

ADDENDUM NO: One (1)

PROJECT: Bell City Campus – Hurricane Laura Repairs
CPSB Hurricane Laura Damages Restoration Program
HL-004-01

ARCHITECT'S PROJECT NO: MA2114

DATE: August 17, 2023

TO: All Plan Holders

Introduction

The following items shall be considered part of the Contract Documents and shall be included in same when Construction Contract is executed. Changes made by Addenda shall take precedence over original Documents. Any changes which may affect construction or proper installation of materials, equipment, or fixtures, not specifically mentioned in this Addendum, should be brought to the attention of the Architect before submitting bid. Otherwise, such conditions, if found later to exist, must be worked out in an acceptable manner without additional cost to the Owner. General Contractors are hereby advised to call to the attention of all subcontractors, changes which may affect their work.

Acknowledge receipt of this Addendum by inserting its number and date in the proper blank appearing on the Bid Form. Failure to do so may disqualify the Bidder.

This Addendum consists of 6 typewritten page(s), 5 attachments, and 02 attached drawings for a total of 362 pages.

ARCHITECTURAL ITEMS

General Items

- 1) See attached Pre-Bid meeting sign-in sheet.
- 2) See attached lay down area.
- 3) See attached Calcasieu Parish School Board District Calander.

Modifications to the Project Manual

- 4) Due to major formatting issues please see the attached reissued Project Manual Dated 08/17/2023, which replaces the Project Manual previously issued on 07/28/2023.
- 5) See attached corrected **Instruction to Bidders**. Project number corrected as HL-004-01.
- 6) See attached added **Section 105300** – Canopies.

Modifications to the Drawings

- 6) See attached Revised **Sheet A1.3** – Enlarged Site Plan – Area C.
 - a. Bleachers: 10 rows x 21'L. Field verify with existing bleachers.
 - b. See attached New Batting Cage Canopy drawing.
- 7) In reference to **Sheet A2.0** – Overall Roof Plan: Delete work for building P.
- 8) In reference to **Sheet S1.0** – Foundation Plan & Detail: Dimension strings on Foundation Plan call to field verify dimensions at each location prior to material fabrication for canopies.

Prior Approvals – ALL DISCIPLINES

Contractor shall note that prior approval is by manufacturer's name only. Contractor shall ensure that the products used in preparation of his proposal and proposed to be used on this project, is equivalent to that specified in appearance, performance, size, installation type, and shape. Any material found to not be equivalent to that specified will be rejected. Prior approval of one manufacturer does not automatically prior approve any subsidiary company, parent company and/or sister company and their associated products.

Subject to compliance with the provisions of the Contract/Documents and Specifications, the following manufacturer(s) may be substituted:

SECTION	NAME	MANUFACTURER	PRODUCT
13 12 50	Grandstand Bleachers	NRS National Recreation Systems	National Series Bleachers

END OF ADDENDUM 01

Pre-Bid Meeting
 Bell City Campus – Hurricane Laura Repairs
 HL-004-01

August 14, 2023

Company	Representative	Phone # / Email
Sulphur Electric	George Andrus	(337) 912-8233 george@sulphurelectric.com
Seth Proola Const.	Mican Harrington	337-688-6347 mharrington@priota.com
WYNN WHITE	CHRIS WHITE	225 761 9141 / cwhiteewynnwhite.com
BENJAMIN RATH	CSRS	318 560 7672 BENJAMIN.PATH@CSRSINC.COM
Del Mar Builders	Kim LaComb	3375406449 Kim@delmarbuilders.net
Sulphur Electric	Jesse Fontenot	337 998-2204 Jesse@SulphurElectric.com
Picou Builders Const.	Brandon Picou	337-304-5577 - PicouBuilders@yahoo.com

Reporting Days

Students' First Day.....8/11
 Students' Last Day 5/22

182 Teacher Work Days
 172 Instructional Days
 4 Emergency Days

Holidays/In-services

Students Do Not Report
 on the Following Days
 School System Offices Closed.....7/4
 System-wide In-service8/7-8
 Paras report to work8/8
 School Level In-Service . 8/4, 8/8-10
 Labor Day9/4
 Fall Break.....10/5-6
 Teacher In-service 10/9
 Veterans Day 11/10
 Thanksgiving 11/20-24
 Christmas..... 12/20-1/2
 Teacher In-service1/3
 MLK Day 1/15
 Mardi Gras 2/12-14
 Teacher In-service3/11
 Easter Break..... 3/29-4/5
 Teacher In-service 5/23-24
 School System Offices Closed...6/19



Calcasieu Parish School Board

BUILDING FOUNDATIONS FOR THE FUTURE

Shannon LaFargue, PhD, Superintendent

2023-24 District Calendar









Nine Week Periods

1st 10/16
 2nd 1/4
 3rd 3/13
 4th 5/22

State Testing

LEAP ELA/Math/Sci. (3-8) TBA
 EOC Fall CBT..... TBA
 EOC Spring CBT TBA

Calendar Code

-  Students' First Day
-  Last Day for Students - Half Day
-  School/Employee Holiday
-  System-wide In-service
-  Teacher In-service home
-  Nine Weeks Period Ends
-  Time Change
-  System/School In-Service Day

July 2023						
S	M	T	W	T	F	S
						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	
30	31					

August 2023						
S	M	T	W	T	F	S
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September 2023						
S	M	T	W	T	F	S
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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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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November 2023						
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12	13	14	15	16	17	18
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26	27	28	29	30		

December 2023						
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2024						
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21	22	23	24	25	26	27
28	29	30	31			

February 2024						
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25	26	27	28	29		

March 2024						
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24	25	26	27	28	29	30
31						

April 2024						
S	M	T	W	T	F	S
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May 2024						
S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June 2024						
S	M	T	W	T	F	S
						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						

CALCASIEU PARISH SCHOOL BOARD



HURRICANE LAURA DAMAGES RESTORATION PROGRAM

BID DOCUMENTS

FOR PROJECT:

**Bell City Campus – Hurricane Laura Repairs
HL-004-01
June 2023**

PREPARED BY:



Moss Architects, Inc.

3221 Ryan Street, Suite B

Lake Charles, LA 70601

Architect's Project No. MA2114

FRONT END DOCUMENTS TABLE OF CONTENTS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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3. Instructions to Bidders. ***PROJECT NUMBER CORRECTED**
4. List of Required Documents.
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6. Bid Bond Form.
7. Unit Price Form.
8. Resolution.
9. CPSB Non-Collusion Affidavit.
10. Louisiana Non-Collusion Affidavit (LRS 38:2224).
11. Verification of Employees Affidavit (LRS 38:2212.10).
12. Attestation Form – Past Criminal Conviction of Bidders (LRS 38:2227).
13. Certification Regarding Unpaid Worker’s Compensation Insurance (LRS 23:1726(B)).
14. Subcontractor Approval List.
15. Contract Between Owner & Contractor including Payment and Performance Bond.
16. Federal Contract Clauses Exhibit A.
17. General Conditions of the Contract for Construction AIA Document A201-2017, amended by Owner.
18. Change Order Form.
19. Application for Payment Documents.
20. Beneficial Occupancy Form.
21. Recommendation of Acceptance Form.
22. Louisiana Dept. of Revenue Sales Tax Exemption Form.
23. CPSB HL Roofing Guarantee (if applicable).

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25. 011500 – Summary of Roof Work
26. 013100 – Project Management and Coordination
27. 013300 – Submittals
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29. 015000 – Temporary Facilities and Controls
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- 32. 051200 – Structural Steel Framing

DIVISION 6 – WOODS, PLASTICS, AND COMPOSITES

- 33. 061000 – Rough Carpentry

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

- 34. 072200 – Roof and Deck Insulation
- 35. 074000 – Glass fiber Reinforced Plastic Siding Panels
- 36. 074200 – Metal Panels
- 37. 074660 – Vinyl Siding and Accessories
- 38. 075000 – Preparation for Reroofing
- 39. 075360 – Roof Maintenance Specification
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DIVISION 22 – PLUMBING

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- 51. 230000 – HVAC General Provisions
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- 57. 260001 – Electrical General Provisions
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ADVERTISEMENT FOR BIDS

The Calcasieu Parish School Board will receive sealed bids before 2:00 P.M., Thursday, August 24, 2023 at the **Calcasieu Parish School Board, Attention: Tony Montamedi, Superintendent’s Conference Room, 3310 Broad St., Lake Charles, Louisiana 70615** for the following Hurricane Laura Damages Restoration Project:

<<Bell City Campus Hurricane Laura Repairs>>

<<HL-004-01>>

Complete Bid Documents prepared by Moss Architects Inc. 3221 Ryan Street Suite B, Lake Charles, LA 70601 for this Project are available in electronic form. They may be obtained without charge and without deposit from www.CPSB.org/Page/524. Bid Documents may also be obtained from www.centralbidding.com for a nominal charge or subscription. Printed copies are not available from the Owner or Architect, but arrangements can be made to obtain printed Bid Documents through most reprographic firms. Bidders are responsible for any subscription, downloading, reproduction or mailing costs.

No Bid shall be considered or accepted unless the bid is accompanied by bid security in an amount not less than five percent (5%) of the Base Bid and all Additive Alternates. The bid security shall be in the form of certified check or cashier’s check drawn on a bank insured by the FDIC, or on the Calcasieu Parish School Board Bid Bond Form contained in the Front End Documents written by a surety company licensed to do business in Louisiana with a A.M. Best rating of “A” or better, countersigned by a person who is under contract with the surety company or bond insurer as a licensed agent in this state and who is residing in this state.

Bids shall be accepted only from Contractors who are licensed under LS R.S. 37:2150- 2163 for the classification of <<Construction>>. No bid may be withdrawn for a period of thirty (30) days after receipt of bids, except under the provisions of LA. R.S. 38:2214. Evidence of authority to submit the bid shall be required in accordance with LA. R.S. 38:2212 (B) (2), (5) and/or LA. R.S. 39:1594 (C) (4).

A Pre-Bid Conference will be conducted at the Bell City High School Campus on August 14, 2023 at 10:30 am. Attendance is non-mandatory.>>.

Each bid must be placed in an envelope, sealed, and marked on the outside:

“Bid Enclosed for Bell City Campus – Hurricane Laura Repairs HL-004-01 to be opened at 2:00 PM on August 24, 2023 at the Calcasieu Parish School Board, Attention: Tony Montamedi, Superintendent’s Conference Room, 3310 Broad Street, Lake Charles, LA 70615”. Refer to Instructions for Bidders for other requirements on outside of envelope.

Bid may also be submitted by electronic means via website www.centralbidding.com. Free registration is required in order to submit a bid via the Central Bidding website.

The Owner reserves the right to reject any and all bids for just cause as permitted by LA. R.S. 38:2214 (B). The ability of an entity to reject any bid is applicable only when administered in accordance with the Public Bid Law. In accordance with LA. R.S. 38:2212 (B) (1), the provisions and requirements of this section, and those stated in the Bidding Documents shall not be waived by any public entity.

Dr. Shannon Lafargue, Superintendent

Pc: Bourne, Heath, Architect, State Licensing Board for Contractors, Daily Journal of Commerce, F. W. Dodge, File.

Publish in the Lake Charles American Press Newspaper:
07/28/2023, 08/04/2023 and 08/11/2023.

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINITIONS

- 1.1 The Bid documents include the following:
- Advertisement for Bids.
 - Instructions to Bidders.
 - List of Required Documents.
 - Louisiana Uniform Public Works Bid Form and Unit Price Form.
 - Bid Bond Form.
 - Resolution.
 - CPSB Non-Collusion Affidavit.
 - Louisiana Non-Collusion Affidavit (LRS 38:2224).
 - Verification of Employees Affidavit (LRS 38:2212.10).
 - Attestation Form – Past Criminal Conviction of Bidders (LRS 38:2227).
 - Certification Regarding Unpaid Worker’s Compensation Insurance (LRS 23:1726(B)).
 - Subcontractor Approval List.
 - Contract Between Owner & Contractor including Payment and Performance Bond.
 - Federal Contract Clauses Exhibit A.
 - General Conditions of the Contract for Construction AIA Document A201-2017.
 - Supplementary Conditions.
 - Change Order Form.
 - Application for Payment Documents.
 - Beneficial Occupancy Form.
 - Recommendation of Acceptance Form.
 - Louisiana Dept. of Revenue Sales Tax Exemption Form.
 - CPSB HL Roofing Guarantee (if applicable).
 - Specifications
 - Drawings
 - Addenda issued during bid period and acknowledged on the Bid Form
- 1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201-2017 as amended, or in other Contract Documents, are applicable to the Bid Documents.
- 1.3 Addenda are written and/or graphic instruments issued by the Architect prior to the opening of bids which modify or interpret the Bid Documents by additions, deletions, clarifications, corrections, and prior approvals.
- 1.4 A Bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein, supported by data called for by the Bid Documents.
- 1.5 Base Bid is the sum stated in the Bid for which the Bidder offers to perform the work

described as the Base, to which work may be added for sums stated in Alternate Bids.

- 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or subtracted from the amount of the Base Bid if the corresponding change in project scope or materials or methods of construction described in the Bid Documents is accepted.
- 1.7 A Bidder is one who submits a bid for a prime contract with the Owner for the work described in the proposed Contract Documents.
- 1.8 A Sub-Bidder is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.
- 1.9 Where the word "Architect" is used in any of the Documents, it shall refer to the Prime Designer of the project, a state-licensed Architect, Engineer or Landscape Architect.

ARTICLE 2 - BIDDER'S REPRESENTATION

- 2.1 Each Bidder by making his Bid represents that:
 - 2.1.1 He has read and understands the Bid Documents and his Bid is made in accordance therewith.
 - 2.1.2 He has visited the site and has familiarized himself with local conditions under which the work is to be performed.
 - 2.1.3 His Bid is based upon the materials, systems, and equipment described in the Bid Documents as advertised and as modified by Addenda.
- 2.2 The Bidder must be fully qualified under any state or local licensing law for Contractors in effect at the time and at the location of the work before submitting his Bid. In the State of Louisiana, Revised Statute 37:2150 et. seq. will be considered, if applicable. Contractor shall be responsible for determining that all of his sub-bidders or prospective subcontractors are duly licensed in accordance with law.
- 2.3 The Bidder must not be debarred as determined by the Federal Government's Excluded Parties List, and it is the responsibility of the Contractor to verify subcontractor eligibility based on factors such as past performance, proof of liability insurance, possession of a federal ID tax number, debarment, and state and local licensing requirements. The prime contractor may use the web site: <https://www.sam.gov/SAM> to determine if a subcontractor has been debarred at the federal level.

ARTICLE 3 - BID DOCUMENTS

3.1 Bid Documents.

3.1.1 Complete Bid Documents for this Project are available in electronic form. They may be obtained without charge and without deposit from www.CPSB.org/Page/524. Bid Documents may also be obtained from www.centralbidding.com for a nominal charge or subscription. Printed copies are not available from the Owner or Architect, but arrangements can be made to obtain printed Bid Documents through most reprographic firms. Bidders are responsible for any subscription, downloading, reproduction or mailing costs.

3.1.2 Complete sets of Bid Documents shall be used in preparing Bids; neither the Owner nor the Architect assumes any responsibility for error of misinterpretation resulting from the use of incomplete sets of Bid Documents.

3.1.3 The Owner and Architect make the Bid Documents available to Bidders only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

3.2 Interpretation or Correction of Bid Documents

3.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error, which they may discover upon examination of the Bid Documents or of the site and local conditions.

3.2.2 Bidders requiring clarification or interpretation of Bid Documents shall make a written request to the Architect to reach him at least seven (7) days prior to the date and time of receipt of bids.

3.2.3 Any interpretation, correction or change of the Bid Documents will be made by Addendum. Interpretations, corrections or changes of Bid Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections, or changes.

3.3 Substitutions

3.3.1 The materials, products, and equipment described in the Bid Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

3.3.2 No substitution will be considered unless written request for approval has been submitted by the Proposer and has been received by the Architect at least seven (7) days prior to the date and time for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and complete

description of the proposed substitute including model numbers, drawings, cuts, performance and test data, and other information necessary for evaluation. A statement setting forth any changes in any other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

3.3.3 If the Architect approves any proposed substitution such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

3.4 Addenda.

3.4.1 Addenda will be posted on www.CPSB.org/Page/524 and www.centralbidding.com. Printed copies are not available from the Owner or Architect, but arrangements can be made to obtain printed Addenda through most reprographic firms. Bidders are responsible for any subscription, downloading, reproduction or mailing costs.

3.4.2 Bidders are responsible for obtaining Addenda online. Addenda will not be mailed or distributed by Architect or Owner.

3.4.3 Addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening of bids, excluding Saturdays, Sundays, and any legal holidays; however, if the necessity arises to issue an addendum modifying plans and specifications within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended exactly one (1) week, without the requirement of re-advertising.

3.4.4 Each Bidder shall ascertain from www.CPSB.org/Page/524 and/or www.centralbidding.com prior to submitting his Bid that he has received (via download) all Addenda issued, and he shall acknowledge their receipt on the Bid Form.

ARTICLE 4 - BIDDING PROCEDURES

4.1 Form and Style of Bids

4.1.1 Bids shall be submitted on the forms provided in the Bid Documents. Refer to **List of Required Documents** for other items required to be submitted with Bid.

4.1.2 All blanks on the Bid Form shall be filled in by typewriter or manually in ink.

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both

words and figures, and in case of discrepancy between the two, the written words shall govern.

- 4.1.4 Any interlineation, alteration or erasure must be initialed by the signer of the Bid or his authorized representative.
- 4.1.5 Bidders are cautioned to complete all Alternates should such be required in the Bid Form. Failure to submit alternate prices will render the Proposal informal and may cause its rejection.
- 4.1.6 Bidder shall make no additional stipulation on the Bid Form nor qualify his Bid in any other manner.
- 4.1.7 The Bid shall include the legal name of Bidder and statement whether the Bidder is a sole proprietorship, partnership, corporation, or any other legal entity and his Bid shall be signed by the person or person legally authorized to bind the Bidder to a contract. Bid submitted by an agency shall have a current Power of Attorney attached certifying the agent's authority to bind Bidder.
- 4.1.8 On any Bid in excess of Fifty Thousand Dollars & no cents (\$50,000.00), the Contractor shall certify that he is licensed under LA R.S. 37:2150-2163 and show his license number on the Bid above his signature or signature of his duly authorized representative.
- 4.2 Bid Security
 - 4.2.1 No Bid shall be considered or accepted unless the bid is accompanied by bid security in an amount of not less than five percent (5%) of the Base Bid and all additive Alternates. The bid security shall be in the form of a certified check or cashier's check drawn on a bank insured by the Federal Deposit Insurance Corporation, or on the Calcasieu Parish School Board Bid Bond contained in the Front End Documents written by a surety company licensed to do business in Louisiana and with a current A.M. Best rating of "A- VII" or better, countersigned by a person who is under contract with the surety company or bond insurer as a licensed agent/broker in this state and who is residing in this state and accompanied by appropriate Power of Attorney in Fact or of the State of Louisiana.
 - 4.2.2 Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded the work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Contract Documents, within ten (10) days after written notice that the instrument is ready for his signature.
 - 4.2.3 Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as

penalty.

