for compliance with specified tolerances.

B. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 feet (3 m).
   2. Under Seamless Resilient Flooring: 1/4 inch (6 mm) in 10 feet (3 m).
   3. Under Carpeting: 1/4 inch (6 mm) in 10 feet (3 m).

C. Correct the slab surface if tolerances are less than specified.

D. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch (6 mm) or more in height.

C. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
   1. Normal concrete: Not less than seven days.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.
      a. Moisture-Retaining Sheet: Lap strips not less than 3 inches (75 mm) and seal with waterproof tape or adhesive; secure at edges.
      b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.09 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 cu m) or less of each class of

concrete placed.

F. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.10 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Engineer/Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Engineer/Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer/Architect for each individual area.

3.11 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 042000
UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete Masonry Units:
   1. Standard Grey Block CMU
B. Mortar and grout.
C. Reinforcement and anchorage.
D. Accessories.

1.02 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.
B. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.
C. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 2019.
D. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units 2022.
E. ASTM C91/C91M - Standard Specification for Masonry Cement 2023.
F. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units 2022.
G. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar 2018.
H. ASTM C150/C150M - Standard Specification for Portland Cement 2022.
I. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes 2018.
J. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019a, with Editorial Revision.
K. ASTM C404 - Standard Specification for Aggregates for Masonry Grout 2018.
L. ASTM C476 - Standard Specification for Grout for Masonry 2022.
M. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry 2020.
N. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms 2022a.
O. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures 2022.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.
B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories. Include instructions for handling, storage, installation, and protection.
C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.
D. Shop Drawings: Provide layout of flashing, including preformed corners and end dam locations.

1.05 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents and current building code requirements.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience.

1.06 MOCK-UPS

A. Construct a masonry wall as a mock-up panel sized 8 feet (2.4 m) long by 6 feet (1.8 m) high (or higher to include all components); include mortar, accessories, structural backup, wall openings, flashings (with lap joint, corner, and end dam), wall insulation, and parging in mock-up. Provide in mock up all brick types (colors and shapes) and special features in pattern and insets on project. Provide mock up with workmanship to be expected in the completed work. Obtain Architect's approval of mock up before proceeding with masonry work. Completed masonry work will be compared against mock up panel for acceptance.

B. Locate where directed.

C. Mock-up may not remain as part of the Work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

B. Store and handle masonry units palleted, off the ground, under cover, and in a dry location to prevent deterioration or damage due to moisture, temperature changes, contaminants, and other causes. If units become wet, do not place units until units have air dried.

C. Store masonry accessories including metal items to prevent corrosion and accumulation of dirt and oil.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Comply with requirements of Structural Concrete Masonry for load bearing CMU construction.

B. Concrete Block (CMU): Comply with referenced standards and as follows:
   1. Special Shapes: Provide nonstandard blocks configured for corners.
   2. Load-Bearing Units: ASTM C90, lightweight.
      a. Hollow block, as indicated.
      b. Size: 16 by 8 inches
      c. Exposed Faces: Manufacturer's standard color and texture where indicated.
      d. Compressive Strength: See Structural Notes on Structural Drawings.
   3. Nonloadbearing Units: ASTM C129.
      a. Hollow block, as indicated.
      b. Size: As indicated on plans
      c. Provide units with minimum compressive strength of 1900 psi new area strength.
      d. Exposed Faces: Provide manufacturer's standard color and texture, unless otherwise indicated.

2.02 MORTAR AND GROUT MATERIALS

A. Masonry Cement: ASTM C91/C91M, Type S.
   1. Colored Mortar: Premixed cement as required to match Engineer/Architect's color sample.
      a. Standard CMU Mortar Color: Mfgr standard grey to match block color.
   2. Manufacturers:
      a. Rainbow Mortamix by Holcim: www.holcim.us
      b. Or Equal
      c. Substitutions: See Section 016000 - Product Requirements.

B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.

C. Hydrated Lime: ASTM C207, Type S.

D. Mortar Aggregate: ASTM C144.

E. Grout Aggregate: ASTM C404.

F. Water: Clean and potable.

G. Mortar for Structural Concrete Masonry Units: Type M or Type S in accordance with ASTM C270.

H. Course Grout: In accordance with ASTM C476.
   1. See Structural Drawings for compressive strength.
   2. Slump: 8 to 10 inches.
   3. Do not use admixtures that contain chlorides.

2.03 REINFORCEMENT AND ANCHORAGE

A. Manufacturers:
   1. Blok-Lok Limited: www.blok-lok.com/#sle.
   2. Hohmann & Barnard, Inc; X-Seal Anchor: www.h-b.com/#sle.
   3. WIRE-BOND; [_____]www.wirebond.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa), deformed billet bars; galvanized.

C. Joint Reinforcement: Use ladder type joint reinforcement.
   1. Provide welded wire units prefabricated in straight lengths of not less than 10 feet with matching corner units. Fabricate with cold drawn steel wire complying with ASTM A82, with deformed continuous side rids and plain cross rods, and a unit width of 1 1/2" to 2" less than thickness of wall or partition.

D. Single Wythe Joint Reinforcement: Ladder type; ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M, Class 3; 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage on each exposure.
   1. Fabricated with single pair of 9 gauge side rods and 9 gauge perpendicular cross rods: Hohmann & Barnard; #220 Ladder Mesh Or Equal.

E. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch (4.8 mm) thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not less than 5/8 inch (16 mm) of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in (32 mm).

F. Wire Mesh Ties: Use at all intersections of exterior masonry walls with interior masonry partitions and where interior masonry partitions intersect with each other, except where noted to use joint stabilizing anchors. Provide 1/2 inch mesh, 16 gage, hot dip galvanized wire mesh, 12 inches long x 1 inch less than intersection partition thickness
   1. Hohmann & Barnard; MWT-Mesh Wall Tie Or Equal.

G. Joint Stabilizing Anchors: Metal end piece with two integrated 9 gauge rods and a 4 inch long loose PVC "Slip Tube". Use at intersections of masonry walls at all control joint locations and where one of the intersecting masonry partitions is 8'-0" long or shorter. Install at 32 inches o.c. vertically.
   1. Hohmann & Barnard; Slip-Set Stabilizer Or Equal.

H. Finish for Masonry Anchors and Ties: For interior locations, including devices that extend only into interior wythes of exterior masonry, fabricate from steel with mill galvanized finish complying with ASTM A641, Class 1 or 3; or hot dip coating complying with ASTM A 153/A153M, Class B. For devices that extend into exterior wythe, fabricate from steel with hot-dip galvanized coating complying with ASTM A 153/A153M, Class B.

I. Place reinforcing bars as indicted in the Structural Drawings and in accordance with ACI 530.1.

2.04 ACCESSORIES

A. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available.
   1. Manufacturers:
      a. Hohmann & Barnard, Inc; <>: www.h-b.com/sle.
      b. WIRE-BOND; [_____]: www.wirebond.com/#sle.

B. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage. Material to be 10 inch tall x 5'-0" long x thickness as recommended by Manufacturer for the air space shown.
   1. Mortar Diverter: Semi-rigid mesh designed for installation at flashing locations.
      a. Manufacturers:
         1) Mortar Net Solutions; <>: www.mortarnet.com.
         2) approved as equal.
         3) Substitutions: See Section 016000 - Product Requirements.

2.05 MORTAR AND GROUT MIXING

A. Mortar for Unit Masonry: ASTM C270, using the Property Specification.
   1. Exterior, loadbearing masonry: Type S.
   2. Exterior, non-loadbearing masonry: Type S.
   3. Face Brick: Type N

B. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches (50 mm).

C. Mixing: Use mechanical batch mixer and comply with referenced standards.

D. Do not use air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds, or other admixtures, unless otherwise indicated.
   1. Do not use calcium chloride in mortar or grout.
   2. Use portland cement lime or masonry cement mortar unless otherwise indicated.

E. Preblended, Dry Mortar Mix: furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions.

F. Do not use mortar which has begun to set and discard if more than 2 1/2 hours has elapsed since initial mixing.

G. Grout for Unit Masonry: comply with ASTM C 476.
   1. Use grout of type indicated or if not indicated of type that will comply with ACI 530 for dimensions of grout spaces and pour height.
   2. Proportion grout in accordance with ASTM C 476 for a 28 day compressive strength, but not less than 3000 psi.
   3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

D. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement type joints, returns, and offsets. Avoid using less than half size units, particularly at corners, jambs, and where possible at other

locations.

1. Provide full size units at all locations possible. Where cuts are required cut units with motor driven saws, provide clean sharp unchipped edges. Install cut units with cut surfaces concealed.

3.02 PREPARATION

A. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 INSTALLATION GENERAL REQUIREMENTS

A. Build chases and recesses as shown and as required for the work of other trades. Provide not less than 8" of masonry between chase or recess and jamb of openings, and between adjacent chases and recesses.

B. Stopping and Resuming Work: Rack back 1/2-masonry unit length in each course of running bond; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if specified to be wetted), and remove loose masonry units and mortar prior to laying fresh masonry.

C. Remove masonry units disturbed after placement; clean and set in fresh mortar. Do not pound corners at jambs to fit stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar, and reset in fresh mortar.

D. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

E. Miter corners of soldier and rowlock courses and bond mitered pieces together with thin set mortar formulated for use with brick in exterior locations.

3.04 COLD AND HOT WEATHER REQUIREMENTS

A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.
   1. When ambient temperature falls below 40 degrees F comply with provisions of 530/530.1/ERTA for cold weather construction.
   2. When ambient temperature exceeds 90 degrees F comply with provisions of 530/530.1/ERTA for hot weather construction.

3.05 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: Running.
   2. Coursing: One unit and one mortar joint to equal 8 inches (200 mm).
   3. Mortar Joints: Concave.

3.06 PLACING AND BONDING

A. Lay hollow masonry units with face shell bedding on head and bed joints.

B. Remove excess mortar and mortar smears as work progresses.

C. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

D. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

E. Cut mortar joints flush where wall tile is scheduled, resilient base is scheduled, or bitumen dampproofing is applied.

F. Fill in solidly around built in items in masonry. Where built in items are to be embedded in cores of masonry units, place a layer of monofilament screen such as Dur-O-Wal Dur-O-Stop or equal in the joint below and rod mortar or grout into core.

G. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.07 CAVITY MORTAR CONTROL

A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents. To prevent install flashing extending from the bottom of the drainage material to at least 6 inches above the top of the drainage material.

B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.

C. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.08 REINFORCEMENT AND ANCHORAGE - GENERAL, SINGLE WYTHE MASONRY, AND CAVITY WALL MASONRY

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches (400 mm) on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches (150 mm).

3.09 REINFORCEMENT AND ANCHORAGES - CAVITY WALL MASONRY

A. Install horizontal joint reinforcement 16 inches (400 mm) on center.
   1. Where one wythe is of clay masonry and other other of concrete masonry, use adjustable (two piece) type reinforcement with continuous horizontal sire in facing wythe attached to ties to allow for differential movement regardless of whether bed joints align.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
   1. Install joint stabilizing anchors not more than 32 inches on center at these locations.

C. Install continuity at corners by using prefabricated L shaped units.

3.10 GROUTED COMPONENTS

A. Place grout and install reinforcement as detailed on the Structural Drawings.

3.11 BUILT-IN WORK

A. As work progresses, install built-in metal door frames and glazed frames and other items to be built into the work and furnished under other sections.

B. Install built-in items plumb, level, and true to line.

C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
   1. Fill adjacent masonry cores with grout minimum 12 inches (300 mm) from framed openings.

3.12 TOLERANCES

A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch (1.6 mm).

B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.

C. Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13 mm) in two stories or more.

D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).

E. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch (minus 6.4 mm, plus 9.5 mm); Bed joint, minus 1/8 inch maximum thickness limited to 1/2 inch.
   1. At exposed head joints do not vary thickness indicated by more than plus or minus 1/8 inch.

3.13 CUTTING AND FITTING

A. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.14 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for compliance with requirements of this specification.

C. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

D. Grout Tests: Test each type of mix provided with ASTM C1019.

E. Protection of Masonry:
   1. Protection of Masonry:
      a. During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
      b. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
      c. Where one wythe of multi-wythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.
   2. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after constructing masonry walls or columns.

F. Protect sills, ledges and projections from mortar droppings during installation.

G. Protect surfaces of window and door frames as well as similar products with painted and integral finishes from mortar droppings and other damages.

3.15 CLEANING

A. Remove excess mortar and mortar droppings as work progresses by dry brushing before tooling joints.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution.

D. Use non-metallic tools in cleaning operations.

E. Clean exposed CMU masonry by dry brushing at the end of each day of work and after final pointing to remove mortar spots and droppings. Rub joints with carborundum or CMU block to eliminate ridges and irregularities and provide well formed intersections.

F. Prior to cleaning brickwork:
   1. All cleaning methods have to be approved by Architect.
   2. Remove all large mortar droppings. Cleaning should begin 21 to 28 days after laying brick with Type N mortar.
   3. Thoroughly saturate all masonry with water before applying cleaning solution.

a. Use water hose with a standard hose nozzle. Apply using a circular motion at an adequate and consistent distance. Pressure Washers are **NOT** allowed as means of applying water.

4. Use cleaning solution recommended by brick Manufacturer.
5. Apply cleaning solution as recommended by Manufacturer.
6. Do not allow cleaning chemicals to dry on brickwork.
7. Thoroughly rinse cleaning chemicals off of brickwork.
   a. Rinse brick by starting at top of brick work and working down the wall to the ground.
   b. Use water hose with a standard hose nozzle to rinse brick. Pressure Washers are **NOT** allowed as means of rinsing brick.

3.16 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

B. Prevent grout or mortar from staining the face of masonry to be left exposed. Remove immediately grout or mortar in contact with such masonry.

C. Protect installed face brick or ground face block at ground level from clay staining by maintaining a perimeter of 3'-0" wide sod as specified OR with 3'-0" wide of straw until final landscaping or other improvements indicated adjacent to completed masonry work is in place. Sod and Straw must be maintained and refreshed until permanent materials are in place.

END OF SECTION

SECTION 068316
FIBERGLASS REINFORCED PANELING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass fiber reinforced plastic panels (FRP).

B. Trim.

1.02 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics 2010 (Reapproved 2018).

B. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.

C. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

E. FDA Food Code - Chapter 6 - Physical Facilities Current Edition.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Samples: Submit two samples 12 by 12 inch (____by____ mm) in size illustrating material and surface design of panels.
   1. Submit complete with specified applied finish.
   2. For selected patterns show complete pattern repeat.
   3. Exposed Molding and Trim: Provide samples of each type, finish, and color.

D. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to all discontinuities in the wall elevation.

E. Manufacturers Material Safety Data Sheets (MSDS) for adhesives, sealants and other pertinent materials prior to their delivery to the site

1.04 DELIVERY, STORAGE, AND HANDLING

A. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

1.05 WARRANTY

A. Furnish one year guarantee against defects in material and workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fiberglass Reinforced Plastic Panels:
   1. Marlite, Inc; [_____]: www.marlite.com/#sle.
   2. Or Equal
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PANEL SYSTEMS

A. Wall Panels FRP: Location as indicated in the drawings
   1. Panel Size: 4 by 8 feet (1.2 by 2.4 m).
   2. Panel Thickness: 0.09 inch (2.3 mm).

3. Surface Design: Standard FRP.
4. Color: As selected by Architect.
5. Attachment Method: Adhesive only, with trim and sealant in joints.

2.03 MATERIALS

A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
   1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.
   2. Resistant to rot, corrosion, staining, denting, peeling, and splintering.
   3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   4. Scratch Resistance: Barcol hardness score greater than 35, when tested in accordance with ASTM D2583.
   5. Water Absorption - 0.72% per ASTM D 570.
   6. Flexural Strength - 1.0 x 104 psi per ASTM D 790. (7.0 kilogram-force/square millimeter)
   7. Izod Impact Strength of 72 ft. lbs./in ASTM D 256
   8. Surface Characteristics and Cleanability: Provide products that are smooth, durable, and easily cleanable, in compliance with FDA Food Code, Chapter 6 - Physical Facilities.

B. Back Surface: Smooth. Imperfections which do not affect functional properties are not cause for rejection.

C. Trim: Vinyl; color coordinating with panel.

D. Adhesive: Type recommended by panel manufacturer.

E. Sealant: Type recommended by panel manufacturer; white.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions and substrate flatness before starting work.

B. Verify that substrate conditions are ready to receive the work of this section.

3.02 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's instructions.

B. Cut and drill panels with carbide tipped saw blades, drill bits, or snips.

C. Apply adhesive to the back side of the panel using trowel as recommended by adhesive manufacturer.

D. Apply panels to wall with seams plumb and pattern aligned with adjoining panels.

E. Install panels with manufacturer's recommended gap for panel field and corner joints.

F. Place trim on panel before fastening edges, as required.

G. Fill channels in trim with sealant before attaching to panel.

H. Install trim with adhesive and screws or nails, as required.

I. Seal gaps at floor, ceiling, and between panels with applicable sealant to prevent moisture intrusion.

J. Remove excess sealant after paneling is installed and prior to curing.

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Each form and type of joint sealants.

B. Applications for joint sealers.

C. Self-leveling pourable joint sealants.

D. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 079100 - Preformed Joint Seals: Precompressed foam, gaskets, and strip seals.

1.03 REFERENCE STANDARDS

A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016.

C. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Samples for Verification: Where custom sealant color is specified, obtain directions from Engineer/Architect and submit at least two physical samples for verification of color of each required sealant.

F. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Field Adhesion Test Procedures:
   1. Allow sealants to fully cure as recommended by manufacturer before testing.
   2. Have a copy of the test method document available during tests.
   3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.

4. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Engineer/Architect.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Nonsag Sealants:
   1. Bostik Inc; <>: www.bostik-us.com/#sle.
   2. Dow Chemical Company; <>: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   3. Hilti, Inc; <>: www.us.hilti.com/#sle.
   4. Momentive Performance Materials, Inc (formerly GE Silicones); <>: www.momentive.com/#sle.
   5. Sika Corporation; <>: www.usa-sika.com/#sle.
   6. Or Equal.
   7. Substitutions: See Section 016000 - Product Requirements.

B. Self-Leveling Sealants:
   1. Adhesives Technology Corporation; <>: www.atcepoxy.com/#sle.
   2. Bostik Inc; <>: www.bostik-us.com/#sle.
   3. Dow Chemical Company; <>: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   4. Sika Corporation; <>: www.usa-sika.com/#sle.
   5. Or Equal.
   6. Substitutions: See Section 016000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   a. Joints between door, window, and other frames and adjacent construction.
   b. Other joints indicated below.

B. Exterior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.

C. Type [___] - Interior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.
   1. Type [___] - Wall and Ceiling Joints in Wet Areas: Nonsag polyurethane sealant for continuous liquid immersion.
   2. Type [___] - Floor Joints in Wet Areas: Nonsag polyurethane non-traffic-grade sealant suitable for continuous liquid immersion.
   3. Type [___] - Joints between Tile in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
   4. Type [___] - Other Floor Joints: Self-leveling polyurethane traffic-grade sealant.

D. Interior Wet Areas: Bathrooms, restrooms, kitchens, food service areas, and food processing areas; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

B. Colors: As indicated on the drawings or as selected from Manufacturer's standard colors.

C. Select materials for compatibility and select elasticity and hardness based on Manufacturer's recommendations for application intended.

2.04 JOINT SEALANTS

A. Type 2 Interior Wet Areas -Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component Type S, mildew resistant; not expected to withstand continuous water

immersion or traffic.
1. Color: White.
2. Products:
   a. Sika Corporation; Sikasil GP: www.usa.sika.com/#sle.
   b. Or Equal.
   c. Substitutions: See Section 016000 - Product Requirements.

2.05 SELF-LEVELING JOINT SEALANTS

A. Type [___] - Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
   1. Movement Capability: Plus and minus 25 percent, minimum.

2.06 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod, plyethylene-jacketed polyurethane foam, butyl rubber foam, neoprene foam, or other flexible , permanent, durable non abrasive material with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

D. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

E. Fiber Expansion Joint Material: Preformed cellular fiber complying with ASTM D1751.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
   1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
   2. Notify Engineer/Architect of date and time that tests will be performed, at least seven days in advance.
   3. Record each test on Preinstallation Adhesion Test Log as indicated.
   4. If any sample fails, review products and installation procedures, consult manufacturer, or take other measures that are necessary to ensure adhesion; retest in a different location; if unable to obtain satisfactory adhesion, report to Engineer/Architect.
   5. After completion of tests, remove remaining sample material and prepare joints for new sealant installation.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

D. Install bond breaker backing tape where backer rod cannot be used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces. Clean adjacent surfaces to eliminate evidence of spillage.

F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

H. Dure sealants and caulking compounds in compliance with Manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

SECTION 081113
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hurricane-resistant hollow metal doors and frames.

B. Accessories, including glazing, louvers, and matching panels.

1.02 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware.

B. Section 099123 - Interior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors 2022.

C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100) 2017.

D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames 2020.

E. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

G. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.

H. ASTM C476 - Standard Specification for Grout for Masonry 2022.

I. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference 2014 (Reapproved 2021).

J. BHMA A156.115 - Hardware Preparation in Steel Doors and Steel Frames 2016.

K. FBC TAS 201 - Impact Test Procedures; Testing Application Standard 1994.

L. FBC TAS 202 - Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure; Testing Application Standard 1994.

M. FBC TAS 203 - Criteria for Testing Products Subject To Cyclic Wind Pressure Loading; Testing Application Standard 1994.

N. FLA (PAD) - Florida Building Code Online - Product Approval Directory Current Edition.

O. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

P. Miami (APD) - Approved Products Directory; Miami-Dade County Current Edition.

Q. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames 2002.

R. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames 2011.

S. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames 2017.

T. NAAMM HMMA 860 - Guide Specifications for Hollow Metal Doors and Frames 2018.

U. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames 2014.

V. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any. Provide schedule of doors and frames using same reference numbers for openings as those on drawings.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements for small and large missile impact requirements for exterior doors and frames.

1.05 QUALITY ASSURANCE

A. Maintain at project site copies of reference standards relating to installation of products specified.

B. Provide hollow metal frames complying with ANSI A250.8 (SDI-100) Recommended Specifications for Standard Steel Doors and Frames.

C. Provide each type of door and frame unit from a single manufacturer specializing in manufacturing of that type of work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

C. Inspect hollow metal doors and frames upon delivery for damage. Minor damage may be repaired, if repair work is equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.

D. Store doors and frames under a covered protected area, placed on wood sills at least 4 inches off of ground surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hurricane-Resistant Hollow Metal Doors and Frames:
   1. Curries, an Assa Abloy Group Company; www.curries.com.
   2. Or Approved Equal.
   3. Substitutions: See Section 016000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Materials:
   1. Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, complying with ASTM A569 and ASTM A568.
   2. Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A366 and ASTM A568.
   3. Inserts, Anchors Bolts and Fasteners: Manufacturer's standard units, except hot-dip galvanize items to be built into exterior walls, complying with ASTM A153 Class C or D as applicable.

B. Requirements for All Doors and Frames:
   1. Accessibility: Comply with ICC A117.1 and ADA Standards.
   2. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.

a. Reinforce top and bottom of doors with a continuous steel channel extending the full width of the door and welded to the face sheet. Doors with an inverted channel to include a steel closure channel, screw attached and welded in place with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable

3. Door Edge Profile: Hinged edge square, and lock edge beveled.
4. Typical Door Face Sheets: Flush.
5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.
6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
   a. Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
   b. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied finish hardware may be done at project site.
   c. Locate finish hardware as shown on final shop drawings or, if not shown, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.
7. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
   a. Based on SDI Standards: Provide at least A40/ZF120 (galvannealed) when necessary, coating not required for typical interior door applications, and at least A60/ZF180 (galvannealed) for corrosive and exterior locations.

C. Vertical Edges: Vertical edges to have the face sheets joined by a continuous weld extending the full height of the door. Welds are to be ground, filled and dressed smooth. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm). Plastic or composite channel fillers are not acceptable.

D. Top/Bottom Edges: Reinforce top and bottom of doors with a continuous steel channel extending the full width of the door and welded to the face sheet. Doors with an inverted channel to include a steel closure channel, screw attached and welded in place with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.

E. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished. Must be sprayed with two (2) final coats.

B. Type <> ,Hurricane Resistant Doors:
   1. Comply with Florida Building Code (FBC) test protocols for High Velocity Hurricane Zone (HVHZ) FBC TAS 201, FBC TAS 202 and FBC TAS 203.
   2. Design and size door and frame components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M.
      a. Design Wind Loads: Comply with requirements of ASCE 7.
      b. Wind-Borne Debris Resistance: Door and frame components shall have FLA (PAD) approval or Miami (APD) approval for Large and Small Missile impact and pressure

cycling at design wind loads.

3. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
   a. Level 3 - Extra Heavy-duty.
   b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
   c. Model 1 - Full Flush.
   d. Door Face Metal Thickness: 16 gauge, 0.053 inch (1.3 mm), minimum.
   e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
4. Core Material: Polystyrene.
5. Door Thermal Resistance: R-Value of 6.0 minimum, for installed thickness of polystyrene.
6. Door Thickness: 1-3/4 inches (44.5 mm), nominal.

2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Frame Finish: Factory primed and field finished. Must be sprayed with two (2) final coats.

C. General:
   1. Provide floor anchors at each jamb and mullion in addition to required wall anchors.

D. Exterior Door Frames: Fully welded and mitered corners with concealed fastenings.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A60/ZF180 coating.
   2. Frame Metal Thickness: 14 gage, 0.067 inch (1.7 mm), minimum.
   3. Weatherstripping: Separate, see Section 087100.
   4. Wind-Borne Debris Resistance: Door and frame components shall have Miami (APD) approval for Large and Small Missile impact and pressure cycling at design wind loads.

E. Hurricane-Resistant Door Frames: With same hurricane resistance as door; face welded or full profile/continuously welded construction, ground smooth, fully prepared and reinforced for hardware installation.
   1. Frame Metal Thickness: 14 gage, 0.067 inch (1.7 mm), minimum.

F. Mullions for Pairs of Doors: Fixed, except where removable is indicated, with profile similar to jambs.

G. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

H. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inch high (102 mm high) to fill opening without cutting masonry units.

I. Frames Wider than 48 inches (1219 mm): Reinforce with steel channel fitted tightly into frame head, flush with top.

2.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Finish: Fiueld applied spray application. Brush or roll application will not be acceptable.

2.06 ACCESSORIES

A. Louvers: Roll formed steel with overlapping frame; finish same as door components ; factory-installed Hurricane-Resistant Louvers.
   1. Manufacturers:
      a. Curries, an Assa Abloy Group Company; www.curries.com.
      b. or Approved Equal.
      c. Substitutions: See Section 016000 - Product Requirements.

B. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches (102 mm) as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

C. Silencers: Resilient rubber or vinyl, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

2.07 FABRICATION

A. General
1. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory-assembled before shipment, to assure proper assembly at project site.
2. Fabricate exposed faces of doors and panels, including stiles and rails of non-flush units, from only cold-rolled steel.
3. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers, and moldings from either cold-rolled or hot-rolled steel (at fabricator's option).
4. Fabricate doors indicated to be galvanized from galvanized sheet steel. Close top and bottom edges as integral part of door construction or by addition of inverted galvanized steel channels.
5. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.

2.08 FINISHES

A. Shop Paint: Clean treat and paint exposed surfaces of steel door and frame units. Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign matter before applying paint. Provide shop coat of prime paint of even consistency to provide a uniform finish surface ready to receive final coats. Prior to application of any hardware components apply finish coat of paint.
1. Finish coats of paint on doors shall be shop applied.
2. Finish coat on frames may be field applied.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Install frames prior to construction of enclosing walls and ceilings.

C. Coordinate frame anchor placement with wall construction. Locate 3 wall anchors, of type suitable for construction type, per jamb at hinge and strike levels. Locate floor anchor at each jamb and mullion.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 087100.

F. Coordinate installation of electrical connections to electrical hardware items.

G. Touch up damaged factory finishes.

3.04 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.

3.05 ADJUSTING

A. Adjust for smooth and balanced door movement.

3.06 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

SECTION 087100
DOOR HARDWARE

PART 1 GENERAL

1.01 SUMMARY:

A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.
   1. Door hardware for steel (hollow metal) doors.
   2. Keyed cylinders as indicated.

B. References: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.
   1. Builders Hardware Manufacturing Association (BHMA)
   2. NFPA 101 Life Safety Code
   3. NFPA 80 -Fire Doors and Windows
   4. ANSI-A156.xx- Various Performance Standards for Finish Hardware
   5. UL10C – Positive Pressure Fire Test of Door Assemblies
   6. ANSI-A117.1 – Accessible and Usable Buildings and Facilities
   7. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware
   8. ICC – International Building Code

C. Intent of Hardware Groups
   1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
   2. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to be submitted to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

D. Allowances
   1. Refer to Division 1 for allowance amount and procedures.

E. Alternates
   1. Refer to Division 1 for Alternates and procedures.

1.02 SUBSTITUTIONS:

A. Comply with Division 1.

1.03 SUBMITTALS:

A. Comply with Division 1.

B. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the "design intent" of the system/assembly is understood and can be reviewed together.

C. Product Data: Manufacturer's specifications and technical data including the following:
   1. Detailed specification of construction and fabrication.
   2. Manufacturer's installation instructions.
   3. Wiring diagrams for each electric product specified. Coordinate voltage with electrical before submitting.
   4. Submit 6 copies of catalog cuts with hardware schedule.
   5. Provide 9001-Quality Management and 14001-Environmental Management for products listed in Materials Section 2.2

D. Shop Drawings - Hardware Schedule: Submit 6 complete reproducible copy of detailed hardware schedule in a vertical format.
   1. List groups and suffixes in proper sequence.

2. Completely describe door and list architectural door number.
3. Manufacturer, product name, and catalog number.
4. Function, type, and style.
5. Size and finish of each item.
6. Mounting heights.
7. Explanation of abbreviations and symbols used within schedule.
8. Detailed wiring diagrams, specially developed for each opening, indicating all electric hardware, security equipment and access control equipment, and door and frame rough-ins required for specific opening.

E. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.
1. Templates, wiring diagrams and "reviewed Hardware Schedule" of electrical terms to electrical for coordination and verification of voltages and locations.

F. Samples: (If requested by the Architect)
1. 1 sample of Lever and Rose/Escutcheon design, (pair).
2. 3 samples of metal finishes

G. Contract Closeout Submittals: Comply with Division 1 including specific requirements indicated.
1. Operating and maintenance manuals: Submit 3 sets containing the following.
a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.
b. Catalog pages for each product.
c. Name, address, and phone number of local representative for each manufacturer.
d. Parts list for each product.
2. Copy of final hardware schedule, edited to reflect, "As installed".
3. Copy of final keying schedule
4. As installed “Wiring Diagrams” for each piece of hardware connected to power, both low voltage and 110 volts.
5. One set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.04 QUALITY ASSURANCE

A. Comply with Division 1.
1. Statement of qualification for distributor and installers.
2. Statement of compliance with regulatory requirements and single source responsibility.
3. Distributor's Qualifications: Firm with 3 years experience in the distribution of commercial hardware.
a. Distributor to employ full time Architectural Hardware Consultants (AHC) for the purpose of scheduling and coordinating hardware and establishing keying schedule.
b. Hardware Schedule shall be prepared and signed by an AHC.
4. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.
5. Regulatory Label Requirements: Provide testing agency label or stamp on hardware for labeled openings.
a. Provide UL listed hardware for labeled and 20 minute openings in conformance with requirements for class of opening scheduled.
b. Underwriters Laboratories requirements have precedence over this specification where conflict exists.
6. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.

B. Review Project for extent of finish hardware required to complete the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Architect in writing

and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Architect.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Comply with Division 1.
   1. Deliver products in original unopened packaging with legible manufacturer's identification.
   2. Package hardware to prevent damage during transit and storage.
   3. Mark hardware to correspond with "reviewed hardware schedule".
   4. Deliver hardware to door and frame manufacturer upon request.

B. Storage and Protection: Comply with manufacturer's recommendations.

1.06 PROJECT CONDITIONS:

A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.

B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.

1.07 WARRANTY:

A. Refer to Conditions of the Contract

B. Manufacturer’s Warranty:
   1. Closers: Ten years
   2. Exit Devices: Five Years
   3. Locksets & Cylinders: Three years
   4. All other Hardware: Two years.

1.08 OWNER’S INSTRUCTION:

A. Instruct Owner’s personnel in operation and maintenance of hardware units.

1.09 MAINTENANCE:

A. Extra Service Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals Section.
   1. Special Tools: Provide special wrenches and tools applicable to each different or special hardware component.
   2. Maintenance Tools: Provide maintenance tools and accessories supplied by hardware component manufacturer.
   3. Delivery, Storage and Protection: Comply with Owner’s requirements for delivery, storage and protection of extra service materials.

B. Maintenance Service: Submit for Owner’s consideration maintenance service agreement for electronic products installed.

PART 2 PRODUCTS

2.01 MANUFACTURERS:

A. The following manufacturers are approved subject to compliance with requirements of the Contract Documents. Approval of manufacturers other than those listed shall be in accordance with Division 1.

Item:	Manufacturer:	Approved Equal:
Hinges	Stanley	Bommer, McKinney
Continuous Hinges	Stanley	Select, ABH
Mortise Locksets	Best	As Approved

Cylinders	Best	As Approved
Exit Devices	Sargent	Von Duprin 98/99
Closers	Stanley D-4550	LCN 4040XP, Sargent 351
Protection Plates	Trimco	Burns, Rockwood
Door Stops (Wall/Floor)	Trimco	Burns, Rockwood
Flush Bolts	Trimco	ABH, Burns
Coordinator & Brackets	Trimco	ABH, Burns
Threshold & Gasketing	National Guard	Reese, K.N. Crowder
Fire Rated Door Hardware	ASSA ABLOY	As Approved

2.02 MATERIALS:

A. Hinges: Shall be Five Knuckle Ball bearing hinges
   1. Template screw hole locations
   2. Bearings are to be fully hardened.
   3. Bearing shell is to be consistent shape with barrel.
   4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.
   5. Equip with easily seated, non-rising pins.
   6. Non Removable Pin screws shall be slotted stainless steel screws.
   7. Hinges shall be full polished, front, back and barrel.
   8. Hinge pin is to be fully plated.
   9. Bearing assembly is to be installed after plating.
   10. Sufficient size to allow 180-degree swing of door
   11. Furnish five knuckles with flush ball bearings
   12. Provide hinge type as listed in schedule.
   13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
   14. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
   15. UL10C listed for Fire rated doors.

B. Geared Continuous Hinges:
   1. Tested and approved by BHMA for ANSI A156.26-1996 Grade 1
   2. Anti-spinning through fastener
   3. UL10C listed for 3 hour Fire rating
   4. Non-handed
   5. Lifetime warranty
   6. Provide Fire Pins for 3-hour fire ratings
   7. Sufficient size to permit door to swing 180 degrees

C. Mortise Type Locks and Latches:
   1. Tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C.
   2. Furnish UL or recognized independent laboratory certified mechanical operational testing to 4 million cycles minimum.
   3. Provide 9001-Quality Management and 14001-Environmental Management.
   4. Fit ANSI A115.1 door preparation
   5. Functions and design as indicated in the hardware groups
   6. Solid, one-piece, 3/4-inch (19mm) throw, anti-friction latchbolt made of self-lubricating stainless steel
   7. Deadbolt functions shall have 1 inch (25mm) throw bolt made of hardened stainless steel
   8. Latchbolt and Deadbolt are to extend into the case a minimum of 3/8 inch (9.5mm) when fully extended
   9. Auxiliary deadlatch to be made of one piece stainless steel, permanently lubricated

10. Provide sufficient curved strike lip to protect door trim
11. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1. Levers that contain a hollow cavity are not acceptable
12. Lock shall have self-aligning, thru-bolted trim
13. Levers to operate a roller bearing spindle hub mechanism
14. Mortise cylinders of lock shall have a concealed internal setscrew for securing the cylinder to the lockset. The internal setscrew will be accessible only by removing the core, with the control key, from the cylinder body.
15. Spindle to be designed to prevent forced entry from attacking of lever
16. Provide locksets with 7-pin removable and interchangeable core cylinders
17. Each lever to have independent spring mechanism controlling it
18. Core face must be the same finish as the lockset.