- 4.2.4 The Owner will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

4.3 Submission of Bid

- 4.3.1 Bids shall be sealed in an opaque envelope and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to the Calcasieu Parish School Board at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by U.S. Mail or express delivery, shall disqualify the Bid.

- 4.3.2 The sealed bid envelope shall be marked on the outside with: "Bid Enclosed for Bell City Campus Hurricane Laura Repairs HL-004-01 to be opened at <<insert Bid Due Date and Time>> at the Calcasieu Parish School Board, Attention: Tony Montamedi, Superintendent's Conference Room, 3310 Broad Street, Lake Charles, LA 70615" . The outside of the bid envelope shall include the name, address and Contractor's license number of the Bidder as required by LA. R.S. 37:2163.

- 4.3.3 If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the same notation described at 4.3.2 on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, and addressed to: Calcasieu Parish School Board, 3310 Broad Street, Lake Charles, LA 70615.

- 4.3.4 Bids shall be deposited at the designated location prior to the time and the date for receipt of bids indicated in the Advertisement for Bids, or an extension thereof made by Addendum. Bids received after the time and date for receipt of bids will be returned unopened.

- 4.3.5 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

- 4.3.6 Oral, telephonic or telegraphic bids or modifications to bids are invalid and will not receive consideration. Owner will not consider notation written on outside of bid envelope which has the effect of amending the Bid.

- 4.3.7 Bid may also be submitted by electronic means via website www.centralbidding.com. Free registration is required in order to submit a bid via the Central Bidding website.

4.4 Modification or Withdrawal of Bid

- 4.4.1 A Bid may not be modified, withdrawn or cancelled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with Act III of 1983 which states, in part, "Bids containing patently obvious mechanical, clerical or mathematical errors may be withdrawn by the Contractor, if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight hours of the bid opening excluding Saturdays, Sundays and legal holidays."
- 4.4.2 Prior to the time and date designated for receipt of Bids, Bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.
- 4.4.3 Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.
- 4.4.4 Bid Security shall be in an amount sufficient for the Bid as modified or resubmitted.

ARTICLE 5 - CONSIDERATION OF BIDS

- 5.1 Opening of Bids
- 5.1.1 The properly identified bids received on time will be opened publicly and read aloud, and a tabulation abstract of the amounts of the Base Bid and Alternates, if any, will be made available to Bidders.
- 5.2 Rejection of Bids
- 5.2.1 The Owner shall have the right to reject any or all bids and in particular to reject a bid not accompanied by any required bid security or data required by the Bid Documents or a bid in any way incomplete or irregular.
- 5.3 Acceptance of Bid
- 5.3.1 Any bid shall include no more than three alternates. Alternates, if accepted, shall be accepted in the order in which they are listed on the bid form. Determination of the low bidder shall be on the basis of the sum of the base bid and any alternates accepted. However, the Owner reserves the right to accept alternates in any order which does not affect determination of the low bidder, per LA. R.S. 38:2212 (J).
- 5.3.2 It is the intent of the Owner to award a contract to the lowest responsible bidder in accordance with the requirements of the Bid Documents, and if the bid does not exceed the funds available.

- 5.3.3 Due to the nature of potential Project funding sources, full funding may not be readily-available at the time the bids are received. As a result, pursuant to Louisiana Revised Statute 38:2215, the Owner is exempt from the requirement of acting to award the Contract or reject all bids within forty-five (45) calendar days of receipt of the bids. Pursuant to this Statute, the Owner specifically reserves the right to hold all bids for greater than forty-five (45) calendar days.

ARTICLE 6 - POST BID INFORMATION

- 6.1 Refer to **List of Required Documents** for other items required to be submitted by the apparent low bidder within ten (10) days after bid opening. Where forms are required, blank forms are included in the Bid Documents.
- 6.2 The apparent low Bidder has a maximum of ten (10) days from the bid opening to produce any required post bid submittals. If the apparent low Bidder does not submit the proper information or documentation as required by the Bid documents within the ten-day period, such Bidder shall be declared non-responsive, which will result in automatic disqualification of bid.
- 6.3 Proposed list of subcontractors, materials suppliers, and superintendents.
- 6.3.1 Within 24 hours after bids are opened, the Contractor identified as the apparent low bidder shall make the following submittals to the Architect: A tentative list of all subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to special design) proposed for principal portions of the work, as well as the proposed superintendent. Also provide a designation of the work to be performed by the Contractor with his own forces.
- 6.3.2 It is recognized that the acceptance or rejection of alternates contained in the bid proposal may ultimately determine the low bidder on the project. In the event a Contractor, other than the Contractor identified as the apparent low bidder at the bid opening, becomes the low bidder as a result of such selection of alternates, this contractor shall make the submittals required by this section within 24 hours after notification by the Owner.
- 6.3.3 The Contractor will be required to establish to the satisfaction of the Architect and the Owner the reliability and responsibility of the proposed subcontractors to furnish and perform the work described in the section of the specifications pertaining to such proposed subcontractors' respective trades.
- 6.3.4 The Architect will notify the Contractor if the Owner, after due investigation, has

reasonable and substantial objection to any person or organization on the Contractor's list of proposed subcontractors. If there are objections the Contractor shall submit alternative subcontractor(s) for their approval.

- 6.3.5 Subcontractors and other persons and organizations proposed by the Bidder and accepted by the owner and the Architect upon the awarding of a contract must be used on the work for which they were proposed and accepted and shall not be changed except upon the recommendation of the Architect and approved by the Owner in the form of a change order. Any changes on the tentative 24 hour list submitted by the Contractor prior to the awarding of the contract must be requested in writing to the Architect with proper justification. Any change in the tentative list of subcontractors will require recommendation from the Architect to the Owner. The recommendation and approval of the Owner must be made in writing.
- 6.3.6 The lowest responsible bidder shall submit to the Architect and the Owner prior to award of the contract a letter from the manufacturer that the manufacturer will issue the roof system guarantee based on the specified roof system and include the name of the applicator acceptable to the manufacturer for installing the specified roof system. This manufacturer shall be one that has received prior approval or is named in the specifications.
- 6.4 Additional Submissions
- 6.4.1 A Schedule of Values segregating the entire Contract Sum into the divisions of the Specifications shall be provided to the Architect. No payments will be made to the Contractor until this is received.
- 6.4.2 A copy of applicable state, parish, or municipal licenses legally required for Contractor and subcontractors shall be provided to the Architect. No payments will be made to the Contractor until this is received.
- 6.4.3 Federal and state tax identification numbers on General Contractors and subcontractors shall be provided to the Architect. No payments will be made to the Contractor until this is received.

ARTICLE 7 - PERFORMANCE & PAYMENT BONDS

- 7.1 Bond Required
- 7.1.1 The Contractor shall furnish and pay for a Performance & Payment Bond written by a company licensed to do business in Louisiana, which shall be countersigned by a person who is contracted with the surety company or bond issuer or approved broker,

and who is licensed as an insurance agent/broker of the company or issuer, and who is licensed as an insurance agent in this State, and who is residing in this State, in an amount equal to the 100% of the Contract amount. By issuing such Performance and Payment Bond, the surety acknowledges they are on the current U.S. Department of the Treasury Financial Management Service List of approved bonding companies, and complies with all other provisions of R.S. 38:2219.

7.2 Time of Delivery and Form of Bond

7.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the contract.

7.2.2 Bond shall be in form furnished by the Calcasieu Parish School Board, entitled Performance & Payment Bond, a copy of which is included in the Bid Documents.

7.2.3 The Bidder shall require the Attorney-In-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of attorney.

ARTICLE 8 - FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

8.1 Form to be Used

8.1.1 Form of the contract to be used shall be furnished by Calcasieu Parish School Board, a copy of which is included in the Bid Documents.

8.2 Award

8.2.1 In accordance with Louisiana Law, if the Contract is awarded to the Bidder, he shall at the time of the signing of the Contract or prior, execute the Non-Collusion Affidavit included in the Bid Documents, and shall execute the Byrd Anti-Lobbying Certification contained in Exhibit A to Contract Between Owner and Contractor.

8.2.2 Before award of the contract, the successful Bidders shall furnish to the Owner a certified copy of the minutes of the corporation or partnership meeting which authorized the party executing the Bid to sign on behalf of the Contractor.

8.2.3 When a project is financed either partially or entirely with School Board bonds, the award of a contract is contingent upon the sale of bonds by the School Board. The School Board shall incur no obligation to the Contractor until the Contract between the Owner and Contractor is duly executed.

ARTICLE 9 - COMPLETION TIME & LIQUIDATED DAMAGES

- 9.1 The completion of the contract must be as stated below, subject to such extensions as may be granted under Paragraph 8.3, Delays and Extensions of Time: in the General Conditions and the Supplementary Conditions, or the Contractor will be subject to pay to the Owner Liquidated Damages in the amount of **Five Hundred Dollars (\$500.00) per calendar day**. Time is of the essence in performance of this Contract and satisfactory completion of this Project.
- 9.2 Bidder acknowledges that all phases of the Project shall be Substantially Complete in **180 calendar days** from receipt of written Notice to Proceed from Owner.

ARTICLE 10 - BUILDING MATERIAL EXCLUSIONS

- 10.1 All building materials shall be free of asbestos.
- 10.2 All plumbing materials shall be free of lead.
- 10.3 All paints shall be free of lead.
- 10.4 All contractors should use the least hazardous materials on all jobs. Material Safety Data Sheets (MSDS) shall be given to the Owner on all materials used.

ARTICLE 11 - PRE-BID CONFERENCE

- 11.1 A pre-bid conference shall be held at the project site at least ten (10) days before the date for receipt for bids. Refer to the Advertisement for Bids to determine if attendance at the pre-bid conference is mandatory and a pre-requisite for submitting a bid, or if attendance is non-mandatory. The Architect shall coordinate the setting of the date, time and place for the pre-bid conference. The purpose of the pre-bid conference is to familiarize Bidders with the requirements of the Project and the intent of the Contract Documents, and to receive comments and information from interested Bidders.
- 11.2 Any revision of the Bid Documents made as a result of the pre-bid conference shall not be valid unless included in an Addendum issued in accordance with Paragraph 3.4 of the Instructions to Bidders.

ARTICLE 12 - APPLICABILITY

- 12.1 Any article located in the Instructions to Bidders found to be in conflict with the General Conditions and/or Supplementary Conditions will take precedence over the

latter of the two set of Articles.

ARTICLE 13 - FEDERALLY FUNDED PROJECTS

- 13.1 The Owner intends to pursue reimbursement of eligible Project costs from funding sources including Federal Emergency Management Agency (FEMA) Public Assistance Program, therefore compliance with applicable Federal Contract Clauses (attached as Exhibit A to Contract Between Owner and Contractor) is required.

ARTICLE 14 - MISCELLANEOUS PROVISIONS

- 14.1 The Contractor shall repair, replace or pay for the relocation of telephones and wiring, fire alarms, intercoms, bells, TV cable, security system, wiring and equipment and any other cable type installation that may be damaged, cut or removed during the construction.
- 14.2 The Contractor will be responsible for the removal, reinstallation and/or relocation of any playground equipment that needs to be moved due to construction.
- 14.3 The Calcasieu Parish School Board is hereby recognized as a statutory employer of Contractor's employees, including but not limited to Contractor's direct employees, immediate employees, and statutory employees. This contract recognizes the existence of a statutory employer relationship between Calcasieu Parish School Board and Contractor in accord with Act 315 of 1997.
- 14.4 The costs of any required construction, demolition or other permits from any authority having jurisdiction over the Project are to be included in the Base Bid.

ARTICLE 15 - SALES AND USE TAX EXEMPTION

- 15.1 In accordance with applicable rules adapted and promulgated by the Louisiana Department of Revenue, the Owner shall designate the contractor and all subcontractors as its agents for the purchase and lease of materials, supplies or equipment for the project. The Contractor and all subcontractors shall accept the agency designation. The designation and acceptance thereof shall be made on the form prescribed by the Louisiana Department of Revenue which form shall be part of the contract between the Owner, Calcasieu Parish School Board, and the Contractor. A copy of this form is available at the Architect's office.

The agency relationship between the Owner and the contractor and all subcontractors shall relieve the Contractor and subcontractors (1) from paying any state or local sales

or state or local use taxes on materials, supplies or equipment which is affixed to and/or made a part of the real estate of the project or work or which is permanently incorporated into the project or work and, (2) from paying any state or local use taxes on any materials, supplies or equipment which are leased and used exclusively for the project or work. Accordingly, in preparing their bids and computing costs the contractor and subcontractors shall not consider sales and or use taxes which would otherwise be due.

The Owner will furnish to the contractor and subcontractors its Certificate of Sales/Use Tax Exemption/Exclusion on the form prescribed by the Louisiana Department of Revenue. The contractor and subcontractors shall furnish a copy of such certificate to all vendors or suppliers of any of the materials, supplies or equipment described above,

The Contractor and subcontractors shall make all purchases and leases on behalf of and as the agent of the Calcasieu Parish School Board.

Rules and regulations of the Louisiana Department of Revenue shall prevail over any conflicting provisions or specifications of the contract.

End of Instructions to Bidders

LIST OF REQUIRED DOCUMENTS

The following items are required to be submitted as part of the Contractor's Bid:

1. Louisiana Uniform Public Works Bid Form.
2. Louisiana Uniform Public works Bid Form – Unit Price Form (when applicable).
3. Bid Security check or Bid Bond Form (with Power of Attorney if applicable).
4. Evidence of Corporate Authority of the person signing the Bid, in accordance with LRS 38:2212(5).

The following items are required to be submitted by the Apparent Low Bidder to the Architect or Owner within ten (10) days of the Bid, and prior to award of the project:

Note: The Calcasieu Parish School Board requires that 6 original, signed and/or notarized copies (as is applicable) of each item listed below be submitted.

1. Resolution.
2. CPSB Non-Collusion Affidavit
3. Louisiana Non-Collusion Affidavit (LRS 38:2224).
4. Verification of Employees Affidavit (LRS 38:2212.10).
5. Attestation Form – Past Criminal Conviction of Bidders (LRS 38:2227).
6. Subcontractor Approval List.
7. For Projects involving repair or replacement of roofing: Roofing Manufacturer's Certification and Compliance Letter, issued on the Roofing Manufacturer's Company Letterhead, and signed by an officer, or other duly appointed representative of the Roofing Manufacturer, stating the following:
 - That the proposed Roofing Installer is an Approved Applicator for the system(s) specified and/or prior approved, and is in current good standing with the company.
 - That the roofing system as specified, or as modified by Addendum, is acceptable to the Roofing Manufacturer, and meets the requirements for issuance of the specified 30- year, No-Dollar-Limit-Non-Pro-Rated Roof Weathertightness Warranty, in accordance with the Specifications.
 - That the Roofing Manufacturer will issue the required 30-year, No-Dollar-Limit-Non-Pro-Rated Roof Weathertightness Warranty, in accordance with the Specifications.
 - That the Roofing Manufacturer will provide the required on-site inspections, performed by the Roofing Manufacturer's full-time, Technical Field Representative, and will issue written reports along with photographic documentation accordingly, in accordance with the requirements of the applicable Specifications.

END OF SECTION

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Calcasieu Parish School Board
3310 Broad Street, Lake Charles, LA 70615

BID FOR: Hurricane Laura Damages Restoration Project:
Bell City Campus – Hurricane Laura Repairs
HL-004-01
7161 LA-14 Bell City, LA 70630

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Moss Architects Inc. 3221 Ryan Street Suite B, Lake Charles, LA 70601 and dated: November 2021

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated “Base Bid” * but not alternates) the sum of:

_____ Dollars (\$ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A _____ Dollars (\$ _____)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A _____ Dollars (\$ _____)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A _____ Dollars (\$ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR’S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Calcasieu Parish School Board
3310 Broad Street, Lake Charles, LA 70615

BID FOR: Hurricane Laura Damages Restoration Project:
Bell City Campus – Hurricane Laura Repairs
HL - 004 - 01
7161 La-14 Bell City, La 70630

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____ To provide and install 20 ga. 3” NA acoustical metal deck with interlocking sides per 15’ sheets			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
1	20	Square Foot		

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____ To provide and install treated wood blocking to replace deteriorated material.			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
2	100	Board Feet		

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____ To provide and install lightweight concrete deck repairs with Zone-Patch as recommended by manufacturer.			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
3	200	Square Foot		

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)

DESCRIPTION:	<input type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)

Wording for “DESCRIPTION” is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

BID BOND

PROJECT NAME: **Bell City Campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA-14
Bell City, LA 70630

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal,
and _____, as Surety,

are held and firmly bound unto the Calcasieu Parish School Board, (Obligee), in the full and just sum of five (5%) percent of the total amount of this bid proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies and that it is listed thereon as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument, that surety currently is licensed to do business in the State of Louisiana, and that this bond is countersigned by a person who is under contract with the surety as a licensed agent/broker in this state.

This Bid Bond shall be accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

**Bell City Campus – Hurricane Laura Repairs
HL-004-01**

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

BOND CERTIFICATION: The Principal certifies that he meets all bonding requirements of

the Calcasieu Parish School Board, as set forth in paragraph 4.2.1 of the Instructions To Bidders, found in the General Guide for Front End Documents for the Calcasieu Parish School Board.

BY: _____
PRINCIPAL (BIDDER)

BY: _____
SURETY

BY: _____
AUTHORIZED OFFICER-OWNER-PARTNER

BY: _____
AGENT OR ATTORNEY-IN-FACT (SEAL)

DATE: _____

DATE: _____

INCLUDE THIS FORM WITH BID UNLESS BID SECURITY CHECK IS INCLUDED

RESOLUTION

PROJECT NAME: Bell City Campus – Hurricane Laura Repairs
HL-004-01

LOCATION: 7161 LA-14
Bell City, LA 70630

BE IT RESOLVED that _____ ,

Officer / Owner of _____ ,

is hereby authorized to sign any Contract or document on behalf of:

Company Name: _____

Name of Officer/Owner

Title of Officer/Owner

Signature

SWORN TO AND SUBSCRIBED before me this _____ day of _____,
20____, in Lake Charles, Louisiana.

Notary Public

My Commission Expires _ _____

SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID OPENING

CPSB NON-COLLUSION AFFIDAVIT

PROJECT NAME: **Bell city campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA - 14
Bell City, LA 70630

Appearer does hereby attest that:

(1) Bidder is _____ of _____, the Bidder that has submitted the above referenced Bid:

(2) Bidder is fully informed respecting the preparations and contents of the attached Bid and of all pertinent circumstances respecting such Bid:

(3) Such Bid is genuine and is not a collusive or sham Bid:

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through the collusion, conspiracy, connivance or unlawful agreement any advantage against the CALCASIEU PARISH SCHOOL BOARD, or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties in interest, including this affiant.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20____, in Lake Charles, Louisiana.

Notary Public

My Commission Expires _

SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID OPENING

NON-COLLUSION AFFIDAVIT

PROJECT NAME: **Bell City Campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA - 14
Bell City, LA 70630

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that: In accordance with the requirements of **Louisiana Revised Statute 38:2224**:

- (1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and
- (2) That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

SWORN TO AND SUBSCRIBED before me this _____ day of _____,
20____, in Lake Charles, Louisiana.

Notary Public

My Commission Expires _

SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID OPENING

VERIFICATION OF EMPLOYEES AFFIDAVIT -

PROJECT NAME: **Bell City Campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA- 14
Bell City, LA 70630

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that: In accordance with the requirements of **Louisiana Revised Statute 38:2212.10**:

- A. Appearer is registered and participates in a status verification system (E-Verify) to verify that all new employees in the State of Louisiana are legal citizens of the United States or are legal aliens.
- B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system (E-Verify) to verify the legal status of all new employees in the state of Louisiana.
- C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

SWORN TO AND SUBSCRIBED before me this _____ day of _____,
20____, in Lake Charles, Louisiana.

Notary Public

My Commission Expires _

SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID OPENING

ATTESTATION - PAST CRIMINAL CONVICTIONS OF BIDDERS

PROJECT NAME: **Bell City Campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA - 14
Bell City, LA

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:
In accordance with the requirements of **Louisiana Revised Statute 38:2227**:

- A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:
 - (a) Public bribery (R.S. 14:118)
 - (b) Corrupt influencing (R.S. 14:120)
 - (c) Extortion (R.S. 14:66)
 - (d) Money laundering (R.S. 14:23)
- B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:
 - (a) Theft (R.S. 14:67)
 - (b) Identity Theft (R.S. 14:67.16)
 - (c) Theft of a business record (R.S.14:67.20)
 - (d) False accounting (R.S. 14:70)
 - (e) Issuing worthless checks (R.S. 14:71)
 - (f) Bank fraud (R.S. 14:71.1)
 - (g) Forgery (R.S. 14:72)
 - (h) Contractors; misapplication of payments (R.S. 14:202)
 - (i) Malfeasance in office (R.S. 14:134)

NAME OF BIDDER
BIDDER

NAME OF AUTHORIZED SIGNATORY OF

DATE
BIDDER

TITLE OF AUTHORIZED SIGNATORY OF

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

**SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID
OPENING**

**CERTIFICATION REGARDING UNPAID WORKER’S
COMPENSATION INSURANCE**

PROJECT NAME: **Bell City Campus – Hurricane Laura Repairs
HL-004-01**

LOCATION: 7161 LA - 14
Bell City, LA 70630

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby certify that: In accordance with the requirements of **Louisiana Revised Statute 23:1726(B)**:

- A. L.R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.
- B. By signing below, Affiant certifies that no such assessment is in effect against the bidding / proposing entity.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

SUBMIT THIS FORM TO OWNER WITHIN TEN (10) DAYS AFTER BID OPENING

CONTRACT BETWEEN OWNER & CONTRACTOR

and

PERFORMANCE & PAYMENT BOND

This agreement, entered into this << day >> day of <<month>>, 20XX, by and between << insert name of Contractor >>, hereinafter called the "Contractor", whose business address is << insert Contractor's address >>, and the **Calcasieu Parish School Board**, herein represented by the contracting officer executing this Contract, hereinafter called the "Owner".

Witnesseth that the Contractor and the Owner, in consideration of premises and the mutual covenants; consideration and agreement herein contained, agree as follows:

Statement of Work: The Contractor shall furnish all labor and materials, and perform all of the work required to build, construct, and complete in a thorough and workmanlike manner:

<< Insert Project Name >>
<< HL-XXX-XXX >>

in strict accordance with the Contract Documents prepared by:

<< insert name and address of
Architect >>

It is recognized by the parties herein that said Contract Documents, including by way of example and not of limitation, the Drawings and Specifications, dated << insert date of Contract Documents >>, Addenda << # of Addenda >>, the Instructions To Bidders, the Bid Form, the General Conditions Of The Contract For Construction, the Supplementary Conditions, any Addenda thereto, **and the Federal Contract Clauses attached as Exhibit A (8 pages)**, impose duties and obligations upon the parties herein, and said parties thereby agree that they shall be bound by said duties and obligations. For these purposes, all of the provisions contained in the aforementioned Construction Documents are incorporated herein by reference, with the same force and effect as though said Construction Documents were herein set out in full.

Contract - 1

Time for Completion: The work shall be commenced on a date to be specified in a written order of the Owner, and shall be completed within << insert Contract Time >> consecutive calendar days from and after the said date. Time is of the essence.

Compensation to be Paid to the contractor: The Owner will pay, and the Contractor will accept, in full consideration for the performance of the Contract, the sum of << insert Contract Sum >> Dollars and no/100 Dollars (\$###.###.00), which sum represents the Base Bid, including Alternates No. #####.

PERFORMANCE & PAYMENT BOND: To these presents personally came and intervened _____ herein acting for _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business in the State Of Louisiana, as Surety, who declared that having taken cognizance of this Contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney In Fact, obligates his said company, as Surety for the said Contractor, unto the said Owner, up to the sum of << insert Contract Sum >> and no/100 Dollars (\$###.###.00).

The condition of this Performance & Payment Bond shall be that should the Contractor herein not perform the Contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Owner, from all cost and damages which he may suffer by said Contractor's non-performance, or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example: workmen, laborers, mechanics, and furnishers of materials, machinery, equipment, and fixtures, then said Surety agrees and is bound to so perform the Contract and make said payment(s).

Provided, that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the giving by the Owner of any extensions of time for the performance of the Contract, or any other forbearance on the part of either the Owner or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions, or other forbearance being hereby waived.

In witness hereof, the parties herein on the day and year first written above have executed this agreement in six (6) counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

WITNESSES:

CONTRACTOR

By: _____

Title

Calcasieu Parish School Board
OWNER

By: _____

Title

SURETY

By: _____

ATTORNEY IN FACT



Owner (Calcasieu Parish School Board) intends to pursue reimbursement of eligible Project costs from the Federal Emergency Management Agency (FEMA), therefore this Agreement is subject to compliance by Contractor with all applicable federal contract clauses, including but not limited to, the following:

1. Remedies

The parties agree that the Owner reserves all rights and privileges under applicable laws and regulations with respect to this contract in the event of a breach of contract, including but not limited to the right to institute legal proceedings in a court of competent jurisdiction seeking monetary damages, court costs and litigation expenses, as applicable.

2. Termination for Cause and Convenience

The parties agree that the Owner reserves the right to terminate the contract immediately, with written notice to the Contractor, in the event of a breach or default of the Contractor, including but not limited to situations in which the Contractor fails, after a reasonable opportunity to cure, to: (1) meet schedules, deadlines, and / or delivery dates within the time specified in the procurement solicitation, contract, and / or a purchase order; (2) make any payments owed; or (3) otherwise perform in accordance with the contract and / or the procurement solicitations. The Owner also reserves the right to terminate the contract immediately, with written notice to the Contractor, for convenience, if the Owner believes that it is in the best interest of the Owner to do so. In the event of a termination for convenience of the Owner, the Contractor will be compensated only for work performed and goods provided by the Owner as of the termination date. The amount of compensation due the Contractor in the event of a termination for the convenience of the Owner shall be a reasonable amount, using as a guide factors such as the percentage of work or services performed by the Contractor and accepted by the Owner as of the date of termination, the contract price and any unit prices specified in the contract, as applicable.

3. Small and Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms

Owner encourages participation from small, minority-owned, women-owned, and labor surplus area business. Incorporation of these types of firms into the project team is encouraged. Additionally, prime contracts are required, if subcontracts are to be let, to take the following affirmative steps 1 through 5 of this section.

- (1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;



(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

4. Contract Work Hours and Safety Standards Act

a. *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

b. *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (a) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

c. *Withholding for unpaid wages and liquidated damages.* The Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

d. *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (d) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

Further Compliance with the Contract Work Hours and Safety Standards Act.

(1) The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall



contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

(2) Records to be maintained under this provision shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Department of Homeland Security, the Federal Emergency Management Agency, and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Clean Water Act & Federal Water Pollution Control Act

The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

Contractor agrees to comply with all applicable standards, orders or regulations issues pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C 1251 et seq.

1. The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The contractor agrees to report each violation to the Owner and understands and agrees that the Owner will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

6. Clean Air Act

1. The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The contractor agrees to report each violation to the Owner and understands and agrees that the Owner will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

7. Energy Efficiency

The Contractor hereby recognizes the mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).



8. Suspension and Debarment

Debarment and Suspension (Executive Orders 12549 and 12689) - A contract award (see 2 CFR 180.220) must 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.

This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the contractor is required to verify that none of the contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into to the extent set forth elsewhere in this contract. This certification is a material representation of fact relied upon by Owner. If it is later determined that Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Owner, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

9. Anti-Kickback Clause

The Contractor hereby agrees to adhere to the mandate dictated by the Copeland "Anti-Kickback" Act which provides that each Contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the completion of work, to give up any part of the compensation to which he is otherwise entitled.

10. Record Retention, Record Ownership, & Access to Records

The Contractor shall maintain all records in relation to this Agreement for a period of at least five (5) years after final payment.

All records, reports, documents, or other material related to this Agreement and/or obtained or prepared by Contractor in connection with the performance of the services contracted for herein shall become the property of the Owner and shall, upon request, be returned by Contractor to Owner, at Contractor's expense, at termination or expiration of this contract. Contractor agrees to allow the Owner access to Contractor's records.

11. No Obligation by Federal Government

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

12. Equal Employment Opportunity



Contractor agrees to abide by the requirements of the following as applicable: Title VI and Title VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended the Vietnam Era of 1975, and the Americans with Disabilities Act of 1990. Contractor agrees not to discriminate in its employment practices, and will render services under this Agreement and any contract entered into as a result of this Agreement, without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by Contractor, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this Agreement and any contract entered into as a result of this agreement.

Pursuant to 2 C.F.R. Part 200, Appendix II, C, the contract must include *all* clauses from 41 C.F.R. § 60-1.4(b). These are:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.*
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.*
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.*
- (4) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.*



Calcasieu Parish School Board - Hurricane Laura Damages Restoration Program

Exhibit A - Federal Contract Clauses

issue 210216 **REVISED 6-19-2023**

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(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a state or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has



not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

13. Procurement of Recovered Materials

1. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—

- a. Competitively within a timeframe providing for compliance with the contract performance schedule;
- b. Meeting contract performance requirements; or
- c. At a reasonable price.

2. Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

3. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.”

14. Access to Records

The following access to records requirements apply to this contract:

- a. The Contractor agrees to provide Owner, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.



d. In compliance with the Disaster Recovery Act of 2018, the Owner and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

15. DHS Seal, Logo, and Flags

The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

16. Compliance with Federal Law, Regulations and Executive Orders

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

17. No Obligation by Federal Government

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

18. Program Fraud and False or Fraudulent Statements or Related Acts

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

18B. Domestic Preferences for Procurements

As appropriate, and to the extent consistent with law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.”

19. Byrd Anti-Lobbying

Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended) Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. 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. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient. Sample certification is attached on following page.



BYRD ANTI-LOBBYING CERTIFICATION

RE: PROJECT NAME / HL-NUMBER: _____

**Byrd Anti-Lobbying Certification
for Contracts, Grants, Loans, and Cooperative Agreements
(To be executed with Agreement if Contract Sum exceeds \$100,000)**

The undersigned [Contractor] certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an 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, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form- LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

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 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). 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 such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Proposer understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Representative

Name and Title of Contractor's Authorized Representative

Date



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Calcasieu Parish School Board Hurricane Laura Damages Restoration Program
AIA Document A201™–2017, General Conditions of the Contract for Construction,
amended by Owner, issue 210225.

THE OWNER:
(Name, legal status and address)

Calcasieu Parish School Board
3310 Broad Street
Lake Charles, LA 70615
337-217-4000

THE ARCHITECT:
(Name, legal status and address)

Refer to the Advertisement for Bids issued for the individual HL-Project for name and address of Architect

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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES



Init.

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User Notes:

Addendum 1 08/17/2023

(1145659762)

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(Topics and numbers in bold are Section headings.)

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda .

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and

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enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form.

(Paragraphs deleted)

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 If requested, the Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights.

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Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Program Manager

The Owner assigns **CSRS Disaster Recovery Management, LLC**, 8555 United Plaza Blvd., Baton Rouge, LA 70809 as Program Manager and Owner's authorized representative.

(Paragraphs deleted)

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 The Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction

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where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors. Contractor shall strenuously enforce campus security

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requirements and ensure compliance with Work Area limits defined on drawings. Contractor shall immediately honor any requests from Owner or Architect to temporarily interrupt Work due to excessive noise, dust or vibrations, at no additional expense to Owner.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Not Used.

§ 3.4.3 Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner's requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner's property, as determined by the Owner, shall be removed from the Project at the Owner's request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner's property pursuant to this Section. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Contractor shall strictly comply with Owner's requirements regarding background checks and/or badging of employees.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.6.

§ 3.6 Taxes

Unless otherwise provided in the Contract Documents, the Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15. Contractor acknowledges that Work on this Project involves storm-damage repair to damaged portions of existing buildings and exact existing conditions may not be fully captured and identified in the Contract Documents.

§ 3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

§ 3.8 Allowances

§ 3.8.1 Allowances shall not be made on any of the Work.

(Paragraphs deleted)

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The Superintendent, or a qualified designee, shall be available at all times should the Owner require Contractor's presence on the Project site (for emergencies and similar situations). The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's review and approval a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised and submitted for review and approval at appropriate intervals as required by the conditions of the Work and Project. For projects with a contract sum greater than \$1,000,000.00, the Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised

schedule shall be submitted for review and approval by Architect with each Application and Certificate for Payment. No payment shall be made until this schedule is approved by Architect.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in accordance with the most recent schedules approved by the Owner and Architect. If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

§ 3.10.4 Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

§ 3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed. This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal

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schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Contractor shall strenuously enforce campus security requirements and ensure compliance with Work Area limits defined on drawings. Contractor is responsible for security of Work Area(s) and other portions of site in use by Contractor related to the Work. Contractor shall not interfere in any way with routine campus operations when working on occupied campuses, including parking lots, drives and roads required for

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vehicle and bus access and egress. Contractor and any entity for which Contractor is responsible shall not erect or post any sign on the Project site without the prior written consent of Owner.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until end of Warranty Phase. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed to endeavor to guard the Owner against defects and deficiencies in the Work, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor may communicate directly with each other, when deemed necessary by the Owner, and the Owner will notify the Architect of any decision. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or

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performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4. The Architect will monitor Change Order activity and advise Contractor to record Change Orders whenever required by La. R.S. 38:2192.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives. There shall be no restriction on the Owner having a Representative.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection. The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

§ 5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor .

(Paragraph deleted)

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect Contractor shall include all sub-contractors as insureds under its insurance policies OR shall be responsible for verifying and maintaining the Insurance Certificates provided by each sub-tenant and each sub-contractor's compliance with the insurance requirements stated herein. Sub-contractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of sub-contractor's Certificates of Insurance and endorsements at any time Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Not Used.

(Paragraphs deleted)

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction

schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 As part of the pre-construction conference submittals, the Contractor shall submit the following for review and approval by Architect and Owner, prior to the Contractor's initial request for payment:

§ 7.1.4.1 Fixed job site overhead cost itemized with documentation to support daily rates.

§ 7.1.4.2 Bond Premium Rate with supporting information from the General Contractor's carrier.

§ 7.1.4.3 Labor Burden by trade for both Subcontractors and General Contractor. The Labor Burden shall be supported by the Worker's Compensation and Employer's Liability Insurance Policy Information Page. Provide for all trades.

§ 7.1.4.4 Internal Rate Charges for all significant company owned equipment.

§ 7.1.5 If the General Contractor fails to submit the aforementioned documentation as part of the pre-construction submittals, then pay applications shall not be processed until such time as the Owner receives and approves this information.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

§ 7.2.2 "Cost of the Work" for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

§ 7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the "Cost of the Work" is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which **shall not** be included, as these costs are already compensated by the Overhead and Profit markup. Supervision shall not be included as a line item in the "Cost of the Work", except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

§ 7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

§ 7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a specific trade (i.e., shovels, saws, hammers, air compressors, etc.) and general use vehicles, such as pickup trucks even for moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

§ 7.2.2.4 Eligible Insurance costs shall be limited to documented increases in "Builder's Risk" insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

§ 7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

§ 7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work. The credit to the Owner resulting from a change in the Work shall be the sum of those items above, including overhead and profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall be computed for credits to the Owner and extras to the Contractor. The Owner shall receive full credit for the computed overhead and profit on credit change order items.

§ 7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

§ 7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

§ 7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor's Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor's Overhead and Profit markup, for General Contractor's Overhead and Profit.

§ 7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2. Premiums for the General Contractor's bond may be included, but after the markup is added to the Cost of the Work. Premiums for the Subcontractor's Bond shall not be included.

§ 7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.

§ 7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor's Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor's and/or Sub-Subcontractor's Work including quantities and unit costs for each item of labor, material and equipment.

For any item submitted under this Section to determine adjustments to Contract Sum, the Contractor shall keep and present copies of actual paid invoices, and/or other such documentation as Owner or Architect may require, that:

- a) substantiates claimed quantities actually purchased;
- b) substantiates claimed unit costs actually paid;
- c) substantiates claimed costs actually paid for equipment usage.

§ 7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

§ 7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities, and telephone.

(Paragraph deleted)

Extended fixed job-site costs or equitable adjustment may be included in a Change Order due to a delay in the critical path, with the exception of weather-related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time **within twenty-one (21) days** of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities. The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. "Replacement Work" is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

§ 7.2.8 "Cost of the Work" whether General Contractor cost or Subcontractor cost shall not apply to the following:

§ 7.2.8.1 Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.

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§ 7.2.8.2 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

§ 7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

§ 7.2.8.4 Cost of supervision refer to section 7.2.2.1, with exception as provided in Section 7.2.7.

§ 7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods, but not to exceed a specified amount:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.
- .5 For any item submitted under this Section to determine adjustments to Contract Sum, the Contractor shall keep and present copies of actual paid invoices, and/or other such documentation as Owner or Architect may require, that:
 - a) substantiates claimed quantities actually purchased;
 - b) substantiates claimed unit costs actually paid;
 - c) substantiates claimed costs actually paid for equipment usage.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including social security, old age and employment insurance, applicable payroll taxes, and workers' compensation insurance;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work. Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the project within the time stated in the Contract. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the

Contract Documents. The Contractor and the Contractor's Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and liquidated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Liquidated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

§ 8.2.2 Not Used.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending litigation; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may recommend, subject to Owner's approval of Change Order. If the claim is not made within the limits of Article 15, all rights for future claims for that month are waived.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

(Paragraph deleted)

§ 9.2 Schedule of Values

At the Pre-Construction Conference, the Contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

§ 9.2.1 The Schedule of Values Format shall be as defined in the Contract Documents and acceptable to Architect and Owner. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.