D. Cylindrical Type Locks and Latchsets:
1. Tested and approved by BHMA for ANSI A156.2, Series 4000, Operational Grade 1, Extra-Heavy Duty, and be UL10C listed.
2. Provide 9001-Quality Management and 14001-Environmental Management.
3. Fit modified ANSI A115.2 door preparation.
4. Locksets and cores to be of the same manufacturer to maintain complete lockset warranty
5. Locksets to have anti-rotational studs that are thru-bolted
6. Keyed lever shall not have exposed “keeper” hole
7. Each lever to have independent spring mechanism controlling it
8. 2-3/4 inch (70 mm) backset
9. 9/16 inch (14 mm) throw latchbolt
10. Provide sufficient curved strike lip to protect door trim
11. Outside lever sleeve to be seamless, of one-piece construction made of a hardened steel alloy
12. Keyed lever to be removable only after core is removed, by authorized control key
13. Provide locksets with 7-pin removable and interchangeable core cylinders
14. Hub, side plate, shrouded rose, locking pin to be a one-piece casting with a shrouded locking lug.
15. Locksets outside locked lever must withstand minimum 1400 inch pounds of torque. In excess of that, a replaceable part will shear. Key from outside and inside lever will still operate lockset.
16. Core face must be the same finish as the lockset.
17. Functions and design as indicated in the hardware groups.

E. Exit Devices:
1. All Other Doors:
    a. Exit devices to meet or exceed BHMA for ANSI 156.3, Grade 1.
    b. Exit devices to be tested and certified by UL or by a recognized independent laboratory for mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.
    c. Exit devices chassis to be investment cast steel, zinc dichromate.
    d. Exit devices to have stainless steel deadlocking ¾” through latch bolt.
    e. Exit devices to be equipped with sound dampening on touchbar.
    f. Non-fire rated exit devices to have cylinder dogging.
    g. Non-fire rated exit devices to have ¼” minimum turn hex key dogging.
    h. Touchpad to be “T” style constructed of architectural metal with matching metal end caps.
    i. Touchbar assembly on wide style exit devices to have a ¼” clearance to allow for vision frames.
    j. All exposed exit device components to be of architectural metals and “true” architectural finishes.

k. Provide strikes as required by application.
l. Fire exit hardware to conform to UL10C and UBC 7-2. UL tested for Accident Hazard.
m. Exit device to be heavy investment cast stainless steel. The strike is to be black powder coated finish.
n. Exit devices to have field reversible handing.
o. Provide heavy duty vandal resistant lever trim with heavy duty investment cast stainless steel components and extra strength shock absorbing overload springs. Lever shall not require resetting. Lever design to match locksets and latchsets.
p. Provide 9001-Quality Management and 14001-Environmental Management.
q. Vertical Latch Assemblies to have gravity operation, no springs.

F. Cylinders:
1. Provide the necessary cylinder housings, collars, rings & springs as recommended by the manufacturer for proper installation.
2. Provide the proper cylinder cams or tail piece as required to operate all locksets and other keyed hardware items listed in the hardware sets.
3. Coordinate and provide as required for related sections.

G. Door Closers:
1. All Other Doors:
a. Tested and approved by BHMA for ANSI 156.4, Grade 1
b. UL10C certified
c. Provide 9001-Quality Management and 14001-Environmental Management.
d. Closer shall have extra-duty arms and knuckles
e. Conform to ANSI 117.1
f. Maximum 2 7/16 inch case projection with non-ferrous cover
g. Separate adjusting valves for closing and latching speed, and backcheck
h. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions
i. Full rack and pinion type closer with 1½“ minimum bore
j. Mount closers on non-public side of door, unless otherwise noted in specification
k. Closers shall be non-handed, non-sized and multi-sized.

H. Door Stops: Provide a dome floor or wall stop for every opening as listed in the hardware sets.
1. Wall stop and floor stop shall be wrought bronze, brass or stainless steel.
2. Provide fastener suitable for wall construction.
3. Coordinate reinforcement of walls where wall stop is specified.
4. Provide dome stops where wall stops are not practical. Provide spacers or carpet riser for floor conditions encountered

I. Over Head Stops: Provide a Surface mounted or concealed overhead when a floor or wall stop cannot be used or when listed in the hardware set.
1. Concealed overhead stops shall be heavy duty bronze or stainless steel.
2. Surface overhead stops shall be heavy duty bronze or stainless steel.

J. Push Plates: Provide with four beveled edges ANSI J301, .050 thickness, size as indicated in hardware set. Furnish oval-head countersunk screws to match finish.

K. Pulls with plates: Provide with four beveled edges ANSI J301, .050 thickness Plate s with ANSI J401 Pull as listed in hardware set. Provide proper fasteners for door construction.

L. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

M. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.

N. Weatherstripping: Provide at head and jambs only those units where resilient or flexible seal strip is easily replaceable. Where bar-type weatherstrip is used with parallel arm mounted closers install weatherstrip first.
   1. Weatherstrip shall be resilient seal of (Neoprene, Polyurethane, Vinyl, Pile, Nylon Brush, Silicone)
   2. UL10C Positive Pressure rated seal set when required.

O. Door Bottoms/Sweeps: Surface mounted or concealed door bottom where listed in the hardware sets.
   1. Door seal shall be resilient seal of (Neoprene, Polyurethane, Nylon Brush, Silicone)
   2. UL10C Positive Pressure rated seal set when required.

P. Thresholds: Latching Panic Thresholds shall be aluminum beveled type with maximum height of ½" for conformance with ADA requirements. Furnish as specified and per details. Provide fasteners and screws suitable for floor conditions.

Q. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

2.03 FINISH:

A. Designations used in Schedule of Finish Hardware - 3.05, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products

B. Powder coat door closers to match other hardware, unless otherwise noted.

C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

2.04 KEYS AND KEYING:

A. Key Supplier has to be within a 50 mile radius of the job site.

B. Provide keyed brass construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system.

C. Cylinders, removable and interchangeable core system: Best CORMAX™ Patented 7-pin.

D. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate."

E. Transmit Grand Masterkeys, Masterkeys and other Security keys to Owner by Registered Mail, return receipt requested.

F. Furnish keys in the following quantities:
   1. 1 each Grand Masterkeys
   2. 4 each Masterkeys
   3. 2 each Change keys each keyed core
   4. 4 each Construction masterkeys
   5. 1 each Control keys

G. The General Contractor will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.

H. Keying Schedule: Arrange for a keying meeting, and programming meeting with Architect Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying and programming complies with project requirements. Furnish 3 typed copies of keying and programming schedule to Architect.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.
   1. Do not proceed until unsatisfactory conditions have been corrected.

3.02 HARDWARE LOCATIONS:

A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations.
   1. Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).
   2. Recommended locations for Architectural Hardware for flush wood doors (DHI).
   3. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

3.03 INSTALLATION:

A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

B. Conform to local governing agency security ordinance.

C. Install Conforming to ICC/ANSI A117.1 Accessible and Usable Building and Facilities.
   1. Adjust door closer sweep periods so that from the open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the landing side of the door.

D. Installed hardware using the manufacturers fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.

3.04 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT

A. Contractor/Installers, Field Services: After installation is complete, contractor shall inspect the completed door openings on site to verify installation of hardware is complete and properly adjusted, in accordance with both the Contract Documents and final shop drawings.
   1. Check and adjust closers to ensure proper operation.
   2. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.
      a. Verify levers are free from binding.
      b. Ensure latchbolts and dead bolts are engaged into strike and hardware is functioning.
   3. Report findings, in writing, to architect indicating that all hardware is installed and functioning properly. Include recommendations outlining corrective actions for improperly functioning hardware if required.

3.05 HARDWARE SCHEDULE

A. As indicated on drawings.

END OF SECTION

SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Gypsum wallboard.

D. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

A. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing 2015, with Errata (2020).

B. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members 2015.

C. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.

D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.

E. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2022.

F. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base 2019.

G. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.

H. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.

I. GA-216 - Application and Finishing of Gypsum Panel Products 2021.

J. UL (FRD) - Fire Resistance Directory Current Edition.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum five years of experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.
   1. See PART 3 for finishing requirements.

B. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S240.

B. Grid Suspension Systems: [_____] grid system of main tees and support bars connected to structure using hanging wire.

1. Products:
    a. USG Corporation; Drywall Suspension System: www.usg.com/#sle.
    b. Or Approved Equal..
    c. Substitutions: See Section 016000 - Product Requirements.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
    1. Georgia-Pacific Gypsum; <>: www.gpgypsum.com/#sle.
    2. National Gypsum Company; <>: www.nationalgypsum.com/#sle.
    3. USG Corporation; <>: www.usg.com/#sle.
    4. Substitutions: See Section 016000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
    1. Application: Use for ceilings, unless otherwise indicated.
    2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
        a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
        b. Mold resistant board is required in all restrooms and any other wet type locations of similar nature..
    3. At Ceilings where Gypsum Board occurs: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place.
    4. Thickness:
        a. Vertical Surfaces: 5/8 inch (16 mm).
        b. Ceilings: 5/8 inch (16 mm).
    5. Mold-Resistant, Paper-Faced Products:
        a. Georgia-Pacific Gypsum; ToughRock Fireguard X Mold-Guard: www.gpgypsum.com/#sle.

2.04 GYPSUM BOARD ACCESSORIES

A. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
    1. Corner Beads: Low profile, for 90 degree outside corners.
        a. Products:
            1) Phillips Manufacturing Co; Everlast Corner Bead: www.phillipsmfg.com/#sle.
            2) Substitutions: See Section 016000 - Product Requirements.

B. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
    1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Installation on Metal Framing: Use screws for attachment of gypsum board.

3.03 INSTALLATION OF TRIM AND ACCESSORIES

A. Corner Beads: Install at external corners, using longest practical lengths.

B. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.04 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 3: Walls to receive textured wall finish.
   3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

D. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.05 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

SECTION 096700
FLUID-APPLIED FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fluid-applied flooring and base.

1.02 REFERENCE STANDARDS

A. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser 2019.

B. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes 2019a.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.04 QUALITY ASSURANCE

1.05 MOCK-UP

1.06 DELIVERY, STORAGE, AND HANDLING

1.07 FIELD CONDITIONS

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fluid-Applied Flooring:
   1. Sherwin-Williams Company; <>: www.protective.sherwin-williams.com/#sle.
   2. Or Approved Equal.

2.02 FLUID-APPLIED FLOORING SYSTEMS

A. Fluid-Applied Flooring: Epoxy, two component, thermosetting.
   1. Primer: Sherwin Williams GP3477 Water Emulsion Primer
   2. Slurry: Fastop Multi SL45
   3. Broadcast: Color by selected by architect from stanndard manufacturer selection.
   4. Seal Coat: Shewrwin Williams GP4850 (2 coats)
   5. Flexural Strength: 1,909 psi when tested with ASTM C 580
   6. Adhesion: 523 psi concrete failure based on ASTM 7234
   7. Abrasion Resistance: Maximum weight loss of 51 mgs loss, when tested in accordance with ASTM D4060.
   8. Impact Resistance: IR4
   9. Color: Selected by Architect.
   10. Texture: Match 5190 fine non-skid from Sherwin Williams Deco Quartz Texture Bar.
   11. Basis of Design Product: Fastop Multi Ceramic Carpet by Sherwin Williams or Approved Equal.

2.03 ACCESSORIES

A. Cant Strips: Molded of flooring resin material.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.

B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.

C. Verify that wood subfloors have 12 percent maximum moisture content.

D. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
   1. Test as Follows:
      a. Internal Relative Humidity: ASTM F2170.
   2. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.

B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Grind irregularities above the surface level. Prohibit traffic until filler is cured.

C. Vacuum clean substrate.

D. Apply primer to surfaces required by flooring manufacturer.

3.03 INSTALLATION - ACCESSORIES

A. Install cant strips at base of walls where flooring is to be extended up wall as base.

3.04 INSTALLATION - FLOORING

A. Apply in accordance with manufacturer's instructions.

B. Apply each coat to minimum thickness indicated.

C. Finish to smooth level surface.

D. Provide 6" Cove base at vertical surfaces.

3.05 PROTECTION

A. Prohibit traffic on floor finish for 48 hours after installation.

B. Barricade area to protect flooring until fully cured.

END OF SECTION

SECTION 099113
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Non-metallic roofing and flashing.
   6. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, zinc, and lead.
   7. Marble, granite, slate, and other natural stones.
   8. Floors, unless specifically indicated.
   9. Ceramic and other types of tiles.
   10. Glass.
   11. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating 2005 (Reapproved 2017).

C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.

D. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.

E. SSPC V1 (PM1) - Good Painting Practice: Painting Manual Volume 1 2016.

F. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).

G. SSPC-SP 2 - Hand Tool Cleaning 2018.

H. SSPC-SP 3 - Power Tool Cleaning 2018.

I. SSPC-SP 6 - Commercial Blast Cleaning 2007.

J. SSPC-SP 13 - Surface Preparation of Concrete 2018.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, discuss sheen options with Engineer/Architect before preparing samples, to eliminate sheens not required.
   3. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as factory finished metals, have been approved.

D. Samples: Submit two paper chip samples, ____x____ inch (____x____ mm) in size illustrating range of colors and textures available for each surface finishing product scheduled.

E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, care and cleaning instructions, repair of painted and finished surfaces, and color samples of each color and finish used. Finish Schedule is not required if it matches the Construction Documents.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience and approved by manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
   1. If a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Engineer/Architect is obtained using the specified procedures for substitutions.
   2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
   3. Substitution of a different paint system using MPI-approved products by the same manufacturer will be considered.

B. Paints:

1. Behr Process Corporation; <>: www.behr.com/#sle.
2. PPG Paints; <>: www.ppgpaints.com/#sle.
3. Sherwin-Williams Company; <>: www.sherwin-williams.com/#sle.

C. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. DOOR SLABS, DOOR FRAMES, AND OPENING FRAMES TO BE FIELD PAINTED MUST BE SPRAYED. BRUSH APPLICATION WILL NOT BE ACCEPTED. If brushed, the contractor will be required to strip and/or replace the product or installation in question and repaint, which will be up to the Architect's discretion with no fault to the Architect or Owner and without time or monetary compensation to the Contractor.
3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
4. Supply each paint material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Engineer/Architect from the manufacturer's full line.

E. Colors: As indicated in Color Schedule.
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
2. Extend colors to surface edges; colors may change at any edge as directed by Engineer/Architect.

2.03 PAINT SYSTEMS - EXTERIOR

A. Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete masonry units and primed metal.
1. Two top coats and one coat primer.
2. Top Coat(s): Exterior Latex; MPI #10, 11, 15, 119, or 214.
a. Substrate: Metals
3. Top Coat(s): Exterior Pigmented Elastomeric, Water Based; MPI #113.
a. Substrate: CMU
4. Top Coat Sheen:
a. Satin: MPI gloss level 4; use this sheen at all locations.
5. Primer: As recommended by top coat manufacturer for specific substrate. Block Filler is required at all CMU locations.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Alkali Resistant Water Based Primer; MPI #3.
   2. Interior/Exterior Latex Block Filler; MPI #4.
   3. Anti-Corrosive Alkyd Primer for Metal; MPI #79.
   4. Water Based Primer for Galvanized Metal; MPI #134.
   5. Rust-Inhibitive Water Based Primer; MPI #107.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

C. If substrate preparation is the responsibility of another installer, notify Engineer/Architect of unsatisfactory preparation before proceeding.

D. Test shop-applied primer for compatibility with subsequent cover materials.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

H. Masonry:
   1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
   2. Prepare surface as recommended by top coat manufacturer.
   3. Clean surfaces with pressurized water. Use pressure range of 600 to 1,500 psi (4,140 to 10,350 kPa) at 6 to 12 inches (150 to 300 mm). Allow to dry.
   4. Existing Masonry:

a. If moss has accumulated on damp, shaded masonry, apply an ordinary weed killer. Wet the wall with clear water before applying weed killers to prevent them from being drawn into the wall. Chemical weed killers may contain solubles which can contribute to efflorescence or react unfavorably with paint, and should be removed after being used by scrubbing the wall with a stiff brush while rinsing with clear water.

5. Existing Painted Masonry.
   a. 3 oz trisodium phosphate (Soilax, Spic and Span, etc.), plus
   b. 1 oz detergent (Tide, All, etc.), plus
   c. 1 qt 5 per cent sodium hyperchlorite (Chlorox, Purex, etc.), plus
   d. 3 qt warm water, or enough to make 1 gal of solution.
   e. Use this solution to remove mildew and dirt. Scrub with a medium soft brush until the surface is clean; then rinse thoroughly with fresh water. For small areas, use an ordinary household cleanser. Scrub with a medium soft brush and then rinse thoroughly. Use masonry paints containing a mildewcide to help prevent molds from recurring.
   f. Remove all peeled, cracked, flaked or blistered paint by scraping, wire brushing or sand blasting. In some instances, old paint may be burned off, but this should be done only by skilled operators. Like efflorescence, paint blistering is caused by water within the masonry. Search for the water's source and take the necessary corrective measures to keep water out of the wall.
   g. If alligatoring exists, remove the entire finish. There is no other means of correction.
   h. If slight chalking has occurred, brush the surface thoroughly. However, if chalking is deep, remove by scrubbing with a stiff fiber brush and a solution of trisodium phosphate and water. Rinse the surface thoroughly afterwards. with a stiff fiber brush and a solution of trisodium phosphate and water. Rinse the surface thoroughly afterwards.
   i. Excessive paint buildup results from too many coats or excessively thick coats. Where it occurs, remove all paint and treat as a new surface.
   j. Completely remove cement-based paints before repainting with other types. An exception to this rule is the use of cement-based paints as primers which will be covered by another paint within a relatively short time. If the wall will be repainted with another cement-based paint, wire brushing and scrubbing will suffice, providing treatments for mildew, efflorescence, etc. are not required.

I. Galvanized Surfaces:

J. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 Commercial Blast Cleaning. Protect from corrosion until coated.

K. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply additional coats until complete hide is achieved.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 099123
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Roof access ladders.
   3. Prime surfaces to receive wall coverings.
   4. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
      d. Paint dampers exposed behind louvers, grilles, to match face panels.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Ceramic and other tiles.
   7. Glass.
   8. Concealed pipes, ducts, and conduits.

1.02 DEFINITIONS

A. Comply with ASTM D16 for interpretation of terms used in this section.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications 2019.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating 2005 (Reapproved 2017).

D. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.

E. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.

F. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.

G. SSPC V1 (PM1) - Good Painting Practice: Painting Manual Volume 1 2016.

H. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).

I. SSPC-SP 2 - Hand Tool Cleaning 2018.

J. SSPC-SP 3 - Power Tool Cleaning 2018.

K. SSPC-SP 13 - Surface Preparation of Concrete 2018.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. MPI product number (e.g., MPI #47).
   3. Cross-reference to specified paint system products to be used in project; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, discuss sheen options with Engineer/Architect before preparing samples, to eliminate sheens not required.
   3. Allow 10 days for approval process, after receipt of complete samples by Engineer/Architect.
   4. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.

D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

E. Manufacturer's Instructions: Indicate special surface preparation procedures.

F. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used. Finish Schedule is not required if it matches the Construction Documents.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gal (4 L) of each color; from the same product run, store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F (3 degrees C) above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 fc (860 lux) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
   1. If a single manufacturer cannot provide specified products; minor exceptions will be permitted provided approval by Engineer/Architect is obtained using the specified procedures for substitutions.
   2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
   3. Substitution of a different paint system using MPI-approved products by the same manufacturer will be considered.

B. Paints:
   1. Behr Process Corporation: www.behr.com/#sle.
   2. PPG Paints: www.ppgpaints.com/#sle.
   3. Sherwin-Williams Company: www.sherwin-williams.com/#sle.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
   1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
   2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   3. DOOR SLABS, DOOR FRAMES, AND OPENING FRAMES TO BE FIELD PAINTED MUST BE SPRAYED. BRUSH APPLICATION WILL NOT BE ACCEPTED. If brushed, the contractor will be required to strip and/or replace the product or installation in question and repaint, which will be up to the Architect’s discretion with no fault to the Architect or Owner and without time or monetary compensation to the Contractor.
   4. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   5. Supply each paint material in quantity required to complete entire project's work from a single production run.
   6. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
   1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

b. Architectural coatings VOC limits of the State in which the Project is located.

2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Engineer/Architect from the manufacturer's full line.

E. Colors: As indicated on drawings.
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
2. Extend colors to surface edges; colors may change at any edge as directed by Engineer/Architect.
3. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.03 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: CMU.
1. Intermediate Coat: Sherwin Williams Tuff Surface Premium Texture Finish sales number 6504-21571. Apply with a hopper and knock down.
2. Top Coat Product(s):
a. Sherwin Williams Promar 200s/g, B31w2651 or equal. Provide epoxy based latex at wet areas.

B. Wet AreaMedium Duty Vertical and Overhead: Including gypsum board.
1. Two top coats and one coat primer.
2. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.
3. Top Coat Sheen:
a. Satin: MPI gloss level 4; use this sheen at all locations.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
1. Interior/Exterior Latex Block Filler; MPI #4.
a. Products:
1) Kilz Pro-X p50 Block Filler Primer.
2. Interior Latex Primer Sealer; MPI #50.
a. Products:
1) Behr Premium Plus Interior All-In-One Primer and Sealer [No.75]. (MPI #50)
3. Interior Drywall Primer Sealer.
a. Products:
1) Behr Premium Plus Interior Drywall Primer and Sealer [No.73].
4. Interior Rust-Inhibitive Water Based Primer; MPI #107.
a. Products:
1) Behr Premium Plus Interior/Exterior Multi-Surface Primer and Sealer [No.436]. (MPI #107)
5. Interior Water Based Primer for Galvanized Metal; MPI #134 or #134 X-Green.
a. Products:
1) Behr Premium Plus Interior/Exterior Multi-Surface Primer and Sealer [No.436]. (MPI #134)
6. Latex Primer for Interior Wood; MPI #39.
a. Products:
1) Kilz Premium Water-Based Primer [No.1300].

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Engineer/Architect of unsatisfactory preparation before proceeding.

E. Test shop-applied primer for compatibility with subsequent cover materials.

F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
   3. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Clean concrete according to ASTM D4258. Allow to dry.
   3. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

H. Concrete Floors and Traffic Surfaces: Remove contamination, acid etch and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

I. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

J. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

K. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

L. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 102113.19
PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Solid plastic toilet compartments.

B. Urinal screens.

1.02 REFERENCE STANDARDS

A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

B. B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

C. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings, locations drawings for bolt hole location attachments.

C. Product Data: Provide data on panel construction, hardware, and accessories, cleaning and maintenance instructions.

D. Samples: Submit two samples of partition panels, 3 x 3 inch (____by____ mm) in size illustrating panel finish, color, and sheen.

E. Manufacturer's Installation Instructions: Indicate replacement parts information and replacement parts information.

1.04 QUALITY ASSURANCE

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication.

B. Coordination: Furnish inserts and anchorages which must be built into other work for installation of components and related work. Coordinate delivery with other work to avoid delays.

C. Building shall be enclosed and fully protected from outside weather prior to installation.

D. Manufacturer Qualifications: Minimum 5years experience in manufacture of solid plastic shower and dressing compartments with products in satisfactory use under similar service conditions.

E. Installer Qualifications: Minimum 5years experience in work of this Section.

1.05 WARRANTY

A. Furnish 25 year warranty for panels, doors, and stiles against breakage, corrosion, delamination, and defects in factory workmanship.

B. Furnish 1 year guarantee against defects in material and workmanship for stainless steel door hardware and mounting brackets.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Solid Plastic Toilet Compartments:
   1. Scranton Products (Santana/Comtec/Capital); Hiney Hiders: www.scrantonproducts.com/#sle.
   2. Accurate Partitions www.accuratepartitions.com
   3. Substitutions: Section 016000 - Product Requirements.

2.02 PLASTIC TOILET COMPARTMENTS

A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), floor-mounted headrail-braced. Waterproof and nonabsorbent, with self lubricating surface, resistant to marks by pens, pencils, markers, and other writing instruments.
   1. Color: As chosen by architect from manufacturer's standard colors.

B. Doors:
   1. Thickness: 1 inch (25 mm). with radiused edges
   2. Width: 24 inch (610 mm); in-swinging
   3. Width for Handicapped Use: 36 inch (915 mm), out-swinging.
   4. Height: 55 inch (1397 mm).

C. Panels:
   1. Thickness: 1 inch (25 mm). with radiused edges
   2. Height: 55 inch (1397 mm).

D. Pilasters:
   1. Thickness: 1 inch (25 mm).
   2. Width: As required to fit space; minimum 3 inch (76 mm).

E. Urinal Screens: Without doors; to match compartments; mounted to wall with two panel bracketswith vertical support/bracing same as compartments.
   1. Depth: 24"

2.03 ACCESSORIES

A. Pilaster Shoes: Stainless steel, satin finish, 3 inches (76 mm) high; concealing floor fastenings.
   1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

B. Head Rails: Extruded aluminum, anti-grip profile.

C. Pilaster Brackets: Satin stainless steel.

D. Wall Brackets: Continuous type, satin stainless steel.

E. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.
   1. For attaching panels and pilasters to brackets: Through-bolts and nuts ; tamper proof.

F. Hinges: Stainless steel, manufacturer's standard finish.
   1. Continuous-type hinge, self closing.

G. Door Hardware: Stainless steel, manufacturer's standard finish.
   1. Door Latch: Slide type with exterior emergency access feature.
   2. Provide door pull for outswinging doors.

H. Hardware: Satin stainless steel:

I. Latch Side No Site Feature: Either ship lap door/panel construction or an applied no site stainless steel strip is acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify correct spacing of and between plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 inch to 1/2 inch (9 mm to 13 mm) space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

A. Maximum Variation From Plumb: 1/8 inch (3 mm).

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch (5 mm).

B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 102800
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet accessories.

B. Provide Accessories for restrooms and any utility rooms and other accessory items as indicated on the Drawings and as specified herein..
   1. Refer to the Enlarged Restroom/Janitor Accessory Schedule on the Drawings.
   2. Contractor to coordinate all installs and provide blocking in wall as required for installation.

C. Utility room accessories.

1.02 RELATED REQUIREMENTS

A. Section 093000 - Tiling

B. Section 102113.19 - Plastic Toilet Compartments.

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

C. ASTM C1036 - Standard Specification for Flat Glass 2021.

D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

D. Manufacturer's Cleaning and Maintenance Instructions and replacement parts information.

1.05 QUALITY ASSURANCE

A. Furnish and install inserts and anchoring devices that must be set in concrete or built into masonry; coordinate delivery with other work to avoid delays.

B. Coordinate accessory location with other work to avoid interference and to assure proper operation and servicing of accessory units.

C. Provide a single source manufacturer to the greatest extent possible for accessories.

D. Manufacturer: Provide products manufactured by a company with a minimum of 10 years successful experience manufacturing similar products.

E. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA and ICC/ANSI A117.1 requirements as applicable.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations. Protect from damage.

1.07 WARRANTY

A. Manufacturer's Warranty for Washroom Accessories: Manufacturer's standard 1 year warranty for materials and workmanship.

B. Manufacturer's Warranty for Electric Hand Dryers: Manufacturer's standard 10 year warranty on parts, except 3 year warranty on motor brushes from Substantial Completion Date.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Commercial Toilet, and Bath Accessories:
   1. ASI - American Specialties, Inc: www.americanspecialties.com.
   2. Bradley Corporation: www.bradleycorp.com.
   3. Bobrick Washroom Equipment, Inc.; www.bobrick.com
   4. Substitutions: Section 016000 - Product Requirements.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
   1. Grind welded joints smooth.

B. Keys: Provide 4 keys for each accessory to Owner.

C. Stainless Steel Sheet: ASTM A666, Type 304, 22 gauge minimum thickness unless noted otherwise.

D. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

E. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

F. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

2.04 COMMERCIAL TOILET ACCESSORIES

A. Grab Bars:
   1. Provide 18-8 S , type 304, 18 gauge stainless steel tubing with satin finish. 1-1/2 inch outside diameter. Ends are heliarc welded to flanges.
   2. Clearance between grab bar and wall is 1-1/2 inch.
   3. Provide concealed mounting flanges: 18-8 S, type 304, 1/8 inch thick, stainless steel plate; end flanges 2 inches x 3-1/8 inch with two holes for attachment to wall. Intermediate flanges 2-5/8 inch x 3-1/8 diameter.
   4. Provide Snap Flange covers: 18-8S, type 304, 22 gauge drawn stainless steel with satin finish. 3-1/4 inch diameter x 1/2 inch deep. Each cover snaps over mounting flange to conceal mounting screws.
   5. Strength: support loads in excess of 250 pounds.
   6. Finish: Satin Finish
   7. Provide in locations as shown on Drawings.
   8. Products:
      a. 36" Grab Bar, equal to Bobrick B-6806 or Bradley 812
      b. 42" Grab Bar, equal to Bobrick B-6806 or Bradley 812
      c. 18" Grab Bar, equal to Bobrick B-6806 or Bradley 812 (install vertical at ADA Toilet Stalls)
      d. 24"x36" Shower Grab Bar, equal to Bobrick B-68616 (Provide at ADA Showers)

B. Mirrors:

1. One piece, 18-8, type 304 heavy gauge stainless steel angle frame, 3/4 inchx3/4 inch with continuous integral stiffener on all sides and beveled front to hold frame tightly against mirror; corners shall be welded, ground and polished smooth. All exposed surfaces shall have satin finish with vertical grain. Galvanized steel backing with integral horizontal hanging brackets. Provide with concealed locking screws.
    a. Manufacturers standard concealed mounting.
    b. Provide with Tempered Glass Mirror.
    c. Size: minimum of 18x36 unless larger is called for on the drawings.
2. Provide in locations as shown on Drawings.
3. Finish: Satin Finish
4. Products:
    a. Bradley Angle Frame Mirror Model 780.
    b. Bobrick B-2908 Tempered Glass Welded-Frame Mirror

C. Toilet Paper Disepnser: Owner Provided and Owner Installed.

D. Soap Dispenser: Owner Provided and Owner Installed.

E. Robe Hook: Surface mounted stainless steel robe hook with satin finish.
1. 18-8, type 304, 22 gauge stainless steel flange and support arm with 18 gauge stainless steel concealed mounting bracket, 19 gauge stainless steel concealed wall plate, and 14 gauge stainless steel cap. All welded construction; secured to wall with a stainless steel setscrew.
2. Finish: Satin Finish
3. Mounting Style: Surface
4. Products:
    a. Bradley 915 Chrome Plated Hook and Bumper
    b. Bobrick B-212 Clothes Hook with Bumper
    c. Substitutions: Section 016000 - Product Requirements.

F. Soap Dispenser: Owner Furnished and Owner Provided

G. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
1. Finish: Satin Finish
2. Mounting Style: Surface
3. Products:
    a. Bobrick B-270 Surface-Mounted Sanitary Napkin Disposal.
    b. Bradley 4A10 Sanitary Napkin Disposal.
    c. Substitutions: Section 016000 - Product Requirements.

2.05 JANITOR ROOM ACCESSORIES

A. Combination Utility Shelf/Mop and Broom Holder:
1. Utility shelf with mop/broom holders and rag hooks shall be type 304 stainless steel with all welded construction; exposed surfaces shall have satin finish. Shelf shall be 18 gauge, 8 inch deep with 3/4 inch return edges, and shall have front edge hemmed for safety. Mop/broom holders shall be spring loaded rubber cams with anti-slip coating.
2. Products:
    a. Equal to Bobrick B239x34 or Bradley 9933 BradEx.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

C. Examine substrates, any previously installed inserts or anchorages.

D. For electrically-operated accessories, verify that electrical power connections are ready and in the correct locations.

E. Verify that field measurements are as indicated on drawings.

F. Do not proceed with work until conditions are acceptable for installation.

3.02 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: Provide as indicated on Drawings and as required to meet accessibility regulations, unless otherwise indicated.

D. Install utilizing fasteners which are appropriate to substrate and recommended by Manufacturer for unit.

E. Adjust toilet accessories for proper operation and verify that all mechanisms function smoothly.

3.03 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

SECTION 220523
GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Applications.

B. General requirements.

C. Ball valves.

1.02 REFERENCE STANDARDS

A. ASME B1.20.1 - Pipe Threads, General Purpose, Inch 2013 (Reaffirmed 2018).

B. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings 2021.

C. ASME B31.9 - Building Services Piping 2020.

D. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators 2021.

E. ASTM A536 - Standard Specification for Ductile Iron Castings 1984, with Editorial Revision (2019).

F. MSS SP-45 - Drain and Bypass Connections 2020.

G. MSS SP-72 - Ball Valves with Flanged or Butt-Welding Ends for General Service 2010a.

H. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends 2010, with Errata .

I. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.

J. NSF 372 - Drinking Water System Components - Lead Content 2022.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on valves including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.

C. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

D. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, maintenance and repair data, and parts listings.

1.04 QUALITY ASSURANCE

A. Manufacturer:
   1. Obtain valves for each valve type from single manufacturer.
   2. Company must specialize in manufacturing products specified in this section, with not less than three years of experience.

B. Welding Materials and Procedures: Comply with ASME BPVC-IX.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:
   1. Minimize exposure of operable surfaces by setting plug and ball valves to open position.
   2. Protect valve parts exposed to piped medium against rust and corrosion.
   3. Protect valve piping connections such as grooves, weld ends, threads, and flange faces.
   4. Secure check valves in either the closed position or open position.

B. Use the following precautions during storage:

1. Maintain valve end protection and protect flanges and specialties from dirt.
   a. Provide temporary inlet and outlet caps.
   b. Maintain caps in place until installation.
2. Store valves in shipping containers and maintain in place until installation.
   a. Store valves indoors in dry environment.
   b. Store valves off the ground in watertight enclosures when indoor storage is not an option.

1.06 EXERCISE THE FOLLOWING PRECAUTIONS FOR HANDLING:

A. Handle large valves with sling, modified to avoid damage to exposed parts.

B. Avoid the use of operating handles or stems as rigging or lifting points.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. See drawings for specific valve locations.

B. Provide the following valves for the applications if not indicated on drawings:
   1. Shutoff: Ball
   2. Throttling: Provide globe or ball.

C. Substitutions of valves with higher CWP classes or SWP ratings for same valve types are permitted when specified CWP ratings or SWP classes are not available.

D. Required Valve End Connections for Non-Wafer Types:
   1. Copper Tube:
      a. 2 NPS (50 DN) and Smaller: Threaded ends except where solder-joint valve-end option is indicated in valve schedules below.
      b. 2-1/2 NPS (65 DN) to 4 NPS (100 DN): Grooved or flanged ends except where threaded valve-end option is indicated in valve schedules below.

E. Domestic, Hot and Cold Water Valves:
   1. 2 NPS (50 DN) and Smaller:
      a. Bronze and Brass: Provide with solder-joint or threaded ends.
      b. Ball: Two piece, full port, brass or bronze with bronze trim.
      c. Bronze Swing Check: Class 125, bronze disc.
   2. 2-1/2 NPS (65 DN) and Larger:
      a. Iron, 2-1/2 NPS (65 DN) to 4 NPS (100 DN): Provide with flanged ends.
      b. Iron Ball: Class 150.

2.02 GENERAL REQUIREMENTS

A. Valve Pressure and Temperature Ratings: No less than rating indicated; as required for system pressures and temperatures.

B. Valve Sizes: Match upstream piping unless otherwise indicated.

C. Valve Actuator Types:
   1. Hand Lever: Quarter-turn valves 6 NPS (150 DN) and smaller.

D. Valves in Insulated Piping: With 2 NPS (50 DN) stem extensions and the following features:
   1. Ball Valves: Extended operating handle of non-thermal-conductive material, and protective sleeve that allows operation of valve without breaking the vapor seal or disturbing insulation.
   2. Memory Stops: Fully adjustable after insulation is installed.