§ 9.2.2 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor's Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect.

§ 9.3 Applications for Payment

§ 9.3.1 Monthly, the Contractor shall submit to the Architect the Application and Certification for Payment form, supported by any additional data substantiating the Contractor's right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials, suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per La R.S. 38:2248:

§ 9.3.1.1 Projects with Contract price up to \$500,000.00 – 10% of the Contract price.

§ 9.3.1.2 Projects with Contract price of \$500,000.00, or more – 5% of the Contract price.

§ 9.3.1.3 No payment shall be made until the revised schedule required by Section 3.10.1 is received.

§ 9.3.1.4 The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety, and invoice for retainage.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

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- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

(Paragraph deleted)

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within thirty days except for projects funded fully or in part by a Federal reimbursement program. For such projects the Owner will make payment in a timely manner consistent with reimbursement.

§ 9.6.2 The Contractor shall pay each Subcontractor, after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. La R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of 1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law. Pursuant to La. R.S. 38:2242 and La. R.S. 38:2242.2, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder of mortgages of the parish where the Work has been done. When the Owner receives original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 The Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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(Paragraphs deleted)

§ 9.8 Substantial Completion

(Paragraph deleted)

§ 9.8.1. Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the project is substantially complete in accordance with this Section. In order to satisfy this definition of Substantial Completion, Acceptance of Substantial Completion shall be executed in writing by the Owner and approved by the CPSB Board (if necessary). All insurance requirements shall remain in place until such written execution and formal approval occurs.

§ 9.8.2 When the Contractor considers that the Work is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect shall make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Owner's receipt of the executed Roofing Contractor's and Roofing Manufacturer's guarantees, where roofing Work is part of the Contract. Prior to inspection by the Architect, the Contractor shall notify the Architect that the project is ready for inspection by the State Fire Marshal's office. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Architect determines that the project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the forty-five day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

§ 9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Recommendation of Acceptance incorporating the punch list and submit it to the Owner. Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of Building Contract which shall establish the Date of Substantial Completion. The Contractor shall record the Notice of Acceptance with the Clerk of Court in the Parish in which the Work has been performed. If the Notice of Acceptance has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor's expense. All additive change orders must be processed before issuance of the Recommendation of Acceptance. The Owner shall not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Recommendation of Acceptance.

§ 9.8.6 Warranties required by the Contract Documents shall commence on the date of Acceptance of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner's responsibility on the Date of Substantial Completion.

§ 9.8.7 If all punch list items have not been completed by the end of the forty-five (45) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within forty-five (45) days after notification, the Surety has not completed the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor

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in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety

§ 9.9 Partial Occupancy or Use

§ 9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. Consent to occupy must be obtained in writing from Contractor's and/or Owner's insurer (whichever is deemed by Owner as the appropriate insurer), and the appropriate insurances must be confirmed in writing. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to

certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

- .1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 Failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;
- .3 Terms of special warranties required by the Contract Documents; or
- .4 Audits performed by the Owner, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on the health and safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB) or lead, encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. The Contract Time shall be extended appropriately.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

NOTE: The following Article 11 contemplates Owner using a custom Owner-Contractor Agreement; AIA Document A101-2017 Exhibit A is not part of these documents.

§ 11.1 Contractor’s Liability Insurance

The Contractor shall purchase and maintain without interruption for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

(Paragraphs deleted)

§ 11.2 Minimum Scope and Limits of Insurance

§ 11.2.1 Worker’s Compensation

Worker’s Compensation insurance shall be in compliance with the Louisiana Worker’s Compensation law and shall be statutory. Employers Liability is included with a minimum limit of \$1,000,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included. A.M. Best’s insurance company rating requirement may be waived for Worker’s compensation coverage only with prior approval from the Owner.

§ 11.2.2 Commercial General Liability.

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and On-going and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable. The aggregate loss limit must apply to each project and be reflected in the Certificate of Insurance. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The Owner’s Project number and Project name shall be included on this endorsement. The Additional Insured endorsement for General Liability shall include coverage for on-going and completed operations. A waiver of subrogation in favor of the Owner shall be provided.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

Type of Construction	Projects up to \$1,000,000	Projects over \$1,000,000 up to \$10,000,000	Projects over \$10,000,000
New Buildings:			
Each Occurrence Minimum Limit	\$1,000,000	\$2,000,000	\$4,000,000
Per Project Aggregate	\$2,000,000	\$4,000,000	\$8,000,000
Renovations:	The building(s) value for the Project is \$ _____.		
Each Occurrence Minimum Limit	\$1,000,000**	\$2,000,000**	\$4,000,000**
Per Project Aggregate	2 times per occur limit**	2 times per occur limit**	2 times per occur limit**

**While the minimum Combined Single Limit of \$1,000,000 is required for any renovation, the limit is calculated by taking 10% of the building value and rounding it to the nearest \$1,000,000 to get the insurance limit. Example: Renovation on a \$33,000,000 building would have a calculated \$3,000,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to \$3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is \$10,000,000 regardless of building value. The per project aggregate limit is then calculated as twice the per occurrence limit. If the Contractor maintains higher limits than the minimums shown above, the Owner requires and shall be entitled to coverage for the higher limits maintained by the Contractor.

Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner.

§ 11.2.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of \$1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles. Such coverage shall eliminate any employee versus employee exclusion. Symbol 1 is preferred. The Owner shall be named as an Additional Insured and a waiver of subrogation in favor of the Owner shall be included.

§ 11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability, Employer's Liability and Automobile Liability only. Excess umbrella should follow form over the underlying coverage.

§ 11.2.5 Builder's Risk

§ 11.2.5.1 Builder's Risk Insurance shall be in an amount equal to the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad Form Causes of Loss (extended, if necessary, including but not limited to: the perils of wind, earthquake, collapse, flood, convective storms, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects' and engineers' fees necessary to provide plans, specifications and supervision of Work for the repair and/or replacement of property damage caused by a covered peril, not to exceed 10% of the cost of the repair and/or replacement.

§ 11.2.5.2 Flood coverage shall be provided by the Contractor on the first floor and below for all projects, except as otherwise noted. The builder's risk insurance policy, sub-limit for flood coverage shall not be less than ten percent (10%) of the total contract cost per occurrence. If flood is purchased as a separate policy, the limit shall be ten percent (10%) of the total contract cost per occurrence (with a max of \$500,000 if NFIP). Coverage for roofing projects (only) shall **not** require flood coverage.

§ 11.2.5.3 With Owner's project-specific written approval, a Specialty Contractor may provide an installation floater in lieu of a Builder's Risk policy, with the similar coverage as the Builder's Risk policy, upon the system to be installed in an amount equal to the amount of the contract including any amendments. Flood coverage is not required.

§ 11.2.5.4 The policy must include coverage for the Owner, Contractor and any subcontractors as their interests may appear.

§ 11.2.6 Pollution Liability *(required when asbestos or other hazardous material abatement is included in the contract)*

Pollution Liability insurance, third party and first party coverage, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than \$1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

§ 11.2.7 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

§ 11.3 Other Insurance Provisions

§ 11.3.1 The policies are to contain, or be endorsed to contain, the following provisions:

§ 11.3.1.1 Worker's Compensation and Employers Liability Coverage

§ 11.3.1.1.1 To the fullest allowed by law, the insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

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§ 11.3.1.2 Commercial General Liability Coverage

§ 11.3.1.2.1 The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; including ongoing and completed operations of the Contractor. ISO Form CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used.

§ 11.3.1.2.2 The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers for any and all losses that occur under the contract. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance.

§ 11.3.1.3 Builder's Risk

The policy must include an endorsement providing the following:

In the event of a disagreement regarding a loss covered by this policy, which may also be covered by the Owner, Contractor and its insurer agree to follow the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make written demand for an appraisal of the matter in disagreement. Within 20 days of receipt of written demand, the Contractor's insurer and either Owner or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers shall select a competent and impartial umpire. The appraisers shall then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of the loss that must be borne by each policy. If the two appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of the loss. Each insurance company agrees that the decision of the appraisers and the umpire if involved shall be binding and final and that neither party will resort to litigation. Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

§ 11.3.1.4 All Coverages

§ 11.3.1.4.1 All policies must be endorsed to require Notice of Cancellation in accordance with Policy Provisions. Notifications shall comply with the standard cancellation provisions in the Contractor's policy. In addition, Contractor is required to also notify Owner of policy cancellations or reductions in limits as soon as the action is known.

§ 11.3.1.4.2 Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

§ 11.3.1.4.3 The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

§ 11.3.1.4.4 Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

§ 11.3.2 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with a current A.M. Best's rating of **A- VII or higher**. This rating requirement may be waived for Worker's Compensation coverage only, but only if prior approval is received from the Owner. If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance within 30 days.

§ 11.3.3 Verification of Coverage

Contractor shall furnish the Owner with certificates of insurance, evidencing required amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and evidence of endorsements are to be received and approved by the Owner including renewal evidence prior to expiration. Failure to provide and maintain the required insurance coverage throughout the term of the Agreement shall be a material breach

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of the Agreement, and shall entitle Owner to all remedies provided for in the Agreement, any Amendment(s) thereto, or by operation of law. The Certificate Holder must be listed as follows:

Calcasieu Parish School Board
3310 Broad Street
Lake Charles, LA 70615
Attn: Project # HL-XXX-XXX (obtain Owner's Project Number from Architect).

Owner's Program Manager is to be included as an additional-insured, listed as follows:

CSRS Disaster Recovery Management, LLC
8555 United Plaza Blvd.
Baton Rouge, LA 70809

The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain required insurance, this contract, at the election of the Owner, may be suspended, discontinued, or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

(Paragraphs deleted)

§ 11.3.4 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time. If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

§ 11.3.5 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the Calcasieu Parish School Board, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the Calcasieu Parish School Board, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The Owner may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling and expenses of all claims.

§ 11.4 Performance and Payment Bond

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

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§ 11.4.3 Recordation of Contract and Bond [La R.S. 38:2241 thru 38:2241.1]

The Contractor shall record within thirty (30) days the executed Contract Between Owner and Contractor and Performance and Payment Bond with the Calcasieu Parish Clerk of Court and promptly deliver documentation of such recordation to Owner.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

(Paragraph deleted)

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.3.3 The Fourteenth Judicial Court in and for the Parish of Calcasieu, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory provided by the Owner, and the Owner shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or

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approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

(Paragraphs deleted)

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

(Paragraph deleted)

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit for Work completed prior to stoppage.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.
- .5 **failure to complete the punch list within the lien period as provided in 9.8.7.**

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§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. Termination by the Owner shall not suspend assessment of liquidated damages against the Surety.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 If an agreed sum of liquidated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under the liquidated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem liquidated damages.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes

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Addendum 1 08/17/2023

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and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims (See La R.S. 38:2189, and 38:2189.1).

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Architect's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with his/her decision.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

(Paragraph deleted)

§ 15.1.6.2. If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within **twenty-one (21) days** from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site

§ 15.1.6.3 The following are considered reasonably anticipated days of adverse weather on a monthly basis:

January	11 days	July	6 days
February	10 days	August	5 days
March	8 days	September	4 days
April	7 days	October	3 days
May	5 days	November	5 days

June 6 days

December 8 days

The Contractor shall ask for total adverse weather days. The Contractor's request shall be considered only for days over the allowable number of days stated above.

Note: Contract is on a calendar day basis.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect shall always serve as the Initial Decision Maker. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to litigation of any Claim arising prior to the date final payment is due. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties except that the Owner may reject the decision or suggest a compromise, or both.

§ 15.2.6 Not Used.

(Paragraph deleted)

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§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.



CHANGE ORDER

Change Order No.: << CO number >>
Date: << date >>
Contract Date: << Contract Date >>

Project No.: HL-XXX-XX
Project Name: Calcasieu Parish School Board
Hurricane Laura Damages Restoration Program
XXXXXXXXXXXXXXXXXX

To: << Contractor >>
<< address 1 >>
<< address 2 >>

You are hereby directed to make the following change(s) in this Contract: (Attach Itemized Recap Sheet)

The Original Contract Sum \$ ###,###.##
Net Change by Previous Change Order \$ ~~###,###.##~~
Contract Sum Prior to this Change Order \$ ###,###.##
Contract Sum will be _____ by this Change Order \$ ~~###,###.##~~
New Contract Sum Including this Change Order \$ ###,###.##

Contract Time will be **INCREASED / DECREASED** by: ## days
Revised Contract Completion Date: ##### ##, 20XX

RECOMMENDED

ACCEPTED

APPROVED

<< Architect >>

<< Contractor >>

Calcasieu Parish
School Board
(OWNER)

(DESIGNER)

(CONTRACTOR)

P. O. Box 800
Lake Charles, LA

By: _____

By: _____

By: _____

Dated: _____

Dated: _____

Dated: _____

APPLICATION FOR PAYMENT DOCUMENTS

The following documents are to be used for Contractor's Applications for Payment:

Samples not included.

Application for Payment:

AIA Document G702®–1992, Application and Certificate for Payment.

With:

Continuation Sheet:

AIA Document G703®–1992, Continuation Sheet.

Both prepared in accordance with their published Instructions.

END OF SECTION

BENEFICIAL OCCUPANCY

* Not for Recordation *

Dated: << date >>

Project No.: **HL-XXX-XXX**

Project Name: **Calcasieu Parish School Board
Hurricane Laura Damages Restoration Program
XXXXXXXXXXXXXXXX**

Architect: << Architect >>
<< address 1 >>
<< address 2 >>

Contractor: << Contractor >>
<< address 1 >>
<< address 2 >>

Owner: **Calcasieu Parish School Board
3310 Broad Street
Lake Charles, LA 70615**

The Owner desires to utilize the portion(s) of the Project described below prior to Substantial Completion.

The portion(s) of the Project described below is/are, to the best of my knowledge and belief, complete to a point that they may be legally occupied, and utilized as intended, in accordance with the requirements of the Contract Documents.

The Owner's occupancy of any portion of this project does not violate any applicable warranties, and does not constitute Acceptance of the Project, as a whole.

The portion(s) of the subject Project described below is, to be best of my knowledge and belief, complete to a point that the Owner desires to use in accordance with the requirements of the Contract Documents.

Portion(s) Occupied: << describe portions of Project >>
Date Occupied: << insert date of Beneficial Occupancy >>

Warranty Items Covered by Occupancy (See attached list).

Punch List: Attached, dated _____
(If not applicable, indicate "N/A")

Punch List Value \$ _____

Accepted by:

Architect

<< Architect >>

Contractor

<< Contractor >>

Owner

Calcasieu Parish School Board

* Not For Recordation *



**Designation of Construction Contractor
as Agent of a Governmental Entity
Sales Tax Exemption Certificate**

_____, an agency of the United States government, or an agency, board, commission, or instrumentality of the State of Louisiana or its political subdivisions, including parishes, municipalities and school boards, does hereby designate the following contractor as its agent for the purpose of making sales tax exempt purchases on behalf of the governmental body:

Name of Contractor		
Address		
City	State	ZIP

This designation of agency shall be effective for purchases of component construction materials, taxable services and leases and rentals of tangible personal property for the following named construction project:

Construction Project	Contract Number
----------------------	-----------------

This designation and acceptance of agency is effective for the period

Beginning Date (mm/dd/yyyy)	End Date (mm/dd/yyyy)
-----------------------------	-----------------------

Purchases for the named project during this period by the designated contractor shall be considered as the legal equivalent of purchases directly by the governmental body. Any materials purchased by this agent shall immediately, upon the vendor's delivery to the agent, become the property of this government entity. This government entity, as principal, assumes direct liability to the vendor for the payment of any property, services, leases, or rentals made by this designated agent. This agreement does not void or supersede the obligations of any party created under any construction contract related to this project, including specifically any contractual obligation of the construction contractor to submit payment to the vendors of materials or services for the project.

This contractor-agent is not authorized to delegate this purchasing agency to others; separate designations of agency by this governmental entity are required for each contractor or sub-contractor who is to purchase on behalf of this governmental entity. The undersigned hereby certify that this designation is the entirety of the agency designation agreement between them. In order for a purchase for an eligible governmental entity through a designated agent to be eligible for sales tax exemption, the designation of agency must be made, accepted, and disclosed to the vendor before or at the time of the purchase transaction.

Designation of Agency		
Signature of Authorized Designator	Date (mm/dd/yyyy)	
Name of Authorized Designator		
Name of Governmental Entity		
Address		
City	State	ZIP

Acceptance of Agency		
Signature of Contractor or Subcontractor Authorized Acceptor	Date (mm/dd/yyyy)	
Name of Contractor's or Subcontractor's Acceptor		
Name of Contractor		
Address		
City	State	ZIP

This designation of agency form, when properly executed by both the contractor and the governmental entity, shall serve as evidence of the sales tax exempt status that has been conferred onto the contractor. No other exemption certificate form is necessary to claim exemption from sales taxes. The agency agreement evidenced by this sales tax exemption certificate must be implemented at the time of contract execution with the governmental entity. The contract between the governmental entity and his agent must contain provisions to authenticate the conferment of agency.

**ROOFING GUARANTEE
(RG-2)**

OWNER: CALCASIEU PARISH SCHOOL BOARD

ADDRESS: P.O. BOX 800
LAKE CHARLES, LA 70602

WHEREAS _____

Address _____

Telephone, (____) _____ herein called the "Roofing Contractor", has performed roofing and flashing in accordance with the Contract Documents for Project No. _____, hereinafter called the "Work") under a subcontract with _____ General Contractor on the following Project:

Name of Project: _____

Location/Address: _____

Name and Type of Building(s): _____

Type(s) of Roof Deck(s): _____

Total Roof Area: _____ SF

Flashing - Edge: _____ LF Base: _____ LF

Date of Acceptance: _____ Guarantee Period: 2 Years

Date of Expiration: _____

AND WHEREAS the Roofing Contractor has contracted to guarantee said work against water entry from faulty or defective materials and workmanship for the designated Guarantee period;

NOW THEREFORE the Roofing Contractor as the General Contractor guarantees, subject to the terms and conditions herein set forth, that during the Guarantee Period they will at their own cost and expense, make or cause to be made with approved procedures and materials such repairs to or replacements of said work resulting from water entry or faults or defects of said Work as are necessary to correct faulty and defective work and as are necessary to maintain said Work in watertight conditions and further to respond on or within two (2) working days upon written notification of leaks or defects by the Calcasieu Parish School Board. Furthermore, they will at their own cost or expense maintain the roof for (2) years after acceptance, in accordance with the current edition of the Roof Maintenance Manual published by the Roofing Industry Educational Institute. The roof shall be inspected a minimum of twice each year, and a report prepared documenting the conditions observed at each inspection. These inspections shall be made once during the months of April or May and once during the months of September and October. Two copies of each report shall be forwarded to the Calcasieu Parish School Board.

This Guarantee is made subject to the following terms and conditions:

1. Specifically excluded from this guarantee are damages to the Work, other parts of the building and building contents caused by:
 - A) Lightning, windstorm (includes hurricanes and tornados), hailstorm, earthquakes and other unusual phenomena of the elements;
 - B) Fire; and
 - C) Structural failures causing excessive roof deck, edgings and related roof components movement. When the Work has been damaged by any of the foregoing causes, the Guarantee will be null and void until such damage has been repaired by the Roofing Contractor, and until the cost and expense thereof has been paid by the Owner or another responsible party so designated.
2. During the Guarantee Period, if the Calcasieu Parish School Board allows alteration of the Work by anyone other than a Contractor approved in writing by the Roofing Subcontractor, General Contractor, and Roofing Material Manufacturer prior to the work being performed, including cutting, patching and maintenance in connection with penetrations, attachment of other work, and positioning of anything on the roof, this Guarantee shall become null and void upon the date of said alterations. If the Calcasieu Parish School Board engages the Roofing Contractor to perform said alterations, the Guarantee shall not become null and void, unless the Roofing Contractor, prior to proceeding with said work, shall have notified the Calcasieu Parish School Board in writing, showing reasonable cause for claim that said alterations would likely damage or deteriorate the Work, thereby reasonably justifying a termination of this Guarantee.
3. During the Guarantee Period, if the original use of the roof is changed and it becomes used for, but for which it was not originally designed or specified, as a promenade, work deck, spray-cooled surface, flooded basin, or other use of service more severe than originally specified, this Guarantee shall become null and void upon the date of said change.
4. During the Guarantee Period, if any building or area of a building is changed to uses creating extremes of interior temperature and/or humidity, but for which it was not originally designed and specified, without provisions and alterations made to the building which effectively contain or control these conditions, this Guarantee shall become null and void upon the date of said change.
5. The Calcasieu Parish School Board shall promptly notify the Roofing Contractor in writing of observed, known or suspected leaks, defects or deterioration and shall afford reasonable opportunity for the Roofing Contractor to inspect the Work, and to examine the evidence of such leaks, defects or deterioration.
6. This Guarantee is recognized to be the only guarantee of the General and Roofing Contractor on said work, and shall not operate to restrict or cut off the Owner from other remedies and recourses lawfully available to him in case of roofing failure. Specifically, this Guarantee shall not operate to relieve the Roofing Contractor of his responsibility for performance of the original work, regardless of whether the Contract was a Contract directly with the Owner or a Subcontract with the Owner's General Contractor.

IN WITNESS THEREOF, this instrument has been duly executed this _____
day of _____, 20_____.

Roofing Contractor's Signature: _____

Typed Name: _____

Representing: _____

Telephone Number: _____

WITNESS _____

PART 1 - GENERAL

1.1 WORK DESCRIPTION

- A. The Work as defined in the General Conditions and described in the Contract Documents prepared by the Architect is summarized as follows:

**BELL CITY CAMPUS
HURRICANE LAURA REPAIRS
BELL CITY, LA**

1.2 RELATED WORK NOT IN CONTRACT (N.I.C.)

- A. Items "Not in Contract" are specifically marked NIC or N.I.C.

1.3 INSTALLATION OF OWNER PROVIDED AND ALLOWABLE PRODUCTS

- A. The contractor shall provide accessories and installation of such products, unless specified otherwise.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR WORK

- A. Repair Work Includes:
1. Fencing
 2. Roofing
 3. Walkway Canopy repair
 4. Canopy Structure over Bleachers
 5. Door Canopy replacement
 6. Acoustical Ceiling Tile
 7. Painting
 8. Grandstand Bleachers
 9. Vinyl Siding
 10. Glass Fiber Reinforced Plastic Siding Panel

END OF SECTION 011000

PART 1 GENERAL

1 SUMMARY

A. Project Summary:

REROOFING

1. At designated roof area, remove existing gravel, roof, insulation, and related sheet metal items down to the metal decks.
 2. Mechanically attach specified Polyisocyanurate, tapered Polyisocyanurate and Gypsum board to the substrate as required per ASCE 7 for 141mph wind speed. See plans for locations.
 3. Heat fuse one ply of SBS modified base sheet over the insulation.
 4. Install retrofit drains and strip in with SBS modified base sheet.
 5. Fabricate and install all miscellaneous sheet metal items. Strip in with SBS modified base sheet.
 6. Flash all walls and curb type penetrations with one ply of the specified SBS modified base sheet.
 7. Install one ply of a high-performance mineral surfaced modified cap sheet across the field of the roof and up 2" above cant strip.
 8. Immediately broadcast granules into bleed out.
 9. Install one ply of a high-performance mineral surfaced modified cap sheet at all wall flashing and curb type penetrations.
 10. Inspect roof area with Owner and Owner's rep prior to surfacing.
 11. After 30 days, apply two applications of the specified protective coating. DO NOT APPLY COATING UNTIL ROOF HAS BEEN PUNCHED OUT.
 12. Issue 30 year No Dollar Limit (NDL) warranty to include all metal edge conditions and penetrations.
- RESTORATION**
13. At designated roof areas, sweep loose gravel away from the perimeter of the roofs.
 14. Clean roof area and prime.
 15. Apply restaurant as specified and embed existing gravel into the cold process restaurant.

C. Particular project requirements:

1. Existing site conditions and restrictions: The building will be occupied at the time of construction and care must be taken not to disturb normal operations of the occupants.

D. Permits: Apply for, obtain, and pay for permits required to perform the work. Submit copies to Owner.

E. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices, and similar communications to Owner.

F. Dimensions: Verify dimensions indicated on drawings with field dimensions before fabrication or ordering of materials. Do not scale drawings.

G. Existing Conditions: Notify Owner of existing conditions differing from those indicated on the drawings. Do not remove or alter structural components without prior written approval.

H. Definition for terms used in the Specifications:

1. Provide: Furnish and install, complete with all necessary accessories, ready for intended use. Pay for all related costs.
2. Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of "Approved" in General and Supplementary Conditions.
3. Match Existing: Match existing as acceptable to the Owner.
4. Intent: Drawings and Specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth, but which is reasonable implied or necessary for proper performance of the project shall be included.
5. Writing Style: Specifications are written in the imperative mode. Except where specifically intended otherwise, the subject of all imperative statements is the Contractor. For example, "Provide tile" means Contractor shall provide tile.

PART 2 - PRODUCTS - Not applicable to this Section.

PART 3 - EXECUTION - Not applicable to this Section.

END OF SECTION

PART 1 - GENERAL

1.1 LIMITATIONS ON USE OF THE SITE

- A. Schedule deliveries to minimize space and time requirements for storage, materials and equipment on site.
- B. Notify Owner one week in advance if any utilities or existing building functions are to be disrupted. This shall include the following:
 - 1. Excessive noise and/or vibration
 - 2. Site circulation disruptions

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PRE-CONSTRUCTION CONFERENCE

- A. After notification that the Contract has been executed, the Architect shall arrange with the Owner and Contractor and conduct a pre-construction conference to be held at the project site. The Contractor shall be responsible to see that his principal subcontractors are in attendance and shall furnish to the Architect and the Owner the following:
 - 1. Schedule of Values.
 - 2. Construction Schedule, indicating start and finish dates for all Phases.
 - 3. Names, phone numbers, and email addresses of all contact personnel.
 - 4. Bond premium and insurance rates with supporting information from the General Contractor's carrier.

3.2 GENERAL INSTALLATION PROVISIONS

- A. Pre-Installation Conference: Contractor will hold a pre-installation meeting at the project site well before installation of each unit of work which requires coordination of other work. Installer and representatives of the manufacturers and fabricators who are involved in or affected by that area of work or its coordination and integration with other work shall attend this meeting. Advise the Architect of scheduled meeting dates.
- B. Installer's Inspection of Conditions: Require the installer of each major unit of work to inspect the substrate to receive work and conditions under which the work is to be performed.
 - 1. Installer's commencement of work indicates contractor's acceptance of the substrate as being suitable for his work.
- C. Recheck measurements and dimensions of the work as the integral step of starting installation.

3.3 MONTHLY MEETINGS

- A. The Contractor shall attend a monthly meeting at the project site with a representative of the Owner and the Architect. The purpose of the meetings will be coordination of scheduling as well as to provide information as to the status of the construction.

3.4 CONTRACTOR IDENTIFICATION

- A. If physical isolation from students of the Work Area(s) by fencing is not achievable, CPSB badges must be obtained by Contractor prior to commencing work. For such projects, Contractor and subs will be required to submit list of personnel and digital photo for each for CPSB to create badges.

All Contractor and subcontractor personnel wear company badges and/or uniform shirts and/or similar apparel that identifies their employer whenever they are on-site.

END OF SECTION 013100

PART 1 - GENERAL

1.1 CONTRACTOR RESPONSIBILITIES

- A. Deliver submittals to: Moss Architects, Inc., 3221 Ryan Street, Suite B, Lake Charles, Louisiana 70601, (337) 433-8166 or submittals may be emailed electronically.
- B. No submittal will be reviewed by Architect until is has been thoroughly reviewed and stamped by Contractor and all coordination with specific project has been marked or noted.
- C. Transmit each item identifying project, contractor, subcontractor, major supplier, pertinent drawing sheet and detail number and specification section number, as appropriate. Notify the Architect in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents. Provide space for Contractor and Architect review stamps.
 - 1. Fax transmittals are not acceptable without prior approval.
- D. Coordinate each submittal with requirements of the work and of the contract documents.
- E. Do not begin with fabrication of work which requires submittals until return of submittals from Architect with indication that no exception is taken.
- F. After Architect review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- G. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- H. Architect's checking of shop drawings, submittals, and samples is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Architect's review does not relieve Contractor of his responsibilities.
 - 1. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site.
 - 2. Contractor is responsible for fabrication processes and techniques of construction.
 - 3. Contractor is responsible for coordination of the work of all the trades, and for the satisfactory performance of all of the work.

1.2 ARCHITECT'S DUTIES

- A. Review submittals with reasonable promptness and in accordance with schedule.
- B. Affix stamp with initials or signature and indicate either requirements for re-submittal or note that no acceptance is taken to submittal.
- C. Return submittals to Contractor for distribution or for resubmission.

1.3 SUBMITTALS

A. Construction Progress Schedule

1. After receipt of Notice to Proceed and before commencement of construction, submit Construction Progress Schedule to Architect. After review by Architect revise and resubmit as required. Submit revised Schedule with each Application for Payment, reflecting changes since previous submittal.
2. Comply with Progress Schedule for submittals related to work progress. Coordinate submittal of related items.
3. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each progress Application of Payment.
4. Show submittal dates required for Shop Drawings, Product Data, and Samples, and Product delivery dates, including those furnished by Owner and those under Allowances.

B. Schedule of Values

1. Submit Schedule of Values in duplicate within 10 days after award of contract. After review by Architect revise and resubmit as required. Submit revised schedule with each application for payment, reflecting changes since previous submittal.
2. Submit typed Schedule on AIA Form G703; Contractor's standard form or media driven printout will be considered upon request.
3. Format: Table of Contents of this Project Manual. Identify each item with number and title of the major specification sections.
4. Include in each line item amount of allowances. For unit cost allowances, give quantities measured from contract documents multiplied by the unit cost equal to the total for each item.
5. Include in each line item a directly proportional amount of Contractor's overhead and profit.
6. Provide a sub-schedule for each separate stage of work specified.
7. Revise schedule to list change orders for each application for payment.

C. Bond Premium and Insurance Rates:

1. Submit bond premium and insurance rates, as a percentage, with supporting information from insurance carrier.

D. Shop Drawings

1. Review shop drawings prior to submission to determine and verify:
 - a. Field construction criteria
 - b. Catalog numbers and similar data
 - c. Conformance with specifications
2. Before submitting to Architect, submittals shall contain the following:
 - a. Date of submission and dates of any previous submissions.

- b. Project title and number.
 - c. Contract identification.
 - d. Names of Contractor, supplier, and manufacturer.
 - e. Identification of the product with the specification section number.
 - f. Field dimensions, clearly identified as such.
 - g. Relation to adjacent or critical features of the work or materials.
 - h. Applicable standards, such as ASTM or Federal Specification numbers.
 - i. Identification of deviations from contract documents.
 - j. Identification of revisions on re-submittals.
 - k. An 8" x 3" blank space for Contractor and Architect stamps.
 - l. Contractor's signed stamp certifying the review of the submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of contract documents.
3. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail schedule or room numbers shown on contract drawings.
 4. Submission Requirements for Shop Drawings:
 - a. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work or in the work of any other contractor.
 - b. Submittals may be made either by hard copy or electronic. If submitting hard copy, submit three (3) copies for Architectural and (5) copies for Engineering submittals.
 5. If the Contractor has failed to complete the review as outlined above, the shop drawings will be returned to the Contractor without a review from the Architect or Engineer. Any delay to the contract time will be the responsibility of the Contractor.
 6. Resubmission Requirements for Shop Drawings:
 - a. Make any corrections or changes in the submittals required by the Architect and resubmit until no exception is taken.
 - b. Indicate any changes which have been made other than those required by the Architect.
- E. Product Data
1. Preparation:
 - a. Clearly mark each copy to identify pertinent products or models.
 - b. Show performance characteristics and capacities.
 - c. Show dimensions and clearances required.
 - d. Show wiring or piping diagrams and controls.
 2. Manufacturer's standard schematic drawings and diagrams:
 - a. Modify drawings and diagrams to delete information which is not applicable to the Work.
 - b. Supplement standard information to provide information specifically applicable to the work.
 3. Submission Requirements for Product Data:

- a. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work or in the work of any other contractor.
 - b. Submit three (3) copies.
 4. Resubmission Requirements for Product Data
 - a. Make any corrections or changes in the submittals required by the Architect and resubmit until no exception is taken.
 - b. Indicate any changes which have been made other than those requested by the Architect.
- F. Samples
 1. Office samples shall be of sufficient size and quantity to clearly illustrate:
 - a. Functional characteristics of the product with integrally related parts and attachment devices.
 - b. Full range of color, texture and pattern.
 2. Field samples and mockups:
 - a. Contractor shall erect at the project site at a location acceptable to the Architect.
 - b. Size or area: That specified in the respective specification section.
 - c. Fabricate each sample and mock-up complete and finished.
 - d. Remove mockups at conclusion of Work or when acceptable to the Architect.
 3. Submission Requirements for Samples:
 - a. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work or in the work of any other contractor.
 - b. Number of samples required: Submit the number stated in each specification section.
 4. Resubmission Requirements for Samples:
 - a. Make any corrections or changes in the submittals required by the Architect and resubmit until no exception is taken.
 - b. Submit new samples as required for initial submittal.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 013300

PART 1 - GENERAL

1.1 CONTRACT DOCUMENTS

- A. The Drawings are those encountered in the List of Drawings and identified in the Agreement. The Drawings, in many instances, are schematic and do not define exact locations of every part and piece of equipment. Items furnished may vary in dimension from the specific items called for in the Contract Documents. In such cases, determine exact position of each part by "on the job" measurements and drawings from equipment suppliers. Coordinate with other work.
- B. Each Specification Section governs the complete work of the title, along with work related to the title, no matter where such work is shown on the drawings or mentioned in the specifications.
 - 1. The outline form is used to omit repetitious use of words or word groups such as: "furnish and install", "Contractor shall", and other similar statements. Such words omitted from the text shall be construed to be included just as if they were repeated each time.
- C. The Contractor shall perform all work shown, mentioned or inferred and shall comply with all work restrictions.
- D. The Contractor shall perform all work and/or provide all equipment or devices, regardless of where included in the project manual (specifications) or on the construction drawings.
- E. Any and all work performed and/or equipment or devices provided shall be complete and operational to satisfy the intent of the contract documents.

1.2 REFERENCE STANDARDS AND INDUSTRY SPECIFICATIONS

- A. Any material or operation specified by reference to published Specification of a Manufacturer, a Society, an Association, a Code, or other published Standard, shall comply with requirements of the listed document which is current and has been officially published on date of receipt of bids. In case of a conflict between referenced document and contract documents, or between referenced documents, the one having more stringent requirements shall govern.
- B. The Contractor, when requested, shall furnish a sworn affidavit from the manufacturer certifying that materials and manufactured products delivered to the job meet requirements specified. However, such affidavit shall not relieve the Contractor for responsibility of complying with any added requirements of Contract Documents.
- C. A list of abbreviations for names of technical societies, organizations, and agencies referenced in the Contract Documents is available from the Architect.

END OF SECTION 014200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 - General Requirements, apply to this Section.

1.2 SUMMARY

- A. General: Provisions of this Section simplify and do not modify provisions of the General Conditions.
 - 1. This section specifies temporary services and facilities, including utilities, construction and support facilities, security, and protection.
 - 2. Unless indicated to be optional, temporary services and facilities are Contract requirements.

1.3 QUALITY ASSURANCE

- A. Comply with FEMA consensus-based codes and standards listed below, not just locally adopted codes.
- B. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
 - 1. International Building Code 2021 edition. (Latest printed edition)
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Environmental protection regulations.
 - 5. Americans with Disabilities Act.
 - 6. ASCE 7-16 (Latest Edition)
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test temporary utilities before use. Obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Familiarity with Site: It is understood that prior to bidding the Contractor became familiar with the conditions existing at the site and accepts the site and access conditions as they are.
- B. Temporary Facilities: Contractor shall arrange and pay for all utilities required for construction and testing purposes until such time after project is substantially complete and/or Owner takes possession of building. Provide adequate water, electric power and light, temporary heat and cooling as required for proper execution, inspection and testing of the work.

- C. Conditions of Use: Keep temporary services and facilities clean and neat. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities or permit them to interfere with progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist. Do not obstruct means of access and emergency egress.
- D. Use of Site: The Contractor and subcontractors shall locate offices, materials storage, equipment storage and maintenance area, and similar major facilities in permitted areas which do not interfere with operations required under the Contract and operations by the Owner and Owner's separate contractors.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new or undamaged previously used materials and equipment in serviceable condition. Provide material and equipment suitable for the use intended.
- B. Temporary Structures: If necessary, for protection of materials and equipment, provide prefabricated or mobile units or similar job-built construction with lockable entrances, and serviceable finishes. Provide units on foundations adequate to distribute loads safely and avoid damage to supporting structure.
- C. First Aid Supplies: Comply with governing regulations.
- D. Fire Extinguishers: Provide hand-carried, portable fire extinguishers. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure. Comply with specific requirements of other Sections, such as metal work and roofing.