E. Valve-End Connections:
   1. Threaded End Valves: ASME B1.20.1.
   2. Solder Joint Connections: ASME B16.18.

F. General ASME Compliance:

1. Solder-joint Connections: ASME B16.18.
2. Building Services Piping Valves: ASME B31.9.

G. Valve Materials for Potable Water: NSF 61 and NSF 372.

H. Bronze Valves:
1. Fabricate from dezincification resistant material.
2. Copper alloys containing more than 15 percent zinc are not permitted.

I. Valve Bypass and Drain Connections: MSS SP-45.

J. Source Limitations: Obtain each valve type from a single manufacturer.

2.03 BRASS BALL VALVES

A. Two Piece, Full Port with Brass Trim:
1. Comply with MSS SP-110.
2. SWP Rating: 150 psig (1035 kPa).
3. CWP Rating: 600 psig (4140 kPa).
4. Body: Forged brass.
5. Ends: Threaded or soldered.
6. Seats: PTFE.
7. Stem: Brass.
8. Ball: Chrome-plated brass.
9. Manufacturers:
a. Apollo Valves: www.apollovalves.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.

2.04 BRONZE BALL VALVES

A. Two Piece, Full Port with Stainless Steel Trim:
1. Comply with MSS SP-110.
2. SWP Rating: 150 psig (1035 kPa).
3. CWP Rating: 600 psig (4140 kPa).
4. Body: Bronze.
5. Ends: Threaded.
6. Seats: PTFE.
7. Stem: Stainless steel.
8. Ball: Chrome plated brass.
9. Manufacturers:
a. Apollo Valves: www.apollovalves.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.

2.05 IRON BALL VALVES

A. Class 125, Full Port, Stainless Steel Trim:
1. Comply with MSS SP-72.
2. CWP Rating: 200 psig (1380 kPa).
3. Body: ASTM A536 Grade 65-45-12, ductile iron.
4. Ends: Flanged.
5. Seats: PTFE.
6. Stem: Stainless steel.
7. Ball: Stainless steel.
8. Operator: Lever, with locking handle.
9. Manufacturers:
a. Apollo Valves; [_____]: www.apollovalves.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Discard all packing materials and verify that valve interior, including threads and flanges are completely clean without signs of damage or degradation that could result in leakage.

B. Verify valve parts to be fully operational in all positions from closed to fully open.

C. Confirm gasket material to be suitable for the service, to be of correct size, and without defects that could compromise effectiveness.

D. Should valve is determined to be defective, replace with new valve.

3.02 INSTALLATION

A. Provide unions or flanges with valves to facilitate equipment removal and maintenance while maintaining system operation and full accessibility for servicing.

B. Provide separate valve support as required and locate valve with stem at or above center of piping, maintaining unimpeded stem movement.

C. Where valve support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.

END OF SECTION

SECTION 220529
HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment components for equipment, piping, and other plumbing work.

1.02 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel 2023.

D. MFMA-4 - Metal Framing Standards Publication 2004.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 033000.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for metal channel (strut) framing systems and post-installed concrete and masonry anchors.

C. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.
   1. Application of protective inserts, saddles, and shields at pipe hangers for each type of insulation and hanger.

1.05 QUALITY ASSURANCE

A. Comply with applicable building code.

B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of plumbing work.
   2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
   3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
   4. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
   5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
      a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
      b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel, stainless steel, or approved equivalent unless otherwise indicated.
      c. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
      d. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Metal Channel (Strut) Framing Systems:
   1. Manufacturers:
      a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com/#sle.
      b. Thomas & Betts Corporation: www.tnb.com/#sle.
      c. Unistrut, a brand of Atkore International Inc: www.unistrut.com/#sle.
      d. Substitutions: See Section 016000 - Product Requirements.
      e. Source Limitations: Furnish channels (struts) and associated fittings, accessories, and hardware produced by a single manufacturer.
   2. Provide factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
   3. Comply with MFMA-4.
   4. Channel Material:
      a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
      b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel.
   5. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch (2.66 mm).
   6. Minimum Channel Dimensions: 1-5/8 inch (41 mm) width by 13/16 inch (21 mm) height.

C. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
   1. Minimum Size, Unless Otherwise Indicated or Required:
      a. Equipment Supports: 1/2 inch (13 mm) diameter.
      b. Piping up to 1 inch (27 mm) nominal: 1/4 inch (6 mm) diameter.
      c. Piping larger than 1 inch (27 mm) nominal: 3/8 inch (10 mm) diameter.
      d. Trapeze Support for Multiple Pipes: 3/8 inch (10 mm) diameter.

D. Anchors and Fasteners:
   1. Manufacturers - Mechanical Anchors:
      a. Hilti, Inc: www.us.hilti.com/#sle.
      b. ITW Red Head, a division of Illinois Tool Works, Inc: www.itwredhead.com/#sle.
      c. Powers Fasteners, Inc: www.powers.com/#sle.
      d. Simpson Strong-Tie Company Inc: www.strongtie.com/#sle.

e. Substitutions: See Section 016000 - Product Requirements.

2. Manufacturers - Powder-Actuated Fastening Systems:
   a. Hilti, Inc: www.us.hilti.com/#sle.
   b. ITW Ramset, a division of Illinois Tool Works, Inc: www.ramset.com/#sle.
   c. Powers Fasteners, Inc: www.powers.com/#sle.
   d. Simpson Strong-Tie Company Inc: www.strongtie.com/#sle.
   e. Substitutions: See Section 016000 - Product Requirements.
3. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
4. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
5. Steel: Use beam clamps, machine bolts, or welded threaded studs.
6. Sheet Metal: Use sheet metal screws.
7. Plastic and lead anchors are not permitted.
8. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
   a. Comply with MFMA-4.
   b. Channel Material: Use galvanized steel.
   c. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch (2.66 mm) minimum base metal thickness.
   d. Manufacturer: Same as manufacturer of metal channel (strut) framing system.
9. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

C. Provide independent support from building structure. Do not provide support from piping, ductwork, conduit, or other systems.

D. Unless specifically indicated or approved by Engineer/Architect, do not provide support from suspended ceiling support system or ceiling grid.

E. Unless specifically indicated or approved by Engineer/Architect, do not provide support from roof deck.

F. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

G. Equipment Support and Attachment:
   1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
   2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
   3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
   4. Unless otherwise indicated, mount floor-mounted equipment on properly sized 6 inch high concrete pad constructed in accordance with Section 033000.

5. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

H. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.

I. Secure fasteners according to manufacturer's recommended torque settings.

J. Remove temporary supports.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect support and attachment components for damage and defects.

C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 220548
VIBRATION AND SEISMIC CONTROLS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vibration isolation requirements.

B. Vibration-isolated equipment support bases.

C. Vibration isolators.

1.02 REFERENCE STANDARDS

A. ASHRAE (HVACA) - ASHRAE Handbook - HVAC Applications Most Recent Edition Cited by Referring Code or Reference Standard.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate selection and arrangement of vibration isolation and/or seismic control components with the actual equipment to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 033000.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Design Documents: Prepare and submit all information required for plan review and permitting by authorities having jurisdiction, including but not limited to floor plans, details, and calculations.

C. Product Data: Provide manufacturer's standard catalog pages and data sheets for products, including materials, fabrication details, dimensions, and finishes.
   1. Vibration Isolators: Include rated load capacities and deflections; include information on color coding or other identification method for spring element load capacities.

D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.05 QUALITY ASSURANCE

A. Comply with applicable building code.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 VIBRATION ISOLATION REQUIREMENTS

A. Design and provide vibration isolation systems to reduce vibration transmission to supporting structure from vibration-producing plumbing equipment and/or plumbing connections to

vibration-isolated equipment.

B. Comply with applicable general recommendations of ASHRAE (HVACA), where not in conflict with other specified requirements:

C. General Requirements:
   1. Select vibration isolators to provide required static deflection.
   2. Select vibration isolators for uniform deflection based on distributed operating weight of actual installed equipment.

D. Equipment Isolation: Alll motorized equipment.

E. Piping Isolation:
   1. Provide vibration isolators for piping supports:
      a. Located in equipment rooms.
   2. Suspended Piping, Non-Seismic Applications: Use resilient material isolator hangers, spring isolator hangers, or combination resilient material/spring isolator hangers.
   3. Use modular seal or approved resilient material where vibration-isolated piping penetrates building elements (e.g. walls, floors) arranged to prevent vibration transmission to structure.

2.02 VIBRATION ISOLATORS

A. Manufacturers:
   1. Vibration Isolators:
      a. Kinetics Noise Control, Inc: www.kineticsnoise.com/#sle.
      b. Mason Industries: www.mason-ind.com/#sle.
      c. Vibration Eliminator Company, Inc: www.veco-nyc.com/#sle.
      d. Substitutions: See Section 016000 - Product Requirements.
   2. Source Limitations: Furnish vibration-isolators and associated accessories produced by a single manufacturer and obtained from a single supplier.

B. General Requirements:
   1. Resilient Materials for Vibration Isolators: Oil, ozone, and oxidant resistant.
   2. Spring Elements for Spring Isolators:
      a. Color code or otherwise identify springs to indicate load capacity.
      b. Lateral Stability: Minimum lateral stiffness to vertical stiffness ratio of 0.8.
      c. Designed to operate in the linear portion of their load versus deflection curve over deflection range of not less than 50 percent above specified deflection.
      d. Designed to provide additional travel to solid of not less than 50 percent of rated deflection at rated load.
      e. Selected to provide designed deflection of not less than 75 percent of specified deflection.
      f. Selected to function without undue stress or overloading.

C. Vibration Isolators for Non-Seismic Applications:
   1. Resilient Material Isolator Pads:
      a. Description: Single or multiple layer pads utilizing elastomeric (e.g. neoprene, rubber) isolator material.
      b. Pad Thickness: As required for specified minimum static deflection; minimum 0.25 inch (6 mm) thickness.
      c. Multiple Layer Pads: Provide bonded, galvanized sheet metal separation plate between each layer.
   2. Resilient Material Isolator Mounts, Non-Seismic:
      a. Description: Mounting assemblies for bolting equipment to supporting structure utilizing elastomeric (e.g. neoprene, rubber) isolator material; fail-safe type.
   3. Open (Unhoused) Spring Isolators:

a. Description: Isolator assembly consisting of single or multiple free-standing, laterally stable steel spring(s) without a housing.
b. Bottom Load Plate: Non-skid molded elastomeric isolator material or steel with non-skid elastomeric isolator pad with provisions for bolting to supporting structure as required.
c. Furnished with integral leveling device for positioning and securing supported equipment.

4. Resilient Material Isolator Hangers, Non-Seismic:
   a. Description: Isolator assembly designed for installation in hanger rod suspension system utilizing elastomeric (e.g. neoprene, rubber) isolator material for the lower hanger rod connection.
5. Spring Isolator Hangers, Non-Seismic:
   a. Description: Isolator assembly designed for installation in hanger rod suspension system utilizing single or multiple free-standing, laterally stable steel spring(s) in series with an elastomeric element for the lower hanger rod connection.
   b. Designed to accommodate misalignment of bottom hanger rod up to 30 degrees (plus/minus 15 degrees) without short circuiting of isolation.
6. Combination Resilient Material/Spring Isolator Hangers, Non-Seismic:
   a. Description: Isolator assembly designed for installation in hanger rod suspension system utilizing single or multiple free-standing, laterally stable steel spring(s) for the lower hanger rod connection and elastomeric (e.g. neoprene, rubber) isolator material for the upper hanger rod connection.
   b. Designed to accommodate misalignment of bottom hanger rod up to 30 degrees (plus/minus 15 degrees) without short circuiting of isolation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as shown on the drawings.

B. Verify that mounting surfaces are ready to receive vibration isolation and/or seismic control components and associated attachments.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

C. Secure fasteners according to manufacturer's recommended torque settings.

D. Install flexible piping connections to provide sufficient slack for vibration isolation and/or seismic relative displacements as indicated or as required.

E. Vibration Isolation Systems:
   1. Spring Isolators:
      a. Position equipment at operating height; provide temporary blocking as required.
      b. Lift equipment free of isolators prior to lateral repositioning to avoid damage to isolators.
      c. Level equipment by adjusting isolators gradually in sequence to raise equipment uniformly such that excessive weight or stress is not placed on any single isolator.
   2. Isolator Hangers:
      a. Use precompressed isolator hangers where required to facilitate installation and prevent damage to equipment utility connection provisions.
      b. Locate isolator hangers at top of hanger rods in accordance with manufacturer's instructions.

3. Clean debris from beneath vibration-isolated equipment that could cause short circuiting of isolation.
4. Use elastomeric grommets for attachments where required to prevent short circuiting of isolation.
5. Adjust isolators to be free of isolation short circuits during normal operation.
6. Do not overtighten fasteners such that resilient material isolator pads are compressed beyond manufacturer's maximum recommended deflection.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect vibration isolation and/or seismic control components for damage and defects.

C. Vibration Isolation Systems:
   1. Verify isolator static deflections.
   2. Verify vibration isolation performance during normal operation; investigate sources of isolation short circuits.

D. Correct deficiencies and replace damaged or defective vibration isolation and/or seismic control components.

END OF SECTION

SECTION 220553
IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nameplates.

B. Tags.

C. Pipe markers.

1.02 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems 2020.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers catalog literature for each product required.

C. Manufacturer's Installation Instructions: Indicate special procedures, and installation.

D. Project Record Documents: Record actual locations of tagged valves.

PART 2 PRODUCTS

2.01 IDENTIFICATION APPLICATIONS

A. Piping: Pipe markers.

B. Pumps: Nameplates.

C. Tanks: Nameplates.

D. Valves: Tags.

2.02 NAMEPLATES

A. Manufacturers:
   1. Brimar Industries, Inc: www.pipemarker.com/#sle.
   2. Kolbi Pipe Marker Co: www.kolbipipemarkers.com/#sle.
   3. Seton Identification Products: www.seton.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Description: Laminated three-layer plastic with engraved letters.
   1. Letter Color: White.
   2. Letter Height: 1/4 inch (6 mm).
   3. Background Color: Black.
   4. Plastic: Comply with ASTM D709.

2.03 TAGS

A. Manufacturers:
   1. Advanced Graphic Engraving: www.advancedgraphicengraving.com/#sle.
   2. Brady Corporation: www.bradycorp.com/#sle.
   3. Brimar Industries, Inc: www.pipemarker.com/#sle.
   4. Kolbi Pipe Marker Co: www.kolbipipemarkers.com/#sle.
   5. Seton Identification Products: www.seton.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch (40 mm) diameter with smooth edges.

2.04 PIPE MARKERS

A. Manufacturers:

1. Brady Corporation: www.bradycorp.com/#sle.
2. Brimar Industries, Inc: www.pipemarker.com/#sle.
3. Kolbi Pipe Marker Co: www.kolbipipemarkers.com/#sle.
4. MIFAB, Inc: www.mifab.com/#sle.
5. Seton Identification Products: www.seton.com/#sle.
6. Substitutions: See Section 016000 - Product Requirements.

B. Comply with ASME A13.1.

C. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

D. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6 inches (150 mm) wide by 4 mil (0.10 mm) thick, manufactured for direct burial service.

E. Color code as follows:
1. Potable, Cooling, Boiler, Feed, Other Water: Green with white letters.

PART 3 EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

A. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Install tags with corrosion resistant chain.

C. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.

D. Install underground plastic pipe markers 6 to 8 inches (150 to 200 mm) below finished grade, directly above buried pipe.

E. Use tags on piping 3/4 inch (20 mm) diameter and smaller.

F. Identify service, flow direction, and pressure.

G. Install in clear view and align with axis of piping.

H. Locate identification not to exceed 20 feet (6 m) on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION

SECTION 220716
PLUMBING EQUIPMENT INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 REFERENCE STANDARDS

A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus 2019.

B. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement 2007 (Reapproved 2019).

C. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus 2021.

D. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications 2013 (Reapproved 2019).

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

F. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a.

G. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for equipment scheduled.

C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with not less than three years of experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.06 FIELD CONDITIONS

A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.

B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.02 GLASS FIBER, FLEXIBLE

A. Manufacturers:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville Corporation: www.jm.com/#sle.
   3. Knauf Insulation: www.knaufinsulation.com/#sle.
   4. Owens Corning Corp: www.owenscorning.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

B. Insulation: ASTM C553; flexible, noncombustible.
   1. K (Ksi) Value: 0.36 at 75 degrees F (0.052 at 24 degrees C), when tested in accordance with ASTM C177 or ASTM C518.
   2. Maximum Service Temperature: 450 degrees F (232 degrees C).
   3. Maximum Water Vapor Absorption: 5.0 percent by weight.

C. Vapor Barrier Jacket: Kraft paper reinforced with glass fiber yarn and bonded to aluminized film.
   1. Moisture Vapor Permeability: 0.02 perm inch (0.029 ng/Pa s m), when tested in accordance with ASTM E96/E96M.
   2. Secure with self-sealing longitudinal laps and butt strips.

D. Tie Wire: 0.048 inch (1.22 mm) stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

E. Vapor Barrier Lap Adhesive: Compatible with insulation.

F. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that equipment has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Factory Insulated Equipment: Do not insulate.

C. Exposed Equipment: Locate insulation and cover seams in least visible locations.

D. Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands.

E. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor barrier cement.

F. Insulated equipment containing fluids below ambient temperature: Insulate entire system.

G. For fiberglass insulated equipment containing fluids below ambient temperature, provide vapor barrier jackets, factory-applied or field-applied, and finish with glass cloth and vapor barrier adhesive.

H. Fiberglass insulated equipment containing fluids above ambient temperature: Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Finish with glass cloth and adhesive.

I. Inserts and Shields:
   1. Application: Equipment 1-1/2 inches (40 mm) diameter or larger.
   2. Shields: Galvanized steel between hangers and inserts.
   3. Insert location: Between support shield and equipment and under the finish jacket.
   4. Insert configuration: Minimum 6 inches (150 mm) long, of same thickness and contour as adjoining insulation; may be factory fabricated.

5. Insert material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

J. Finish insulation at supports, protrusions, and interruptions.

K. Equipment in Mechanical Equipment Rooms or Finished Spaces: Finish with canvas jacket sized for finish painting.

L. Cover glass fiber insulation with metal mesh and finish with heavy coat of insulating cement.

M. Nameplates and ASME Stamps: Bevel and seal insulation around; do not insulate over.

N. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation so it can be easily removed and replaced without damage.

END OF SECTION

SECTION 220719
PLUMBING PIPING INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Piping insulation.

B. Jackets and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus 2019.

B. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement 2007 (Reapproved 2019).

C. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement 2007 (Reapproved 2019).

D. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation 2022a.

E. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel 2008 (Reapproved 2018).

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

G. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a.

H. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.06 FIELD CONDITIONS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.02 GLASS FIBER

A. Manufacturers:

1. CertainTeed Corporation: www.certainteed.com/#sle.
2. Johns Manville Corporation: www.jm.com/#sle.
3. Knauf Insulation: www.knaufinsulation.com/#sle.
4. Owens Corning Corporation: www.ocbuildingspec.com/#sle.

B. Insulation: ASTM C547 and ASTM C795; semi-rigid, noncombustible, end grain adhered to jacket.
1. K (Ksi) Value: ASTM C177, 0.24 at 75 degrees F (0.035 at 24 degrees C).
2. Maximum Service Temperature: 650 degrees F (343 degrees C).
3. Maximum Moisture Absorption: 0.2 percent by volume.

C. Vapor Barrier Jacket: White Kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches (0.029 ng/Pa s m).

D. Tie Wire: 0.048 inch (1.22 mm) stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

E. Vapor Barrier Lap Adhesive: Compatible with insulation.

F. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.

G. Fibrous Glass Fabric:
1. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
2. Blanket: 1.0 lb/cu ft (16 kg/cu m) density.
3. Weave: 5 by 5.

H. Indoor Vapor Barrier Finish:
1. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
2. Vinyl emulsion type acrylic, compatible with insulation, white color.

I. Outdoor Vapor Barrier Mastic: Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

J. Outdoor Breather Mastic: Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

K. Insulating Cement: ASTM C449.

2.03 JACKETS

A. Canvas Jacket: UL listed 6 oz/sq yd (220 g/sq m) plain weave cotton fabric treated with dilute fire retardant lagging adhesive.
1. Lagging Adhesive: Compatible with insulation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that piping has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with North American Insulation Manufacturers Association (NAIMA) National Insulation Standards.

C. Exposed Piping: Locate insulation and cover seams in least visible locations.

D. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.

E. Glass fiber insulated pipes conveying fluids below ambient temperature:

1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

F. Glass fiber insulated pipes conveying fluids above ambient temperature:
1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples.
2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

G. Inserts and Shields:
1. Application: Piping 1-1/2 inches (40 mm) diameter or larger.
2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
3. Insert Location: Between support shield and piping and under the finish jacket.
4. Insert Configuration: Minimum 6 inches (150 mm) long, of same thickness and contour as adjoining insulation; may be factory fabricated.
5. Insert Material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

H. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 078400.

I. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces (less than 10 feet (3 meters) above finished floor): Finish with canvas jacket sized for finish painting.

END OF SECTION

SECTION 221005
PLUMBING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Pipe, pipe fittings, specialties, and connections for piping systems.
   1. Sanitary sewer.
   2. Domestic water.
   3. Flanges, unions, and couplings.
   4. Pipe hangers and supports.
   5. Valves.
   6. Relief valves.
   7. Strainers.

1.02 REFERENCE STANDARDS

A. ANSI Z21.22 - American National Standard for Relief Valves for Hot Water Supply Systems 2015 (Reaffirmed 2020).

B. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings 2021.

C. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings 2021.

D. ASME B31.9 - Building Services Piping 2020.

E. ASME BPVC-IV - Boiler and Pressure Vessel Code, Section IV - Rules for Construction of Heating Boilers 2021.

F. ASTM B32 - Standard Specification for Solder Metal 2020.

G. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes 2020.

H. ASTM B813 - Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube 2016.

I. ASTM B828 - Standard Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings 2016.

J. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems 2020.

K. ASTM D2665 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings 2020.

L. ASTM D2846/D2846M - Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems 2019a.

M. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets 2020.

N. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings 2021.

O. ASTM F437 - Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80 2021.

P. ASTM F438 - Standard Specification for Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40 2017.

Q. ASTM F439 - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80 2019.

R. ASTM F441/F441M - Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80 2020.

S. ASTM F442/F442M - Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR) 2020.

T. ASTM F493 - Standard Specification for Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings 2022.

U. ASTM F876 - Standard Specification for Crosslinked Polyethylene (PEX) Tubing 2023.

V. ASTM F877 - Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems 2023.

W. ASTM F1960 - Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-Linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing 2023.

X. AWS A5.8M/A5.8 - Specification for Filler Metals for Brazing and Braze Welding 2019.

Y. AWWA C651 - Disinfecting Water Mains 2014, with Addendum (2020).

Z. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. through 60 In. (100 mm through 1500 mm) 2022.

AA. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).

BB. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends 2010, with Errata .

CC. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.

DD. NSF 372 - Drinking Water System Components - Lead Content 2022.

EE. PPI TR-4 - PPI HSB Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe 2021.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

C. Project Record Documents: Record actual locations of valves.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with applicable codes.

B. Valves: Manufacturer's name and pressure rating marked on valve body.

C. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

C. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.06 FIELD CONDITIONS

A. Do not install underground piping when bedding is wet or frozen.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET (1500 MM) OF BUILDING

A. PVC Pipe: ASTM D2665 or ASTM D3034.
   1. Fittings: PVC.
   2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.03 SANITARY SEWER PIPING, ABOVE GRADE

A. PVC Pipe: ASTM D2665.
   1. Fittings: PVC.
   2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.04 DOMESTIC WATER PIPING, BURIED BEYOND 5 FEET (1500 MM) OF BUILDING

A. Copper Pipe: ASTM B42, hard drawn, type K, polyethelene coated.
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22 wrought copper and bronze.
   2. Joints: ASTM B32, alloy Sn95 solder.
   3. Joints: AWS A5.8M/A5.8, BCuP copper/silver braze.

B. PVC Pipe: AWWA C900.

2.05 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET (1500 MM) OF BUILDING

A. Copper Pipe: ASTM B42, annealed type K, polyethelene coated.
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22 wrought copper and bronze.

B. PVC Pipe: AWWA C900.

2.06 DOMESTIC WATER PIPING, ABOVE GRADE

A. For 2-1/2" or Larger: CPVC Pipe: ASTM D2846/D2846M, ASTM F441/F441M, or ASTM F442/F442M.
   1. Fittings: CPVC; ASTM D2846/D2846M, ASTM F437, ASTM F438, or ASTM F439.
   2. Joints: ASTM D2846/D2846M, solvent weld with ASTM F493 solvent cement.

B. 2" or Smaller: Cross-Linked Polyethylene (PEX) Pipe (Sticks): ASTM F876 or ASTM F877.
   1. Manufacturers:
      a. Uponor, Inc.: www.uponorpro.com.
      b. Zurn Industries, LLC: www.zurn.com.
      c. Substitutions: See Section 016000 - Product Requirements.
   2. PPI TR-4 Pressure Design Basis:
   3. Fittings: Brass and engineered polymer (EP) ASTM F1960.
   4. Joints: ASTM F1960 cold-expansion fittings.

2.07 FLANGES, UNIONS, AND COUPLINGS

A. Unions for Pipe Sizes 3 Inches (80 mm) and Under:
   1. Copper tube and pipe: Class 150 bronze unions with soldered joints.

B. Flanges for Pipe Size Over 1 Inch (25 mm):
   1. Copper Tube and Pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.

C. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.08 PIPE HANGERS AND SUPPORTS

A. Provide hangers and supports that comply with MSS SP-58.

1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
3. Trapeze Hangers: Welded steel channel frames attached to structure.
4. Vertical Pipe Support: Steel riser clamp.

B. Plumbing Piping - Drain, Waste, and Vent:
1. Hangers for Pipe Sizes 1/2 Inch (15 mm) to 1-1/2 Inches (40 mm): Malleable iron, adjustable swivel, split ring.
2. Hangers for Pipe Sizes 2 Inches (50 mm) and Over: Carbon steel, adjustable, clevis.
3. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

C. Plumbing Piping - Water:
1. Hangers for Pipe Sizes 1/2 Inch (15 mm) to 1-1/2 Inches (40 mm): Malleable iron, adjustable swivel, split ring.
2. Hangers for Cold Pipe Sizes 2 Inches (50 mm) and Over: Carbon steel, adjustable, clevis.
3. Wall Support for Pipe Sizes to 3 Inches (80 mm): Cast iron hook.
4. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

D. Hanger Fasteners: Attach hangers to structure using appropriate fasteners, as follows:
1. Other Types: As required.

2.09 BALL VALVES

A. Manufacturers:
1. Conbraco Industries, Inc: www.apollovalves.com.
2. Grinnell Products, a Tyco Business: www.grinnell.com.
3. Milwaukee Valve Company: www.milwaukeevalve.com.
4. Nibco, Inc: www.nibco.com.
5. Uponor, Inc: www.uponorpro.com.
6. Substitutions: See Section 016000 - Product Requirements.

B. Construction, 4 Inches (100 mm) and Smaller: MSS SP-110, Class 150, 400 psi (2760 kPa) CWP, bronze body, 304 stainless steel or chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle, solder or threaded ends with union.

2.10 RELIEF VALVES

A. Temperature and Pressure:
1. Manufacturers:
a. Watts Regulator Company: www.wattsregulator.com.
b. Substitutions: See Section 016000 - Product Requirements.
2. ANSI Z21.22, AGA certified, bronze body, teflon seat, stainless steel stem and springs, automatic, direct pressure actuated, temperature relief maximum 210 degrees F (98.9 degrees C), capacity ASME BPVC-IV certified and labelled.

2.11 STRAINERS

A. Manufacturers:
1. Armstrong International, Inc: www.armstronginternational.com.
2. Green Country Filter Manufacturing: www.greencountryfilter.com.
3. WEAMCO: www.weamco.com.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that excavations are to required grade, dry, and not over-excavated.

3.02 PREPARATION

A. Ream pipe and tube ends. Remove burrs.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

D. Install piping to maintain headroom, conserve space, and not interfere with use of space.

E. Group piping whenever practical at common elevations.

F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. Refer to Section 220516.

G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.

H. Provide access where valves and fittings are not exposed.

I. Establish elevations of buried piping outside the building to ensure not less than [2.5] ft ([_____] m) of cover.

J. Install vent piping penetrating roofed areas to maintain integrity of roof assembly; refer to Section [_____].

K. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

L. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting.

M. Install bell and spigot pipe with bell end upstream.

N. Install valves with stems upright or horizontal, not inverted. Refer to Section 220523.

O. Install water piping to ASME B31.9.

P. Copper Pipe and Tube: Make soldered joints in accordance with ASTM B828, using specified solder, and flux meeting ASTM B813; in potable water systems use flux also complying with NSF 61 and NSF 372.

Q. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.

R. Sleeve pipes passing through partitions, walls and floors.

S. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9.
   2. Support horizontal piping as indicated.
   3. Install hangers to provide minimum 1/2 inch (15 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Use hangers with 1-1/2 inch (40 mm) minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
   6. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   7. Provide sheet lead packing between hanger or support and piping.
   8. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

T. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

3.04 APPLICATION

A. Install unions downstream of valves and at equipment or apparatus connections.

B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

C. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.

3.05 TOLERANCES

A. Drainage Piping: Establish invert elevations within 1/2 inch (10 mm) vertically of location indicated and slope to drain at minimum of 1/4 inch per foot (1:50) slope.

B. Water Piping: Slope at minimum of 1/32 inch per foot (1:400) and arrange to drain at low points.

3.06 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Disinfect water distribution system in accordance with Section 330110.58.

B. Prior to starting work, verify system is complete, flushed and clean.

C. Ensure acidity (pH) of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).

D. Inject disinfectant, free chlorine in liquid, powder, tablet or gas form, throughout system to obtain 50 to 80 mg/L residual.

E. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.

F. Maintain disinfectant in system for 24 hours.

G. If final disinfectant residual tests less than 25 mg/L, repeat treatment.

H. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.

I. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

3.07 SCHEDULES

A. Pipe Hanger Spacing:
   1. Metal Piping:
      a. Pipe Size: 1/2 inches (15 mm) to 1-1/4 inches (32 mm):
         1) Maximum Hanger Spacing: 6.5 ft (2 m).
         2) Hanger Rod Diameter: 3/8 inches (9 mm).
      b. Pipe Size: 1-1/2 inches (40 mm) to 2 inches (50 mm):
         1) Maximum Hanger Spacing: 10 ft (3 m).
         2) Hanger Rod Diameter: 3/8 inch (9 mm).
   2. Plastic Piping:
      a. All Sizes:
         1) Maximum Hanger Spacing: 6 ft (1.8 m).
         2) Hanger Rod Diameter: 3/8 inch (9 mm).

END OF SECTION

SECTION 221006
PLUMBING PIPING SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Drains.

B. Cleanouts.

C. Water hammer arrestors.

D. Mixing valves.

1.02 REFERENCE STANDARDS

A. ASME A112.6.3 - Floor and Trench Drains 2019.

B. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.

C. NSF 372 - Drinking Water System Components - Lead Content 2022.

D. PDI-WH 201 - Water Hammer Arresters 2017.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.

C. Shop Drawings: Indicate dimensions, weights, and placement of openings and holes.

D. Manufacturer's Instructions: Indicate Manufacturer's Installation Instructions: Indicate assembly and support requirements.

E. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

F. Project Record Documents: Record actual locations of equipment, cleanouts, backflow preventers, water hammer arrestors.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Loose Keys for Outside Hose Bibbs: Two.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept specialties on site in original factory packaging. Inspect for damage.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Specialties in Potable Water Supply Systems: Provide products that comply with NSF 61 and NSF 372 for maximum lead content.

2.02 DRAINS

A. Manufacturers:
   1. Jay R. Smith Manufacturing Company: www.jayrsmith.com/#sle.
   2. Josam Company: www.josam.com/#sle.
   3. Zurn Industries, LLC; [_____]: www.zurn.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Area Drains: As scheduled.

C. Floor Drains: As scheduled.

2.03 CLEANOUTS

A. Manufacturers:
   1. Jay R. Smith Manufacturing Company: www.jayrsmith.com/#sle.
   2. Josam Company: www.josam.com/#sle.
   3. Zurn Industries, LLC: www.zurn.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Cleanouts at Interior Finished Floor Areas: As scheduled.
   1. Lacquered cast iron body with anchor flange, reversible clamping collar, threaded top assembly, and round gasketed scored cover in service areas and round gasketed depressed cover to accept floor finish in finished floor areas.

C. Cleanouts at Interior Finished Wall Areas: As scheduled.
   1. Line type with lacquered cast iron body and round epoxy coated gasketed cover, and round stainless steel access cover secured with machine screw.

2.04 WATER HAMMER ARRESTORS

A. Manufacturers:
   1. Jay R. Smith Manufacturing Company; [_____]: www.jayrsmith.com/#sle.
   2. Watts Regulator Company, a part of Watts Water Technologies; [_____]: www.wattsregulator.com/#sle.
   3. Zurn Industries, LLC; [_____]: www.zurn.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Water Hammer Arrestors:
   1. Stainless steel construction, bellows type sized in accordance with PDI-WH 201, precharged suitable for operation in temperature range 34 to 250 degrees F (1 to 120 degrees C) and maximum 150 psi (1000 kPa) working pressure.

2.05 MIXING VALVES

A. Thermostatic Mixing Valves:
   1. Manufacturers:
      a. Cash Acme, a brand of Reliance Worldwide Corporation; [_____]: www.cashacme.com/#sle.
      b. ESBE; [_____]: www.esbe.se/en.
      c. Honeywell International Inc; [_____]: www.honeywellhome.com/#sle.
   2. Valve: Chrome plated cast brass body, stainless steel or copper alloy bellows, integral temperature adjustment.

B. Pressure Balanced Mixing Valves:
   1. Manufacturers: As scheduled.
   2. Valve: Chrome plated cast brass body, stainless steel cylinder, integral temperature adjustment.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

C. Encase exterior cleanouts in concrete flush with grade.

D. Install floor cleanouts at elevation to accommodate finished floor.

E. Install approved potable water protection devices on plumbing lines where contamination of domestic water may occur; on boiler feed water lines, janitor rooms, fire sprinkler systems,

premise isolation, irrigation systems, flush valves, interior and exterior hose bibbs.

F. Pipe relief from backflow preventer to nearest drain.

G. Install water hammer arrestors complete with accessible isolation valve on hot and cold water supply piping to lavatory sinks or washing machine outlets.

SECTION 223000
PLUMBING EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water Heaters:
   1. Commercial electric.

1.02 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittals procedures.

B. Product Data:
   1. Provide dimension drawings of water heaters indicating components and connections to other equipment and piping.
   2. Indicate pump type, capacity, power requirements.
   3. Provide electrical characteristics and connection requirements.

C. Shop Drawings:
   1. Indicate dimensions of tanks, tank lining methods, anchors, attachments, lifting points, tappings, and drains.

D. Operation and Maintenance Data: Include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.

E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

B. Certifications:
   1. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

C. Identification: Provide pumps with manufacturer's name, model number, and rating/capacity identified by permanently attached label.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

1.05 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Provide five year manufacturer warranty for water storage tanks.

PART 2 PRODUCTS

2.01 WATER HEATERS

A. Manufacturers:
   1. Rheem Manufacturing Company; [_____]: www.rheem.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Commercial Electric:
   1. Type: Factory-assembled and wired, electric, vertical storage.
   2. Tank: Welded steel ASME labeled pressure vessel; glass lining, mounted on steel channel base with lifting lugs, insulated with 2 inch (50 mm) glass fiber; enclosed with 16 gage, 0.0598 inch (1.52 mm) steel jacket; baked enamel finish.
   3. Controls: Ventilated control cabinet, factory-wired with solid state progressive sequencing step controller, fuses, magnetic contactors, control transformer, pilot lights indicating main

power and heating steps, control circuit toggle switch, electronic low-water (probe-type) cut-off, high temperature limit thermostat, flush-mounted temperature and pressure gauges.

4. Heating Elements: Flange-mounted immersion elements; individual elements sheathed with Incoloy corrosion-resistant metal alloy, rated less than 75 W/sq in (11.6 W/sq m).