PART 3 - EXECUTION

3.1 GENERAL

- A. Temporary Facilities: Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work and continuing use of the building. Relocate and modify facilities as necessary for properly performing the work.
- B. Duration of Use: Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

- C. Use of Permanent Facilities: Subject to approval by the Owner, permanent items (lights, air handling equipment, electric distribution system, and similar facilities) may be utilized by the Contractor to replace temporary facilities. Contractor shall be responsible for proper operation and maintenance of permanent facilities which are used during the construction period, and shall repair or replace all damaged components, restore consumable supplies and clean interior and exterior surfaces before Substantial Completion.
 - 1. Comply with manufacturer's instructions for operation and maintenance.
 - 2. Provide temporary throwaway type filters for air handling equipment; change filter as needed, but not less often than every 4 weeks. Do not operate air-handling equipment without filters.
 - 3. Comply with final cleaning requirements specified in Section 017700.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Water and electric power for construction purposes will be available to the Contractor from existing municipal or parish distribution systems. Contractor shall be responsible for determining connection points. At conclusion of temporary use, Contractor shall restore connection points to original condition, or better. New in-service outlets and fixtures in construction areas may be utilized; item damages as a result of use for construction purposes shall be replaced with new ones. Contractor is responsible for coordinating and verifying all existing access points to utilities for temporary services with utility companies.
- B. Water Service:
 - 1. Contractor shall provide piping, hoses, backflow preventers, valves and other items necessary to conduct water from connection point to the construction location.
 - 2. Contractor shall supervise use of water to prevent waste and prevent damage due to leaking and uncontrolled discharge.
 - 3. Contractor shall provide sanitary drinking supply and paper cups for workers.
- C. Electric Power Service:
 - 1. Contractor shall be responsible for determining existing access points for temporary electrical service and verify access points with electric company.
 - 2. Contractor shall coordinate all requirements for temporary service with electric company and pay for any fees associated with temporary service.
 - 3. Contractor shall provide extension cords, wiring, switches, disconnects, fuses, lamps and receptacles, and other items necessary to conduct electricity from connection point to the construction location.
 - 4. Contractor shall supervise use of electricity to prevent waste and prevent injury and damage to the building due to improper and unsafe use, including but not limited to overloading and absence of grounding.

- D. Temporary Lighting: Whenever natural light is inadequate and existing or new overhead lighting is not in operation, provide temporary lighting with local switching as necessary for operations under way.
 - 1. Install and operate temporary lighting that will provide adequate illumination for construction operations and traffic conditions.
 - 2. Provide sufficient temporary lighting to ensure proper workmanship. Finishing work will not be permitted in areas that are not adequately lighted.
 - 3. Provide and maintain lights and signs to prevent damage or injury. Keep safety lights burning from dusk to dawn.
- E. Sewer: Existing-building sewers may be used for effluent that can be discharged lawfully. If sewers cannot be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.

3.3 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES

- A. General: Locate field offices, storage facilities and other temporary construction and support facilities for each access and to avoid interference with construction operations and use of the site and building by Owner's employees and the public.
- B. Field Office: Provide temporary office of sufficient size to accommodate activities on the Project site. Keep the office clean and orderly for use for small progress meetings.
 - 1. Equip office, plan desk, and appropriate and necessary tables, chairs, desks, files, office machines and utilities.
 - 2. Keep in office at all times complete sets of Contract Documents and Architect reviewed submittals.
 - 3. Field office, including furniture and equipment, shall remain Contractor's property and be removed when work is completed.
- C. Storage and Fabrication Facilities: Provide storage and fabrication facilities, sized, furnished and equipped, as deemed necessary by the Contractor to accommodate materials and equipment involved.
 - 1. Shed may be open shelters or fully enclosed spaces.
 - 2. Provide weatherproof coverage for outdoor storage of materials and equipment needing only limited protection.
- D. Sanitary Facilities: Contractor shall provide temporary toilets, wash facilities and drinking water for construction workers. Use of building toilet, wash facilities and drinking water fixtures will not be permitted.
 - 1. Comply with regulations and health codes for the operation and maintenance of fixtures and facilities for construction personnel.
 - 2. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each construction facility. Provide covered waste containers for used material.

3. When the premises are occupied, locate temporary facilities where directed by the Owner.
- E. Temporary Protection: Provide temporary protection of construction in progress and completed, from damage by other construction operations and misuse. Provide temporary barricades and enclosures as necessary to protect workers and the public from the injury.
1. Provide 6' chain link fencing to isolate work areas from existing, adjacent school facilities where students are present. Gate shall be avoided and padlocked if/where necessary.
 2. Provide temporary enclosures for weather protection, as necessary.
 3. Adequately cover and protect completed work from traffic and subsequent construction operations.
 4. Close opening through roof with load-bearing wood-framed construction or substantial barricades.
- F. Temporary Signs: Prepare one (1) project identification sign, 4' x 8'; install sign in location and with graphic content as directed by the Architect. Support sign on 4" x 4" posts of preservative treated wood or galvanized steel imbedded 3'-0" deep in concrete. Bottom of sign to be approximately 4' off ground. Do not permit installation of unauthorized signs.
1. Project Identification Sign: Engage an experienced sign company to apply electronic graphics. Sign board shall be fully painted (all sides and edges) with primer and exterior enamel.
 2. Temporary Sign: Contractor shall provide signs to provide directional information to construction personnel and visitors, and as necessary for safety and to meet insurance requirements.
 3. Verify layout of project identification sign with Architect.
- G. Cleaning and Waste Disposal: Keep the construction areas, staging area, and surrounding areas free from accumulation of waste materials and rubbish caused by operations under the Contract.
1. Construction and Staging Areas: Comply with the following requirements in construction and staging areas.
 - a. Execute periodic cleaning to maintain premises free from accumulation of waste material and rubbish caused by Project construction operations.
 - b. Sprinkle dusty debris with water.
 - c. Provide adequate number of containers for collection of waste materials, rubbish, and debris.
 - d. Remove waste materials, rubbish, debris from the site and dispose of legally.
 - e. Handle hazardous, dangerous, and unsanitary waste materials separately. Do not permit discharge of toxic, flammable, and hazardous materials into the ground and into drains and sewers.
 - f. Control the wash-out and dumping of concrete truck, gypsum board finishing equipment, and similar operations involving cementitious materials to prevent creation of nuisance and clogging of drains.
 - g. Clean interior of Project work areas when ready to receive finish painting and continue cleaning on an as-needed basis until Project is ready for acceptance or occupancy.

- h. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
 2. Occupied Areas: When portions of the premises are occupied by the Owner, the Contractor shall keep such areas free from all dust and debris resulting from Contract operations (NO EXCEPTIONS). If any occupied area requires janitorial service at the beginning of any business day, a janitorial service will be called to expedite the clean-up and the Contractor will be back-charged. In such case an appropriate Change Order will be issued deducting the cost of the janitorial services from the Contractor's Contract amount.
 3. If the Contractor fails to carry out cleaning work as specified and fails within seven (7) days after notification by Architect to commence and continue with required cleaning procedures, the Owner may perform specified cleaning and deduct by appropriate Change Order the cost the cleaning from the Contract Amount. This right of the Owner, if exercised, shall be exercised without prejudice to any other remedy the Owner may have under the Contract Documents or law.
- H. Pest Control: Before finish work in construction area starts, retain a local exterminator or pest control company to perform extermination and control procedures so the Project will be free of pests and their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.
- I. Construction Aids: Construct and maintain scaffolds, ramps, and ladders necessary for reaching all portions of the work conveniently and safely. Provide hoists, trash chutes, lifts, carts and other equipment necessary for handling materials and debris.
- J. Staging Area: Refer to drawings for requirements if the Contractor elects to use site area for construction purposes.
 1. If used by the Contractor, the staging area shall be enclosed with a 6' high chain link fence with gates. Erect fence and gates in accordance with the standards of the Chain Link Fence Manufacturer's Institute.
 2. Promptly remove fence and gates at end of staging area usage. Patch postholes in pavement. Repair disturbed grass areas and re-sod. Clean area and repaint parking lines.
- K. Dustproof Partitions: Provide and erect dustproof partitions with doors. Install gaskets between partition framing and in-place construction, and caulk perimeters to prevent dust infiltration. Tape plywood joints on non-public (construction) sided of partition; paint public (non-construction) side.
 1. Where construction of framed plywood enclosure is impractical, provide equivalent protection by plastic sheeting taped in place and supported by wood framing as necessary to prevent sagging and displacement.
 2. Maintain partitions in a substantial, dustproof condition throughout the construction period. Adjust or pre-place seals at doors as necessary.
 3. Modify and relocate partitions during the construction period as necessary to permit construction operations to continue without disturbing banking operations.

3.4 SECURITY AND PROTECTION FACILITIES

- A. Duration of Use: Throughout the construction period, until Substantial Completion.
- B. Contractor Responsibility: The Contractor shall be solely responsible for the security of temporary facilities, storage areas, equipment, and other construction facilities.
- C. Temporary Fire Protection: Provide and maintain temporary fire protection facilities of the types needed to protect against reasonable predictable and controllable fire losses.
 - 1. Store combustible materials in containers in fire-safe locations.
 - 2. Maintain unobstructed access to fire extinguishers, stairways and other access routes for fighting fires.
 - 3. Provide supervision of welding operations and similar sources of fire ignition.
- D. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, and post graphics and warning signs to inform personnel and the public of hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure of areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security. Furnish duplicate keys for all temporary locks to the Owner's designated representative.
- F. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in compliance with environmental regulations. Minimize air contamination and pollution, and other undesirable effects. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons in adjacent in-use areas.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended used to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good condition until removal.
- C. Termination and Removal: Remove each temporary facility when the need has ended, or when replace by authorized use of a permanent facility, or no later than Substantial Completion. Permanent facilities may be used following removal of temporary facilities, under conditions acceptable to the Owner and Architect. Complete and, if necessary, restore permanent construction delayed because of interference by the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and equipment that constitute temporary facilities are property of the Contractor, and shall be removed from the Owner's premises after use.
 - 2. At substantial completion, clean and renovate permanent facilities that have been used during the construction period as specified in Section 017700.

3. Comply with additional requirements specified in Section 017700.

END OF SECTION 015000

PART 1 - GENERAL

1.1 PREREQUISITIES TO SUBSTANTIAL COMPLETION

- A. Prior to requesting Architect's inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list known exceptions in request:
1. In progress payment request, coincident with or first following date claimed, show either 100% completion for portion of work claimed as "substantially complete", or list incomplete items, value of incompleteness, and reasons for being incomplete.
 2. Include supporting documentation for completion as indicated in these contract documents.
 3. Submit statement showing accounting of changes to Contract Sum.
 4. Advise Owner of pending insurance changeover requirements.
 5. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
 - a. Submit roof warranty certifications.
 6. Obtain and submit release enabling Owner's full and unrestricted use of the work and access to services and utilities, including (where required) occupancy permits, operating certificates, and similar releases.
 7. Submit record drawings, maintenance manuals, final project photographs, damage of settlement survey, property survey, and similar final record information as applicable.
 8. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
 9. Make final changeover of locks and transmit keys to Owner, and advise Owner's personnel of changeover in security provisions.
 10. Complete startup testing of systems, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mockups, and similar elements.
 11. Complete final cleaning up requirements, including touchup painting of marred surfaces.
 12. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Upon receipt of Contractor's request, Architect will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate. Results of completed inspection will form initial "Punch list" for final acceptance.

1.2 PREREQUISITES TO FINAL ACCEPTANCE

- A. Prior to requesting Architect's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and complete operations where required.

2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 3. Submit certified copy of Architect's final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of substantial completion or when Owner took possession of and responsibility for corresponding elements of the work.
 5. Submit consent of surety.
 6. Submit final liquidated damages settlement statement, acceptable to Owner.
 7. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Re-inspection Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch list items resulting from earlier inspections, and except incomplete items delayed because of acceptable circumstances, Architect will re-inspect the work. Upon completion of re-inspection, Architect will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

1.3 SUBMITTALS

- A. Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.
- B. Maintenance Manuals: Organize maintenance and operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb tabbed). Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turnaround" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy duty 2", 3-ring vinyl covered binder, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures.
 - 1. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate startup, shutdown, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitment.

3.2 FINAL CLEANING

- A. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required.
 - 1. Remove labels which are not required as permanent labels.
 - 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances which are noticeable as vision obscuring materials. Replace broken glass and damaged transparent materials.
 - 3. Clean exposed exterior and interior hard surfaced finishes, to a dirt free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
 - 4. Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar equipment; remove excess lubrication and other substances.
 - 5. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - 6. Clean concrete floors in non-occupied spaces broom clean.
 - 7. Vacuum clean carpeted surfaces and similar soft surfaces.
 - 8. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
 - 9. Clean light fixtures and lamps so as to function with full efficiency.
 - 10. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances. Sweep paved areas to a broom clean condition; remove stains, petrochemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even textured surface.

- B. Engage an experienced exterminator to make a final inspection of project, and to rid project of rodents, insects, and other pests.
 - C. Except as otherwise indicated or requested by Architect, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during remainder of construction period.
 - D. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.
1. Where extra materials of value remaining after completion of associated work have become Owner's property, dispose of these to Owner's best advantage as directed.

END OF SECTION 017700

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 General Requirements, apply to work of this section.

1.2 DESCRIPTION OF WORK

- A. Extent of selective demolition work is indicated on drawings.

1.3 SUBMITTALS

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection.
- B. Provide detailed sequence of demolition and removal work to ensure un-interrupted progress of Owner's on-site operations.
- C. Coordinate with Owner's continuing occupation of portions of existing building, with Owner's partial occupancy of completed new addition, and with Owner's reduced usage during summer months.

1.4 JOB CONDITIONS

- A. Occupancy: Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities which will severely impact Owner's normal operations.
- B. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
- C. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- D. Partial Demolition and Removal: Items indicated to be removed but of salvable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
- E. Storage or sale of removed items on site will not be permitted.
- F. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.

- G. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from occupied portions of building.
- H. Erect temporary covered passageways as required by authorities having jurisdiction.
- I. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
- J. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
- K. Protect floors with suitable coverings when necessary.
- L. Construct temporary insulated solid dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dustproof doors and security locks if required.
- M. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces, and installation of new construction to insure that no water leakage or damage occurs to structure or interior areas of existing building.
- N. Remove protections at completion of work.
- O. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- P. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- Q. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- R. Explosives: Use of explosives will not be permitted.
- S. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.
- T. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
- U. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- V. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.

3.2 PREPARATION

- A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.
- B. Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
- C. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.
- D. Erect and maintain dust-proof partitions and closures as required preventing spread of dust or fumes to occupied portions of the building.
- E. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4" studs, 5/8" drywall (joints taped) on occupied side, 1/2" fire retardant plywood on demolition side, and fill partition cavity with sound deadening insulation.
- F. Provide weatherproof closures for exterior openings resulting from demolition work.
- G. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
- H. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary during change-over.

3.3 DEMOLITION

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- B. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power driven masonry saw or hand tools; do not use power driven impact tools.

- C. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors or framing.
- D. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- E. Demolish foundation walls to a depth of not less than 12" below existing ground surface. Demolish and remove below grade wood or metal construction. Break up below grade concrete slabs.
- F. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
- G. Completely fill below grade areas and voids resulting from demolition work. Provide fill consisting of approved earth, gravel or sand, free of trash and debris, stones over 6" diameter, roots or other organic matter.
- H. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict.
- I. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.4 SALVAGE MATERIALS

- A. Salvage Items: Where indicated on Drawings as "Salvage Deliver to Owner" carefully remove indicated items, clean, store and turn over to Owner and obtain receipt.
- B. Historic artifacts, including cornerstones and their contents, commemorative plaques and tablets, antiques, and other articles of historic significance remain the property of the Owner. Notify Owner's Representative if such items are encountered and obtain acceptance regarding method of removal and salvage for Owner.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burning of removed materials is not permitted on project site.

3.6 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 024119

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Structural steel.
2. Shrinkage-resistant grout.

B. Scope:

1. Provide, fabricate, and erect all structural steel, including anchor bolts, baseplates, hangers, framed openings, etc. as indicated on the plans or otherwise specified herein.

1.2 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in ANSI/AISC 303.

1.3 COORDINATION

- A. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Structural-steel materials.
2. High-strength, bolt-nut-washer assemblies.
3. Anchor rods.
4. Threaded rods.
5. Galvanized repair paint.
6. Shrinkage-resistant grout.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment Drawings.

3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
5. Identify members not to be shop primed.
6. Identify members to be galvanized.
7. Identify members to be painted.
8. Transmit and maintain shop drawing submittals in PDF format.
9. Manually generated ("hand / board") drawings are not acceptable.

1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F3125/F3125M, Grade F1852 bolt assemblies and for retesting bolt assemblies after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with applicable provisions of the following specifications and documents:
 - 1. ANSI/AISC 303.
 - 2. ANSI/AISC 360.
 - 3. RCSC's "Specification for Structural Joints Using High-Strength Bolts."
- B. Connection Design Information:
 - 1. Option 1: Connection designs have been completed and connections indicated on the Drawings.

2.2 STRUCTURAL-STEEL MATERIALS

- A. Channels, Angles: ASTM A36/A36M or ASTM A572/A572M, Grade 50 where specifically indicated-
- B. Plate and Bar: ASTM A36/A36M ASTM or A572/A572M, Grade 50 where specifically indicated.-
- C. Cold-Formed Hollow Structural Sections: ASTM A1085/ASTMA1085M structural tubing.
- D. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS AND CONNECTORS

- A. Zinc-Coated High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125/F3125M, Grade A325, Type 1, heavy-hex steel structural bolts; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.
 - 1. Finish: Hot-dip or mechanically deposited zinc coating.

2.4 RODS

- A. Headed Anchor Rods: ASTM F1554, Grade 36 ASTM F1554, or Grade 55, weldable, straight, where indicated
 - 1. Nuts: ASTM A563 heavy-hex carbon steel.
 - 2. Plate Washers: ASTM A36/A36M carbon steel.
 - 3. Washers: ASTM F436, Type 1, hardened carbon steel.
 - 4. Finish: Hot-dip zinc coating, ASTM A153/A153M, Class C.

2.5 SHRINKAGE-RESISTANT GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.6 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate in accordance with ANSI/AISC 303 and to ANSI/AISC 360.

- 1. Camber structural-steel members where indicated.
- 2. Mark and match-mark materials for field assembly.
- 3. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

- 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

- E. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.

- 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
- 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
- 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.7 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

- 1. Joint Type: Snug tightened.

- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.

2.8 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel in accordance with ASTM A123/A123M.
 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
 2. Galvanize lintels, shelf angles, and any other members exposed to exterior conditions. Request clarification during bidding process as appropriate.
 3. All anchor rods to be hot dip galvanized.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated on Drawings.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and in accordance with ANSI/AISC 303 and ANSI/AISC 360.
- B. Baseplates Bearing Plates and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 2. Weld plate washers to top of baseplate.

3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 4. Promptly pack shrinkage-resistant grout solidly between bearing surfaces and plates, so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for grouting.
- C. Maintain erection tolerances of structural steel within ANSI/AISC 303.
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
1. Level and plumb individual members of structure. Slope roof framing members to slopes indicated on Drawings.
 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- H. The structural system and individual members are designed to be self-supporting only after all structural members are in place and fully connected. Bracing, falsework, sequencing of erection, and all effort necessary to achieve the final conditions are the responsibility of the contractor.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt and joint type specified.
1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
1. Comply with ANSI/AISC 303 and ANSI/AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 2. Remove backing bars or runoff tabs; back gouge, and grind steel smooth.
 3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.

3.5 REPAIR

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing, and repair galvanizing to comply with ASTM A780/A780M.
- B. Touchup Priming: Cleaning and touchup priming according to manufacturer's directions.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
 - 1. Bolted Connections: Inspect and test bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
 - 2. Welded Connections: Visually inspect field welds in accordance with AWS D1.1/D1.1M.
 - a. In addition to visual inspection, test and inspect field welds in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1) Liquid Penetrant Inspection: ASTM E165/E165M.
 - 2) Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - 3) Ultrasonic Inspection: ASTM E164.
 - 4) Radiographic Inspection: ASTM E94/E94M.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Rooftop equipment bases and support curbs.
 - 2. Wood blocking, cants, and nailers.
 - 3. Replace damaged or deteriorated blocking.

1.3 DEFINITIONS

- A. Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. SPIB: The Southern Pine Inspection Bureau.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules- writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. 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.
 - 3. Provide dressed lumber, S4S, unless noted otherwise.
- B. Maximum Moisture Content of Lumber: 19 percent, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC3b for exterior construction not in contact with the ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all rough carpentry unless otherwise indicated.
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
- B. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
 - 1. Southern Pine; No. 2 grade; SPIB.
 - 2. Meet the following stress values:
 - a. Fb (min. extreme fiber stress in bending): 1,500 psi. b.
 - E (min. modulus of elasticity): 1,500,000 psi.
- C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, concealed from weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153 or Type 304 stainless steel. Refer to plans and details for any particulars.

2. All fasteners and anchorage shall comply with ASCE 7-16 Rick Category 111.
- B. Power-Driven Fasteners: NES NER-272
- C. Wood Screws: ASME B18.6.1.
- D. Lag Bolts: ASME B18.2.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 1. Use inorganic boron for items that are continuously protected from liquid water.
 2. Use copper naphthenate for items not continuously protected from liquid water.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. CABO NER-272 for power-driven fasteners.
 2. Published requirements of metal framing anchor manufacturer.
 3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in the Uniform Building Code.
 4. Table 2305.2, "Fastening Schedule," in the BOCA National Building Code.
 5. Table 2306.1, "Fastening Schedule," in the Standard Building Code.
 6. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in the International One- and Two- Family Dwelling Code.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. *Attach nailers to substrates to support applied loading and in accordance with FM Global Loss Prevention Data Sheet I-49.* Recess bolts and nuts flush with surfaces unless otherwise indicated.

- C. Where wood-preserved-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

3.3 PROTECTION

- A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet or sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution to comply with EPA-registered label.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Polyisocyanurate Roof Insulation.
 - 2. Gypsum Roof Deck Board
- B. Related sections:
 - 1. Division 07 Section "Preparation for Reroofing".
 - 2. Division 07 Section "Sheet Metal Flashing and Trim".
 - 3. Division 07 Section "SBS Modified Bituminous Membrane Roofing".

1.3 REFERENCES

- 1. American Society for Testing and Materials (ASTM):
- 2. ASTM C1396 Standard Specification for Gypsum Wallboard.
- 3. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation
- 4. ASTM D5 Standard Test Method for Penetration of Bituminous Materials.
- 5. ASTM D5147 Standard Sampling and Testing Modified Bituminous Sheet Material.
- 6. Cast Iron Soil Pipe Institute, Washington, D.C. (CISPI)
- 7. Factory Mutual Research (FM):
 - a. Roof Assembly Classifications.
- 8. National Roofing Contractors Association (NRCA):
 - a. Roofing and Waterproofing Manual.
- 9. Underwriters Laboratories, Inc. (UL):
 - a. Fire Hazard Classifications.
- 10. Warnock Hersey (WH):
 - a. Fire Hazard Classifications.
- 11. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- 12. Steel Deck Institute, St. Louis, Missouri (SDI)
- 13. Southern Pine Inspection Bureau, Pensacola, Florida (SPIB)
- 14. Insulation Board, Polyisocyanurate (FS HH-I-1972)
- 15. IBC 2021 and ASCE 7-16 Risk Category 111.

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's specification data sheets for each product.
- B. Roofing System Certification: Submit written certification that the roof deck insulation is acceptable for use by the SBS manufacturer as a component of their roofing system.
- C. Provide a sample of each insulation type.

1.5 SHOP DRAWINGS

- A. Submit manufacturer's shop drawings indicating complete installation details of tapered insulation system, including identification of each insulation block, sequence of installation, layout, drain locations, roof slopes, thicknesses, crickets and saddles.
- B. Shop drawing shall include: Outline of roof, location of drains, a complete board layout of tapered insulation components, thickness and the average "R" value for the completed insulation system.
- C. Certification:
 - 1. Submit roof manufacturer's certification that insulation fasteners furnished, are acceptable to roof manufacturer.
 - 2. Submit insulation fasteners, fastening pattern layout(s), and deck/substrate penetration depth(s) that resist the uplift pressures as per the specified SBS modified roofing system.
 - 3. Submit roof manufacturer's certification that insulation furnished and installed is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
 - 4. Submit written certification that the roof deck insulation is acceptable for use as a component of the SBS manufacturer's roofing system.
 - 5. Submit written certification that the roof deck insulation, used in conjunction with the SBS modified roofing system, passes the UL1256 test for a fire rated assembly, if required.

1.6 QUALITY ASSURANCE

- A. Fire Classification, ASTM E-108.
- B. Manufacturer's Certificate: Certify that the roof system is adhered properly to resist the uplift pressures as per the specified SBS roofing system.
- C. Pre-installation Meeting: Refer to Division 07 roofing specifications for pre-installation meeting requirements.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.
- C. Keep materials enclosed in a watertight, ventilated enclosure (i.e. tarpaulins).
- D. Store materials above the ground. Any warped, broken or wet insulation boards shall be removed from the site.

PART 2 - PRODUCTS

2.1 ROOF DECK INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces as provided by the modified bitumen manufacturer.
1. Metal Deck Areas
- a. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers, both sides.
 - b. Thickness: 2.0" minimum, refer to drawing section details.
 - c. Tapered Slope: 1/8" : 12" per foot minimum thickness 1/2"
 - d. Tapered Sump Slope: 1/2" per foot.
 - e. Tapered Crickets: 1/4" : 12" per foot.
 - f. Size: 48 X 96 inches when mechanically fastened.
- B. Gypsum Roof Deck Board: ASTM C 1177 or ASTM C 1278, water-resistant gypsum substrate, Class A Fire Rated, 1/2 inch thick.
1. All Roof Areas
- a. Size: 48 inches x 96 inches maximum size when installed using mechanical fasteners.

2.2 RELATED MATERIALS

- A. Fiber Cant and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated, matching insulation board or of perlite or organic fiberboard, as per the approved manufacturer.
1. Acceptable Manufacturers:
- a. Johns Manville
 - b. GAF
- B. Provide preformed saddles, crickets, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- C. Insulation Adhesive: Dual component high rise foam adhesive as recommended by the insulation manufacturer and membrane manufacturer: Insul-Lock HR by The Garland Company, Inc. or approved equal.
- 1. Tensile Strength (ASTM D412), 250 psi
 - 2. Density (ASTM D1875), 8.5 lbs. /gal.
 - 3. Viscosity (ASTM D2556), 8,000 to 32,000 cP.
 - 4. Peel Strength (ASTM D903), 17 lb. /in.
 - 5. Flexibility (ASTM D816), Pass @ -70°F
- D. Fasteners: Corrosion resistant screw fastener as recommended and approved by the SBS

roofing system manufacturer.

1. Metal Deck /Acoustical Deck Areas: Factory Mutual Tested and Approved #14 Heavy Duty by OMG with three (3) inches coated disc, length required to penetrate metal deck one inch by Olympic or pre-equal. Fasteners shall only penetrate the top flute of metal deck.

PART 3 - EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of Division 01 Section and all project requirements.
- B. Install one lapped base-sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.
- C. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing system with vertical surfaces or angle changes greater than 45 degrees.
- D. Install tapered insulation under area of roofing to conform to slopes indicated.
- E. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- F. Install insulation under area of roofing to achieve specified thicknesses and slopes. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- G. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- H. Install tapered edge strips at perimeter edges as necessary to fill between the roof deck board and the top of blocking, to direct water away from vertical surfaces, and that do not terminate at vertical surfaces.

3.2 INSPECTION OF SURFACES

- A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation.
- B. Verify that work which penetrates roof deck has been completed.
- C. Verify that wood nailers are properly and securely installed.
- D. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness. Do not proceed until defects are corrected.

- E. Do not apply insulation until substrate is sufficiently dry.
- F. Broom clean substrate immediately prior to application.
- G. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
- H. Verify that temporary roof, if required, has been completed.
- I. Proceeding with installation means acceptance of substrate.

3.3 PROTECTION

- A. During execution of work covered in this section, the Contractor shall provide protections for the roof insulation from water and wind penetration at the end of each day's work.
- B. Protect the roof insulation in areas that will receive excessive traffic.
- C. All personnel shall wear clean, soft rubber soled shoes for any application work where they may be walking on insulation boards.

3.4 INSTALLATION

- A. Attachment with Mechanical Fasteners:
 - 1. Approved insulation board shall be fully attached to the deck with an approved mechanical fastening system. As a minimum, fastening shall be in accordance with the SBS modified roofing system specification to resist the specified uplift pressures at corners, perimeter, and field of roof.
 - a. Consult with SBS roofing system manufacturer for density and fastener patterns required for securing the insulation to the wood roof deck.
 - b. Fastening patterns shall resist the wind uplift pressures per stamped wind uplift calculations.
 - 2. Placement pattern(s) of fasteners shall be in accordance with the SBS modified roofing system specification to resist the specified uplift pressures. Zone 1 – 24 fasteners per 4x8 board, Zone 2 – 24 fasteners per 4x8 board and Zone 3 – 32 fasteners per 4x8 board. The greater of the two patterns shall be utilized.
 - 3. Minimum fastener penetration depth into deck shall meet or exceed the same pull- out requirements set forth as stated above for uplift pressure resistance. There is a one (1) inch minimum for metal decks and a two (2) minimum for gypsum substrates.
 - 4. Fastening shall comply with ABC 2021 and ASEC 7-16 Rick Category 111.
- B. Attachment with Insulation Adhesive:
 - 1. Ensure all surfaces are clean, dry, free of dirt, debris, oils, loose or embedded trash, unadhered coatings, deteriorated membrane and other contaminants that may inhibit

adhesion.

2. Apply insulation adhesive directly to the substrate using a ribbon pattern with one half (1/2) inch wide beads.
3. Immediately place cant strips and miscellaneous pieces into wet adhesive. Do not slide boards into place. Do not allow the adhesive to skin over before installing insulation boards.
4. Briefly step each board into place to ensure contact with the adhesive. Substrates with irregular surfaces may prevent the insulation board from making positive contact with the adhesive. Relief cuts or temporary weights may be required to ensure proper contact.
5. All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of one quarter (1/4) inch away from the vertical surface.
6. At the Contractor's option, set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 CLEANING

- A. Remove debris and cartons from roof deck. Leave insulation clean and dry, ready to receive roofing membrane or roof deck board.

3.6 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during installation. Comply with requirements of authorities having jurisdiction.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Glass fiber reinforced plastic (FRP/GRP) wall panels.
- B. FRP/GRP trim and flashing.
- C. Fasteners for panels and flashing.
- D. Closures and sealants.

1.2 REFERENCE

- A. A. ASTM International (ASTM):
 - 1. ASTM E72 - Strength of Panels for Building Construction.
 - 2. ASTM E84 - Surface Burning Characteristics of Building Materials.
 - 3. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics.
 - 4. ASTM 2583 - Indentation Hardness of Plastics.
 - 5. ASTM D1494 - Diffused Light Transmission.
- B. FM Standard 4880 - Class 1 Fire Rating for Wall and Roof/Ceiling Panels. This applies for FM approved panels only.

1.3 PERFORMANCE REQUIREMENTS FOR WALL SYSTEMS

- A. Design Requirements:
 - 1. The wall system shall be designed and furnished by the manufacturer as a complete system.
 - 2. Design loads shall be in accordance with 2021 IBC and ASCE7-16.
 - 3. Reference ASCE 7-16 for wind loading requirements for material performance, fastening, anchorage, etc.
 - 4. Factor of safety of 1.88 shall apply for wind loads.
 - 5. Accessories and fasteners shall be capable of resisting specified wind loads.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
 - 1. Product Data: Manufacturer's data sheets on each product to be used.
 - 2. Storage and handling instructions.
 - 3. Installation instructions.
- B. Submittals shall include layout drawings.
 - 1. Drawings shall be approved prior to manufacture and fabrication.

1.5 QUALITY ASSURANCE

- A. Manufacturer shall have current ISO 9001 certification.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be unloaded and stored per manufacturer's instructions to prevent damage.
- B. When handling materials, spreader bars shall be used when lifting FRP panels and surfaces protected from cuts, gouges, abrasions, and impacts. Wire slings shall not be used unless panels are protected.
- C. During storage, bundled panels shall be kept dry and under cover but ventilated. For water drainage and air circulation, panels shall be stored off of the ground with one end elevated. Standing water must be removed from top of and in between sheets.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Enduro Composites, Inc.; 16602 Central Green Blvd., Houston, TX 77032; 713-358-4000, 800-231-7271; email: sales@endurocomposites.com; www.endurocomposites.com.
- B. Substitutions: Not permitted unless allowed by and in accordance with provisions in Section 01600.
 - 1. Any proposed substitution shall include manufacturer's data showing the product meets all listed performance, certification and approval, and material requirements relevant to performance including, but not limited to, type of resin, UV coating protection, and glass fiber reinforcing content.

2.2 GLASS FIBER REINFORCED PLASTIC SIDING PANELS

- A. FRP/GRP Siding Panels: Tuff Span FRP Siding Panel as manufactured by Enduro Composites, Inc. shall be flat to match existing
- B. Color shall match existing

2.3 GLASS FIBER REINFORCED PLASTIC PANEL MATERIAL

- A. Material resin shall be premium grade, Isophthalic Polyester, UV stabilized with neopentyl glycol and acrylic monomer.
- B. Glass fiber reinforcements shall be continuous, straight, and bi-directional along the length and width. Glass content shall be minimum of 48% by weight.
- C. Material shall be fire retardant with UL Class 1 Flame Spread Rating of 25 or less per ASTM E-84 test.
- D. Finish:
 - 1. Acrylic polymer exterior UV coating protection, factory-applied with minimum .4 mil dry film thickness.
 - 2. Embossed exterior, smooth interior surface.

2.4 ACCESSORIES

- A. Accessories shall include flashing, trim, closures, sealant, fasteners, and other items as required.
- B. FRP/GRP flashing and trim shall be in thickness, dimensions, and profile as required.
- C. Fasteners
 - 1. Structural fasteners shall be 304 stainless steel, self-tapping with seal washers and installed per manufacturer's instructions.
 - 2. Side lap and flashing fasteners shall be 304 stainless steel SB2 grommets installed per manufacturer's instructions.
- D. Closures and Sealant
 - 1. Closures shall be EPDM material and match panel profile.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Installation shall not begin until substrates have been properly prepared.

3.2 INSTALLATION

- A. Materials shall be installed in accordance with Manufacturer's Installation Instructions and Drawings.

- B. For Type A or B stainless steel self-tapping screws, pilot holes must be drilled through the panel and support. Pilot holes are not required for self-drilling stainless steel screws, which have a carbon steel point and are suitable for steel thickness of .158-.55" (4-14mm).
- C. For SB2 Grommets used for side lap and flashing attachment, a pilot hole must drilled through panels and flashing.
- D. End laps shall be 6 inches minimum for roofing panels and 4 inches minimum for siding panels.

END OF SECTION 014200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 General Requirements apply to this section.

1.2 SUMMARY

- A. This section includes an exposed fastener pre-formed standard "R" panel system complete with anchor clips, fasteners, flashing, and trim.
- B. Panel can be used as wall roof or soffit panel.
- C. Related Work Specified Elsewhere:
 - 1. Section 075500 - Modified Bituminous Membrane Roofing
 - 2. Section 076000 - Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. American Iron and Steel Institute (AISI)
 - 1. Specification for the Design of Cold-Formed Steel Structural Members. American Society for Testing and Materials (ASTM): B; ASTM A240 Specification for Heat Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels: C.
 - 2. ASTM A792 Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - 3. ASTM A875 Specification for Steel Sheet, Zinc-5% Aluminum Alloy-Coated by the Hot Dip Process.
 - 4. ASTM B209 Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 5. ASTM B370 Specification for Copper Sheet and Strip for Building Construction.
 - 6. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - 7. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Air Pressure Difference.
 - 8. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference.
- B. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual.

1.4 SUBMITTALS

- A. Shop Drawings: Show wall panels (and roofing system, if applicable) with flashings and accessories in elevations, sections and details. Include metal thickness and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Indicate fastener types and spacing; and provide fastener pullout values. Shop drawings must be completed by the wall panel manufacturer's engineering department. Any and/or all changes recommended by the successful bidder must be approved by the manufacturer in writing prior to submittal.
- B. Product Data: Include manufacturer's detailed material and system description, concealed anchor clips, sealant and closure installation instructions, and finish specifications. Indicate fastener types and spacing; and required fastener pullout values.
- C. Samples: Provide full-size samples of the following materials and system components. Samples shall be of identical material type, thickness, panel width, and material grade/alloy as the system specified for this project.
 - 1. Submit sample of panel section, at least 4" long x full panel width showing panel profile and also a sample of color selected.
 - 2. Submit sample of foam closure strips to fit inside and outside specified panel profile.
 - 3. Submit sample of panel fasteners.
- D. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- E. Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.

1.5 SUBMITTALS FOR INFORMATION

- A. Design and Test Reports: Provide the following certified test reports from an independent testing laboratory:
 - 1. Independent laboratory testing report for system design load and seam integrity.
 - 2. Professional engineer's documentation that panel system incorporates sufficient allowance for stress and movement.
 - 3. A letter from an officer of the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.
 - 4. Manufacturer's verifications that the panels are factory roll formed.
 - 5. ASTM E108 or similar evidence of Class A Fire Resistance.
- B. Mill production reports certifying that the steel thicknesses are within allowable tolerances of the nominal or minimum thickness or gauge specified.