2.02 ELECTRICAL WORK

A. Electrical characteristics to be as specified or indicated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install plumbing equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions of certification, if any.

B. Coordinate with plumbing piping and related electrical work to achieve operating system.

END OF SECTION

SECTION 224000
PLUMBING FIXTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water closets.

B. Urinals.

C. Lavatories.

D. Under-lavatory pipe supply covers.

1.02 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

B. ASME A112.6.1M - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use 1997 (Reaffirmed 2017).

C. ASME A112.18.1 - Plumbing Supply Fittings 2018, with Errata.

D. ASME A112.19.2 - Ceramic Plumbing Fixtures 2018, with Errata.

E. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.

F. NSF 372 - Drinking Water System Components - Lead Content 2022.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

C. Manufacturer's Instructions: Indicate installation methods and procedures.

D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.

E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept fixtures on site in factory packaging. Inspect for damage.

B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 REGULATORY REQUIREMENTS

A. Comply with applicable codes for installation of plumbing systems.

B. Comply with UL (DIR) requirements.

C. Perform work in accordance with local health department regulations.

D. Provide certificate of compliance from Authority Having Jurisdiction indicating approval of installation.

2.03 FLUSH VALVE WATER CLOSETS

A. Water Closets: Vitreous china, ASME A112.19.2, floor mounted, siphon jet flush action, china bolt caps.
   1. Bowl: ASME A112.19.2; 18 inches (450 mm) high with elongated rim.
   2. Flush Valve: Exposed (top spud).
   3. Flush Operation: Sensor operated.
   4. Color: White.
   5. Manufacturers:
      a. American Standard, Inc: www.americanstandard-us.com/#sle.
      b. Kohler Company: www.kohler.com/#sle.
      c. Sl

B. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
   1. Manufacturers:
      a. Sloan Valve Company: www.sloanvalve.com/#sle.
      b. No substitutions

C. Seats:
   1. Manufacturers:
      a. American Standard, Inc: www.americanstandard-us.com/#sle.
      b. Bemis Manufacturing Company: www.bemismfg.com/#sle.
      c. Church Seat Company: www.churchseats.com/#sle.
      d. Olsonite: www.olsonite.com/#sle.
      e. Zurn Industries, Inc: www.zurn.com/#sle.
      f. Substitutions: See Section 016000 - Product Requirements.
   2. Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, with cover.

2.04 WALL HUNG URINALS

A. Wall Hung Urinal Manufacturers:
   1. American Standard, Inc: www.americanstandard-us.com/#sle.
   2. Kohler Company: www.kohler.com/#sle.
   3. Zurn Industries, Inc: www.zurn.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Urinals: Vitreous china, ASME A112.19.2, wall hung with side shields and concealed carrier.
   1. Flush Volume: 0.125 gallons (0.47 liters), maximum.
   2. Flush Valve: Exposed (top spud).
   3. Flush Operation: Sensor operated.
   4. Trap: Integral.
   5. Removable stainless steel strainer.
   6. Supply Size: 3/4 inch (19 mm).
   7. Outlet Size: 2 inches (50 mm).

C. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
   1. Manufacturers:
      a. American Standard, Inc: www.americanstandard-us.com/#sle.
      b. Sloan Valve Company: www.sloanvalve.com/#sle.
      c. Zurn Industries, Inc: www.zurn.com/#sle.

d. Substitutions: See Section 016000 - Product Requirements.

D. Carriers:
1. Manufacturers:
a. JOSAM Company: www.josam.com/#sle.
b. Zurn Industries, Inc: www.zurn.com/#sle.
c. Substitutions: See Section 016000 - Product Requirements.
2. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

2.05 LAVATORIES

A. Lavatory Manufacturers:
1. American Standard, Inc: www.americanstandard-us.com/#sle.
2. Kohler Company: www.kohler.com/#sle.
3. Zurn Industries, Inc: www.zurn.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

B. Vitreous China Wall Hung Basin: As scheduled.

C. Supply Faucet Manufacturers:
1. Sloan.
2. Substitutions: See Section 016000 - Product Requirements.

D. Supply Faucet: ASSE 1070, ASME A112.18.1; chrome plated combination supply fitting with open grid strainer, water economy aerator with maximum flow of 0.5 gallon per minute (low-flow) (1.9 liters per minute (low-flow)), single lever handle.

E. Accessories:
1. Chrome plated 17 gage, 0.0538 inch (1.37 mm) brass P-trap with clean-out plug and arm with escutcheon.
2. Offset waste with perforated open strainer.
3. Wheel handle stops.
4. Rigid supplies.
5. Carrier:
a. Manufacturers:
1) JOSAM Company; [_____]: www.josam.com/#sle.
2) Zurn Industries, Inc; [_____]: www.zurn.com/#sle.
3) Substitutions: See Section 016000 - Product Requirements.
b. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded studs for fixture hanger, bearing plate and studs.

2.06 UNDER-LAVATORY PIPE SUPPLY COVERS

A. General:
1. Insulate exposed drainage piping including hot, cold and tempered water supplies under lavatories or sinks per ADA Standards.
2. Exterior Surfaces: Smooth nonabsorbent with no finger recessed indentations for easy cleaning.
3. Color: High gloss white.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.

B. Verify that electric power is available and of the correct characteristics.

C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.02 PREPARATION

A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.03 INSTALLATION

A. Install each fixture with trap, easily removable for servicing and cleaning.

B. Provide chrome plated rigid supplies to fixtures with loose key stops, reducers, and escutcheons.

C. Install components level and plumb.

D. Install and secure fixtures in place with wall carriers and bolts.

E. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS

A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.05 ADJUSTING

A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.06 CLEANING

A. Clean plumbing fixtures and equipment.

3.07 PROTECTION

A. Protect installed products from damage due to subsequent construction operations.

B. Do not permit use of fixtures by construction personnel.

C. Repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 230529
HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment components for equipment, piping, and other HVAC/hydronic work.

1.02 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel 2023.

D. MFMA-4 - Metal Framing Standards Publication 2004.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 033000.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for channel (strut) framing systems and post-installed concrete and masonry anchors.

C. Shop Drawings: Include details for fabricated hangers and supports.
   1. Application of protective inserts, saddles, and shields at pipe hangers for each type of insulation and hanger.

D. Installer's Qualifications: Include evidence of compliance with specified requirements.

E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.05 QUALITY ASSURANCE

A. Comply with applicable building code.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Comply with MSS SP-58.

2. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of plumbing work.
3. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
5. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
6. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
    a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
    b. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
    c. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
1. Manufacturers:
    a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com/#sle.
    b. Thomas & Betts Corporation: www.tnb.com/#sle.
    c. Unistrut, a brand of Atkore International Inc: www.unistrut.com/#sle.
    d. Substitutions: See Section 016000 - Product Requirements.
    e. Source Limitations: Furnish channels (struts) and associated fittings, accessories, and hardware produced by a single manufacturer.
2. Provide factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
3. Comply with MFMA-4.
4. Channel Material:
    a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
5. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch (2.66 mm).
6. Minimum Channel Dimensions: 1-5/8 inch (41 mm) width by 13/16 inch (21 mm) height.

C. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
1. Minimum Size, Unless Otherwise Indicated or Required:
    a. Equipment Supports: 1/2 inch (13 mm) diameter.
    b. Piping up to 1 inch (27 mm) nominal: 1/4 inch (6 mm) diameter.
    c. Piping larger than 1 inch (27 mm) nominal: 3/8 inch (10 mm) diameter.
    d. Trapeze Support for Multiple Pipes: 3/8 inch (10 mm) diameter.

D. Anchors and Fasteners:
1. Manufacturers - Mechanical Anchors:
    a. Hilti, Inc: www.us.hilti.com/#sle.
    b. ITW Red Head, a division of Illinois Tool Works, Inc: www.itwredhead.com/#sle.
    c. Powers Fasteners, Inc: www.powers.com/#sle.
    d. Simpson Strong-Tie Company Inc: www.strongtie.com/#sle.
    e. Substitutions: See Section 016000 - Product Requirements.
2. Manufacturers - Powder-Actuated Fastening Systems:
    a. Hilti, Inc: www.us.hilti.com/#sle.
    b. ITW Ramset, a division of Illinois Tool Works, Inc: www.ramset.com/#sle.
    c. Powers Fasteners, Inc: www.powers.com/#sle.

d. Simpson Strong-Tie Company Inc: www.strongtie.com/#sle.
e. Substitutions: See Section 016000 - Product Requirements.

3. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
4. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
5. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
6. Hollow Masonry: Use toggle bolts.
7. Hollow Stud Walls: Use toggle bolts.
8. Steel: Use beam clamps, machine bolts, or welded threaded studs.
9. Sheet Metal: Use sheet metal screws.
10. Plastic and lead anchors are not permitted.
11. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
    a. Comply with MFMA-4.
    b. Channel Material: Use galvanized steel.
    c. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch (2.66 mm) minimum base metal thickness.
    d. Manufacturer: Same as manufacturer of metal channel (strut) framing system.
12. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

C. Provide independent support from building structure. Do not provide support from piping, ductwork, conduit, or other systems.

D. Unless specifically indicated or approved by Engineer/Architect, do not provide support from suspended ceiling support system or ceiling grid.

E. Unless specifically indicated or approved by Engineer/Architect, do not provide support from roof deck.

F. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

G. Equipment Support and Attachment:
    1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
    2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
    3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
    4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

H. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.

I. Secure fasteners according to manufacturer's recommended torque settings.

J. Remove temporary supports.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect support and attachment components for damage and defects.

C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 230548
VIBRATION AND SEISMIC CONTROLS FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vibration isolation requirements.

B. Vibration isolators.

C. Vibration-isolated and/or seismically engineered roof curbs.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ASHRAE (HVACA) - ASHRAE Handbook - HVAC Applications Most Recent Edition Cited by Referring Code or Reference Standard.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate selection and arrangement of vibration isolation and/or seismic control components with the actual equipment to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 033000.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for products, including materials, fabrication details, dimensions, and finishes.
   1. Vibration Isolators: Include rated load capacities and deflections; include information on color coding or other identification method for spring element load capacities.

C. Shop Drawings - Vibration Isolation Systems:
   1. Include dimensioned plan views and sections indicating proposed arrangement of vibration isolators; indicate equipment weights and static deflections.

D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.06 QUALITY ASSURANCE

A. Comply with applicable building code.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of experience.

C. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 VIBRATION ISOLATION REQUIREMENTS

A. Design and provide vibration isolation systems to reduce vibration transmission to supporting structure from vibration-producing HVAC equipment and/or HVAC connections to vibration-isolated equipment.

B. Comply with applicable general recommendations of ASHRAE (HVACA), where not in conflict with other specified requirements:

C. General Requirements:
   1. Select vibration isolators to provide required static deflection.
   2. Select vibration isolators for uniform deflection based on distributed operating weight of actual installed equipment.
   3. Select vibration isolators for outdoor equipment to comply with wind design requirements.
   4. Select vibration-isolated equipment support bases and associated vibration isolators to provide minimum 2 inch (50 mm) operating clearance beneath base unless otherwise indicated.

D. Equipment Isolation: As indicated on drawings.

2.02 MANUFACTURERS

A. Kinetics Noise Control, Inc: www.kineticsnoise.com.

B. Mason Industries: www.mason-ind.com.

2.03 VIBRATION ISOLATORS

A. Manufacturers:
   1. Vibration Isolators:
      a. Kinetics Noise Control, Inc: www.kineticsnoise.com/#sle.
      b. Mason Industries: www.mason-ind.com/#sle.
   2. Source Limitations: Furnish vibration-isolators and associated accessories produced by a single manufacturer and obtained from a single supplier.

B. General Requirements:
   1. Resilient Materials for Vibration Isolators: Oil, ozone, and oxidant resistant.
   2. Spring Elements for Spring Isolators:
      a. Color code or otherwise identify springs to indicate load capacity.
      b. Lateral Stability: Minimum lateral stiffness to vertical stiffness ratio of 0.8.
      c. Designed to operate in the linear portion of their load versus deflection curve over deflection range of not less than 50 percent above specified deflection.
      d. Designed to provide additional travel to solid of not less than 50 percent of rated deflection at rated load.
      e. Selected to provide designed deflection of not less than 75 percent of specified deflection.
      f. Selected to function without undue stress or overloading.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as shown on the drawings.

B. Verify that mounting surfaces are ready to receive vibration isolation and/or seismic control components and associated attachments.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

C. Secure fasteners according to manufacturer's recommended torque settings.

D. Install flexible piping connections to provide sufficient slack for vibration isolation and/or seismic relative displacements as indicated or as required.

E. Vibration Isolation Systems:
   1. Spring Isolators:
      a. Position equipment at operating height; provide temporary blocking as required.
      b. Lift equipment free of isolators prior to lateral repositioning to avoid damage to isolators.
      c. Level equipment by adjusting isolators gradually in sequence to raise equipment uniformly such that excessive weight or stress is not placed on any single isolator.
   2. Isolator Hangers:
      a. Use precompressed isolator hangers where required to facilitate installation and prevent damage to equipment utility connection provisions.
      b. Locate isolator hangers at top of hanger rods in accordance with manufacturer's instructions.
   3. Clean debris from beneath vibration-isolated equipment that could cause short circuiting of isolation.
   4. Use elastomeric grommets for attachments where required to prevent short circuiting of isolation.
   5. Adjust isolators to be free of isolation short circuits during normal operation.
   6. Do not overtighten fasteners such that resilient material isolator pads are compressed beyond manufacturer's maximum recommended deflection.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect vibration isolation and/or seismic control components for damage and defects.

C. Vibration Isolation Systems:
   1. Verify isolator static deflections.
   2. Verify required clearance beneath vibration-isolated equipment support bases.
   3. Verify vibration isolation performance during normal operation; investigate sources of isolation short circuits.

D. Correct deficiencies and replace damaged or defective vibration isolation and/or seismic control components.

END OF SECTION

SECTION 230553
IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nameplates.

B. Tags.

C. Adhesive-backed duct markers.

1.02 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Identification painting.

1.03 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems 2020.

B. ASTM D709 - Standard Specification for Laminated Thermosetting Materials 2017.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. List: Submit list of wording, symbols, letter size, and color coding for mechanical identification.

C. Chart and Schedule: Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

D. Product Data: Provide manufacturers catalog literature for each product required.

E. Project Record Documents: Record actual locations of tagged valves.

PART 2 PRODUCTS

2.01 IDENTIFICATION APPLICATIONS

A. Air Handling Units: Nameplates.

B. Air Terminal Units: Tags.

C. Control Panels: Nameplates.

D. Ductwork: Nameplates.

E. Instrumentation: Tags.

F. Major Control Components: Nameplates.

G. Piping: Tags.

H. Small-sized Equipment: Tags.

I. Thermostats: Nameplates.

2.02 NAMEPLATES

A. Manufacturers:
   1. Advanced Graphic Engraving, LLC; [_____]: www.advancedgraphicengraving.com/#sle.
   2. Brimar Industries, Inc; [_____]: www.pipemarker.com/#sle.
   3. Seton Identification Products, a Tricor Direct Company; [_____]: www.seton.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Letter Color: White.

C. Letter Height: 1/4 inch (6 mm).

D. Background Color: Black.

E. Plastic: Comply with ASTM D709.

2.03 TAGS

A. Manufacturers:
   1. Advanced Graphic Engraving; [_____]: www.advancedgraphicengraving.com/#sle.
   2. Brady Corporation; [_____]: www.bradycorp.com/#sle.
   3. Brimar Industries, Inc; [_____]: www.pipemarker.com/#sle.
   4. Kolbi Pipe Marker Co; [_____]: www.kolbipipemarkers.com/#sle.
   5. Seton Identification Products, a Tricor Company; [_____]: www.seton.com/#sle.

B. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch (40 mm) diameter with smooth edges.

C. Valve Tag Chart: Typewritten letter size list in anodized aluminum frame.

2.04 ADHESIVE-BACKED DUCT MARKERS

A. Manufacturers:
   1. Brimar Industries, Inc; [_____]: www.pipemarker.com/#sle.

PART 3 EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Install tags with corrosion resistant chain.

C. Apply stencil painting in accordance with Section 099123.

D. Install plastic pipe markers in accordance with manufacturer's instructions.

E. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.

F. Install underground plastic pipe markers 6 to 8 inches (150 to 200 mm) below finished grade, directly above buried pipe.

G. Use tags on piping 3/4 inch (20 mm) diameter and smaller.
   1. Identify service, flow direction, and pressure.
   2. Install in clear view and align with axis of piping.
   3. Locate identification not to exceed 20 feet (6 m) on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

H. Install ductwork with plastic nameplates. Identify with air handling unit identification number and area served. Locate identification at air handling unit, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION

SECTION 232300
REFRIGERANT PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Piping.

B. Refrigerant.

C. Moisture and liquid indicators.

D. Valves.

E. Strainers.

F. Filter-driers.

1.02 REFERENCE STANDARDS

A. ASHRAE Std 15 - Safety Standard for Refrigeration Systems 2019, with All Amendments and Errata.

B. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings 2021.

C. ASME B31.5 - Refrigeration Piping and Heat Transfer Components 2022.

D. ASME B31.9 - Building Services Piping 2020.

E. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service 2020.

F. AWS A5.8M/A5.8 - Specification for Filler Metals for Brazing and Braze Welding 2019.

G. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).

H. UL 429 - Electrically Operated Valves Current Edition, Including All Revisions.

1.03 SYSTEM DESCRIPTION

A. Where more than one piping system material is specified ensure system components are compatible and joined to ensure the integrity of the system is not jeopardized. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

B. Provide pipe hangers and supports in accordance with ASME B31.5 unless indicated otherwise.

C. Liquid Indicators:
   1. Use line size liquid indicators in main liquid line leaving condenser.
   2. Use line size on leaving side of liquid solenoid valves.

D. Strainers:
   1. Use line size strainer upstream of each automatic valve.

E. Filter-Driers:
   1. Use a filter-drier immediately ahead of liquid-line controls, such as thermostatic expansion valves, solenoid valves, and moisture indicators.
   2. Use replaceable core filter-driers in lines of 1/2 inch (13 mm) outside diameter or greater.
   3. Use filter-driers for each solenoid valve.

F. Solenoid Valves:
   1. Use in liquid line of systems operating with single pump-out or pump-down compressor control.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide general assembly of specialties, including manufacturers catalogue information. Provide manufacturers catalog data including load capacity.

C. Project Record Documents: Record exact locations of equipment and refrigeration accessories on record drawings.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store piping and specialties in shipping containers with labeling in place.

B. Protect piping and specialties from entry of contaminating material by leaving end caps and plugs in place until installation.

C. Dehydrate and charge components such as piping and receivers, seal prior to shipment, until connected into system.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Comply with ASME B31.9 for installation of piping system.

B. Products Requiring Electrical Connection: Listed and classified by UL, as suitable for the purpose indicated.

C. Copper Tube: ASTM B280, H58 hard drawn or O60 soft annealed.
   1. Fittings: ASME B16.22 wrought copper.
   2. Joints: Braze, AWS A5.8M/A5.8 BCuP silver/phosphorus/copper alloy.

D. Copper Tube to 7/8 inch (22 mm) OD: ASTM B88 (ASTM B88M), Type K (A), annealed.

E. Pipe Supports and Anchors:
   1. Provide hangers and supports that comply with MSS SP-58.
      a. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch (13 to 38 mm): Malleable iron adjustable swivel, split ring.
   3. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   4. Wall Support for Pipe Sizes to 3 Inches (75 mm): Cast iron hook.
   5. Vertical Support: Steel riser clamp.
   6. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   7. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.
   8. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.
   9. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.02 MOISTURE AND LIQUID INDICATORS

A. Manufacturers:
   1. Henry Technologies: www.henrytech.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Indicators: Single port type, UL listed, with copper or brass body, flared or solder ends, sight glass, color coded paper moisture indicator with removable element cartridge and plastic cap; for maximum temperature of 200 degrees F (93 degrees C) and maximum working pressure of

500 psi (3450 kPa).

2.03 VALVES

A. Manufacturers:
   1. Hansen Technologies Corporation: www.hantech.com/#sle.
   2. Henry Technologies: www.henrytech.com/#sle.
   3. Flomatic Valves: www.flomatic.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Diaphragm Packless Valves:
   1. UL listed, globe or angle pattern, forged brass body and bonnet, phosphor bronze and stainless steel diaphragms, rising stem and handwheel, stainless steel spring, nylon seat disc, solder or flared ends, with positive backseating; for maximum working pressure of 500 psi (3450 kPa) and maximum temperature of 275 degrees F (135 degrees C).

C. Packed Angle Valves:
   1. Forged brass or nickel plated forged steel, forged brass seal caps with copper gasket, rising stem and seat with backseating, molded stem packing, solder or flared ends; for maximum working pressure of 500 psi (3450 kPa) and maximum temperature of 275 degrees F (135 degrees C).

D. Ball Valves:
   1. Two piece bolted forged brass body with teflon ball seals and copper tube extensions, brass bonnet and seal cap, chrome plated ball, stem with neoprene ring stem seals; for maximum working pressure of 500 psi (3450 kPa) and maximum temperature of 300 degrees F (149 degrees C).

E. Service Valves:
   1. Forged brass body with copper stubs, brass caps, removable valve core, integral ball check valve, flared or solder ends, for maximum pressure of 500 psi (3450 kPa).

2.04 STRAINERS

A. Manufacturers:
   1. Hansen Technologies Corporation: www.hantech.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Straight Line or Angle Line Type:

2.05 CHECK VALVES

A. Manufacturers:
   1. Hansen Technologies Corporation: www.hantech.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Globe Type:
   1. Cast bronze or forged brass body, forged brass cap with neoprene seal, brass guide and disc holder, phosphor-bronze or stainless steel spring, teflon seat disc; for maximum temperature of 300 degrees F (149 degrees C) and maximum working pressure of 425 psi (2930 kPa).

C. Straight Through Type:
   1. Brass body and disc, phosphor-bronze or stainless steel spring, neoprene seat; for maximum working pressure of 500 psi (3450 kPa) and maximum temperature of 200 degrees F (93 degrees C).

2.06 FILTER-DRIERS

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.
   5. Pressure Drop: 2 psi (14 kPa), maximum, when operating at full connected evaporator capacity.
   6. Replaceable Core Type: Steel shell with removable cap.
   7. Sealed Type: Copper shell.
   8. Connections: As specified for applicable pipe type.

2.07 SOLENOID VALVES

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Valve: AHRI 760 I-P, pilot operated, copper, brass or steel body and internal parts, synthetic seat, stainless steel stem and plunger assembly (permitting manual operation in case of coil failure), integral strainer, with flared, solder, or threaded ends; for maximum working pressure of 500 psi (3450 kPa).

C. Coil Assembly: UL 429 UL listed, replaceable with molded electromagnetic coil, moisture and fungus proof, with surge protector and color coded lead wires, integral junction box with pilot light.

2.08 EXPANSION VALVES

A. Manufacturers:
   1. Flow Controls Division of Emerson Electric: www.emersonflowcontrols.com/#sle.
   2. Parker Hannifin/Refrigeration and Air Conditioning: www.parker.com/#sle.
   3. Sporlan, a Division of Parker Hannifin: www.parker.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Angle or Straight Through Type: AHRI 750; design suitable for refrigerant, brass body, internal or external equalizer, bleed hole, adjustable superheat setting, replaceable inlet strainer, with non-replaceable capillary tube and remote sensing bulb and remote bulb well.

C. Selection: Evaluate refrigerant pressure drop through system to determine available pressure drop across valve. Select valve for maximum load at design operating pressure and minimum 10 degrees F (6 degrees C) superheat. Select to avoid being undersized at full load and excessively oversized at part load.

PART 3 EXECUTION

3.01 PREPARATION

A. Ream pipe and tube ends. Remove burrs.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

A. Install refrigeration specialties in accordance with manufacturer's instructions.

B. Route piping in orderly manner, with plumbing parallel to building structure, and maintain gradient.

C. Install piping to conserve building space and avoid interference with use of space.

D. Group piping whenever practical at common elevations and locations. Slope piping one percent in direction of oil return.

E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

F. Inserts:
   1. Provide inserts for placement in concrete formwork.
   2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
   3. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

G. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.5.
   2. Support horizontal piping as indicated.
   3. Install hangers to provide minimum 1/2 inch (13 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   6. Provide copper plated hangers and supports for copper piping.

H. Arrange piping to return oil to compressor. Provide traps and loops in piping, and provide double risers as required. Slope horizontal piping 0.40 percent in direction of flow.

I. Provide clearance for installation of insulation and access to valves and fittings.

J. Provide access to concealed valves and fittings. Coordinate size and location of access doors with Section 08 3100.

K. Flood piping system with nitrogen when brazing.

L. Where pipe support members are welded to structural building frame, brush clean, and apply one coat of zinc rich primer to welding.

M. Insulate piping and equipment; refer to Section and Section 230716.

N. Follow ASHRAE Std 15 procedures for charging and purging of systems and for disposal of refrigerant.

O. Provide replaceable cartridge filter-driers, with isolation valves and valved bypass.

P. Locate expansion valve sensing bulb immediately downstream of evaporator on suction line.

Q. Fully charge completed system with refrigerant after testing.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Test refrigeration system in accordance with ASME B31.5.

C. Pressure test system with dry nitrogen to 200 psi (1380 kPa). Perform final tests at 27 inches (92 kPa) vacuum and 200 psi (1380 kPa) using halide torch. Test to no leakage.

3.04 SCHEDULES

A. Hanger Spacing for Copper Tubing.
   1. 1/2 inch (13 mm), 5/8 inch (16 mm), and 7/8 inch (22 mm) OD: Maximum span, 5 feet (1500 mm); minimum rod size, 1/4 inch (6.3 mm).
   2. 1-1/8 inch (29 mm) OD: Maximum span, 6 feet (1800 mm); minimum rod size, 1/4 inch (6.3 mm).

3. 1-3/8 inch (35 mm) OD: Maximum span, 7 feet (2100 mm); minimum rod size, 3/8 inch (9.5 mm).
4. 1-5/8 inch (41 mm) OD: Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9.5 mm).
5. 2-1/8 inch (54 mm) OD: Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9.5 mm).
6. 2-5/8 inch (67 mm) OD: Maximum span, 9 feet (2700 mm); minimum rod size, 3/8 inch (9.5 mm).

END OF SECTION

SECTION 233100
HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal ductwork.

B. Nonmetal ductwork.

1.02 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

B. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip 2022a.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

D. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.

E. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2018a.

F. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

G. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

I. ICC-ES AC193 - Acceptance Criteria for Mechanical Anchors in Concrete Elements 2015.

J. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.

K. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations 2021.

L. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

M. SMACNA (KVS) - Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines 2001.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for duct materials and duct liner.

C. Shop Drawings: Indicate duct fittings, particulars such as gages, sizes, welds, and configuration prior to start of work for all duct systems.

D. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience, and approved by manufacturer.

B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum 3 years ofdocumented experience.

1.05 FIELD CONDITIONS

A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.

B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.01 DUCT ASSEMBLIES

A. Regulatory Requirements: Construct ductwork to comply with NFPA 90A standards.

B. General Exhaust: 2 inch w.g. ([___] Pa) pressure class, galvanized steel.

2.02 MATERIALS

A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.

B. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
   1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
   2. Surface Burning Characteristics: Flame spread index of zero and smoke developed index of zero, when tested in accordance with ASTM E84.
   3. For Use With Flexible Ducts: UL labeled.
   4. Manufacturers:
      a. Carlisle HVAC Products; Hardcast Iron-Grip 601 Water Based Duct Sealant: www.carlislehvac.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

C. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

D. Hanger Fasteners: Attach hangers to structure using appropriate fasteners, as follows:
   1. Concrete Wedge Expansion Anchors: Complying with ICC-ES AC193.
   2. Masonry Wedge Expansion Anchors: Complying with ICC-ES AC01.
   3. Concrete Screw Type Anchors: Complying with ICC-ES AC193.
   4. Masonry Screw Type Anchors: Complying with ICC-ES AC106.
   5. Concrete Adhesive Type Anchors: Complying with ICC-ES AC308.
   6. Other Types: As required.
   7. Manufacturers:
      a. Powers Fasteners, Inc: www.powers.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

2.03 DUCTWORK FABRICATION

A. Fabricate and support in accordance with SMACNA (DCS) and as indicated.

B. No variation of duct configuration or size permitted except by written permission. Size round duct installed in place of rectangular ducts in accordance with ASHRAE (FUND) Handbook - Fundamentals.

C. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

D. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes of perforated metal with glass fiber insulation.

E. Provide turning vanes of perforated metal with glass fiber insulation when acoustical lining is indicated.

F. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

G. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA (DCS).

2.04 MANUFACTURED DUCTWORK AND FITTINGS

A. Spiral Ducts: Round spiral lockseam duct with galvanized steel outer wall.
   1. Manufacture in accordance with SMACNA (DCS).

B. Round Ducts: Round lockseam duct with galvanized steel outer wall.
   1. Manufacture in accordance with SMACNA (DCS).

C. Flexible Ducts: Two ply vinyl film supported by helically wound spring steel wire.
   1. Insulation: Fiberglass insulation with aluminized vapor barrier film.
   2. Pressure Rating: 2 inches WG ([___] kPa) positive and 2 inches WG ([___] Pa) negative.
   3. Maximum Velocity: 4000 fpm (20.3 m/sec).
   4. Temperature Range: Minus 10 degrees F to 160 degrees F (Minus 23 degrees C to 71 degrees C).
   5. Manufacturers:
      a. Hart & Cooley, Inc: www.hartandcooley.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install, support, and seal ducts in accordance with SMACNA (DCS).

B. Install in accordance with manufacturer's instructions.

C. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

D. Flexible Ducts: Connect to metal ducts with adhesive, draw bands, and tape.

E. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.

F. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.

G. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

H. Use crimp joints with or without bead for joining round duct sizes 8 inch (200 mm) and smaller with crimp in direction of air flow.

I. Use double nuts and lock washers on threaded rod supports.

J. Connect diffusers or light troffer boots to low pressure ducts directly or with 5 feet (1.5 m) maximum length of flexible duct held in place with strap or clamp.

K. Connect diffusers to low pressure ducts directly or with 6 feet maximum length of flexible duct held in place with strap or clamp.

L. At exterior wall louvers, seal duct to louver frame.

3.02 CLEANING

END OF SECTION

SECTION 238126.13
SMALL-CAPACITY SPLIT-SYSTEM AIR CONDITIONERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Air cooled condensing units.

B. Indoor ductless fan & coil units.

C. Controls.

1.02 REFERENCE STANDARDS

A. AHRI 210/240 - Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment 2023.

B. AHRI 520 - Performance Rating of Positive Displacement Condensing Units 2004.

C. ASHRAE Std 15 - Safety Standard for Refrigeration Systems 2019, with All Amendments and Errata.

D. ASHRAE Std 23.1 - Methods for Performance Testing Positive Displacement Refrigerant Compressors and Condensing Units that Operate at Subcritical Pressures of the Refrigerant 2019.

E. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.

F. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems 2021.

G. UL 207 - Standard for Refrigerant-Containing Components and Accessories, Nonelectrical Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.

C. Shop Drawings: Indicate assembly, required clearances, and location and size of field connections.

D. Design Data: Indicate refrigerant pipe sizing.

E. Manufacturer's Instructions: Indicate rigging, assembly, and installation instructions.

F. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listing.

G. Warranty: Submit manufacturers warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

H. Project Record Documents: Record actual locations of components and connections.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of experience.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

1.05 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Provide five year manufacturers warranty for heat exchangers, condensing units, and compressors.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Daikin.

B. Substitutions: See Section 016000 - Product Requirements.

2.02 SYSTEM DESIGN

A. Split-System Heating and Cooling Units: Self-contained, packaged, matched factory-engineered and assembled, pre-wired indoor and outdoor units; UL listed.
   1. Heating and Cooling: Air-source electric heat pump located in outdoor unit with evaporator; auxiliary electric heat.
   2. Cooling: Outdoor electric condensing unit with evaporator coils in multiple ductless indoor units ("mini-split").
   3. Provide refrigerant lines internal to units and between indoor and outdoor units, factory cleaned, dried, pressurized and sealed, with insulated suction line.

B. Performance Requirements: See Drawings for additional requirements.

2.03 INDOOR UNITS FOR DUCTLESS SYSTEMS

1. Location: High-wall.
2. Fan: Line-flow fan direct driven by a single motor.
3. Filter return air with washable, antioxidant pre-filter and a pleated anti-allergy enzyme filter.

B. Remote Actuators:

2.04 OUTDOOR UNITS

A. Outdoor Units: Self-contained, packaged, pre-wired unit consisting of cabinet, with compressor and condenser.
   1. Comply with AHRI 210/240.
   2. Cabinet: Galvanized steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.
   3. Construction and Ratings: In accordance with AHRI 210/240 with testing in accordance with ASHRAE Std 23.1 and UL 207.

B. Air Cooled Condenser: Aluminum fin and copper tube coil, AHRI 520 with direct drive axial propeller fan resiliently mounted, galvanized fan guard.
   1. Condenser Fans: Direct-drive propeller type.
   2. Condenser Fan Motor: Enclosed, 1-phase type, permanently lubricated.

C. Coil: Air-cooled, aluminum fins bonded to copper tubes.

D. Accessories: Filter drier, high pressure switch (manual reset), low pressure switch (automatic reset), service valves and gauge ports, thermometer well (in liquid line).
   1. Provide thermostatic expansion valves.

E. Operating Controls:
   1. Control by room thermostat to maintain room temperature setting.
   2. Low Ambient Kit: Provide refrigerant pressure switch to cycle condenser fan on when condenser refrigerant pressure is above 285 psig (1965 kPa) and off when pressure drops below 140 psig (965 kPa) for operation to 0 degrees F (-18 degrees C).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrates are ready for installation of units and openings are as indicated on shop drawings.

B. Verify that proper power supply is available and in correct location.

C. Verify that proper fuel supply is available for connection.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions and requirements of local authorities having jurisdiction.

B. Install in accordance with NFPA 90A and NFPA 90B.

C. Install refrigeration systems in accordance with ASHRAE Std 15.

END OF SECTION

SECTION 260010
BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION

A. This section is an extension of the General Requirements and certain items of a common or administrative nature that pertain to all electrical work.

B. The work of this section consists of furnishing materials, equipment, constant competent supervision, special tools, test equipment, technicians, and labor necessary for installation of a complete working electrical system as indicated herein and on the Drawings.

C. The work shall include but not necessarily be limited to the following:
   1. Temporary electrical service for construction.
   2. All Electrical Construction.

D. Lighting System.

E. Power System.

F. Grounding system.

1.02 QUALITY ASSURANCE

A. The electrical installation shall conform to the requirements of the latest edition of the National Electrical Code (NEC). Notify Architect/Engineer of conflicts before performance.

B. Electrical material shall be built and tested in accordance with the applicable standards of the (NEMA), (ANSI), (ASTM), and (IEEE).

C. Electrical materials shall be new and unused and shall be listed and labeled for the service intended by Underwriters' Laboratories, Inc., where such labeling service is available.

1.03 REGULATORY REQUIREMENTS

A. Permits: Obtain and pay for all necessary permits, inspections, connection charges, fees, insurance, bond, licenses, and comply with all governing laws, ordinances, rules and regulations.

B. Certificates of Inspection: Upon completion and before the date of substantial completion of each designated Phase, furnish a certificate of inspection issued by Ingalls to the effect that the installation is in full conformity with all Ingalls requirements.

1.04 COORDINATION

A. Contractor shall be responsible for coordination of all work with other disciplines.

B. Arrange work in a neat, well organized manner with exposed conduit and similar services running parallel with primary lines of the building construction, high as possible with a minimum of 8'-0" overhead clearance or as directed by the Engineer.

C. Where the method of installation is not certain, ask for details. Lack of details, not requested, will not be an excuse for improper installation, and any such work must be corrected at contractor’s cost.

D. Coordination Drawings: For locations where several elements of electrical or combined mechanical and electrical work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings showing the actual physical dimensions (at accurate scale, minimum 1/4") required for the installation. Prepare and submit coordination drawings prior to purchase-fabrication-installation of any of the elements involved in the coordination.

E. All Bidders shall be responsible to insure that equipment selected, switchboards, panel boards, etc., fit in spaces selected, along with NEC compliance. If standard equipment does not fit, Contractor shall be required to utilize custom equipment as required.

1.05 DRAWINGS AND SPECIFICATIONS

A. Contract Documents (Drawings and Specifications) are intended to convey the scope of work and indicate general arrangements of equipment, fixtures and piping, and approximate sizes and locations of equipment and outlets. Follow these documents in laying out the work, check all Drawings to become familiar with all conditions affecting the work, and verify spaces in which the work will be installed.

B. The contractor shall fully coordinate installation of electrical system with other disciplines. The Drawings show approximate locations only of selected feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Engineer reserves the right to make reasonable changes in locations indicated before roughing-in without additional cost to the Owner.
   1. Contractor shall investigate the structural and finish conditions affecting Division 26 work and shall arrange such work accordingly, furnishing fittings, bends, junction boxes, pull boxes, access panels, and accessories required to meet such conditions.
   2. These Specifications, together with the accompanying Drawings, contemplate apparatus fully erected, and in satisfactory operating condition with the Contractor furnishing and installing everything that may be necessary to complete the job.
   3. Contractor shall install circuits, breakers, equipment, etc. as indicated and label the above as noted. Contractor shall not deviate from equipment/circuit identification unless approved by Owner/Engineer.

1.06 SUBMITTALS

A. Shop Drawings:
   1. Listed below are shop drawings required for transmittal. Refer to Phasing Plan for scheduling of submittal. No time delays will be allowed for failure to be so informed.
      a. Lighting Fixtures (Interior and Exterior under the same submittal)
      b. Lighting Controls (Submit under the Lighting Submittal)
      c. Raceways
      d. Connectors
      e. Safety Switches
      f. Fuses
      g. Circuit Breakers
      h. Wiring Devices
      i. Motor Controls
      j. Panel boards
      k. Conductors
      l. Relays and Contactors
   2. Grounding products
   3. Further descriptions or information required with shop drawings shall be included with the description of materials specified herein as follows:
      a. Grounding Products: Include a complete grounding system diagram with materials and ground conductor sizes.
      b. Miscellaneous Electrical Controls and Control Wiring: Include control wiring diagrams for all miscellaneous electrical controls.
      c. Housekeeping Pads: Include location and dimensions of housekeeping pads, including blockouts and anchor bolts.
   4. Firestops: Include all firestop materials for the project, indicating intended use and UL fire rating where applicable.
      a. Provide “SpecSeal” products or equal. Provide SSB series firestop pillows (or equal) around the cable tray where cable trays make penetration in the walls, etc. Provide “LC150” series sealant (or equal) to seal the penetrations made by conduits.

5. Contractor prepared, new, detailed, dimensioned shop Drawings for the installation of the work in the electrical equipment rooms areas shall be prepared and submitted for review. In preparing shop Drawings, establish lines and levels for the work specfied and check the drawings to avoid interference with structural features an the work of other trades. Immediately call ot the attention of the Engineering in writing any interferences for clarification.
6. Corrections or comments made on shop Drawings during the review do not relieve the Contractor from compliance with requirements of the contract documents. Review of shop Drawings shall not permit any deviation from Drawings and Specifications. Shop Drawings must be accompanied by signed statement from contractor, stating that he has reviewed the submittal and checked it for compliance. Contractor shall make note on the submittals if they deviate from the contract documents.
7. Contractor shall provide products as specified if submittals for review of materials are not received within thirty (30) days after award of the Contract.

1.07 PROJECT/SITE CONDITIONS

A. Visit the site before bidding to become familiar with conditions under which the work will be performed.

B. No additional compensation will be allowed for failure to be so informed.

1.08 CUTTING AND PATCHING

A. Do all cutting, patching, fitting, and all other work that may be required to make the several parts come together and fit.

B. Provide, everything required for the work or to conceal any of the work, in any part of the structure.

C. Fireproofing:
   1. Plastic sleeves/pipe shall not be used within the building when penetrating a fire-resistant-rated wall, ceiling, partition, or floor.

1.09 RECORD DRAWINGS

A. Upon completion of the project, provide a complete set of detailed electronic as-built drawings in AutoCAD 2005 format with all information required. Contractor shall also produce (2) sets of as-built drawings with modifications to construction documents in red ink. Contractor shall maintain a current set of as-built drawings on site at all times. As-built drawings shall include, but not be limited to detailed dimensions of all conduits, ductbank, etc. install in slab or below grade.

B. Equipment Manuals:
   1. Before the date of substantial completion, Contractor shall furnish to the Engineer three (3) bound sets of descriptive, dimensional and parts data on all major items of electrical equipment and material including those items listed above under "Shop Drawings:".

1.10 WARRANTY/GUARANTEE

A. Except where longer periods of warranty are specified, guarantee all labor and materials for a period of twelve (12) months from the date of substantial completion of the particular phase of the work. Repair all defective materials and work; replace with new materials and/or equipment, any material and/or equipment failing to give satisfactory service.

B. During the period of guarantee, promptly correct any defects in equipment, materials or workmanship without cost to the Owner.

C. Guarantee includes equipment capacity and performance ratings specified without excessive noise levels. Any deficiencies in equipment specified shall be promptly corrected.

D. Contractor's warranty shall include an inspection of the system one (1) week before the end of the one (1) year warranty period. Replace or repair any items found to be defective at this time.

1.11 TESTS AND BALANCING

A. At such times as the Engineer directs, conduct operating tests to demonstrate that the electrical systems are installed and will operate properly and in accordance with the requirements of this Specification. Tests shall be performed in the presence of the Engineer's representative. Furnish instruments and personnel required for such tests.

B. Any work and materials tested and found varying from the requirements of the Drawings and Specifications shall be replaced without additional cost to the Owner.

C. This section does not relieve the Contractor from testing equipment installed under this Division but not listed in this section. Contractor is required to test all equipment, feeders, etc., installed under this Division.

PART 2 PRODUCTS

2.01 GENERAL

A. Refer to DIVISION 1 sections for general requirements on products, materials and equipment. Refer to other DIVISION 26 sections for additional requirements.

B. Provide products which are compatible with other products of the electrical work, and with other work requiring interface with the electrical work, including electrical connections and control devices. Determine in advance of purchase that equipment and materials proposed for installation will fit into the confines indicated, leaving adequate clearance as required by applicable codes, and for adjustment, repair, or replacement.

2.02 MANUFACTURERS' NAMEPLATES

A. Each major component of the equipment shall have the manufacturer's name, address, model number, and rating on a plate securely affixed in a conspicuous place.

PART 3 EXECUTION

3.01 GENERAL

A. Visit the building site before bidding to determine existing conditions and assume all responsibility and bear all expenses in allowing for these conditions in the bid.

B. Obtain all necessary permits, pay all legal fees and charges.

C. No work shall be concealed until approved by the engineer and all regulations are adhered to. Provide certificate of completion.

D. Cooperate with other trades in installing work in order that there will be no conflict of space required by conduit, piping, ducts, outlets, etc.

E. Verify dimensions with certified shop Drawings of the materials actually approved and purchased.

3.02 TEMPORARY WIRING, LIGHTING AND POWER AT THE SITE

A. Furnish and install provisions for temporary electrical service and construction light and power during the construction period.

B. Furnish, install, and maintain all temporary service equipment as required until permanent service is installed, switch-over temporary systems to the permanent service when latter is ready for same.

C. Furnish, install, maintain, and switch on and off on all regular work days a complete temporary light system, for the building while under construction.

D. Provide any and/or all relocations of temporary electric facilities as necessary to avoid the permanent installations of all trades.

3.03 WIRING FOR EQUIPMENT BY OTHERS

A. Electrical service for all equipment furnished under this Specification and/or indicated on the Drawings shall be roughed-in and connected under this Section.

B. Electrical work for equipment specified in Division 25 - Mechanical shall be as specified.

C. Raceways, outlets, backboards, cabinets, grounding connections, handholes, underground distribution system, and other roughing-in indicated shall be provided as work of this division for intercom system, telecommunication system, fire alarm system and HVAC Control 120V power (Contractor to provide cable as well).

3.04 WORKMANSHIP

A. Install all materials and electrical components of the work in accordance with instructions of manufacturer following the best modern construction practices and conforming with the Contract Documents. Workmanship shall be first class, in both function and appearance, whether finally concealed or exposed and shall be performed by experienced workmen skilled in the type of work. As practicable, the lines of all components of the system shall be perpendicular or parallel. In general, workmanship shall conform to guidelines set forth in N.E.C.A. manuals.

3.05 MOUNTING HEIGHTS

A. Upon approval of the Engineer mounting heights may be adjusted.

END OF SECTION

SECTION 260051
ELECTRICAL RELATED WORK

PART 1 GENERAL

1.01 DESCRIPTION

A. Extent of electrical related work required by this section is indicated on Drawings and/or specified in other Division 26 sections.

1.02 PROJECT/SITE CONDITIONS

A. Protect property from damage which might result from excavating and backfilling.

B. Protect persons from injury at excavations by barricades, warnings and illumination.

C. Coordinate excavations with weather conditions, to minimize possibility of washouts, settlements and other damages and hazards.

PART 2 PRODUCTS

2.01 ACCESS TO ELECTRICAL WORK

A. Provide removable access doors of types and sizes needed for access requirements of Electrical Equipment.

PART 3 EXECUTION

3.01 EXCAVATION, TRENCHING AND BACKFILLING

A. Perform all excavation of every description and of whatever substances encountered to the depths indicated on the Drawings or as otherwise specified or as required based on field condition. All excavated materials not required or not suitable for backfill shall be removed.

B. Sheeting and shoring shall be done as necessary for the protection of the work and for the safety of personnel.

C. No excavation or trenches shall be cut near or under footings without first consulting the Engineer.

D. Provide uniform circumferential support to lower third of each conduit or pipe. Each conduit or pipe shall be laid true to line and grade to prevent sudden offset to flow line. As work progresses, interior of conduit or pipe shall be cleared of dirt and superfluous materials of every description.

E. Provide proper supporting material as required based on field condition.
   1. Trenches for utilities shall be of a depth that will provide the following minimum depth of cover from existing grade or from indicated finish grade, whichever is lower, unless otherwise specifically shown:
      a. 30-Inch Minimum Cover - Electrical Conduits/Cables over 600 volts
      b. 24-inch Minimum (See NEC 300-5) - Electrical Cables/Conduits under 600 volts.
   2. Backfill shall be installed in layers 6" deep, adequately wetted and tamped using materials as noted above. Refer to Division 2 for compaction densities.
   3. Restore all hard finished surfaces such as roadways, sidewalks, grass, shrubbery, etc., removed for installation of utilities (and not shown on Drawings or specified to be reworked under other sections of the work) to their original condition. Restore to near original condition acceptable to Architect/Engineer.
   4. Carefully plan all work to avoid existing utilities and other interferences. The Drawings do not indicate all existing underground utilities. Existing utility lines to be retained that are shown on the Drawings or the locations of which are made known to the Contractor prior to excavation, as well as all utility lines uncovered during excavation operations, shall be protected from damage during excavation and backfilling and, if damaged, shall be repaired by Contractor at his expense. Prior to doing any excavation with power tools, carefully investigate and locate any exiting conduit, pipes, and other lines.

3.02 FOUNDATIONS AND SUPPORTS

A. Provide concrete pedestals, bases, pads, curbs, anchor blocks, anchor bolts, slab inserts, hangers channels, cradles, saddles, etc. for installation of floor mounted equipment.

B. Concrete pads for floor mounted electrical equipment shall be 3.5 inches high, unless otherwise indicated, poured integral with the floor slab wherever practical. Wherever integral slab poured pads are not practicable, construct 3.5 inch high housekeeping pads, reinforced with No. 3 steel wire mesh 6 X 6 inches, fastened to structural slabs with 1/2 inch diameter bolts embedded in structural slabs with expansion bolts at all corners (inset 3 inches) and no further apart than 18 inches. Score structural slab thoroughly to assure concrete bonding between structural slab and housekeeping pad. Construct in full accordance with "concrete" specifications for 2500 psi minimum compressive strength. Finish tops of housekeeping pads smooth and level within 1 percent of span. Pads shall be extended at least 4" (10 cm) beyond the equipment outline on all four sides with chamfered edges.

3.03 PAINTING

A. Factory painted equipment shall have finish restored to Manufacturer's finish if scratched or damaged before acceptance or use by Owner.

END OF SECTION

SECTION 260170
CIRCUIT AND MOTOR DISCONNECTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. The work of this section consists of providing labor, materials, tools, appliances and miscellaneous accessories associated with the circuit and motor disconnect switch work indicated herein and on Drawings and schedules.

B. Types of circuit and motor disconnect switches in this section include the following:
   1. Equipment disconnects.
   2. Appliance disconnects.
   3. Motor circuit disconnects.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. Square D.

2.02 FABRICATED SWITCHES

A. Provide Heavy Duty safety switches and the best possible quality which yields the most protection for equipment and personnel for the intended use. If there is conflict between the drawings and the specifications, the contractor shall use the one that yields the most stringent protection requirements.
   1. Fused switches shall include the following:
   2. All fusible switches shall accept Class R fuses and have provision for field installation of U.L. listed rejection feature.
   3. The U.L. listed short circuit rating shall be 100,000 symmetrical amperes when Class R fuses and fuse kits are installed.

B. Type of Enclosure for the Different Locations:
   1. Recess panel board.
   2. NEMA Type 1: Indoor use.
   3. NEMA Type 12/3R: Outdoor use.

C. All switches shall /be listed per U.L. Standard 98; comply with Federal Specifications W-S-865; comply with NEMA KS-1.

PART 3 EXECUTION

3.01 INSTALLATION OF CIRCUIT DISCONNECT SWITCHES

A. Install disconnect switches where indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA, and NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products fulfill requirements.

B. Provide and install fuses where applicable and/or shown on the Drawings.

C. Install label nameplate as required.

END OF SECTION

SECTION 260519
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Single conductor building wire.

B. Metal-clad cable.

C. Wiring connectors.

D. Electrical tape.

E. Heat shrink tubing.

F. Oxide inhibiting compound.

G. Wire pulling lubricant.

H. Cable ties.

I. Firestop sleeves.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 260526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

C. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

D. Section 262100 - Low-Voltage Electrical Service Entrance: Additional requirements for electrical service conductors.

1.03 REFERENCE STANDARDS

A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire 2013 (Reapproved 2018).

B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft 2011 (Reapproved 2017).

C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes 2010, with Editorial Revision (2020).

D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation 2004 (Reapproved 2020).

E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape 2017.

F. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes 2020.

G. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

H. NECA 120 - Standard for Installing Armored Cable (AC) and Type Metal-Clad (MC) Cable 2018.

I. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy 2021.

J. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.

K. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

L. UL 44 - Thermoset-Insulated Wires and Cables Current Edition, Including All Revisions.

M. UL 83 - Thermoplastic-Insulated Wires and Cables Current Edition, Including All Revisions.

N. UL 486A-486B - Wire Connectors Current Edition, Including All Revisions.

O. UL 486C - Splicing Wire Connectors Current Edition, Including All Revisions.

P. UL 486D - Sealed Wire Connector Systems Current Edition, Including All Revisions.

Q. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape Current Edition, Including All Revisions.

R. UL 854 - Service-Entrance Cables Current Edition, Including All Revisions.

S. UL 1569 - Metal-Clad Cables Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
   3. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F (-10 degrees C), unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Engineer/Architect and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

C. Nonmetallic-sheathed cable is not permitted.

D. Metal-clad cable is permitted only as follows:
   1. Where not otherwise restricted, may be used:
      a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
         1) Maximum Length: 6 feet (1.8 m).

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed, classified, and labeled as suitable for the purpose intended.

C. Provide new conductors and cables manufactured not more than one year prior to installation.

D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

E. Comply with NEMA WC 70.

F. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

G. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

H. Conductors for Grounding and Bonding: Also comply with Section 260526.

I. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.

J. Conductor Material:
   1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
   2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
   3. Tinned Copper Conductors: Comply with ASTM B33.

K. Minimum Conductor Size:
   1. Branch Circuits: 12 AWG.
      a. Exceptions:
         1) 20 A, 120 V circuits longer than 75 feet (23 m): 10 AWG, for voltage drop.
         2) 20 A, 120 V circuits longer than 150 feet (46 m): 8 AWG, for voltage drop.
         3) 20 A, 277 V circuits longer than 150 feet (46 m): 10 AWG, for voltage drop.

L. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

M. Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.
      a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.

3. Color Code:
    a. 208Y/120 V, 3 Phase, 4 Wire System:
        1) Phase A: Black.
        2) Phase B: Red.
        3) Phase C: Blue.
        4) Neutral/Grounded: White.
    b. Equipment Ground, All Systems: Green.
    c. Travelers for 3-Way and 4-Way Switching: Pink.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:
1. Copper Building Wire:
    a. Cerro Wire LLC: www.cerrowire.com/#sle.
    b. Encore Wire Corporation: www.encorewire.com/#sle.
    c. General Cable Technologies Corporation; [_____]: www.generalcable.com/#sle.
    d. Southwire Company: www.southwire.com/#sle.
    e. Or Approve Equal.

B. Description: Single conductor insulated wire.

C. Conductor Stranding:
1. Feeders and Branch Circuits:
    a. Size 10 AWG and Smaller: Stranded.
    b. Size 8 AWG and Larger: Stranded.
2. Control Circuits: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation:
1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.
    a. Size 4 AWG and Larger: Type XHHW-2.
    b. Installed Underground: Type XHHW-2.
    c. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.

2.04 METAL-CLAD CABLE

A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

B. Conductor Stranding:
1. Size 10 AWG and Smaller: Solid.
2. Size 8 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.

E. Grounding: Full-size integral equipment grounding conductor.

F. Armor: Steel, interlocked tape.

2.05 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Connectors for Grounding and Bonding: Comply with Section 260526.

C. Wiring Connectors for Splices and Taps:

1. Copper Conductors Size 8 AWG and Smaller: Use mechanical connectors or Barrel Crimp Sleeves.
2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or Barrel Crimp Sleeves.

D. Wiring Connectors for Terminations:
1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
5. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.

E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

F. Do not use push-in wire connectors as a substitute for Barrel Crimp connectors.

G. Mechanical or twist on Connectors: Provide bolted type or set-screw type.
1. Manufacturers:
a. Burndy LLC; [_____]: www.burndy.com/#sle.
b. Ilsco: www.ilsco.com/#sle.
c. Thomas & Betts Corporation: www.tnb.com/#sle.
d. Or Approved Equal.

H. Compression Connectors: Provide circumferential type or hex type crimp configuration.
1. Manufacturers:
a. Burndy LLC; [_____]: www.burndy.com/#sle.
b. Ilsco: www.ilsco.com/#sle.
c. Thomas & Betts Corporation: www.tnb.com/#sle.
d. Or Approved Equal.

2.06 ACCESSORIES

A. Electrical Tape:
1. Manufacturers:
a. 3M: www.3m.com/#sle.
b. Plymouth Rubber Europa: www.plymouthrubber.com/#sle.
2. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
3. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F (-18 degrees C) and suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
4. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil (0.76 mm); suitable for continuous temperature environment up to 194 degrees F (90 degrees C) and short-term 266 degrees F (130 degrees C) overload service.
5. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil (3.2 mm); suitable for continuous temperature environment up to 176 degrees F (80

degrees C).

6. Varnished Cambric Electrical Tape: Cotton cambric fabric tape, with or without adhesive, oil-primed and coated with high-grade insulating varnish; minimum thickness of 7 mil (0.18 mm); suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
7. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil (2.3 mm).

B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.

C. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.

D. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.

E. Cable Ties: Material and tensile strength rating suitable for application.

F. Sealing Systems for Roof Penetrations: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for cables and roofing system to be installed; designed to accommodate existing penetrations where applicable.

G. Firestop Sleeves: Listed; provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70 and these specifications.

D. Verify that field measurements are as indicated.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

A. Circuiting Requirements:
   1. Unless dimensioned, circuit routing indicated is diagrammatic.
   2. When circuit destination is indicated without specific routing, determine exact routing required.
   3. Arrange circuiting to minimize splices.
   4. Include circuit lengths required to install connected devices within 10 ft (3.0 m) of location indicated.
   5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
   6. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
   7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is not permitted.
      a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
      b. Increase size of conductors as required to account for ampacity derating.

c. Size raceways, boxes, etc. to accommodate conductors.

8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among up to three single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.

B. Install products in accordance with manufacturer's instructions.

C. No conductor shall bear more than eight percent (80%) of its rated ampacity.

D. The system shall be properly grounded and coninuously polarized throughout following the color coding specified.

E. Do not used mechanical means to pull wire No. 8 AWG. or smaller.

F. Type AC or MC cable is not allowed except as allowed in this spec.

G. Perform work in accordance with NECA 1 (general workmanship).

H. Install metal-clad cable (Type MC) in accordance with NECA 120.

I. Installation in Raceway:
1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
2. Pull all conductors and cables together into raceway at same time.
3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

J. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.

K. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.
2. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.

L. Terminate cables using suitable fittings.
1. Metal-Clad Cable (Type MC):
a. Use listed fittings.
b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.

M. Install conductors with a minimum of 12 inches (300 mm) of slack at each outlet.

N. Where conductors are installed in enclosures for future termination by others, provide a minimum of 5 feet (1.5 m) of slack.

O. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

P. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.

Q. Make wiring connections using specified wiring connectors.
1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.

2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to suitably remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

R. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
b. For taped connections likely to require re-entering, including motor leads, first apply varnished cambric electrical tape, followed by adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.
3. Wet Locations: Use heat shrink tubing.

S. Insulate ends of spare conductors using vinyl insulating electrical tape.

T. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.

U. Identify conductors and cables in accordance with Section 260553.

V. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

W. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. prior to energization, test cable and wire for continuity of cicuitry, and also for short circuts.

C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
1. Disconnect surge protective devices (SPDs) prior to performing any high potential testing. Replace SPDs damaged by performing high potential testing with SPDs connected.

D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION

SECTION 260529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.02 RELATED REQUIREMENTS

A. Section 260533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

B. Section 260533.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.

C. Section 265100 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

D. Section 265600 - Exterior Lighting: Additional support and attachment requirements for exterior luminaires.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel 2023.

D. MFMA-4 - Metal Framing Standards Publication 2004.

E. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

F. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. UL 5B - Strut-Type Channel Raceways and Fittings Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
   2. Coordinate the work with other trades to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
   4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for channel (strut) framing systems, non-penetrating rooftop supports, and post-installed concrete and masonry anchors.

B. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.

C. Evaluation Reports: For products specified as requiring evaluation and recognition by ICC Evaluation Service, LLC (ICC-ES), provide current ICC-ES evaluation reports upon request.

D. Installer's Qualification Statement: Include evidence of compliance with specified requirements.

E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.06 QUALITY ASSURANCE

A. Comply with NFPA 70.

B. Comply with applicable building code.

C. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

D. Installer Qualifications for Powder-Actuated Fasteners (when specified): Certified by fastener system manufacturer with current operator's license.

E. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURED SUPPORTING DEVICES

A. General: Provide supporting devices complying with manufacturer's standard materials, design and construction in accordance with published product information, and as required for a complete installation and as herein specified. Where more than one type of device meets indicated requirements, selection is Installer's option.

B. Support: Provide supporting devices of types, sizes and materials as required and having the following construction features:
   1. Clevis Hangers: For supporting 2" rigid metal conduit, galvanized steel with 1/2" diameter hole for round galvanized or stainless steel rod, approximately 54 pounds per 100 units.
   2. Riser Clamps: For supporting 5" rigid metal conduit, galvanized steel with 2 bolts and nuts and 4" ears, approximately 510 pounds per 100 units.
   3. Reducing Couplings: Steel rod reducing coupling, 1/2" x 5/8" galvanized or stainless steel approximately 16 pounds per 100.
   4. C-Clamps: Malleable iron, 1/2" rod size, approximately 70 pounds per 100 units.
   5. I-Beam Clamps: Steel, 1-1/4" x 3/16" stock, 3/8" cross bolt, flange width 2", approximately 52 pounds per 100 units.
   6. One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel, approximately 7 pounds per 100 units. Include with backing plates.
   7. Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel, 3/4" strap width, and 2-1/8" between center of screw holes.
   8. Round Steel Rod: Hot dipped galvanized or Stainless Steel, 1/2" diameter, approximately 67 pounds per 100 feet.
   9. Hexagon Nuts: For 1/2" rod size, galvanized steel, approximately 4 pounds per 100 units.
   10. Offset Conduit Clamps: For supporting 2" rigid metal conduit, steel approximately 200 pounds per 100 units.

C. Anchors: Provide anchors of types, sizes and materials as required and having the following construction features:
   1. Lead Expansion Anchors: 1/2", approximately 38 pounds over 100 units.
   2. Toggle Bolts: Springhead, 3/16" x 4", approximately 5 pounds per 100 units.

3. Avaliable Manufacturers: Subject to compliance with requirements, manufacturers offering anchors which may be incorporated into the work include, but are not limited to the following:
   a. Abbeon Cal Inc.
   b. Ackerman Johnson Fastening System Inc.
   c. Elcen Metal Products Co.
   d. Ideal Industries, Inc.
   e. Josyln Mfg. and Supply Co.
   f. McGraw Edison Co.
   g. Rawplug Co. Inc.
   h. Star Expansion Bolt Co.

D. U-Channel Strut System:
1. Provide U-Channel strut system for supporting electrical equipment, 16-gage hot dip galvanized steel or stainless steel, of types and sizes required: construct with 9/16" diameter holes, 8" on center on top surface, and with the following fittings which mate and match with U-channel:
   a. Fixture Hangers
   b. Channel Hangers
   c. End caps
   d. Beam clamps
   e. Wiring stud
   f. Thinwall conduit clamps
   g. Rigid conduit clamps
   h. Conduit hangers
   i. U-bolts
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering channel system which may be incorporated in the work include, but are not limited to, the following:
   a. B-Line System, Inc.
   b. Elcen metal Products Co.
   c. Greenfield Mfg Co., Inc.
   d. Midland-Ross Corp.
   e. Power-Strut Div., Van Huffel Tube Corp.
   f. Unistrut Div, GTE Products Corp.

E. General Requirements:
1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
3. Do not use products for applications other than as permitted by NFPA 70 and product listing.
4. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
   a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
   b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

F. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.

2.02 FABRICATED SUPPORTING DEVICES

A. Pipe Sleeves: Provide pipe sleeves of one of the following:

1. Sheet-Metal: Fabricate from galvanized sheet metal round tube closed with snaplock joint, welded spiral seams, or welded longitudinal joint. Fabricate from the following gages: 3" and smaller, 20 gage,; 4" or 6", 16 gage; over 6", 14 gage.
2. Steel-Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.
3. Iron-Pipe: Fabricate from cast-iron or ductile-iron pipe; remove burrs.
4. Plastic-Pipe: Fabricate from Schedule 80 PVC plastic pipe; remove burrs.

B. Sleeve Seals: Provide Lead and Oakum sleeve seals, caulked between sleeve and pipe for sleeves located in foundation walls below grade or in exterior walls.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

E. Unless specifically indicated or approved by Engineer/Architect, do not provide support from suspended ceiling support system or ceiling grid.

F. Unless specifically indicated or approved by Engineer/Architect, do not provide support from roof deck.

G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

H. Equipment Support and Attachment:
1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.

I. Secure fasteners according to manufacturer's recommended torque settings.

J. Remove temporary supports.

K. Tighten sleeve seal nuts until sealing grommets have expanded to form a watertight seal.

L. Coordinate all conduit penetrations into the building from the exterior with Division 1.

3.03 FIELD QUALITY CONTROL

A. Inspect support and attachment components for damage and defects.

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 260533.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).

B. PVC-coated galvanized steel rigid metal conduit (RMC).

C. Flexible metal conduit (FMC).

D. Liquidtight flexible metal conduit (LFMC).

E. Electrical metallic tubing (EMT).

F. Rigid nonmetallic conduit

G. Underground PVC Conduit (PVC)

H. Conduit fittings.

I. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 260526 - Grounding and Bonding for Electrical Systems.
   1. Includes additional requirements for fittings for grounding and bonding.

C. Section 260529 - Hangers and Supports for Electrical Systems.

D. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

E. Section 262100 - Low-Voltage Electrical Service Entrance: Additional requirements for electrical service conduits.

1.03 REFERENCE STANDARDS

A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC) 2020.

B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S) 2020.

C. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

D. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT) 2020.

E. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC) 2017.

F. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.

G. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Metal Conduit and Intermediate Metal Conduit 2018.

H. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit 2020.

I. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing 2021.

J. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

K. UL 1 - Flexible Metal Conduit Current Edition, Including All Revisions.

L. UL 6 - Electrical Rigid Metal Conduit-Steel Current Edition, Including All Revisions.

M. UL 360 - Liquid-Tight Flexible Metal Conduit Current Edition, Including All Revisions.

N. UL 514B - Conduit, Tubing, and Cable Fittings Current Edition, Including All Revisions.

O. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings Current Edition, Including All Revisions.

P. UL 797 - Electrical Metallic Tubing-Steel Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
   4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
   5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittals procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

C. Shop Drawings:
   1. Indicate proposed arrangement for conduits to be installed within structural concrete slabs, where permitted.
   2. Include proposed locations of roof penetrations and proposed methods for sealing.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.

C. Underground:
   1. Exterior, Direct-Buried: Use Rigid PVC Conduit
   2. Where rigid pvc conduit is provided, transition to galvanized steel rigid metal conduit where emerging from underground.

3. Where rigid polyvinyl (PVC) conduit is provided, use galvanized steel rigid metal conduit elbows for bends.
4. Where steel conduit is installed in direct contact with earth, use corrosion protection tape to provide supplementary corrosion protection or use PVC-coated galvanized steel rigid metal conduit.

D. Concealed Within Masonry Walls: Use electrical metallic tubing (EMT).

E. Concealed Within Hollow Stud Walls: Use electrical metallic tubing (EMT).

F. Concealed Above Accessible Ceilings: Use electrical metallic tubing (EMT).

G. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit.

H. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit.

I. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit.

J. Exposed, Exterior: Use galvanized steel rigid metal conduit.

K. Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit.
1. Maximum Length: 6 feet (1.8 m).

L. Connections to Vibrating Equipment:
1. Dry Locations: Use flexible metal conduit.
2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
3. Maximum Length: 6 feet (1.8 m) unless otherwise indicated.
4. Vibrating equipment includes, but is not limited to:
   a. Transformers.
   b. Motors.

2.02 CONDUIT REQUIREMENTS

A. Electrical Service Conduits: Also comply with Section 262100.

B. Fittings for Grounding and Bonding: Also comply with Section 260526.

C. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.

D. Provide products listed, classified, and labeled as suitable for the purpose intended.

E. Minimum Conduit Size, Unless Otherwise Indicated:
1. Branch Circuits: 3/4 inch (21 mm) trade size.
2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
3. Underground, Exterior: 1 inch (27 mm) trade size.

F. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
1. Allied Tube & Conduit: www.alliedeg.com/#sle.
2. Republic Conduit: www.republic-conduit.com/#sle.
3. Wheatland Tube, a Division of Zekelman Industries: www.wheatland.com/#sle.
4. Or Approved Equal.

B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

C. Fittings:
1. Manufacturers:
   a. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
   b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#sle.
   c. Thomas & Betts Corporation: www.tnb.com/#sle.
   d. Or Approved Equal.

2. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.04 PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit with external polyvinyl chloride (PVC) coating complying with NEMA RN 1 and listed and labeled as complying with UL 6.

B. Exterior Coating: Polyvinyl chloride (PVC), nominal thickness of 40 mil (1.02 mm).

C. PVC-Coated Fittings:
1. Manufacturer: Same as manufacturer of PVC-coated conduit to be installed.
2. Non-Hazardous Locations: Use fittings listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
4. Exterior Coating: Polyvinyl chloride (PVC), minimum thickness of 40 mil (1.02 mm).

D. PVC-Coated Supports: Furnish with exterior coating of polyvinyl chloride (PVC), minimum thickness of 15 mil (0.38 mm).

2.05 FLEXIBLE METAL CONDUIT (FMC)

A. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems to be used.

B. Fittings:
1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
2. Material: Use steel or malleable iron.

2.06 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.

B. Fittings:
1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
2. Material: Use steel or malleable iron.

2.07 ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
1. Allied Tube & Conduit; [_____]: www.alliedeg.com/#sle.
2. Republic Conduit: www.republic-conduit.com/#sle.
3. Wheatland Tube, a Division of Zekelman Industries; [_____]: www.wheatland.com/#sle.

B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.

C. Fittings:
1. Manufacturers:
a. Bridgeport Fittings Inc: www.bptfittings.com/#sle.
b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#sle.
c. Thomas & Betts Corporation: www.tnb.com/#sle.
d. Or Approved Equal.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use compression (gland) or set-screw type.

a. Do not use indenter type connectors and couplings.

2.08 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

A. Manufacturers:
1. Cantex Inc: www.cantexinc.com/#sle.
2. Carlon, a brand of Thomas & Betts Corporation: www.carlon.com/#sle.
3. JM Eagle: www.jmeagle.com/#sle.

B. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.

C. Fittings:
1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.09 ACCESSORIES

A. Corrosion Protection Tape: PVC-based, minimum thickness of 20 mil (0.51 mm).

B. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.

C. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

D. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force (890 N).

E. Sealing Compound for Sealing Fittings: Listed for use with the particular fittings to be installed.

F. Modular Seals for Conduit Penetrations: Rated for minimum of 40 psig; Suitable for the conduits to be installed.

G. Sealing Systems for Roof Penetrations: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

H. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

I. Firestop Sleeves: Listed; provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive conduits.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Perform work in accordance with NECA 1 (general workmanship).

C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.

D. Install PVC-coated galvanized steel rigid metal conduit (RMC) using only tools approved by the manufacturer.

E. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.

F. Methods of Installation:
   1. Cut conduits straight, properly ream, and cut threads for heavy wall conduit deep and clean.
   2. Field-bend conduit with benders designed for purpose so as not to distort nor vary internal diameter.
   3. Size conduits for fill of 40% or less per Chapter 9 tables of NEC, Minimum conduit size shall be 3/4".
   4. Conduits when entering watertight enclosures shall be secured with a myers hub.
   5. Fasten conduit terminations in sheet metal enclosures by 2 locknuts, and terminate with bushing. Install locknuts inside and outside enclosure.
   6. Install conduits as not to damage or run through structural members.
   7. Test every conduit run installed with ball mandrel. Clear and restore/repair and conduit which rejects ball mandrel.
   8. Provide permanent plastic tags at each end of embedded conduit run stating what the conduit is serving and where it is served from including the location.
   9. Label all junction boxes (larger than 6" x 6"); pull boxes, wireways with engraved plastic nameplates.
   10. Run all underground condit under the slab in the dirt and hung from the slab except for miscellaneous 3/4" conduits which may be run in the slab (with approval from Structural Engineer) if the below stated conditions are met. The depth shall vary as required to avoid underground plumbing. Run in slab when turning up. Hang conduit to slab with stainless steel rods looped around conduit with stainless steel washer to keep loop closed on one end; the other end is to have a 90 degree bend set into slab or looped around reinforcing rods. Use 1/4" diameter rod for conduit up to 2", 3/8" diameter for conduit 2 1/2" or greater in diameter. Space supports no greater than 4' apart, or as required by the National Electrical Code and local codes.
   11. Install underground conduits minimum of 24" below finished grade. Use 36" radius long fittings only.
   12. Exposed Conduits:
      a. Install exposed conduits and extensions from concealed conduit systems neatly, parallel with, or at right angles to walls of the building.

G. Conduit Routing:
   1. Unless dimensioned, conduit routing indicated is diagrammatic.
   2. When conduit destination is indicated without specific routing, determine exact routing required.
   3. Conceal all conduits unless specifically indicated to be exposed.
   4. Conduits in the following areas may be exposed, unless otherwise indicated:
      a. Electrical rooms.
      b. Mechanical equipment rooms.
      c. Within joists in areas with no ceiling.
   5. Arrange conduit to maintain adequate headroom, clearances, and access.
   6. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
   7. Arrange conduit to provide no more than 150 feet (46 m) between pull points.
   8. Route conduits above water and drain piping where possible.
   9. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
   10. Maintain minimum clearance of 6 inches (150 mm) between conduits and piping for other systems.
   11. Maintain minimum clearance of 12 inches (300 mm) between conduits and hot surfaces. This includes, but is not limited to:

a. Heaters.
b. Hot water piping.
c. Flues.

12. Group parallel conduits in the same area together on a common rack.

H. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.

I. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
6. Where spare conduits stub up through concrete floors and are not terminated in a box or enclosure, provide threaded couplings equipped with threaded plugs set flush with finished floor.
7. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
8. Secure joints and connections to provide maximum mechanical strength and electrical continuity.

J. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.
5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
8. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

K. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.

3. Where conduits are subject to earth movement by settlement or frost.

L. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
   1. Where conduits pass from outdoors into conditioned interior spaces.
   2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
   3. Where conduits penetrate coolers or freezers.

M. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches (300 mm) at each end.

N. Provide grounding and bonding in accordance with Section 260526.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Where coating of PVC-coated galvanized steel rigid metal conduit (RMC) contains cuts or abrasions, repair in accordance with manufacturer's instructions.

D. Correct deficiencies and replace damaged or defective conduits.

3.04 CLEANING

A. Clean interior of conduits to remove moisture and foreign matter.

3.05 PROTECTION

A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 260533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Outlet and device boxes up to 100 cubic inches (1,650 cu cm), including those used as junction and pull boxes.

B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches (1,650 cu cm).

C. Boxes and enclosures for integrated power, data, and audio/video.

1.02 RELATED REQUIREMENTS

A. Section 078400 - Firestopping.

B. Section 083100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.

C. Section 260526 - Grounding and Bonding for Electrical Systems.

D. Section 260529 - Hangers and Supports for Electrical Systems.

E. Section 260533.13 - Conduit for Electrical Systems:
   1. Conduit bodies and other fittings.
   2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.

F. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

G. Section 262726 - Wiring Devices:
   1. Wall plates.
   2. Floor box service fittings.
   3. Additional requirements for locating boxes for wiring devices.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

B. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.

C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.

D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports 2013 (Reaffirmed 2020).

E. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports 2013 (Reaffirmed 2020).

F. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.

I. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.

J. UL 508A - Industrial Control Panels Current Edition, Including All Revisions.

K. UL 514A - Metallic Outlet Boxes Current Edition, Including All Revisions.

L. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers Current Edition, Including All Revisions.

M. UL 1203 - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
   4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
   5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
   6. Coordinate the work with other trades to preserve insulation integrity.
   7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
   8. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, cabinets and enclosures, floor boxes, and underground boxes/enclosures.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Keys for Lockable Enclosures: Two of each different key.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 BOXES

A. General Requirements:
   1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.

2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches (1,650 cu cm), Including Those Used as Junction and Pull Boxes:
1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use suitable concrete type boxes where flush-mounted in concrete.
4. Use suitable masonry type boxes where flush-mounted in masonry walls.
5. Use raised covers suitable for the type of wall construction and device configuration where required.
6. Use shallow boxes where required by the type of wall construction.
7. Do not use "through-wall" boxes designed for access from both sides of wall.
8. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
9. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
10. Nonmetallic Boxes: Comply with NEMA OS 2, and list and label as complying with UL 514C.
11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
12. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
13. Minimum Box Size, Unless Otherwise Indicated:
    a. Wiring Devices (Other Than Communications Systems Outlets): 4 inch square by 1-1/2 inch deep (100 by 38 mm) trade size.
14. Wall Plates: Comply with Section 262726.
15. Manufacturers:
    a. Cooper Crouse-Hinds, a division of Eaton Corporation: www.cooperindustries.com/#sle.
    b. Hubbell Incorporated; Bell Products; [_____]: www.hubbell-rtb.com/#sle.
    c. Hubbell Incorporated; RACO Products; [_____]: www.hubbell-rtb.com/#sle.
    d. O-Z/Gedney, a brand of Emerson Electric Co; [_____]: www.emerson.com/#sle.
    e. Thomas & Betts Corporation: www.tnb.com/#sle.
    f. Or Approved Equal.

C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
2. NEMA 250 Environment Type, Unless Otherwise Indicated:
    a. Indoor Clean, Dry Locations: Type 12 painted steel.
    b. Outdoor Locations: Type 3R, painted steel.
3. Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
    a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
4. Cabinets and Hinged-Cover Enclosures, Other Than Junction and Pull Boxes:

a. Provide lockable hinged covers, all locks keyed alike unless otherwise indicated.
b. Back Panels: Painted steel, removable.
c. Terminal Blocks: Provide voltage/current ratings and terminal quantity suitable for purpose indicated, with 25 percent spare terminal capacity.

5. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.
6. Manufacturers:
   a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com/#sle.
   b. Hoffman, a brand of Pentair Technical Products: www.hoffmanonline.com/#sle.
   c. Hubbell Incorporated; Wiegmann Products: www.hubbell-wiegmann.com/#sle.

D. Boxes and Enclosures for Integrated Power, Data, and Audio/Video: Size and configuration as indicated or as required with partitions to separate services; field-connected gangable boxes may be used.

E. Floor Boxes:
1. Description: Floor boxes compatible with floor box service fittings provided in accordance with Section 262726; with partitions to separate multiple services; furnished with all components, adapters, and trims required for complete installation.
2. Use sheet-steel or cast iron floor boxes within slab above grade.
3. Metallic Floor Boxes: Fully adjustable (with integral means for leveling adjustment prior to and after concrete pour).
4. Manufacturer: Same as manufacturer of floor box service fittings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive boxes.

C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

D. Provide separate boxes for emergency power and normal power systems.

E. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.

F. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.

G. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.

H. Round boxes are not acceptable where conduit must enter box through side of box.

I. Provide knockout closures to cap unused knockout holes where blanks have been removed.

J. Box Locations:
1. Locate boxes to be accessible. Provide access panels in accordance with Section 083100 as required where approved by the Architect.
2. Unless dimensioned, box locations indicated are approximate.
3. Locate boxes as required for devices installed under other sections or by others.
   a. Switches, Receptacles, and Other Wiring Devices: Comply with Section 262726.
4. Locate boxes so that wall plates do not span different building finishes.

5. Locate boxes so that wall plates do not cross masonry joints.
6. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
7. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches (150 mm) horizontal separation unless otherwise indicated.
8. Fire Resistance Rated Walls: Install flush-mounted boxes such that the required fire resistance will not be reduced.
   a. Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches (610 mm) separation where wall is constructed with individual noncommunicating stud cavities or protect both boxes with listed putty pads.
   b. Do not install flush-mounted boxes with area larger than 16 square inches (0.0103 sq m) or such that the total aggregate area of openings exceeds 100 square inches (0.0645 sq m) for any 100 square feet (9.29 sq m) of wall area.
9. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 260533.13.

K. Box Supports:
   1. Secure and support boxes in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
   2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
   3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
   4. Use far-side support to secure flush-mounted boxes supported from single stud in hollow stud walls. Repair or replace supports for boxes that permit excessive movement.

L. Install boxes plumb and level.

M. Flush-Mounted Boxes:
   1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch (6 mm) or does not project beyond finished surface.
   2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
   3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch (3 mm) at the edge of the box.

N. Install boxes as required to preserve insulation integrity.

O. Metallic Floor Boxes: Install box level at the proper elevation to be flush with finished floor.

P. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

Q. Close unused box openings.

R. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

S. Provide grounding and bonding in accordance with Section 260526.

T. Identify boxes in accordance with Section 260553.

3.03 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.04 PROTECTION

A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 260553
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Electrical identification requirements.
B. Exposed conduit color banding
C. Cable/Conductor Identification
D. Operation Instructions and Warnings
E. Danger Signs
F. Equipment/System Identification Signs
G. Identification nameplates and labels.
H. Wire and cable markers.
I. Voltage markers.
J. Underground warning tape.
K. Floor marking tape.
L. Warning signs and labels.

1.02 REFERENCE STANDARDS

A. ANSI Z535.2 - American National Standard for Environmental and Facility Safety Signs 2011 (Reaffirmed 2017).
B. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).
C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
D. NFPA 70E - Standard for Electrical Safety in the Workplace 2021.
E. UL 969 - Marking and Labeling Systems Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
B. Sequencing:
   1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
   2. Do not install identification products until final surface finishes and painting are complete.

1.04 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.
B. Shop Drawings: Provide schedule of items to be identified indicating proposed designations, materials, legends, and formats.
C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.05 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70 and NFPA 70E

1.06 FIELD CONDITIONS

A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

PART 2 PRODUCTS

2.01 ELECTRICAL IDENTIFICATION MATERIALS

A. General: Except as otherwise indicated, provide manufacturer's standard products of catergories and types required for each application. Where more than single type is specified for an application, selection is Installer's option, but provide single slelection for each application.

B. Color-Coded Conduit Markers: Provide manufacturer's standard pre-printed, flexible or semi-rigid, permanent, plastic-sheet conduit markers. Except as otherwise indicated, provide lettering which indicates voltage of conductor(s) in conduit. Unless otherwise indicated or required by governing regulations, provide orange markers with black letters.

C. Arc Fault Stickers: Contractor shall provide and install all arc fault stickers as required by NFPA 70E. Contractor shall provide all fault current studies necessary to provide appropriate stickers on all equipment.

D. Cable/Conductor Identification Bands: Provide manufacturer's standard vinyl-cloth, self-adhesive cable/conductor wire markers or wrap-around type, numbered to show circuit identification.

E. Self-adhesive Plastic Signs: Provide manufacturer's standard, self-adhesive or pressure-sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings, of sizes suitable for application areas and adequate for visibility. Unless otherwise indicated or required by governing regulations, provide orange signs with black lettering.

F. Danger Signs: Provide Manufacturer's standard "Danger" signs of baked enamel finish on 20-gage steel, of standard red, black, and white graphics for adequate vision (as examples: "High Voltage", "Keep Away", "Buried Cable", "Do Not Touch Switch").

G. Engraved Plastic-Laminate Signs: Provide engraved stock melamine plastic-laminate, complying with FS L-P-387 in sizes and thicknessess indicated.
   1. Thickness: 1/16", for units up to 20 sq. in. or 8" length, 1/8" for larger units.
   2. Fastners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

H. Manufacturers: Subject to compliance with requirements.

2.02 LETTERING AND GRAPHICS

A. Coordinate names, abbreviations, and other designations used in electrical identification work with corresponding designations shown or specified for schedule. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of electrical system and equipment.

B. Identification for Equipment:
   1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
      a. Panelboards:
         1) Identify ampere rating.
         2) Identify voltage and phase.
         3) Identify power source and circuit number. Include location when not within sight of equipment.
         4) Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use

identification nameplate.
5) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.
b. Transformers:
1) Identify kVA rating.
2) Identify voltage and phase for primary and secondary.
3) Identify power source and circuit number. Include location when not within sight of equipment.
4) Identify load(s) served. Include location when not within sight of equipment.
c. Enclosed Contactors:
1) Identify ampere rating.
2) Identify voltage and phase.
3) Identify coil voltage.
4) Identify load(s) and associated circuits controlled. Include location.
2. Service Equipment:
a. Use identification nameplate to identify each service disconnecting means.
3. Use voltage marker to identify highest voltage present for each piece of electrical equipment.
4. Use identification nameplate to identify equipment utilizing series ratings, where permitted, in accordance with NFPA 70.
5. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".
6. Use field-painted floor markings, floor marking tape, or warning labels to identify required equipment working clearances.
a. Field-Painted Floor Markings: Alternating black and white stripes, 3 inches (76 mm) wide, painted in accordance with Section 099123 and 099113.
7. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
a. Service equipment.
b. Elevator control panels.
8. Arc Flash Hazard Warning Labels: Comply with Section 260573.
9. Use warning signs to identify electrical hazards for entrances to all rooms and other guarded locations that contain exposed live parts operating at 600 V nominal or less with the word message "DANGER; Electrical hazard; Authorized personnel only" or approved equivalent.

C. Identification for Raceways:
1. Use identification labels, handwritten text using indelible marker, or plastic marker tags to identify spare conduits at each end. Identify purpose and termination location.
2. Use underground warning tape to identify underground raceways.

D. Identification for Devices:
1. Use engraved wallplate to identify serving branch circuit for all receptacles.
a. For receptacles in public areas or in areas as directed by Architect, provide identification on inside surface of wallplate.

2.03 VOLTAGE MARKERS

A. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.

B. Minimum Size:
1. Markers for Equipment: 1 1/8 by 4 1/2 inches (29 by 110 mm).

C. Legend:
1. Markers for Voltage Identification: Highest voltage present.

D. Color: Black text on orange background unless otherwise indicated.

2.04 UNDERGROUND WARNING TAPE

A. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.

B. Non-detectable Type Tape: 6 inches (152 mm) wide, with minimum thickness of 4 mil (0.1 mm).

C. Legend: Type of service, continuously repeated over full length of tape.

D. Color:

2.05 FLOOR MARKING TAPE

A. Floor Marking Tape for Equipment Working Clearance Identification: Self-adhesive vinyl or polyester tape with overlaminate, 3 inches (76 mm) wide, with alternating black and white stripes.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. General Installation Requirements:
   1. Coordination: Where identification to be applied to surfaces which require finish, install identification after completion of painting.
   2. Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

C. Conduit Identification:
   1. General: Apply color-coded identification on electrical conduit in a manner similar to piping identification. Except as otherwise indicated, use a color that matches surroundings as coded color for conduit.

D. Cable/Conductor Identification:
   1. Apply cable/conductor identification on each box/enclosure/cabinet where wires are present, match identification with marking system used in panelboards, shop drawings, contract documents, and similar previously established identification for project electrical work.
   2. All conductors shall be clearly and permanently identified, and color coded per NEC.
   3. All control circuit and instrument circuit terminations shall be identified. For conductors #6 and smaller, conductor color-coding shall be color insulation. For conductor color coding of work larger than #6, use self-adhesive wrap around tape markers. Use markers for all panelboards, boxes, outlets, switches, circuit breakers and control centers.
   4. Operational Instructions and Warnings: Wherever reasonably required to ensure safe and efficient operation and maintenance of electrical and other related systems, and equipment, including prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instructions or warnings on switches, outlets and other control devices and covers of electrical enclosures.

E. Equipment/System Identification:
   1. Install engraved plastic-laminate sign on each major unit of electrical equipment in the building unless unit is specified with its own self-explanatory identification.
   2. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for the following categories of electrical work:
      a. Panelboards, electrical cabinets and enclosures

b. Access panel/doors to electrical facilities
c. Major electrical substation and switchboard
d. Disconnect/safety switches
e. Telecommunications switching equipment
f. Fire Alarm Master Station

4.01 FIELD QUALITY CONTROL

A. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION

SECTION 262416
PANELBOARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Power distribution panelboards.

B. Lighting and appliance panelboards.

C. Overcurrent protective devices for panelboards.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete equipment pads.

B. Section 260526 - Grounding and Bonding for Electrical Systems.

C. Section 260529 - Hangers and Supports for Electrical Systems.

D. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

E. Section 260573 - Power System Studies: Additional criteria for the selection and adjustment of equipment and associated protective devices specified in this section.

F. Section 262200 - Low-Voltage Transformers: Small power centers with integral primary breaker, transformer, and panelboard.

1.03 REFERENCE STANDARDS

A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service 2013e, with Amendment (2017).

B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

C. NECA 407 - Standard for Installing and Maintaining Panelboards 2015.

D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

E. NEMA PB 1 - Panelboards 2011.

F. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less 2013.

G. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.

H. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

I. UL 67 - Panelboards Current Edition, Including All Revisions.

J. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted panelboards where indicated.
   4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.

5. Notify Engineer/Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.
   1. Include characteristic trip curves for each type and rating of overcurrent protective device upon request.

B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
   1. Include dimensioned plan and elevation views of panelboards and adjacent equipment with all required clearances indicated.
   2. Include wiring diagrams showing all factory and field connections.
   3. Clearly indicate whether proposed short circuit current ratings are fully rated or, where acceptable, series rated systems.
   4. Include documentation of listed series ratings upon request.
   5. Coordinate Fault Current ratings with Study.

C. Source Quality Control Test Reports: Include reports for tests designated in NEMA PB 1 as routine tests.

D. Field Quality Control Test Reports.

E. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

F. Project Record Documents: Record actual installed locations of panelboards and actual installed circuiting arrangements.

G. Maintenance Data: Include information on replacement parts and recommended maintenance procedures and intervals.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Panelboard Keys: Two of each different key.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store panelboards in accordance with manufacturer's instructions and NECA 407.

B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

C. Handle carefully in accordance with manufacturer's written instructions to avoid damage to panelboard internal components, enclosure, and finish.

1.08 FIELD CONDITIONS

A. Maintain ambient temperature within the following limits during and after installation of panelboards:
   1. Panelboards Containing Circuit Breakers: Between 23 degrees F (-5 degrees C) and 104 degrees F (40 degrees C).

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. ABB/GE; [_____]: www.geindustrial.com/#sle.

B. Eaton Corporation; [_____]: www.eaton.com/#sle.

C. Schneider Electric; Square D Products; [_____]: www.schneider-electric.us/#sle.

D. Siemens Industry, Inc; [_____]: www.usa.siemens.com/#sle.

E. Or Approved Equal.

F. Source Limitations: Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.02 PANELBOARDS - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled as suitable for the purpose intended.

B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
   1. Altitude: Less than 6,600 feet (2,000 m).

C. Short Circuit Current Rating:
   1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as determined by short circuit study performed in accordance with Section 260573.
   2. Listed series ratings are not acceptable.

D. Main Breaker: Configure for top or bottom incoming feed as indicated or as required for the installation.

E. Branch Mounted Main Circuit Breakers are not allowed.

F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.

G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
   1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
   2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.

H. Conductor Terminations: Suitable for use with the conductors to be installed.

I. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
   1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
      a. Indoor Clean, Dry Locations: Type 1.
      b. Outdoor Locations: Type 12/3R.
   2. Boxes: Galvanized steel unless otherwise indicated.
      a. Cabinets shall be of such size as to allow a wiring gutter space of at least 6" all around for power panels, and 4" all around for lighting panels.
      b. Provide painted steel boxes for surface-mounted panelboards where indicated, finish to match fronts.
   3. Fronts:

a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
b. Finish for Painted Steel Fronts: Manufacturer's standard grey unless otherwise indicated.

4. Lockable Doors: All locks keyed alike unless otherwise indicated.

J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.

K. Each Panelboard shall be complete with main tin plated copper bus run up the center and neutral bars where required and all proper sequence phase connections. Polarized panelboards will not be accepted. Capacities of copper busses and connections shall be based on a maximum density of 1000 amps per sq. in. spacing of busses shall not be less than code requirements.

L. Busses shall be arranged as indicated on the drawings. Busses shall be provided with suitable phase identification.

M. Directory holder with metal frame shall be furnished and installed upon the door of each cabinet, with complete typewritten circuit schedule inserted.

N. The inside and outside of panelboard boxes, doors and trims shall be furrnished with at least two coats of manufacturer's standard finish paint over a baked-on prime coat.

O. Provide ground bus. Provide additional isloated ground bus where specified.

P. Lighting and Appliance Panels: Panels shall be for use on voltage phase, number of wire system, 60 cycle, solid neutral service, with number and size of bolt-on type circuit breaker branches as shown on the drawings. Circuit breaker's interrupting capacity shall be 10,000 RMS symmetrical amperes unless otherwise noted.

Q. Power and Distribution Panels:
1. Power and distirbution panels shall be the dead-front type, with hinged doors, with fusible circuit breakers in the branches as indicated on the drawings. The panels shall be suitable for 208/120 volt, 3-Phase, 4-wire or 480/277 volt, 3-phase, 4-wire supply as shown.

2.03 POWER DISTRIBUTION PANELBOARDS

A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.

B. Conductor Terminations:
1. Main and Neutral Lug Material: Copper suitable for terminating copper conductors only.
2. Main and Neutral Lug Type: Mechanical.

C. Bussing:
1. Phase and Neutral Bus Material: Copper.
2. Ground Bus Material: Copper.

D. Circuit Breakers:
1. Provide bolt-on type.
2. Provide thermal magnetic circuit breakers unless otherwise indicated.
3. Provide electronic trip circuit breakers where indicated.

E. Enclosures:
1. Provide surface-mounted enclosures unless otherwise indicated.
2. NEMA 1 Indoors, NEMA 12/3R outdoors.

2.04 LIGHTING AND APPLIANCE PANELBOARDS

A. Description: Panelboards complying with NEMA PB 1, lighting and appliance branch circuit type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.

B. Conductor Terminations:
   1. Main and Neutral Lug Material: Copper suitable for terminating copper conductors only.
   2. Main and Neutral Lug Type: Mechanical.

C. Bussing:
   1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
   2. Phase and Neutral Bus Material: Copper.
   3. Ground Bus Material: Copper.

D. Circuit Breakers: Thermal magnetic bolt-on type unless otherwise indicated.

E. Enclosures:
   1. Provide surface-mounted enclosures as indicated.

2.05 OVERCURRENT PROTECTIVE DEVICES

A. Molded Case Circuit Breakers:
   1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
   2. Interrupting Capacity:
      a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
         1) 10,000 rms symmetrical amperes at 240 VAC or 208 VAC.
         2) 14,000 rms symmetrical amperes at 480 VAC.
      b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
   3. Conductor Terminations:
      a. Provide mechanical lugs unless otherwise indicated.
      b. Provide compression lugs where indicated.
      c. Lug Material: Copper suitable for terminating copper conductors only.
   4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
      a. Provide field-adjustable magnetic instantaneous trip setting for circuit breaker frame sizes 225 amperes and larger.
   5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
   6. Provide the following circuit breaker types where indicated:
      a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.
      b. Ground Fault Equipment Protection Circuit Breakers: Designed to trip at 30 mA for protection of equipment.
      c. 100 Percent Rated Circuit Breakers: Listed for application within the panelboard where installed at 100 percent of the continuous current rating.
      d. Current Limiting Circuit Breakers: Without using fusible elements, designed to limit the let-through energy to a value less than the energy of a one-half cycle wave of the symmetrical prospective current when operating within its current limiting range.
   7. Provide listed switching duty rated circuit breakers with SWD marking for all branch circuits serving fluorescent lighting.
   8. Provide listed high intensity discharge lighting rated circuit breakers with HID marking for all branch circuits serving HID lighting.
   9. Do not use tandem circuit breakers.
   10. Do not use handle ties in lieu of multi-pole circuit breakers.
   11. Provide multi-pole circuit breakers for multi-wire branch circuits as required by NFPA 70.

12. Provide the following features and accessories where indicated or where required to complete installation:
    a. Shunt Trip: Provide coil voltage as required for connection to indicated trip actuator.
    b. Handle Pad-Lock Provision: For locking circuit breaker handle in OFF position.

2.06 SOURCE QUALITY CONTROL

A. Factory test panelboards according to NEMA PB 1.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive panelboards.

D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship).

B. Install products in accordance with manufacturer's instructions.

C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.

D. Secure all panelboards to building structure/walls to comply with tightening torques specified to UL stds. 486A and B.

E. Panelboard loads shall be balanced between phases.

F. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

G. Install panelboards plumb.

H. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches (2000 mm) above the floor or working platform.

I. Mount floor-mounted power distribution panelboards on properly sized 3 inch (80 mm) high concrete pad constructed in accordance with Section 033000.

J. Provide grounding and bonding in accordance with Section 260526.
    1. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on isolated/insulated ground bus.

K. Install all field-installed branch devices, components, and accessories.

L. Multi-Wire Branch Circuits: Group grounded and ungrounded conductors together in the panelboard as required by NFPA 70.

M. Set field-adjustable circuit breaker tripping function settings per load study.

N. Provide filler plates to cover unused spaces in panelboards.

O. Provide circuit breaker lock-on devices to prevent unauthorized personnel from de-energizing essential loads for the following:
    1. Fire detection and alarm circuits.
    2. Communications equipment circuits.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Test GFCI circuit breakers to verify proper operation.

D. Test shunt trips to verify proper operation.

E. Procure services of a qualified manufacturer's representative to observe installation and assist in inspection, testing, and adjusting. Include manufacturer's reports with field quality control submittals.

F. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.04 ADJUSTING

A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

B. Adjust alignment of panelboard fronts.

C. Load Balancing: For each panelboard, rearrange circuits such that the difference between each measured steady state phase load does not exceed 20 percent and adjust circuit directories accordingly. Maintain proper phasing for multi-wire branch circuits.

3.05 CLEANING

A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.

B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

SECTION 262726
WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall switches.

B. Receptacles.

C. Wall plates.

1.02 RELATED REQUIREMENTS

A. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Manufactured wiring systems for use with access floor boxes with compatible pre-wired connectors.

B. Section 260526 - Grounding and Bonding for Electrical Systems.

C. Section 260533.16 - Boxes for Electrical Systems.

D. Section {\id\#874} - Boxes for Electrical Systems.

E. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. FS W-C-596 - Connector, Electrical, Power, General Specification for 2014h, with Amendments (2017).

B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification) 2014g, with Amendment (2017).

C. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.

D. NECA 130 - Standard for Installing and Maintaining Wiring Devices 2016.

E. NEMA WD 1 - General Color Requirements for Wiring Devices 1999 (Reaffirmed 2020).

F. NEMA WD 6 - Wiring Devices - Dimensional Specifications 2021.

G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 20 - General-Use Snap Switches Current Edition, Including All Revisions.

I. UL 498 - Attachment Plugs and Receptacles Current Edition, Including All Revisions.

J. UL 514D - Cover Plates for Flush-Mounted Wiring Devices Current Edition, Including All Revisions.

K. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.

L. UL 1310 - Class 2 Power Units Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
   2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
   3. Coordinate the placement of outlet boxes for wall switches with actual installed door swings.
   4. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
   5. Coordinate the core drilling of holes for poke-through assemblies with the work covered under other sections.

6. Notify Engineer/Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

B. Sequencing:
   1. Do not install wiring devices until final surface finishes and painting are complete.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

B. Field Quality Control Test Reports.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Operation and Maintenance Data:
   1. GFCI Receptacles: Include information on status indicators.

E. Project Record Documents: Record actual installed locations of wiring devices.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Products: Listed, classified, and labeled as suitable for the purpose intended.

E. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide factory-fabricated wiring devices, in types, colors, and electrical ratings for applications indicated and compllying with NEMA stds. Pub. No. WD or as required. Unless otherwise noted device cover plates shall be high abuse nylon or stainless steel in industrial locations.

2.02 WIRING DEVICE APPLICATIONS

A. Provide wiring devices suitable for intended use and with ratings adequate for load served.

B. For single receptacles installed on an individual branch circuit, provide receptacle with 20 ampere rating minimum and not less than that of the branch circuit.

C. Provide weather resistant GFCI receptacles with specified weatherproof covers for receptacles installed outdoors or in damp or wet locations.

D. Provide GFCI protection for receptacles installed within 6 feet (1.8 m) of sinks.

E. Provide GFCI protection for receptacles installed in kitchens.

F. Provide GFI protection for all receptacles serving electric drinking fountains. Use GFCI Breaker for GFI protection.

G. Unless noted otherwise, do not use combination switch/receptacle devices.

H. For flush floor service fittings, use tile rings for installations in tile floors.

I. For flush floor service fittings, use carpet flanges for installations in carpeted floors.

2.03 WIRING DEVICE FINISHES

A. Provide wiring device finishes as described below unless otherwise indicated.

B. Wiring Devices Installed in Finished Spaces: White with stainless steel wall plate.

C. Wiring Devices Installed in Unfinished Spaces: White with stainless steel wall plate.

D. Wiring Devices Installed in Wet or Damp Locations: White with specified weatherproof cover.

2.04 WALL SWITCHES

A. Manufacturers:
   1. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   2. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   3. Or Approved Equal.

B. Wall Switches - General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20and where applicable FS W-S-896; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.

C. Standard Wall Switches: Industrial specification grade, 20 A, 120/277 V with standard toggle type switch actuator and maintained contacts; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.

2.05 RECEPTACLES

A. Manufacturers:
   1. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
   2. Lutron Electronics Company, Inc; Designer Style: www.lutron.com/#sle.
   3. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
   4. Or Approved Equal.

B. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498and where applicable FS W-C-596; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
   2. NEMA configurations specified are according to NEMA WD 6.

C. Convenience Receptacles:
   1. Standard Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R; single or duplex as indicated on the drawings.
   2. Weather Resistant Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R, listed and labeled as weather resistant type complying with UL 498 Supplement SE suitable for installation in damp or wet locations; single or duplex as indicated on the drawings.
   3. Tamper Resistant Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R, listed and labeled as tamper resistant type; single or duplex as indicated on the drawings.

D. GFCI Receptacles:
   1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
      a. Provide test and reset buttons of same color as device.
   2. Standard GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.

3. Weather Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as weather resistant type complying with UL 498 Supplement SE suitable for installation in damp or wet locations.

E. USB Charging Devices:
1. USB Charging Devices - General Requirements: Listed as complying with UL 1310.
a. Charging Capacity - Two-Port Devices: 2.1 A, minimum.
2. USB Charging/Tamper Resistant Receptacle Combination Devices: Two-port (Type A) USB charging device and receptacle, commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, listed and labeled as tamper resistant type; rectangular decorator style.

2.06 WALL PLATES

A. Manufacturers:
1. Hubbell Incorporated: www.hubbell-wiring.com/#sle.
2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
3. Lutron Electronics Company, Inc; [_____]: www.lutron.com/#sle.
4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
5. Or Approved Equal.

B. Wall Plates: Comply with UL 514D.
1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
2. Size: Standard; [_____].
3. Screws: Metal with tamper-resistant heads finished to match wall plate finish.

C. Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.

D. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.

E. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of wiring devices provided under this section.

1. Mounting Heights: Unless otherwise indicated, as follows:
   a. Wall Switches: 48 inches (1200 mm) above finished floor.
   b. Receptacles: 18 inches (450 mm) above finished floor or 6 inches (150 mm) above counter.
2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
3. Where multiple receptacles, wall switches, or wall dimmers are installed at the same location and at the same mounting height, gang devices together under a common wall plate.
4. Locate wall switches on strike side of door with edge of wall plate 3 inches (80 mm) from edge of door frame. Where locations are indicated otherwise, notify Engineer/Architect to obtain direction prior to proceeding with work.
5. Locate receptacles for electric drinking fountains concealed behind drinking fountain according to manufacturer's instructions.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

E. Where required, connect wiring devices using pigtails not less than 6 inches (150 mm) long. Do not connect more than one conductor to wiring device terminals.

F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

H. Provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.

I. Where split-wired duplex receptacles are indicated, remove tabs connecting top and bottom receptacles.

J. Install wiring devices plumb and level with mounting yoke held rigidly in place.

K. Install wall switches with OFF position down.

L. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.

M. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

N. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

O. Identify wiring devices in accordance with Section 260553.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Prior to energizing circuitry, test wiring devices for electtrical continuity and proper polarity connections. After energizing circuitry, test wiring devices to demonstrate compliance with requirements.

C. Inspect each wiring device for damage and defects.

D. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.

E. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.05 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.06 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

SECTION 265100
INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior luminaires.
B. Emergency lighting units.
C. Exit signs.
D. Ballasts and drivers.
E. Lamps.
F. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 260529 - Hangers and Supports for Electrical Systems.
B. Section 260533.16 - Boxes for Electrical Systems.
C. Section 260553 - Identification for Electrical Systems: Identification products and requirements.
D. Section 262726 - Wiring Devices: Manual wall switches and wall dimmers.
E. Section 265600 - Exterior Lighting.

1.03 REFERENCE STANDARDS

A. ANSI C82.4 - American National Standard for Lamp Ballasts - Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps 2017.
B. ANSI C82.11 - American National Standard for Lamp Ballasts - High Frequency Fluorescent Lamp Ballasts 2017.
C. IES LM-63 - Approved Method: IES Standard File Format for the Electronic Transfer of Photometric Data and Related Information 2019.
D. IES LM-79 - Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products 2019.
E. IES LM-80 - Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources 2021.
F. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
G. NECA/IESNA 500 - Standard for Installing Indoor Lighting Systems 2006.
H. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems 2006.
I. NEMA LE 4 - Recessed Luminaires, Ceiling Compatibility 2012 (Reaffirmed 2018).
J. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
K. NFPA 101 - Life Safety Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
L. UL 844 - Luminaires for Use in Hazardous (Classified) Locations Current Edition, Including All Revisions.
M. UL 924 - Emergency Lighting and Power Equipment Current Edition, Including All Revisions.
N. UL 935 - Fluorescent-Lamp Ballasts Current Edition, Including All Revisions.
O. UL 1029 - High-Intensity-Discharge Lamp Ballasts Current Edition, Including All Revisions.
P. UL 1598 - Luminaires Current Edition, Including All Revisions.

Q. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
   2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
   3. Coordinate the placement of exit signs with furniture, equipment, signage or other potential obstructions to visibility installed under other sections or by others.
   4. Notify Engineer/Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.05 SUBMITTALS

A. Shop Drawings:
   1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
   2. Provide photometric calculations where luminaires are proposed for substitution 10 days prior to bid date for Engineer Approval.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
   1. LED Luminaires:
      a. Include estimated useful life, calculated based on IES LM-80 test data.
      b. Include IES LM-79 test report upon request.
   2. Provide electronic files of photometric data certified by a National Voluntary Laboratory Accreditation Program (NVLAP) lab or independent testing agency in IES LM-63 standard format upon request.
   3. Lamps: Include rated life, color temperature, color rendering index (CRI), and initial and mean lumen output.

C. Field quality control reports.

D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

E. Operation and Maintenance Data: Instructions for each product including information on replacement parts.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Lamps: Ten percent of total quantity installed for each type, but not less than two of each type.

1.06 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.08 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.

PART 2 PRODUCTS

2.01 LUMINAIRE TYPES

A. Furnish products as indicated in luminaire schedule included on the drawings.

2.02 LUMINAIRES

A. Provide products that comply with requirements of NFPA 70.

B. Provide products that are listed and labeled as complying with UL 1598, where applicable.

C. Provide products listed, classified, and labeled as suitable for the purpose intended.

D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.

F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

G. Recessed Luminaires:
   1. Ceiling Compatibility: Comply with NEMA LE 4.
   2. Luminaires Recessed in Insulated Ceilings: Listed and labeled as IC-rated, suitable for direct contact with insulation and combustible materials.
   3. Luminaires Recessed in Sloped Ceilings: Provide suitable sloped ceiling adapters.

H. LED Luminaires:
   1. Components: UL 8750 recognized or listed as applicable.
   2. Tested in accordance with IES LM-79 and IES LM-80.
   3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

I. Luminaires Mounted in Continuous Rows: Provide quantity of units required for length indicated, with all accessories required for joining and aligning.

2.03 EMERGENCY LIGHTING UNITS

A. Description: Emergency lighting units complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.

B. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps

to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.

C. Battery:
   1. Sealed maintenance-free lead calcium unless otherwise indicated.
   2. Size battery to supply all connected lamps, including emergency remote heads where indicated.

D. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation.

E. Provide low-voltage disconnect to prevent battery damage from deep discharge.

F. Self-Diagnostics: Provide units that self-monitor functionality and automatically perform testing required by NFPA 101 where indicated; provide indicator light(s) to report test and diagnostic status.

G. Accessories:
   1. Provide compatible accessory mounting brackets where indicated or required to complete installation.
   2. Provide compatible accessory high impact polycarbonate vandal shields where indicated.
   3. Provide compatible accessory wire guards where indicated.
   4. Where indicated, provide emergency remote heads that are compatible with the emergency lighting unit they are connected to and suitable for the installed location.

2.04 EXIT SIGNS

A. Description: Internally illuminated exit signs with LEDs unless otherwise indicated; complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.
   1. Number of Faces: Single or double as indicated or as required for the installed location.
   2. Directional Arrows: As indicated or as required for the installed location.

B. Self-Luminous Exit Signs: Internally illuminated by tritium gas sealed inside phosphor lined gas tubes, requiring no electrical power to operate, with a service life of 20 years unless otherwise indicated.

2.05 BALLASTS AND DRIVERS

A. Ballasts/Drivers - General Requirements:
   1. Provide ballasts containing no polychlorinated biphenyls (PCBs).
   2. Minimum Efficiency/Efficacy: Provide ballasts complying with all current applicable federal and state ballast efficiency/efficacy standards.

2.06 LAMPS

A. Lamps - General Requirements:
   1. Unless explicitly excluded, provide new, compatible, operable lamps in each luminaire.
   2. Verify compatibility of specified lamps with luminaires to be installed. Where lamps are not specified, provide lamps per luminaire manufacturer's recommendations.
   3. Minimum Efficiency: Provide lamps complying with all current applicable federal and state lamp efficiency standards.
   4. Color Temperature Consistency: Unless otherwise indicated, for each type of lamp furnish products which are consistent in perceived color temperature. Replace lamps that are determined by the Engineer/Architect to be inconsistent in perceived color temperature.

2.07 ACCESSORIES

A. Stems for Suspended Luminaires: Steel tubing, minimum 1/2" size, factory finished to match luminaire or field-painted as directed.

B. Threaded Rods for Suspended Luminaires: Zinc-plated steel, minimum 1/4" size, field-painted as directed.

C. Provide accessory plaster frames for luminaires recessed in plaster ceilings.

D. Fire-Rated Luminaire Enclosures:
   1. Provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of luminaires provided under this section.

B. Install products in accordance with manufacturer's instructions.

C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).

D. Provide required support and attachment in accordance with Section 260529.

E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

F. Furnish and set all inserts, anchors, studs, and hangers for the support of lighting fixtures and respective equipment, and make all necessary adjustments as requred.

G. In acoustical tile ceiling with concealed mechanical suspension system and in gypboard or plaster ceilings, recessed troffers shall be flanged type fixtures. In acoustical tile ceiilings with exposed mecahnical suspension systems., troffers shall be lay-in type.

H. For any type ceiling provide sufficient support for fixtures, either arrange with other subcontractors to strengthen ceiling or support fixtures from structure above independently of ceiling. Regardless of whether or not the ceiling can support the fixtures, provide securing wiring on fixture to structure. Provide a minimum of two securing wires to 2x4, 2x2, etc. NOTE: Securing wires are not the same as support wires. Securing wires are for preventing a fixture from falling into a space if the ceiling fails under a fire situation.

I. All lay-in fixtures shall be connected to grid system with hurricane clips.

J. Fixtures to be insllated in or on painted ceilings and/or walls shall not be installed until painting is completed. Fixtures installed with paint applied over facotry finishes will be rejected.

K. Suspended Ceiling Mounted Luminaires:
   1. Do not use ceiling tiles to bear weight of luminaires.
   2. Do not use ceiling support system to bear weight of luminaires unless ceiling support system is certified as suitable to do so.

3. Secure surface-mounted and recessed luminaires to ceiling support channels or framing members or to building structure.
4. Secure pendant-mounted luminaires to building structure.
5. Secure lay-in luminaires to ceiling support channels using listed safety clips at four corners.
6. In addition to ceiling support wires, provide two galvanized steel safety wire(s), minimum 12 gage, connected from opposing corners of each recessed luminaire to building structure.

L. Recessed Luminaires:
1. Install trims tight to mounting surface with no visible light leakage.
2. Non-IC Rated Luminaires: Maintain required separation from insulation and combustible materials according to listing.
3. Luminaires Recessed in Fire-Rated Ceilings: Install using accessories and firestopping materials to meet regulatory requirements for fire rating.

M. Suspended Luminaires:
1. Unless otherwise indicated, specified mounting heights are to bottom of luminaire.
2. Install using the suspension method indicated, with support lengths and accessories as required for specified mounting height.
3. Provide minimum of two supports for each luminaire equal to or exceeding 4 feet nominal length, with no more than 4 feet (1.2 m) between supports.
4. Install canopies tight to mounting surface.
5. Unless otherwise indicated, support pendants from swivel hangers.

N. Wall-Mounted Luminaires: Unless otherwise indicated, specified mounting heights are to center of luminaire.

O. Install accessories furnished with each luminaire.

P. Bond products and metal accessories to branch circuit equipment grounding conductor.

Q. Emergency Lighting Units:
1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls.

R. Exit Signs:
1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls.

S. Install lamps in each luminaire.

T. Lamp Burn-In: Operate lamps at full output for prescribed period per manufacturer's recommendations prior to use with any dimming controls. Replace lamps that fail prematurely due to improper lamp burn-in.

U. Night Lights shall be on non-motorized breakers.

3.04 FIELD QUALITY CONTROL

A. Inspect each product for damage and defects.

B. Operate each luminaire after installation and connection to verify proper operation.

C. Test self-powered exit signs, emergency lighting units, and fluorescent emergency power supply units to verify proper operation upon loss of normal power supply.

D. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Engineer/Architect.

3.05 ADJUSTING

A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Engineer/Architect. Secure locking fittings in place.

B. Aim and position adjustable emergency lighting unit lamps to achieve optimum illumination of egress path as required or as directed by Engineer/Architect or authority having jurisdiction.

C. Exit Signs with Field-Selectable Directional Arrows: Set as indicated or as required to properly designate egress path as directed by Engineer/Architect or authority having jurisdiction.

3.06 CLEANING

A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.07 CLOSEOUT ACTIVITIES

A. Demonstration: Demonstrate proper operation of luminaires to Engineer/Architect, and correct deficiencies or make adjustments as directed.

B. Just prior to Substantial Completion, replace all lamps that have failed.

3.08 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

END OF SECTION

Sole Source Letter

On October 17th the board approved a Matching Grant for In-Motions Systems that also included a sole source letter as part of the package. The business office approved and issued a purchase order for this system however they are now stating that since the sole source letter was not board approved prior to the matching grant approval they cannot pay this vendor in the amount of $ 17,945.00. In light of this development, the sole source letter and all supporting documents are included in this request to approve the sole source letter so the vendor can be paid or can retrieve their equipment.

Thank you for your consideration,

Dean Lepoma

Dean Lepoma

HitTrax™ is the only data capture and simulation system that provides the powerful combination of performance metrics with a game time experience. Using patented technology, HitTrax delivers precision data with millisecond response time to offer a clear understanding of the relationship between advanced metrics and on field performance. This gives coaches the tools to develop student athletes in the way that they learn best, visually.

Designed for skill development of hitters, pitchers and catchers HitTrax is the only single unit solution on the market to capture and report data for all three positions. Specifically, HitTrax catching module is the first and only automated reporting of a catcher's pop-time, transition time and throw accuracy to 2nd base.

Not only does HitTrax deliver a competitive training environment but generates intuitive reports that are specifically designed to tie the metrics together in meaningful ways. HitTrax in-depth reporting and data analysis is unlike anything else available in the industry. It delivers a holistic understanding of players' strengths and weaknesses. This gives coaches the tools they need to instruct with the ability to hold players accountable throughout their time in the program. In addition to reporting HitTrax delivers immediate point of impact analysis, a unique feature to the HitTrax system and revolutionary in training.

The HitTrax VCAM (Video Capture and Analysis Module) is a crucial part of the HitTrax system that provides video capture for every swing, pitch, or catchers throwdown. It is then automatically cataloged with the corresponding hit/pitch data - enabling true "cause & effect" analysis without any post-session editing needed. At any time during or post training session, coaches can focus on specific parts of the strike zone, compare high speed video side-by-side, and show performance evolution over time. This feature requires the HitTrax supplied High Speed Camera as well as the Premium subscription that enables license and software capabilities.

When you combine objective feedback, intuitive reporting, and a competitive environment; the results are unmatched. That is the HitTrax difference.

Thomas Stepsis, Director

9/27/22

Date

Jennifer Cox <jcj824@jcsd.ms>

Inmotion Vendor PO 2330310

1 message

Mary Eyring <mej942@jcsd.ms> Fri, Mar 10, 2023 at 10:41 AM
To: Jennifer Cox <jcj824@jcsd.ms>
Cc: Ryan Earley <rej103@jcsd.ms>, Jerry Hill <jhj2540@jcsd.ms>

Hello,

You have the matching grant application board approved. You also need a separate line item on the board docket to get the sole source letter board approved and stamped. These documents are two different things that separately need board approval. Once this is completed for both documents payment can be made.

Kati Eyring
Purchasing Agent
Jackson County School District
(228) 826-4842 ext. 0136
mej942@jcsd.ms

JACKSON COUNTY SCHOOL DISTRICT
VANCLEAVE MS 39565-5308
Phone: 228-826-4842 Fax: 228-826-3871

P.O. NUMBER	REQ	REQ Created By	DATE	PAGE
2330310	00029195	jcox	10/18/2022	1

BILL TO **VANCLEAVE ATHLETICS**

4724 BULLDOG LANE
VANCLEAVE, MS 39565

SHIP TO Dean Lepoma
VANCLEAVE ATHLETICS

4724 BULLDOG LANE
VANCLEAVE, MS 39565

Fund-Glc-Func-Pgm-Obj-Ut-Mod	Amount
1120-900-1910-054-737-20-0000	$8,972.50
1120-900-1910-089-737-20-0000	$8,972.50
TOTAL AMOUNT	**$17,945.00**

VENDOR 15433 Ph: 508-353-3756
INMOTION SYSTEMS
24 KENDALL DR.

WESTBOROUGH, MA 01581
EMail: BPEASE@HITTRAX.COM

QTY	UNIT	DESCRIPTION	CATALOG NUMBER	UNIT PRICE	TOTAL
1	EA	HitTrax Baseball Simulator System	Quote#: 082922004bp	$17,945.00	$17,945.00
0	EA	DO NOT EXCEED $ 17,945.00		$0.00	$0.00
				Page Total:	**$17,945.00**
				Total Order:	**$17,945.00**

Unsigned 10/18/22

UTE 1/6/23
Pd $ 17945.00 ✓
B/A 2/13/23

Asst Supt 1/18/23

on docket for 2/13/23

NOTE: 1.JACKSON COUNTY SCHOOL DISTRICT is a tax exempt agency.
2.Mail invoice to Ship To address at top of page.
3.Purchase Order Number must appear on all correspondence.
4.Notify us of on any items not in stock.

☐ ORDER COMPLETE
☐ ORDER INCOMPLETE

APPROVED BY:

Ryan Earley 10/18/2022

PURCHASING AGENT **Date** **RECEIVED BY ----------RECEIVED DATE**

Matching Grant Application

1. Statement of Need:
   - A. Group Applying for Grant: Vancleave Home Run Club
   - B. School: Vancleave Middle/HIgh School Baseball Teams
   - C. Who Benefits: Vancleave MS/HS Baseball Team & Coaches

2. Capital Project Design/Description:
   - A. Goals and Objectives: The system is the first and only baseball data capturing and simulation system that combines performance data & training value.
   - B. Participants: Vancleave Home Run Club
   - C. Capital Project: Obtain, Install and Program HitTrax System
   - D. Project Management: Dean Lepoma, Justin Edwards, Vancleave HomeRun Club
   - E. Building Permit Documentation: None

3. Project Resources:
   - A. Completion Date: TBD
   - B. Budget:
     - i. District: $ 8,972.50
     - ii. Group: $ 8,972.50
   - C. Matching Money Documentation: Bank Statement, Sole Source Lettter, COI

Assistant Superintendent: Todd Bowden

Superintendent:

JCSD Board of Education President:

APPROVED
OCT 17 2022
Jackson County School District

Jennifer Cox <jcj824@jcsd.ms>

READY - Baseball Matching Grant - HitTrax

Ryan Earley <rej103@jcsd.ms> Tue, Oct 18, 2022 at 11:22 AM
To: Kristi Warren <kwj732@jcsd.ms>, Jennifer Cox <jcj824@jcsd.ms>, Dean Lepoma <dlj211@jcsd.ms>

This one is ready for requisition.

1120-900-1910-054-737-20-0000 = $8,972.50
1120-900-1910-089-737-20-0000 = $8,972.50

Thanks,
Ryan

HitTrax

QUOTATION

InMotion Systems, LLC
24 Kendall Drive, Westborough, MA 01581
Phone: (508) 353-3756

Quotation #: 082922004BP
Date: August 29, 2022

Vancleave High School

QTY	DESCRIPTION	PART #	UNIT PRICE	AMOUNT
1	HitTrax Baseball Simulator – Side Version Includes: - All-In-One Computer, Calibration Equipment, Keyboard - Unlimited Batting Practice in College Stadiums - Real-time metrics (current hit and summary of session)	HTRX100SW	$14,950.00	$14,950.00
1	Video Camera, 120 fps, Color		$795.00	$795.00
1	Installation & Training – on-site assistance		$1,500.00	$1,500.00
	Subscription Packages Price is not reflected in the **amount due**. Subscription to be activated and paid for online after installation.			
1	- HS & College Package ***(Includes Standard Subscription)*** - Add the HitTrax Video Analysis Module, Training Games, Bat Fitting, Player Rankings, Remote access of data via app. Unlimited cloud storage of videos. Unlimited license for Gaming Module (leagues, tournaments), HR Derby, and MLB Stadium Upgrade		$899/year	
			SUBTOTAL	$17,245.00
			SHIPPING & HANDLING ($650/SYSTEM)	$700.00
			TOTAL DUE (USD)	**$17,945.00**

Please Make Checks payable to: InMotion Systems, LLC

Federal Tax ID: 45-2209327

Terms:
- Purchase Order or 20% required to place order
- Balance due upon receipt of invoice after shipment within 15 days

Thank you for choosing InMotion Systems

Thomas Stephens
9/27/22

InMotion Systems, LLC
GENERAL TERMS AND CONDITIONS

1. **Purchase Order**

1. Customer will order products from InMotion Systems (hereinafter "COMPANY") through the issuance of purchase orders at least 30 days in advance of the requested delivery dates. All preprinted terms and conditions on purchase orders are superseded entirely by the terms and conditions of this Agreement. Each purchase order will adequately identify the COMPANY product, set forth the requested quantity, and specify the requested delivery method and date. Purchase orders must be in writing and may be sent via email to COMPANY. Orders accepted without a purchase order will be subject to the terms and conditions set forth in this document.

2. COMPANY products will be delivered to Customer in packaging reasonably acceptable to Customer, given shipment, warehousing and storage requirements. (Customer will advise COMPANY in writing of any special packaging or labeling requirements at the time in placing an order.) Delivery will be made FOB InMotion Systems manufacturing, warehousing or transshipment facility.

2. **Prices and Terms**

1. Customer will pay COMPANY a deposit of 20% of the order price with the balance due upon receipt of invoice. All past due amounts shall accrue delinquency charges at the rate of one percent (1%) per month.

3. **Ownership of Data**

1. COMPANY retains all ownership and intellectual property rights in and to all data collected or provided through a facility affiliated with the COMPANY, received or provided through the Site, and received or provided through the Application (hereinafter "the Data"). This Data includes, but is not limited to, user name, user age, user height, user skill level, and user baseball metrics such as Exit Ball Velocity, Distance of Hit, Launch Angle, Pitch Velocity, Pitch Movement, Batting Average, Hard Hit Average, Line Drive Plus Hard Hit, % of Line Drives/Fly Balls/Ground Balls, Slugging Percentage (SLG), On Base Percentage (OPS), Spray Charts, Strike Zone Analysis, Performance Trends, and Rankings.

4. **Warranties and Repairs**

1. COMPANY warrants to Customer that:
All equipment sold in accordance with this Agreement to be free from defects in workmanship and material under normal and proper use for a period of (12) months from date of delivery. This warranty does not include expendable components. In the event of a warranty claim, the Customer may ship the defective unit to an authorized repair location for repair or replacement, at COMPANY option. All transportation costs in connection with warranty service are the responsibility of the Customer. In no event shall COMPANY be liable for loss of profits, indirect, special, incidental, or consequential damages arising out of any breach of this Agreement or obligations of this Agreement. COMPANY'S liability under this Agreement shall in no event exceed the purchase price of the Products.

2. THE WARRANTIES IN SECTION 3.1 ARE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

3. If, within the warranty period specified in Section 3.1, a COMPANY Product does not comply with any warranty in Section 3.1 and Customer notifies COMPANY of such noncompliance prior to 30 days after the end of such period, Customer may ship such product back to COMPANY at Customer's expense. COMPANY shall at its option promptly repair or replace that Product. COMPANY shall pay the costs of any such repair or replacement, including transportation costs incurred returning repaired or replaced products to Customer unless (i) the Product is not defective, in which case Customer shall pay COMPANY reasonable costs of inspection and all transportation charges, or (ii) the product is defective due to Customer's or any third party's damage, misuse, or abuse, in which case Customer shall pay all costs of repair or replacement and transportation. Customer must mark each package it returns to COMPANY under this Section 3.3 with a Returned Materials Authorization ("RMA") number, which COMPANY shall furnish to Customer on request, and shall include with each returned COMPANY product a writing which specifies the reasons why Customer rejected that Product.

4. Except as this Agreement otherwise provides, no amendment to this Agreement shall be binding unless agreed to in writing executed by COMPANY and Customer, and no approval, consent, or waiver shall be enforceable unless signed by the granting party. The pre-printed terms of any order (including without limitation a Purchase Order), are void and will not amend these terms. No document shall be deemed to amend this Agreement by implication.

Product Warranty Options

Basic Warranty
Each InMotion Systems product shall conform to the applicable specifications and be free from defects in materials and workmanship for twelve (12) months after retail sale of the product. This warranty is exempt from (i) customer abuse or misuse, whether accidental or otherwise, (ii) normal wear and tear of components through general use, and (iii) damage caused by the opening or tampering with any system items or other causes not specifically within InMotion Systems' direct control.

Extended Warranty Options
Extended warranty coverage on all products may be requested in writing by the customer at any time prior to the completion of the initial system installation. Additional coverage may be requested in writing by the customer prior to the expiration of the extended warranty term. Typical extended warranty packages start at 12% of the hardware list price for each additional twelve months.

Limitations
THE WARRANTIES MADE BY INMOTION SYSTEMS ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. This warranty is exempt from (i) customer abuse or misuse, whether accidental or otherwise, (ii) normal wear and tear of components through general use, and (iii) damage caused by the opening or tampering with any system items or other causes not specifically within InMotion Systems direct control. In no event shall InMotion Systems be responsible for personal injury or damage caused to customer's or a third party's equipment resulting from the handling or use of InMotion Systems product. In all cases, InMotion Systems liability shall not exceed the purchase price of the products.

Warranty Return Process
All items for which a warranty claim is made must be returned to InMotion Systems at the customer's expense. Customers must contact InMotion Systems Customer Support to obtain a Return Material Authorization (RMA) number prior to returning defective items and include a description of the deficiency. Upon receipt, InMotion Systems will confirm the warranty applicability and promptly repair or replace the item(s) at InMotion Systems' option. All items determined to be non-warranty returns will be quoted with applicable repair or replacement, handling and return shipment costs.

Additional Services

Training Courses
InMotion Systems believes that customers should become as independent as possible and use their resources to maximum efficiency. As a customer option, InMotion Systems offers in-house or customer on-site training courses designed to enable the customer to conduct system setup, calibration, diagnostic tests and routine maintenance tasks.

Telephone Support & Call-Out Service
InMotion Systems offers all customers unlimited telephone support for the life of the system, which provides access to experienced technical support staff. However, if customer questions or problems cannot be resolved over the phone or via a remote diagnostic session and the issue or fault is deemed to be a non-warranty issue then full return-to-base and on-site services are available at an additional cost.

On-Site Spares Package
While not an essential part of the supply and support plan, it is recommended that customers requiring maximum autonomy and availability of the system should consider holding a selection of recommended spare parts on site. These can be discussed with the Sales Representative as required by the customer.

Company Signature	Date	Customer Signature	Date

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 10/04/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Automatic Data Processing Insurance Agency, Inc. 1 Adp Boulevard Roseland NJ 07068	**CONTACT NAME:** Automatic Data Processing Insurance Agency, Inc. **PHONE (A/C, No, Ext):** 1-800-524-7024 **FAX (A/C, No):** **E-MAIL ADDRESS:**
INSURED INMOTION SYSTEMS LLC 24 Kendall Dr Westborough MA 01581	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** **INSURER A :** Travelers Indemnity Company of America — 25666 **INSURER B :** **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 2658399 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:						EACH OCCURRENCE	$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
							PRODUCTS - COMP/OP AGG	$
								$
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS HIRED AUTOS ONLY NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	$
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE	$
							AGGREGATE	$
								$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: Y If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	N	UB-7S498357-22-42	09/27/2022	09/27/2023	X PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ 100,000
							E.L. DISEASE - EA EMPLOYEE	$ 100,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Jackson County School District
12424 MS Highway 57
Vancleave MS 39565

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

903 Nancy M. Munn

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 10/05/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATIONIS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder In lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
EASTERN INSURANCE GROUP LLC/PHS 08087059 The Hartford Business Service Center 3600 Wiseman Blvd San Antonio, TX 78251	PHONE (A/C, No, Ext): (866) 467-8730	FAX (A/C, No):
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC#
INMOTION SYSTEMS LLC 24 KENDALL DR WESTBOROUGH MA 01581-3842	INSURER A: Sentinel Insurance Company Ltd.	11000
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED.NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/Y YYY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR [X] General Liability GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [ ] PRO-JECT [X] LOC OTHER:	X		08 SBA NN3708	03/04/2022	03/04/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS [X] HIRED AUTOS SCHEDULED AUTOS [X] NON-OWNED AUTOS			08 SBA NN3708	03/04/2022	03/04/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
A	[X] UMBRELLA LIAB [X] OCCUR EXCESS LIAB CLAIMS-MADE DED [X] RETENTION $ 10,000			08 SBA NN3708	03/04/2022	03/04/2023	EACH OCCURRENCE AGGREGATE	$3,000,000 $3,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [ ] (Mandatory In NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE -EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	
A	EMPLOYMENT PRACTICES LIABILITY			08 SBA NN3708	03/04/2022	03/04/2023	Each Claim Limit Aggregate Limit	$10,000 $10,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Those usual to the Insured's Operations. Certificate holder is an additional insured per the Business Liability Coverage Form SS0008 attached to this policy.

CERTIFICATE HOLDER

Jackson County School District
12424 MS Highway 57
Vancleave MS 39565

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Susan L. Castaneda

KeeslerFederal
CREDIT UNION

Current Month's Activity for: xxxxxx 9096
VANCLEAVE HOMERUN CLUB
12424 HIGHWAY 57
VANCLEAVE, MS 39565-8608

POST	EFF	TRANSACTION DESCRIPTION	AMOUNT	NEW BALANCE
09/01		ID 0090 - **Basic Business Checking** Balance Forward		9,236.69
09/01		Withdrawal: BUSINESS DEBIT	- 150.95	9,085.74
09/01		LOCKER TAGS 3720 S IRBY ST FLORENCE SC		
09/01		Date 08/31/22 2243DBBPACZ4 7333		
09/01		%% Card 25 #1462		
09/21		Withdrawal: BUSINESS DEBIT	- 99.95	8,985.79
09/21		SCHOLASTIC PRODUCTS AN 1766 LEILA DRIVE JA		
09/21		Date 09/19/22 2262DBUMX2RM 5999		
09/21		%% Card 25 #1462		
09/28		Deposit Check	1,416.00	10,401.79
09/28		Check Received 648.00		
09/28		Check Received 768.00		
09/29		Ending Balance		10,401.79

Manage Documents - PurchaseRequisition: 29195

File uploaded successfully.

Category: Assets

Description: asset sheet

Select File: Choose File No file chosen Upload New File

Note: The max file size for a single file is 10 MB.

Name	Description	Category	Date Added		
asset sheet for PO 2330310.xlsx	asset sheet	Assets	01/18/2023	Edit Delete	Download
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes	10/18/2022	Edit Delete	Download
Invoice for PO 2330310- complete @ $ 17,945.00.pdf	Complete & okay to close	Invoices	01/06/2023	Edit Delete	Download
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes from PO	10/18/2022		Download

New Assets

PO #	Description	Manufacturer	Model	Serial #/Service Tag #	Location	Building	Room
2330310	Simulator System	HitTrax	htrx1000sw	dfk33gx287	21	vhs	bbf

Manage Documents - PurchaseRequisition: 29195

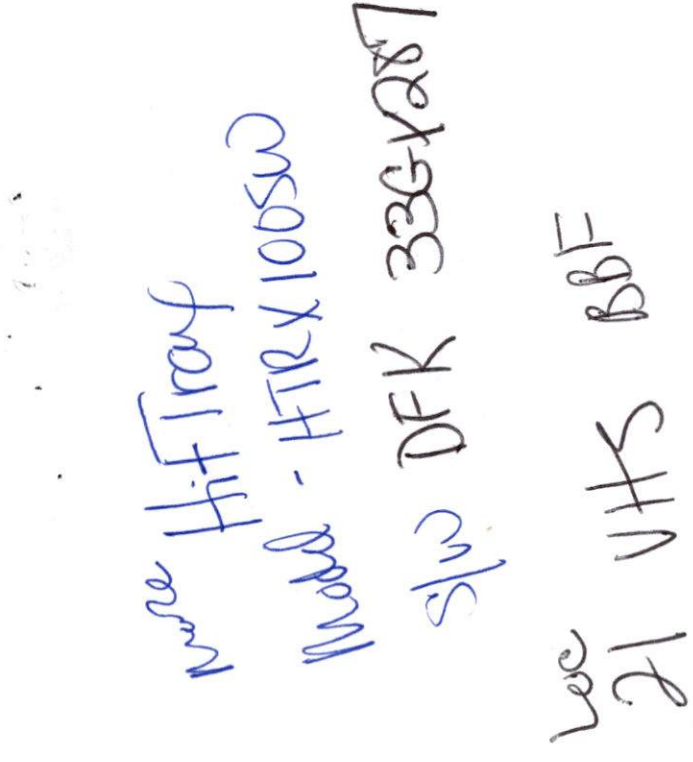
Category: Affidavit

Description:

Select File: Choose File No file chosen Upload New File

Note: The max file size for a single file is 10 MB.

Name	Description	Category	Date Added		
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes	10/18/2022	Edit Delete	Download
Invoice for PO 2330310- complete @ $ 17,945.00.pdf	Complete & okay to close	Invoices	01/06/2023	Edit Delete	Download
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes from PO	10/18/2022		Download



InMotion Systems, LLC
24 Kendall Drive
Westborough, MA 01581 US
866-448-8729

INVOICE

BILL TO
Justin Edwards
Vancleave High School
Baseball
4724Bulldog Lane
Vancleave, MS 39565

SHIP TO
Justin Edwards
Vancleave High School
Baseball
4724Bulldog Lane
Vancleave, MS 39565

INVOICE # 060421780
DATE 12/15/2022
DUE DATE 01/01/2023
TERMS Due on receipt

P.O. NUMBER
2330310

ACTIVITY	QTY	RATE	AMOUNT
HitTrax Simulator, Indoor The HitTrax Simulator Includes: - All-In-One Computer, Calibration Equipment, Keyboard - Unlimited Batting Practice in College Stadiums - Real-time metrics (current hit and summary of session)	1	14,950.00	14,950.00
HitTrax Standard VCAM High speed, VGA color camera	1	795.00	795.00
Installation & Training on-site assistance	1	1,500.00	1,500.00

Note: A subscription may be required for additional services. Subscriptions are not included in this invoice and should be activated and paid for via an online service.

TERMS: PO received. Balance due upon receipt of invoice after shipment within 15 days.

Thank you for your business!

Please make all checks payable to InMotion Systems, LLC

Federal Tax ID 45-2209327

SUBTOTAL	17,245.00
SHIPPING	700.00
TOTAL	17,945.00
BALANCE DUE	**$17,945.00**

Bank of America
Account # 0046 3511 6983
Routing # 026009593 (wire, same day)
ACH 011000138 (ACH next day)
Swift Code BOFAUS3N
Company Name: InMotion Systems, LLC
Company Address: 24 Kendall Drive, Westborough, MA 01581

This invoice is complete and okay to pay
p/ Dean Lepoma & Justin Edwards/JCox
1/6/2023

Manage Documents - PurchaseRequisition: 29195

File uploaded successfully.

Category: Sole Source

Description: complete package information

Select File: Choose File No file chosen **Upload New File**

Note: The max file size for a single file is 10 MB.

Name	Description	Category	Date Added		
asset sheet for PO 2330310.xlsx	asset sheet	Assets	01/18/2023	Edit Delete	Download
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes	10/18/2022	Edit Delete	Download
complete inmotion package info.pdf	complete package information	Sole Source	03/10/2023	Edit Delete	Download
Invoice for PO 2330310- complete @ $ 17,945.00.pdf	Complete & okay to close	Invoices	01/06/2023	Edit Delete	Download
BB- HitTrax MG Application.pdf	approved MG but not stamped	Quotes from PO	10/18/2022		Download

Jackson County School District
Department of Technology

To: Dr. John Strycker

From: Chris Collins

RE: Approve Bid for Vaping System for Middle and High Schools

Date: March 13, 2023

We solicited bids for vape detectors and cameras to cover the 70 bathrooms at all the middle and high schools. Howard Technology Solutions won the bid. The project cost is $143,764. We are asking for the board to approve this bid.

Phone: 1.888.912.3151
Fax: 1.601.399.5077
Online: www.howardcomputers.com

HOWARD™
TECHNOLOGY SOLUTIONS

Howard Computers
P.O. Box 1588
Laurel, MS 39441

Online Quotation

Quote No:	KT1 1277418.00	**Quote Date:**	March 08, 2023
Customer Name:	Christopher Collins	**Phone Number:**	2282391715
Company Name:	Jackson County School District	**Fax Number:**	
Quote Name:	Vape Sensor Bid 5 Year License Option		

Item 1

Category	Description	Qty.	Unit Price	Ext. Price
System Type:	**Accessories**			
1:	Verkada SV23 Environmental Sensor **MPN:** SV23-HW	70	**$659.00**	$46,130.00
2:	Verkada 5 Year Environmental Sensor License **MPN:** LIC-SV-5Y	70	**$659.00**	$46,130.00
3:	Verkada CD42 Indoor Dome Camera, 256GB, 30 Days Max **MPN:** CD42-256-HW	40	**$659.00**	$26,360.00
4:	Verkada 5 Year Camera License **MPN:** LIC-5Y	40	**$593.00**	$23,720.00
5:	Performance Bond **MPN:** PB	1	**$1,424.00**	$1,424.00

Sub-Total:	$143,764.00
Shipping & Handling :	Included
Taxes:	Tax Exempt
Total for Item 1:	$143,764.00

To expedite your order, please include your quote number with your Purchase Order.

Total for all pre-configured items

Sub-Total:	$143,764.00
Shipping & Handling :	Included
Taxes:	Tax Exempt
Total:	$143,764.00

Notes:

Pricing and availability subject to change without notice. Packaging, Shipping, and Handling fees are not included unless specifically stated. Prices and lease payments do not include applicable taxes. Ship dates are approximations and are not guarantees. Quick ship items not available in Alaska, Hawaii, or outside the United States. Specific state laws may affect shipment of products.

Any order for kiosks must be canceled prior to 21 days from the scheduled date of shipment to avoid incurring a 50% cancellation fee. Any cancellation made within that 21-day window will automatically incur a charge equivalent to 50% of the total kiosk order being canceled.

Howard reserves the right to charge a 25% restocking fee for cancellation of a purchase order after Howard has commenced

fulfillment of the order. Howard may, with notice, cancel any purchase order at any time without any liability to the Purchaser. Howard reserves the right to charge the Purchaser full purchase price for delaying shipment of a purchase order for an extended period of time which then results in the cancellation of said order.

Given the current uncertainties related to international trade, Howard hereby reserves the right to unilaterally revise the prices quoted herein in the event its manufacturing or procurement costs for such goods increase due to the imposition by the United States or any other country of new or higher tariff(s) or of any other similar tax, fee or charge.

If Purchaser fails to pay any invoice in full within the time quoted herein, Howard may, without notice, accelerate the due date of all outstanding invoices and require that all outstanding invoices, including any interest thereon, be immediately due and payable in full.

Howard's product warranties and return policies and related information, which are available at **https://www.howardcomputers.com/support/warranties.cfm** and **https://www.howardcomputers.com/support/returnpolicy.cfm**, are fully adopted and incorporated herein by reference. These may also be obtained by calling **1-888-912-3151** or emailing **webmaster@howardcomputers.com**.

THIS QUOTATION IS EXPRESSLY LIMITED TO, AND EXPRESSLY MADE CONDITIONAL ON, PURCHASER'S ACCEPTANCE OF THE TERMS SET FORTH OR INCORPORATED HEREIN; HOWARD OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS.

Jackson County School District

Vape BID Tabulation

Friday, March 10, 2023 at 2:00PM

Vendor	Total Cost of Project
Howard	206,920.00 / 10yr warranty 143,764.00/5yr
Zeptive	Did not meet BID requirements

Shelly Balyeat

Kathy Mann

Chad.

Lindsey

Karen Glass

Jackson County School District

Child Nutrition Department

Average Daily Participation

February 2023

School Name	Average Daily Attendance			Total Breakfast ADP	Total Breakfast ADP %	Breakfast Free ADP	Breakfast Free Percent	Breakfast Reduced ADP	Breakfast Reduced Percent	Breakfast Paid ADP	Breakfast Paid Percent	Lunch ADP	Lunch ADP%	Lunch Free ADP	Lunch Free Percent	Lunch Reduced ADP	Lunch Reduced Percent	Lunch Paid ADP	Lunch Paid Percent
	ADA	# Virtual Learners	Actual ADA																
ECL	558		558	275	49.3%	129	23.1%	56	10.0%	90	16.13%	362	64.9%	169	30.3%	74	13.3%	119	21.3%
ECU	496		496	193	38.9%	96	19.4%	35	7.1%	62	12.5%	336	67.7%	151	30.4%	61	12.3%	124	25.0%
ECM	571		571	102	17.9%	47	8.2%	26	4.6%	29	5.1%	353	61.8%	141	24.7%	71	12.4%	141	24.7%
ECH	729	2	727	149	20.5%	70	9.6%	24	3.3%	55	7.6%	360	49.5%	131	18.0%	59	8.1%	170	23.4%
ECAC	**2354**	**2**	**2352**	**149**	**6.3%**	**342**	**15.1%**	**141**	**6.2%**	**236**	**10.3%**	**1411**	**60.0%**	**592**	**25.9%**	**265**	**11.5%**	**554**	**23.6%**
SMH	1141	10	1131	244	21.6%	156	13.8%	46	4.1%	42	3.71%	596	52.7%	318	28.1%	108	9.5%	170	15.0%
SMM	917		917	220	24.0%	136	14.8%	46	5.0%	38	4.1%	600	65.4%	325	35.4%	118	12.9%	157	17.1%
SMU	597		597	188	31.5%	129	21.6%	26	4.4%	33	5.5%	426	71.4%	250	41.9%	67	11.2%	109	18.3%
SMN	502		502	254	50.6%	152	30.3%	46	9.2%	56	11.2%	372	74.1%	224	44.6%	61	12.2%	87	17.3%
SME	652		659	219	33.2%	137	20.8%	30	4.6%	52	7.89%	422	64.0%	235	35.7%	58	55.0%	129	19.6%
SMAC	**3809**	**10**	**3799**	**1125**	**29.6%**	**710**	**20.3%**	**194**	**5.4%**	**221**	**6.5%**	**2416**	**63.6%**	**1352**	**37.1%**	**412**	**20.2%**	**652**	**17.5%**
VL	637		637	253	39.7%	134	21.0%	45	7.1%	74	11.6%	430	67.5%	198	31.1%	75	11.8%	157	24.6%
VU	335		335	119	35.5%	61	18.2%	27	8.1%	31	9.3%	252	75.2%	123	36.7%	48	14.3%	81	24.2%
VM	512		512	182	35.5%	96	18.8%	40	7.8%	46	9.0%	357	69.7%	155	30.3%	73	14.3%	129	25.2%
VH	698	3	695	68	9.8%	42	6.0%	11	1.6%	15	2.2%	284	40.9%	122	17.6%	53	7.6%	109	15.7%
VCAC	**2182**	**3**	**2179**	**622**	**28.5%**	**333**	**16.0%**	**123**	**6.1%**	**166**	**8.0%**	**1323**	**60.7%**	**598**	**28.9%**	**249**	**12.0%**	**476**	**22.4%**
TOTAL	**8345**	**15**	**8330**	**1896**	**22.8%**							**5150**	**61.8%**						

Highest Breakfast Participation:			**Highest Lunch Participation:**		
Attendance Center:	SMAC	29.60%	Attendance Center:	SMAC	63.60%
Lower Elementary:	SMN	50.60%	Lower Elementary:	SMN	74.10%
Upper Elementary:	ECU	38.90%	Upper Elementary:	VCU	75.20%
Middle School:	VMS	35.50%	Middle School:	VMS	69.70%
High School:	SMH	21.60%	High School:	SMH	52.70%

Jackson County School District
Child Nutrition Department
Free and Reduced Percentages
February 2023

School Name	School Enrollment	Paid		Free		Reduced		Free + Reduced	
		Total	%	Total	%	Total	%	Total	%
ECL	588	264	44.90%	223	37.93%	101	17.18%	324	55.10%
ECU	524	246	46.95%	196	37.40%	82	15.65%	278	53.05%
ECM	603	303	50.25%	203	33.67%	97	16.09%	300	49.75%
ECH	774	436	56.33%	230	29.72%	108	13.95%	338	43.67%
ECAC	**2489**	**1249**	**49.61%**	**852**	**34.68%**	**388**	**15.72%**	**1240**	**50.39%**
SMH	1206	497	41.21%	521	43.20%	188	15.59%	709	58.79%
SMM	968	370	38.22%	444	45.87%	154	15.91%	598	61.78%
SMU	627	244	38.92%	301	48.01%	82	13.08%	383	61.08%
SMN	537	177	32.96%	277	51.58%	83	15.46%	360	67.04%
SME	692	300	43.35%	311	44.94%	81	11.71%	392	56.65%
SMAC	**4030**	**1588**	**38.93%**	**1854**	**46.72%**	**588**	**14.35%**	**2442**	**61.07%**
VL	670	314	46.87%	253	37.76%	103	15.37%	356	53.13%
VU	354	142	40.11%	150	42.37%	62	17.51%	212	59.89%
VM	536	244	45.52%	195	36.38%	97	18.10%	292	54.48%
VH	732	389	53.14%	232	31.69%	111	15.16%	343	46.86%
VCAC	**2292**	**1089**	**46.41%**	**830**	**37.05%**	**373**	**16.54%**	**1203**	**53.59%**
District Total	**8811**	**3926**	**44.56%**	**3536**	**40.13%**	**1349**	**15.31%**	**4885**	**55.44%**

ADVERTISEMENT FOR REVERSE AUCTION

Effective January 1, 2018, Mississippi Code Section 31-7-13 requires governmental entities to utilize reverse auctions as the primary method of receiving bids. The Jackson County School District Child Nutrition Department will use Central Bidding as the service provider for the reverse auction for the procurement of:

East Central High School
Exterior and Interior Walk In Refrigeration Project

ADVERTISEMENT
Notice is hereby given that the Jackson County School District will accept prequalification bids for the exterior and interior walk in refrigeration project at East Central High School. The bid documents and specifications may be obtained from Central Bidding at www.centralbidding.com or by contacting the Child Nutrition Director, Ashley Harris, at (228) 283-3940 ext. 4.

The Jackson County School District will be utilizing a reverse auction process for the procurement of the project. A pre-site visit will be required for all bidders. Prequalification bids may be submitted until 5PM Friday, April 21, 2023 via the Central Bidding portal. After reviewing all prequalification bids for compliance with specifications, the Jackson County School District will invite all prequalified suppliers to participate in the reverse auction scheduled for Friday, April 28, 2023. Central Bidding will provide the prequalified suppliers instructions on the reverse auction bidding process.

The right to reject any/and all bids, waive informalities, extend the prequalification timeline, and to accept the lowest/best bid proposal is reserved by the Board of Trustees of the Jackson County School District.

Dr. John Strycker
Superintendent of Education

Tentative Advertisement Date(s):
Wednesday, March 22, 2023
Wednesday, March 29, 2023

Mississippi Forestry Commission

Authorization for Services Form

AFS # _____

(Customer Information)

Cust / Board Number _____ E-Mail Address _____

First Name _____ Last Name _____

Jackson County School District
Agency / Business / Board Name

4700 Colonel Vickrey Road
Address

Vancleave	Jackson	MS	39565	
City	County	State	ZIP Code	(Plus-Four)

(228)-826-3871 _____
Contact Phone # Alt. Contact Phone #

(Print) Jackson County School District herein referred to as "applicant" and the Mississippi Forestry Commission hereinafter referred to as "MFC" hereby enter into this agreement for the forestry services as described in the sections below. The MFC agrees to perform the services listed below. Applicant agrees to the services by signing in the "customer signature" space provided following the section statements at the end of this agreement.

Section I. The MFC agrees to provide the services below at this designated location:

Location: Jackson County, MS FORTY: 15 SEC: 16 TWN: 4S RNG: 7W

Type of Service	Est. Cost
Firelanes	$100.00/Hour
RX Burn	$25.00/Acre
TOTAL ESTIMATED COST	

Section II. The applicant agrees: (1) to assume responsibility for boundary lines, and (2) pay the MFC invoice for all services covered under this agreement upon job completion, and (3) he/she has the right to enter into this agreement for the described property, and (4) he/she has been informed for vendor/consultant services available in their area concerning the above request.

Section III. It is mutually agreed: Because of the danger from forest fires, the date and time of the service will be at the discretion of the MFC. Either party may cancel this agreement by notifying the other party, preferably in writing.

Section IV. If the work above is on public lands, it will be necessary for the board of education to approve an estimated amount of $_____ from the forestry escrow fund.

Section V. All payments shall be rendered by a cashier, certified or personal check, or money order.

Section VI. The timetable to perform the above services expires on _____, but may be extended on mutual consent.

_____ _____ Samuel A. Morgan 2/28/2023

Customer Signature Date MFC Authorized Signature Date

Mississippi Forestry Commission

Authorization for Services Form

AFS # _____

(Customer Information)

Cust / Board Number _____ E-Mail Address _____

First Name _____ Last Name _____

Jackson County School District
Agency / Business / Board Name

4700 Colonel Vickrey Road
Address

Vancleave	Jackson	MS	39565	
City	County	State	ZIP Code	(Plus-Four)

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Section I. The MFC agrees to provide the services below at this designated location:

Location: Jackson County, MS FORTY: _____ SEC: _____ TWN: _____ RNG: _____

Type of Service	Est. Cost
Road Work:	$100.00/Hour
16-4S-6W	
16-6S-5W	
16-5S-7W	
TOTAL ESTIMATED COST	

Section II. The applicant agrees: (1) to assume responsibility for boundary lines, and (2) pay the MFC invoice for all services covered under this agreement upon job completion, and (3) he/she has the right to enter into this agreement for the described property, and (4) he/she has been informed for vendor/consultant services available in their area concerning the above request.

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_____ _____ Samuel A. Morgan 2/28/2023

Customer Signature Date MFC Authorized Signature Date

Z

Croatian American Cultural Center
159 Maple Street Biloxi, Mississippi 39530

Rental Request

Slavic Benevolent Association

1. *Name of Requestor* Vancleave High School / Karen Tootle
2. *Mailing Address* 12424 Hwy 57
3. *City/State/Zip* Vancleave, MS 39565
4. *Telephone* 228-218-2269
5. *Type of Event* High School Prom
   Event Planner Karen Tootle
   Event Caterer _____
6. *Number of Participants* 300-350
7. *Date of Event* May 6, 2023
8. *Start Time* 8:00 pm
9. *End Time* 11:00 pm
10. *SBA Benefit* [ ]

11. *Space Requested*

		Rental Fee
Ballroom	[✓]	2500.00
Lodge Hall	[ ]	_____
Conference Room	[ ]	_____
Insurance Fee	[ ]	_____
Chair Fee	[ ]	_____
Set Up		150.00
Sub Total		_____
Tax & Gratuity	*[9%]*	tax free
Total Rental Fee		$2650.00

12. Fee Schedule

Non-Refundable Deposit	*$500*	*Due with signed agreement*
Balance of Rental Fee	_____	*Due 30 days prior to event*
Refundable Damage Deposit	_____	*Due 30 days prior to event*

_____ _____
Signature of Requestor Date

13. Approval

_____ _____
House Committee Approval Date

Slavic Benevolent Association
Croatian American Cultural Center

Rental Agreement

It is agreed to comply with the terms and conditions of defined herein. It is further agreed to comply with federal and state laws, municipal ordinances and regulations in conjunction with the use of the facilities.

-Unless otherwise agreed upon, the function is considered over no later than four (4) hours from the start of the event. One (1) additional hour will be allowed for the exit of guests; removal of decorations and equipment; clean up of function space, tables and/or kitchen. Additional hours will be charged at a rate of $100 per hour.

The Center in its entirety is a non-smoking facility. It is your responsibility to inform your guests that smoking in the Center is strictly prohibited.

_____
Initials and Date

Available for Your Use

Tables with chairs are provided for use inside the Center only. An ***Inventory List*** *is provided. If anything over and above the existing inventory is required, it is solely your responsibility for the rental, payment, delivery, set-up and tear-down of those items.*

You will be allowed use of the function space that is reserved starting at 8:00 A.M. on the day of the event for decorating and set up purposes. If the space is not rented on the day before, you are allowed four (4) hours for setup at no charge. Additional hours will be charged at rate of $100 per hour. All setup must scheduled and approved by Center manager. If additional time is required on the day before and the function space is not rented, an advance set up charge will apply ($250 ½ day, $500 full day).

_____
Initials and Date

Catering

As of this date, there is an open food policy. You are allowed to contract with a Mississippi licensed and registered caterer on our ***Preferred Caterers List.*** *If you select a caterer that is not on the list, it is your responsibility to advise your caterer in advance to provide the necessary state of Mississippi license and certification and sign a* ***Caterer's Agreement*** *for the event.*

The caterer's kitchen area is available for heating, preserving, cooling and generally organizing the food for serving and the cleaning of utensils, etc.. A refrigerator and microwave oven is provided for catering use during your function. If additional space is needed, your caterer must bring their own coolers and ice to keep food cold and/or fresh. Deep fryers may not used inside the Center.

Ice for the function must be provided by you or your caterer. We provide for contracted bar service ice only. Plates, cups, dishes, cutlery, silverware, glasses, ice, chaffing dishes, napkins, pots, pans, plastic wrap, aluminum foil and any disposables must also be provided you or your caterer.

Chocolate fountains or red wine fountains are prohibited in the ballroom area. We will allow the use of clear liquid fountains in the ballroom area, including white wine.

The kitchen and function area must be left as clean and orderly as it was found. All caterers must bring heavy-duty trash bags for clean up. We require that all cans be double bagged in order to keep spills at a minimum while walking in the hallways. A dumpster is available outside the side banquet hall entrance doors.

Caterers are required to bus/clean tables during and after the function. This also includes all surfaces located throughout the Center where guests customarily leave plates, cups, napkins, etc.. Liquids may not be disposed of in garbage cans.

Unless otherwise agreed upon, supplies, equipment and rentals must be removed within one (1) hour after the end of the event. All leftover food items must be packed, wrapped or contained by your caterer prior to their departure from the Center. On-premise storage of leftover food is not provided. Arrangements for storage of leftover food must be made between the guest and the caterer prior to the event.

_____

Initials and Date

Entertainment

Bands and disk jockeys are allowed as long as they connect equipment to the proper circuits. Please tell them to bring extra extension cords. They must contact us prior to your event to ensure power availability. Unless otherwise agreed upon, all equipment must be removed within one (1) hour after the end of the event. Bands and disk jockeys must enter and exit through rear of the Center

_____

Initials and Date

Alcoholic Beverages

This policy is in addition to applicable state and federal laws and applies to any function on Center premises. Alcoholic beverages may be served but NO alcoholic beverages may be sold unless appropriately permitted by the applicable state agency. No one under the age of 21 is permitted to consume, handle or serve alcoholic beverages even with permission of parents or guardians. Alcoholic beverages must be served only by bartender(s) approved by Center Manager. If alcoholic beverages are to be served, the serving table(s) will be set up at a location(s) agreed to by the Center manager.

Alcoholic beverages are to be distributed by individual servings. If bottles and/or glass containers are to be used in the Center, a waiver must be granted by the Center.

Because of the difficulties involved in assuring that persons do not become intoxicated and that those under 21 do not consume alcohol, BYOB (bring your own bottle) functions are not permitted. Alcoholic beverages are to be refused to anyone who appears intoxicated. There is to be a plan in place in the event that anyone appears to need transportation as a result of consumption of alcohol.

_____

Initials and Date

Decorating

No open flames are allowed in the Center. All candles must be contained in full glass enclosures. The flame cannot exceed past 2/3 of the glass container's height. Decorating is to be done with fireproof or fire-retardant materials. All decorations must meet Fire Codes.

Live flower petals strewn about are not allowed. Full floral arrangements are acceptable.

We do not allow rice or birdseed to be thrown. Chocolate candies, confetti, glitter and sand are also prohibited as table decorations. Bubbles and "environmentally friendly" wedding throws are acceptable outside of the Center only.

***FIREWORKS** and **SPARKLERS** are **NOT ALLOWED** in the Center or within exterior premises .*

No items such as nails, tacks, tapes, or any material that will deface the finish, are to be used on walls, doors, beams, window casings or elsewhere. No decorations may be placed on glass windows.

_____

Initials and Date

Indemnity and Special Events Insurance

***A Facility Usage/Indemnity Agreement** is required.*

*Special events insurance may be required depending on event type. The current cost of coverage is $100 and will be added to rental fee if required. **Special Events Coverage Application** is included.*

_____

Initials and Date

Slavic Benevolent Association
Croation American Cultural Center
159 Maple Street Biloxi, Mississippi 39530

Facility Usage/Indemnity Agreement

User Name	Vancleave High School/Karen Tootle
Mailing Address	12424 Hwy 57
City/State/Zip	Vancleave, MS 39565
Telephone	228-218-2209
Purpose of Usage	High School Prom
Number of Participants	300-350
Date of Usage	May 6 2023
Start Time	8:00
End Time	11:00

*It is hereby agreed between the **SLAVIC BENEVOLENT ASSOCIATION (SBA)** and the **USER**, that facility reserved on the above date and time, is for the above purpose only.*

The USER agrees to accept responsibility for any loss or damage done to the facility, equipment and other SBA property, as a result of their use of the facility. The USER agrees to maintain order and control over persons in attendance, and to abide by all policies and procedures of the facility.

The USER agrees to protect, defend, hold harmless and fully indemnify the SBA for any claim or cause of action whatsoever arising out of or related to the usage, which takes place during the above date of usage. The USER further agrees to defend the SBA against any action that is brought against the SBA by the above named facility user and/or its employees, agents, partners, family members, students, customers, function attendees, guests, invitees, organizational members or associates, even if such claim arises from, the alleged negligence of SBA, its employees, agents or the negligence of any other individual or organization.

Signature of USER _____ *Date* _____
Name of User (print) _____

Signature of Witness _____ *Date* _____
Name of Witness (print) _____

JACKSON COUNTY SCHOOL DISTRICT
CONTRACT ADDENDUM

The Jackson County School District is a political subdivision of the State of Mississippi and as such is restricted from entering into contracts and/or agreements with provisions contrary to or prohibited by Mississippi Law. Accordingly, the Jackson County School District and Slavic Benevolent Association, Croation American Cultural Center, agree and covenant that each provision and/or paragraph of the Rental Agreement and Facility Usage/Indemnity Agreement and all accompanying documents and forms related to the rental of The Croation American Cultural Center Ballroom for the Vancleave High School Prom by Vancleave High School of the Jackson County School District beginning at 8:00 p.m. on May 6, 2023 and ending at 11:00 p.m. are hereby modified and amended to conform to and comply with Mississippi Law applicable to political subdivisions of the State as set forth in the Mississippi Code of 1972, as amended, and as interpreted by the Attorney General of the State of Mississippi and the Courts of the Mississippi Supreme Court.

Vancleave High School
Jackson County School District

Signature:_____

Name (printed):_____

Title:_____

Date:_____

Slavic Benevolent Association
Croation American Cultural Center
159 Maple Street, Biloxi, MS 39530

Signature: [signature]

Name (printed): A.N. Gilich, JR

Title: [illegible]

Date: 1/31/2023

School Datebooks
powered by sdi innovations

2023 Create 8.5x11 Contract

Order online @ schooldatebooks.com

2880 Old U.S. Hwy. 231 S.
Lafayette, IN 47909-2414
Phone: (800) 705-7526
Fax: (765) 471-8874

School
St. Martin North Elementary School
16308 Lemoyne Blvd
Biloxi, MS 39532-5017

Administrator
Dr. Lisa Suarez, Principal
Phone: (228) 392-1387
Fax: (228) 392-6805
Email: lsuarez@jcsd.k12.ms.us

Contact
Ms. Tammy Ware, Secretary
Phone: (228) 283-3636
Cell/Summer Number: ____
Email: tware@jcsd.k12.ms.us

Date: 1/26/2023
Sales Rep: Brendan Murphy
bmurphy@schooldatebooks.com
CSR: Sarah Scala
sarah.scala@schooldatebooks.com

Billing and Shipping

Bill To PO#:
Jackson County School District
Attn: Accounts Payable
4700 Colonel Vickery Rd
Vancleave, Mississippi 39565
United States
Email: tware@jcsd.k12.ms.us

Ship To St. Martin North Elementary School
Ms. Tammy Ware
16308 Lemoyne Blvd
Biloxi, Mississippi 39532-5017
United States
Email: tware@jcsd.k12.ms.us

Desired Delivery Date: 5/12/2023
Earliest Delivery Date: 4/28/2023

No deliveries prior to **5/1/2023**. It is possible that your books may arrive before your Desired Delivery Date. Please take this into account when selecting your dates and make sure the facilities are open and able to accept delivery at this time.
A 2-week window between the EDD and DDD is required.

Product	#Books	# Custom Pages	Cost/Book	Base Cost
Create 8.5x11	150	0	$2.64	$396.00

FastTrack Pricing

FastTrack	$396.00	x	0%	$0.00

Discounts **Discounts do not apply to three-year contracts*

4% Discount per year with a three-year contract	$396.00	x	0.00	-$0.00
4% Discount for contracts received by 10/28/22*	$396.00	x	0.00	-$0.00
3% Discount for contracts received by 12/16/22*	$396.00	x	0.00	-$0.00
2% Discount for contracts received by 4/14/23*	$396.00	x	0.00	-$0.00
1% School District Discount	$396.00	x	0.00	-$0.00

Cover Options (View Covers Here)

927

Plastic Window — Artistic designs on PolyFusion™. School name will appear if handbook is added.	$0.45	x	150	$67.50

circle your selection!

Backpack

Chalkboard

Daydream

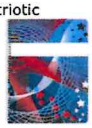
Destination

Inspiration

Laptop

Magic

Patriotic



Circle Your Design Selection

Prism

Seaside

Shuttle

Slate

Space 3D

Water

Enhancements

Vinyl pocket page	$0.50	x	300	$150.00
Stickers (per sheet)	$0.50	x	0	$0.00
Card-stock hall pass	$0.25	x	0	$0.00
Full Color handbook	$0.00	x	0	$0.00

Accessories

Wall chart	$7.00	x	0	$0.00
This Week Marker *(Minimum order of 25)*	$0.30	x	0	$0.00
Teacher Lesson Plan and Grade Book *(Minimum order of 25)*	$4.95	x	0	$0.00
Special Services: 1 VPP in the front/1 VPP in the back (Approved by JB)				$0.00
			Sub-Total*	**$613.50**

Shipping and Handling: 15% , Minimum $20, Rate applies to contiguous US/Canada only. International shipping rates may vary and are subject to change after 30 days. $92.03

Sales Tax: Exempt#: Out of State $0.00

* Net 30 (Net due within 30 days from invoice date)
* Sales tax will be added if applicable

Total (USD) **$705.53**

* Exchange policy: Custom orders (which includes handbook, personalized/custom cover, or any enhancements) cannot be exchanged. Non-custom orders can be exchanged for a different product at school's shipping expense. (Shipping must be via traceable method within 30 days of receipt.) No returns.

Buyer understands that handbook material and cover artwork are to be provided to School Datebooks, Inc. ("SDI") in the formats specified and within the deadlines provided in order to meet the desired delivery date. Failure to follow these guidelines may result in delivery delays and/or additional costs to the Buyer. Buyer understands that datebook and cover change requests after submission may result in additional costs and that quantity changes may result in a different per unit cost. Redelivery fees may apply if buyer is unable to accept delivery during the agreed upon delivery window. Cancelled contracts will be subject to a charge of 15% of the contract total or the total of all costs incurred as of the date of cancellation, whichever is greater. Buyer understands that when purchase orders are required, the buyer will be responsible for delivering the purchase order to SDI. In the event that invoices are not paid when due, Buyer will be responsible for any expenses, including reasonable legal fees, incurred by SDI in attempt to collect the balance due. Buyer represents and warrants to SDI that it owns or has the right to use and reproduce any and all trademarks, logos, images or other materials reproduced in this product. Buyer will be responsible for securing any required licenses and/or paying any and all licensing fees that may be due. Buyer agrees to indemnify and hold SDI harmless from and against any and all liability related to the use and reproduction of such items. As a representative of the Buyer, I understand and agree that I have authority to sign this contract and that this contract will remain in effect in the event that I leave my position prior to the completion of the contract.

In the event that an item on this contract is impacted by tariffs, SDI may impose a surcharge in the amount of the tariff. SDI will notify you if your order will be impacted.

☑ **One-Year Contract**
We agree to purchase datebooks from School Datebooks for the year of 2023-2024.

☐ **Three-Year Contract**
We agree to purchase datebooks from School Datebooks for the years of 2023-2024, 2024-2025, 2025-2026 at a 4% discount per year. The three year contract also "locks" into our current price grid for the length of the contract.* (*Shipping rate subject to change after initial year.)

2/28/23
Date

Dr. Lisa Suarez
Signed (School Administrator)

Principal
Title

JACKSON COUNTY SCHOOL DISTRICT
CONTRACT ADDENDUM

The Jackson County School District is a political subdivision of the State of Mississippi and as such is restricted from entering into contracts and/or agreements with provisions contrary to or prohibited by Mississippi Law. Accordingly, the Jackson County School District and School Datebooks, Inc., agree and covenant that each provision and/or paragraph of the School Datebooks 2023 Create 8.5x11 Contract regarding St. Martin North Elementary School of the Jackson County School District, including any and all accompanying documents and forms included in the agreement between the parties are hereby modified and amended to conform to and comply with Mississippi Law applicable to political subdivisions of the State as set forth in the Mississippi Code of 1972, as amended, and as interpreted by the Attorney General of the State of Mississippi and the Courts of the Mississippi Supreme Court.

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St. Martin North Elementary School
Jackson County School District

Signature: Dr Lisa A Suarez

Name (printed): Dr. Lisa A. Suarez

Title: Principal

Date: 2/28/23

School Datebooks, Inc.

Signature: Brendan Murphy

Name (printed): Brendan Murphy

Title: Sales Manager

Date: 2-28-23

JACKSON COUNTY SCHOOL DISTRICT
APPLICATION FOR PERMIT TO
USE SCHOOL FACILITIES

1. Date of Application: February 3, 2023
2. Date Usage Requested: Saturday, March 25th
3. Name of Applicant: Katie Noel/Dina Holland
4. Address of Applicant: 6000 Switzer Cove Ocean Springs, MS
5. Facility Requested (School, Bldg.): Joe Barlow Stadium
6. Time Building to be opened: 7:00 a.m. Estimated time to be closed: 11:00 a.m.
7. Give Purpose and Details of Activity: 2nd Annual 5K & Fun Run sponsored by Champions for Children to raise funds to meet the needs of children in St. Martin community.
8. Person in charge at program: Katie Noel/Dina Holland
9. Will security be provided? No
10. Facility Usage Fee is $150.00/day, (money/check paid with application). Facility cleaning and repair fee is $100.00/day, (money/check paid with application). Total $250.00 per day.
11. Person responsible for cleaning/repair charges when applicable.

    Name: Katie Noel/Champions for Children
    Phone: 228-238-1757
    Address: 6000 Switzer Cove

12. Applicant agrees to pick up keys from: N/A

    On: by: (AM) (PM) and return keys to
    On: by: (AM) (PM)

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The undersigned applicant hereby certifies that he/she, acting for and on behalf of himself/herself (or the organization), has read and understands the rules and regulations pertaining to the use of the school facilities and agrees to conform to the same.

Champions for Children
Organization

Signature

Date

Title

Application Approved (✓)

Fees: $ 0

Application Approved ( )

Application Denied ( )

Bond: $_____

Application Denied ( )

Principal — Date: 2/27/23

Assistant Superintendent, Attendance Center — Date: 2/28/23

Superintendent, Jackson County School District — Date

_____APPROVED (Jackson County School Board of Education)

Requesting fees be waived as all the money raised goes back to the SM schools.

RENAISSANCE®

Quote # 2909278

PO Box 8036, Wisconsin Rapids, WI 54495-8036
Phone: (800) 338-4204 | Fax: (877) 280-7642
Federal I.D. 39-1559474
www.renaissance.com

East Central Upper Elementary School - 92817
5404 Hurley-Wade Road
Hurley, MS 39562-0013
Contact: Donna Knight - (228) 588-7019
Email: dkj678@jcsd.ms

Reference ID: 643119

Quote Summary	
School Count: 1	
Renaissance Products & Services Total	$6,143.50
Shipping and Processing	$0.00
Sales Tax	$0.00
Grand Total	**USD $6,143.50**

This quote includes: Renaissance Star 360.

By signing below or using your subscription and/or service, you

- agree that this Quote, any other quotes issued to you during the Subscription Period and your use of the Applications, the Hosting Services and Services are subject to the Renaissance Terms of Service and License located at https://doc.renlearn.com/KMNet/R62416.pdf which are incorporated herein by reference;
- consent to the Terms of Service and License; and
- consent to the collection, use, and disclosure of the personal information of children under the age of 13 as discussed in the applicable Application Privacy Policy located at https://www.renaissance.com/privacy/. The Jackson County School District Standard Contract Addendum attached hereto as Exhibit "A" is hereby incorporated into the Agreement between the parties.

To accept this offer and place an order, please sign and return this Quote.

Renaissance will issue an invoice for this Quote on the earlier of (a) the date You specify below or (b) the day before Your Subscription Period starts (Invoice Date). If You require a purchase order, You agree to provide one to Renaissance at least 15 days before the Invoice Date. You also agree to pay the invoice within 30 days of the Invoice Date.

Please check here if your organization requires a purchase order prior to invoicing: [ ]

Renaissance Learning, Inc.	East Central Upper Elementary School - 92817
Ted Wolf	By:
Name: Ted Wolf	Name:
Title: VP - Corporate Controller	Title:
	Date:
	Invoice Date:

Email: electronicorders@renaissance.com

If your billing address is different from the address at the top of this Quote, please add that billing address below.
Bill To:

If changes are necessary, or additional information is required, please contact your account executive Charlotte Wilson at (601)914-2583, Thank You.

RENAISSANCE®

Quote
2909278

PO Box 8036, Wisconsin Rapids, WI 54495-8036
Phone: (800) 338-4204 | Fax: (877) 280-7642
Federal I.D. 39-1559474
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All quotes and orders are subject to availability of merchandise. Professional development expires one year from purchase date. Alterations to this quote will not be honored without Renaissance approval. Please note: Any pricing or discount indicated is subject to change with alterations to the quote. Tax has been estimated and is subject to change without notice. Unless you provide Renaissance with a valid and correct tax exemption certificate applicable to your purchase of product and the product ship-to location, you are responsible for sales and other taxes associated with this order.

United States government and agency transactions into Arizona: The Tax or AZ-TPT item(s) listed on this quote and subsequent invoice(s) is a charge to recover the cost of the Arizona Transaction Privilege Tax ('TPT'). The incidence of the TPT is on Renaissance Learning for the privilege of conducting business in the State of Arizona. Since the tax is not directly imposed on the United States, the constitutional immunity of the United States does not apply.

Hawaii residents only: Orders shipped to Hawaii residents will be subject to the 4.166% (4.712% O'ahu Is.) Hawaii General Excise tax. United States government and agency transactions into Hawaii: The Tax or General Excise Tax item(s) listed on this quote and subsequent invoice(s) is a charge to recover the cost of the Hawaii General Excise Tax. The incidence of the General Excise Tax is on Renaissance Learning for the privilege of conducting business in the State of Hawaii. Since the tax is not directly imposed on the United States, the constitutional immunity of the United States does not apply.

New Mexico residents only: Orders shipped to New Mexico residents will be subject to the 5.125% (Location Code: 88-888) Gross Receipts tax. United States government and agency transactions into New Mexico: The Tax or Gross Receipts Tax item(s) listed on this quote and subsequent invoice(s) is a charge to recover the cost of the New Mexico Gross Receipts Tax. The incidence of the Gross Receipts Tax is on Renaissance Learning for the privilege of conducting business in the State of New Mexico. Since the tax is not directly imposed on the United States, the constitutional immunity of the United States does not apply. Starting July 1, 2021 New Mexico requires sellers to collect tax on the state and local rate. This varies depending on the city and county.

Students can become their most amazing selves — only when teachers truly shine. Renaissance amplifies teachers' effectiveness in the classroom — transforming data into actionable insights to improve learning outcomes. Remember, we're here to ensure your successful implementation. Please allow 30-90 days for installation and set-up.

RENAISSANCE®

Quote
2909278

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Federal I.D. 39-1559474
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Quote Details

East Central Upper Elementary School - 92817

Products & Services	Subscription Period	Quantity	Unit Price	Discount	Total
Applications					
Star 360 Subscription	01/01/2023 - 09/30/2023	550	$11.17	$0.00	$6,143.50
Professional Services					
Renaissance Smart Start Product Training (included with purchase)		1	$0.00	$0.00	$0.00
East Central Upper Elementary School Total				**$0.00**	**$6,143.50**

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Exhibit "A"

JACKSON COUNTY SCHOOL DISTRICT
STANDARD CONTRACT ADDENDUM

WHEREAS East Central Upper Elementary School is part of the Jackson County School District, a political subdivision of the State of Mississippi and as such is restricted from entering into contracts and/or agreements with terms and/or provisions contrary to or prohibited by Mississippi Law.

NOW, therefore, in consideration of the mutual benefit to both parties, the undersigned contracting party, Renaissance Learning, Inc., does hereby agree to the following standard terms, conditions and provisions of the Jackson County School District Standard Contract Addendum, and the same are hereby adopted and incorporated into, and shall apply to the Agreement between the Jackson County School District and Renaissance Learning, Inc. (Quote #2909278) (Reference ID: 643119); subscription period 01/01/23 – 09/30/23 as follows:

1. Term/No Automatic Renewal: There shall be no automatic renewals. Further, terms and provisions to the contrary notwithstanding, no contract can be entered into that binds a successor board.

2. Renewal/Extension of Term: Any extension or renewal of the agreement between the parties is subject to approval by the Board of Education of the Jackson County School District and shall be subject to the terms of this addendum.

3. Governing Law: Mississippi law shall govern the interpretation of the agreement between the parties and any dispute that may arise between the parties.

4. Indemnity: The Jackson County School District shall not be subject to the terms of any provision or term in the contract requiring it to defend or indemnify any entity or party to the contract, and shall not be liable under any scenario for the other party's legal fees.

5. Venue/Exclusive Jurisdiction: The Courts of the State of Mississippi shall have exclusive jurisdiction of any dispute between the parties and the venue of said disputes shall be in Jackson County, Mississippi. Further, any entity or business which contracts with the Jackson County School District submits to the personal jurisdiction of the courts of Jackson County, Mississippi.

6. No waiver of Warranties: Notwithstanding any provisions to the contrary, any contract provision seeking to limit the Jackson County School District's recovery resulting from the breach of an express warranty or any implied warranty of merchantability or fitness for a particular purpose shall be of no force or effect.

7. No Waiver of Damages: Notwithstanding any provision to the contrary that may be found in the contract, supplemental terms or terms of use that may be referenced therein, any provision seeking to limit and/or waive the recovery by the Jackson County School District of any type of damages, including but not limited to consequential, special and/or punitive damages shall be of no force and effect. Further, any provision seeking to limit damages of the contracting party to the contract price or some other amount shall be of no force and effect.

8. Arbitration: The Jackson County School District shall not be subject to the terms of any provision contained in the contract, supplemental terms or terms of use that would require the Jackson County School District to submit the resolution of a dispute to binding arbitration and that any such term or provision requiring the same shall be deemed to be of no force or effect.

9. No Waiver of the Right of Trial by Jury: Notwithstanding any provision to the contrary, any provision seeking a waiver by the Jackson County School District to its right to a jury trial as to any aspect of a dispute between the parties hereto shall be of no force or effect.

10. No Waiver or Statute of Limitations: Notwithstanding any provision to the contrary, any provision seeking to limit or modify a statute of limitation for any purpose shall be of no force and effect.

11. No Waiver of Limitation of Rights or Remedies Under the Uniform Commercial Code: Notwithstanding any provision and/or language of the contract to the contrary, any provision seeking a waiver or to limit any rights and/or remedies of the Jackson County School District under the Uniform Commercial Code shall be of no force and effect.

12. Conflict of Terms: To the extent there is a conflict between the terms of this addendum or the terms of the contract, the terms of this addendum will control. Upon expiration or termination of this contract, the terms of this addendum shall survive and will apply with respect to any dispute that may exist between the parties.

13. Amendment: Even if not specifically provided for herein, the terms, conditions and provisions of the Renaissance Learning, Inc. (Quote #2909278) (Pgs. 1-3) (Reference ID: 643119) and the Renaissance Learning, Inc. Terms of Service and License (Pgs. 1-10; Provisions 1-11 + Exhibits A-D), as well as the Renaissance Learning, Inc. U.S. Privacy Notice (at https://www.renaissance.com/privacy/) and any other document and/or documents made a part of the agreement between the parties are hereby amended and modified, where necessary and applicable and to the extent necessary to comply with Mississippi law as set forth in the Mississippi Code of 1972, as amended, and as interpreted by the Mississippi Supreme Court.

Renaissance Learning, Inc.:	Jackson County School District:
Ted Wolf	
NAME & TITLE (SIGNED)	NAME & TITLE (SIGNED)
Ted Wolf, VP Global Controller	
NAME & TITLE (PRINT)	NAME & TITLE (PRINT)
3/2/2023	
(DATE)	(DATE)

JACKSON COUNTY SCHOOL DISTRICT
Fundraiser Authorization Form

This form must be completed and have administrative approval before entering into any agreement with a vendor, before any advertising and before any solicitation begins.

Fundraisers requested by clubs and activities that are part of the school's student activity program will be prioritized over fundraisers of external clubs and activities.

(Print) School Name: St. Martin High School Choir

Is the requesting club or activity a ■ school student activity program/club or an ☐ outside organization?

Will the resulting money be collected by ☐ school employees or ■ members of an outside organization?

(Print) Name of Activity/Sport/Outside Organization: SMHS Choir parent helper

(Print) Full Name of Sponsor/Coach/Outside Officer: Betty Hopkins Choral Director

Dates of fundraising activity (Beginning and Ending): March 3, 2023

Location of fundraising: ■ In school only ☐ In Community Only ☐ In School and Community

☐ Online (GoFundMe, Donors Chose, etc.)

Describe the fundraiser: PM Dessert Night Coffee House

If a contract with an outside money vendor is required, please attach the unsigned contract to this request form.

# of students involved 20 Anticipated revenue $200

Anticipated use of revenue Choral Music for Music Spectacular as needed for props costumes etc.

Were students informed in writing that the fundraiser is voluntary? ■ Yes ☐ No

Betty Hopkins — Feb 15, 2023
Signature of Sponsor/Coach/Outside Organization Officer — Date

Approved by:

[signature] — 2-15-2023
Signature of Principal — Date

[signature] — 2/16/2023
Signature of Asst. Superintendent — Date

Signature of Superintendent — Date

Signature of Board Chairman — Date

Revised October 2018

Complete after Fundraiser:

Actual use of revenue: _____

Total revenue generated: _____

Bank and name of account where revenue was deposited into: _____

Revised October 2018