- C. Qualification Data for Installer. Refer to Quality Assurance Article below.
- D. Shall meet or exceed wind loading requirements for material performance, fastening, anchorage, etc. as per ASCE 7-16.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. General: Comply with Requirements of Division 01 Section Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Metal Panel Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed systems.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an Installer who has completed the Manufacturer's Approved Contractor course and is currently certified for the installation of the specified system.
- B. If required, fabricator/installer shall submit work experience and evidence of adequate financial Responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.
- C. Source Limitations: Obtain all components of the wall panel system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the Manufacturer.
 - 1. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
 - 2. Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Manufacturer's responsibilities:
 - 1. All panels shall be shipped from the manufacturer with polystyrene or similar cushioned packaging material separating the individual panels to minimize flexing, stressing, scratching or otherwise damaging the material during transit to the job.
 - 2. Fully cover steel with tarpaulins or similar protective cover during transit to prevent dirt and debris from coming in contact with the finished goods.
- B. Installer's responsibilities:
 - 1. Stack pre-finished materials to prevent twisting, bending, abrasion and denting and elevate one end to facilitate moisture run-off.

2. Unload wall panels using a boom or crane, supporting the panels in at least two locations during lifting, and never lift more than three panels at a time.
3. Protect moisture-sensitive materials and water-based from the weather.
4. Inspect materials upon delivery. Reject and remove physically damaged or marred material from project site.

1.9 PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage and protection requirements for wall panel system.
 1. Protection:
 - a. Protect completed work from subsequent construction operations. Comply with Manufacturer's recommendations.
 - b. Do not encumber the site with stored materials or equipment.
 - c. Do not support wall-mounted equipment directly on the wall panel system.
- B. Ascertain that work of other trades which penetrates the wall or is to be made watertight by the wall is in place an approved prior to installation.

1.10 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the system manufacturer will provide the following:
 1. Keep the Architect or Owner informed as to the progress and quality of the work as observed.
 2. Report to the Architect in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
 3. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.11 WARRANTIES

- A. Owner shall receive one (1) warranty from manufacturer of wall panels and modified roofing covering all of the following criteria. Multiple warranties are not acceptable. Manufacturer must be able to warrant Specified Roof Membrane System.
 1. Manufacturer's standard twenty (20) year finish warranty covering checking, crazing, peeling, chalking, fading, or adhesion. Manufacturer's leak free warranty (30) year period.
 2. Installer's two (2) year warranty covering wall panel system installation.
 3. Warranties shall commence on date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Refer to Division 1 Section 016000 Product Requirements.
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 1 provisions.
 - 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 2. Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
 - 3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - 4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 ACCEPTABLE MANUFACTURERS

- A. The design is based upon metal standard "R" panel systems.
- B. Site Formed Panels: Bidder will not be allowed to supply panels formed at the job-site on portable roll formers; metal panels must be factory pre-manufactured and engineered for this project.
- C. Other Approved Manufacturers:
 - 1. MBCI
 - 2. Berridge
 - 3. Metal Sales

2.3 METAL WALL PANEL SYSTEM

- A. Materials
 - 1. Panel material: 24-gauge, Galvalume steel, type AZ-55, smooth as per ASTM A792-96.
 - 2. Flashing and flat stock material: Fabricate in profiles indicated on drawings of same material, thickness, and finish as wall panel system, unless indicated otherwise.

- B. Finish on surfaces:
 - 1. Exposed surfaces for coated panels:
 - a. Two coat coil applied, baked-on full-strength (70% resin) fluorocarbon coating system (polyvinylidene fluoride, PVF2), applied by manufacturer's approved applicator.
 - b. Coating system shall provide nominal 1.0 mil dry film thickness, consisting of primer and color coat.
 - c. Color: Match existing
 - 2. Unexposed surfaces for coated panels shall be baked-on polyester coating with .20 - .30 dry film thickness (TDF).
 - 3. Exposed and unexposed surfaces for uncoated panels shall be as shipped from the mill.
- C. Characteristics
 - 1. Fabrication: Panels shall be factory roll-formed from the specified metal. Field rolled panels will not be allowed.

2.4 ACCESSORY PRODUCTS

- A. Sealant
 - 1. Acceptable products:
 - a. Concealed Application: PT1-707 or Bostik Chem-Caulk butyl sealant or equal.
 - b. Exposed Application: General Electric Co., SILGLAZE II 2800 or equal.
 - 2. Colors: As selected by architect from sealant manufacturer's standard selection.

2.5 FABRICATION

- A. Shop fabricate metal panels and flashing components to the maximum extent possible, forming metal work with clear, sharp, straight, and uniform bends and rises. Hem exposed edges of flashings.
- B. Form flashing components from full single width sheet in minimum ten (10'-0") feet sections. Provide shop fabricated, mitered corners, joined using closed end pop rivets and joint sealant.
- C. Fabricate panels and related sheet metal work in accordance with approved shop drawings and applicable standards.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Inspection: Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves or buckles in the substrate before proceeding with installation of the pre-formed metal panels.

- B. Pre-installation conference: Prior to beginning metal wall panel work, convene a pre-installation conference as specified in Part 1 of this Specification.

3.2 WALL PANEL INSTALLATION

- A. All details will be shown on manufacturer's shop drawings to successful bidder; install panels and flashings in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.
- B. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.
- C. Seal laps and joints in accordance with system manufacturer's product data.
- D. Coordinate flashing and sheet metal work to provide weather-tight conditions at wall panel terminations. Fabricate and install in accordance with standards of SMACNA Manual.
- E. Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.
- F. Form joints in linear sheet metal to allow for 1/4" minimum expansion at 20'-0" o.c. maximum and 8'-0" from corners.
- G. At joints in linear sheet metal items, set sheet metal items in two (2) 1/4" beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

3.3 CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods.

3.4 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during construction. Comply with requirements of authorities having jurisdiction.

3.5 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, system manufacturer's representative, and other representatives directly concerned with performance of system.
- B. Inspect work and flashing of penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.

- C. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the Architect upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the system manufacturer.
- F. Immediately correct leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION 074200

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Furnish all labor, materials and equipment required for the complete installation of the following:
 - 1. Vinyl Siding
 - 2. Ventilated vinyl soffit.
 - 3. Vinyl trim and miscellaneous accessories.

1.2 QUALITY ASSURANCE

- A. Comply with the following codes for wind loading requirements for material performance, fastening, anchorage, etc.:
 - 1. IBC 2021 (Latest edition of International Building Code).
 - 2. ASCE 7-16 (Latest edition).

1.3 SUBMITTALS

- A. Submit under provision of section 013300.
 - 1. Product data: Manufactures data sheets verifying that materials, anchors, and fasteners meet applicable code requirements.
 - 2. Storage and installation instructions.
 - 3. Certification of installation meeting wind and impact ratings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Siding and accessories shall be solid extruded polyvinyl chloride (PVC) compound as defined in ASTM D3679-81a - Standard Specification for PVC Siding.
- B. Material properties:
 - 1. All panels shall meet or exceed requirements of ASTM 3679 Section 4.02.
 - 2. Specific gravity: 1.38 to 1.49.
 - 3. Hardness "Shore D": 76± 3.
 - 4. Tensile strength: 5,600 to 6,200 PSI.
 - 5. Tensile modulus: 360,000 to 400,000 PSI
 - 6. Heat deflection under load (264 PSI fiber stress): 162° F.
 - 7. Izod impact strength: 3.3 foot pounds per inch of notch.
 - 8. Coefficient of expansion: 3.36 X 10⁻⁵ inch per inch per degree F.

- C. Flame Resistance:
 - 1. ASTM E84
 - a. Flame spread: less than 25.
 - b. Fuel contribution: 0.
 - c. Smoke density: over 500.
 - 2. ASTM D635
 - a. Average time of burning: less than 5 seconds.
 - b. Average length of burning: 20 millimeters.
 - 3. ASTM D02843 (UBC #52-2)
 - a. Smoke density: 60.

2.2 MANUFACTURER

- A. Alcoa Building Products
- B. CertainTEED

2.3 FINISH

- A. Soffit and trim shall be produced from PVC compound containing color pigments to provide color throughout thickness of material.

PART 3 - EXECUTION

3.1 GENERAL

- A. Before starting work, verify governing dimensions at building.
- B. Examine, clean and, if necessary repair any adjoining work on which this work is dependent for its proper installation.
- C. Install siding and trim in accordance with manufacturer's instructions.

3.2 CLEANUP

- A. Upon completion clean all vinyl work, and wash down siding and trim to remove fingerprints, soil areas, etc.
- B. Remove all scrap materials.

END OF SECTION 074660

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Removal of existing roofing, insulation and related sheet metals down to the substrate as noted on the plans.
 - 2. Secure metal decking in Zones 2 and 3.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.
- B. Full Roof Tear-Off: Removal of existing roofing system, insulation and related sheet metal items from existing roof deck.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, sections, and details.

1.5 INFORMATIONAL SUBMITTALS

- A. Fastener pull-out test report.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Reroofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; roofing Installer, including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing, including installers of roof deck, roof accessories, and roof-mounted equipment.

2. Review methods and procedures related to roofing system tear-off and replacement, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are scheduled to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring notification of Architect.
 - f. Existing roof deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of roof deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - j. HVAC shutdown and sealing of air intakes.
 - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - l. Asbestos removal and discovery of asbestos-containing materials.
 - m. Governing regulations and requirements for insurance and certificates if applicable.
 - n. Existing conditions that may require notification of Architect before proceeding.

1.7 FIELD CONDITIONS

- A. Existing roofing conditions are based upon core results. It is the sole responsibilities of the contractor to field verify all existing field condition.
- B. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 1. Coordinate work activities daily with Owner so Owner can place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- E. Conditions existing at time of inspection for bidding are maintained by Owner as far as practical.

- F. Limit construction loads on roof for rooftop equipment wheel loads and for uniformly distributed loads.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
 - 1. Remove only as much roofing in one day as can be made watertight in the same day.
- H. Hazardous Materials: It is not expected that hazardous materials, such as asbestos- containing materials, will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

- A. Expanded Polystyrene (EPS) Insulation: ASTM C 578.
- B. Plywood: DOC PS1, Grade CD Exposure 1.
- C. Sheet Polyethylene. Provide weights or fasteners to retain sheeting in position.

2.2 ROOFING MATERIALS

- A. General: Auxiliary re-roofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new membrane roofing system.
- B. Temporary Protection: Sheet polyethylene. Provide weights to retain sheeting in position.
- C. Metal Deck Fasteners: Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Schedule project site meeting with the Architect, Owner and/or Owner's Field Representative, and Roofing System Manufacturer's Representative to discuss preparations for re-roofing.
- B. Shut off rooftop utilities and service piping before beginning the Work.
- C. Test existing roof drains to verify that they are not blocked or restricted. Immediately notify Architect of any blockages or restrictions.

- D. Protect existing roofing system that is not to be reroofed.
 - 1. Loosely lay 1-inch- minimum thick, expanded polystyrene (EPS) insulation over existing roofing in areas indicated. Loosely lay 15/32-inch plywood or OSB panels over EPS. Extend EPS past edges of plywood or OSB panels a minimum of 1 inch.
 - 2. Limit traffic and material storage to areas of existing roofing that have been protected.
 - 3. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
- E. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- F. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- G. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof- drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecasted. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 SCHEDULING

- A. All work shall be scheduled to coincide with commencement of the new roofing system installation.

3.3 EMERGENCY / PROTECTIVE MEASURES

- A. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage in areas of new roofing during construction. A four (4) hour time limit shall be given from time of notification of emergency conditions. In the event of water penetration during rain or storm, the Contractor shall provide for repair or protection of the building contents and interior. If the Contractor does not respond or cannot be contacted, the Owner will perform repairs or emergency action and the Contractor shall be back charged for all expenses and damages, if any.
- B. Provide temporary protective sheeting over uncovered deck surfaces if required.
- C. Turn up sheeting and over parapets and curbing. Retain sheeting in position with weights or temporary fasteners.

3.4 GRAVEL REMOVAL

- A. Remove loose aggregate from aggregate-surfaced built-up bituminous roofing as indicated on the Plans using one or more of the following methods:

1. Roof Vacuum System.
2. Crane and Hopper with Dump Truck.
3. Enclosed Chutes with Protective Shrouds on Building and Ground Surfaces.

3.5 ROOF REMOVAL

- A. Full Roof Tear-Off: Where indicated, remove existing roofing and other roofing system components down to the existing roof deck or bar joist.
 1. Remove roof coverings, substrate board, vapor retarder, roof insulation, and cover board.
 2. Remove wood blocking, curbs, and nailers where called for.
 3. Inspect remaining wood blocking, curbs, and nailers for deterioration and damage. If wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.
 4. No debris shall be transported from the area being worked over a newly finished roof without an underlayment of 3/4" exterior plywood. Under no circumstance is debris or tear-off material to be left on the roof overnight. All trash and roofing material shall be removed from the roof on a daily basis.
 5. All roof equipment not in use or left filled shall be parked on column lines on top of 3/4" exterior plywood.

3.6 FASTENER PULL-OUTS

- A. Fastener pull-out testing will be required by a fastener manufacturer. Pull out results shall be included as part of the required submittals.

3.7 SECUREMENT OF METAL DECK

- A. Additional securement should be provided for the steel deck to the secondary steel in Zones 2 and 3. This can be accomplished by fastening the deck with powdered actuated fasteners by Hilti between the bar joist and the top chord member at a 6-inch spacing. The decking securement shall be inspected during the demolition of the roof assembly. The field of the roof shall be secured at 12" centers and the field at 6" centers. Additional securement in these areas may be required.

3.8 METAL DECK REPAIRS

- A. Remove all loose debris and blow flutes clean.
- B. Coat all rusted deck areas with rust-inhibitive paint at a rate of 400 sq. ft. per gallon.
- C. Repair bad decking using same decking material, gauge and profile as existing. Contractor shall mechanically attach per Code requirements. Add additional structural bracing as required by Code. IBC 2021 & ASCE 7-16

3.9 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
1. Storage or sale of demolished items or materials on-site is not permitted.
 2. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Built-Up, Gravel Surface Roof Restoration. Note: This roof is currently under warranty with The Garland Company, Inc. (225) 266-5179. All work is to be performed in a manner that will not void any warranties currently in place.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Roof blocking installation and requirements.
- B. Section 07620 - Sheet Metal Flashing and Trim: Metal cap flashing and expansion joints.

1.3 REFERENCES

- A. ASTM D 1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.
- B. ASTM D 1863 - Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
- C. ASTM D 2939 - Standard Test Methods for Emulsified Bitumens Used as Protective Coatings.
- D. ASTM D 4479 - Standard Specification for Asphalt Roof Coatings - Asbestos-Free.
- E. ASTM D 5040 - Standard Test Methods for Ash Content of Adhesives.
- F. SMACNA Architectural Sheet Metal Manual.

1.4 SYSTEM DESCRIPTION

- A. Built-Up, Gravel Surface Roof Restoration: Renovation work includes:
 - 1. Surface preparation: Remove gravel, dust, dirt, and debris.
 - 2. Gravel Stop Edges Resurfacing: Sweep back gravel, prime, apply cold process flood coat and embed existing gravel.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- C. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

- E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. All work shall comply with IBC 2021 and ASCE 7-16 Risk Category 111 and all latest editions of codes and standards.
- C. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- D. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and an authorized Garland applicator.
- E. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- F. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- G. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2. Tour representative areas of roofing substrates, inspect and discuss conditions and other preparatory work.
 - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - 4. Review roofing system requirements, Drawings, Specifications and other Contract Documents.
 - 5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and

- avoid delays.
- 6. Review required inspection procedures.
- 7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
- 8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.
- C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.
- F. Take precautions to ensure that materials do not freeze.
- G. Minimum temperature for application is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Garland Company, Inc. (The), Scott Schneidewind, (225) 266-5179.

2.2 ROOF RESTORATION SYSTEM FOR BUILT-UP, GRAVEL SURFACE ROOFS

- A. Cold Applied Weatherscreen:
 - 1. Primer: Garla-Prime:
 - 2. Flood Coat: Weatherscreen:
 - 3. Surfacing: Gravel ASTM D 1863.

2.3 EDGE TREATMENT

- A. Manufactured Roof Specialties: Manufactured, gravel stops, and related flashings and trim are specified in Section 07710.
 - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 ROOF PREPARATION AND REPAIR

- A. General:
 - 1. Sweep existing gravel where displaced.
 - 2. Prime area where loose gravel was swept away from gravel stop.
 - 3. Apply specified flood coat and immediately broadcast existing gravel covering flood coat completely.

3.3 INSTALLATION

- A. General Installation Requirements:
 - 1. Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the manufacturer.
 - 2. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
 - 3. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
 - 4. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.

5. All primers must be top coated within 24 hours of application. Re-prime If more time passes after priming.
6. Keep roofing materials dry during application. Phased construction can be allowed as long as no, more than 7 days pass between coats excluding primers.
7. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
8. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

B. Built-Up, Gravel Surface Roof Restoration: Renovation work includes:

1. Surface Preparation: Remove gravel, dust, dirt, and debris.
2. Flashings:
 - a. Gravel Stop Edges: Cut back edges. Prime, coat with mastic, cover with membrane.
3. Primer: Prime repair areas at 1/2 gallon per 100 SF.
4. Coating: Flood coat/resurface:
 - a. Cold process products, 6-8 gallons per 100 SF.
5. Surfacing: Resurface repair area with gravel while coating is still wet.

3.4 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.5 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.6 FIELD QUALITY CONTROL

- A. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system.
- B. Perform field inspection and [and testing] as required under provisions of Section 01410.
- C. Correct defects or irregularities discovered during field inspection.

3.7 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Architect upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.8 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. (SBS) Modified Bituminous Membrane Roofing.
- B. Related Requirements:
 - 1. Division 07 Section "Sheet Metal Flashing and Trim"
 - 2. Division 07 Section "Preparation for Re-Roofing"
 - 3. Division 07 Section "Roof Deck Insulation"
- C. Scope of Work:
 - 1. This project consists of removing existing roofing and insulation, installing a new, high performance, fire retardant, SBS modified roofing membrane system. The finished system shall be complete including installation of sheet metal related items, edge metal and base flashings. The finished system shall result in a water-tight installation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 REFERENCES

- 1. ASTM D 41, Specification for Asphalt Primer Used in Roofing, Damp-proofing, and Waterproofing
- 2. ASTM D 312, Specification for Asphalt Used in Roofing
- 3. ASTM D 451, Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products
- 4. ASTM D 1079, Terminology Relating to Roofing, Waterproofing, and Bituminous Materials
- 5. ASTM D 1227, Specification for Emulsified Asphalt Used as a Protective Coating for Roofing
- 6. ASTM D 1863, Specification for Mineral Aggregate Used on Built-Up Roofs
- 7. ASTM D 2178, Specification for Asphalt Glass Felt Used in Roofing and Waterproofing

8. ASTM D 2822, Specification for Asphalt Roof Cement
9. ASTM D 2824, Specification for Aluminum-Pigmented Asphalt Roof Coating
10. ASTM D 3019, Specification for Lap Cement Used with Asphalt Roll Roofing
11. ASTM D 4601, Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing
12. ASTM D 5147, 1991 Test Method for Sampling and Testing Modified Bituminous Sheet Materials
13. ASTM E 108, Test Methods for Fire Test of Roof Coverings
14. FM, Factory Mutual
15. NRCA, National Roofing Contractors Association

1.5 PRE-APPLICATION MEETING

- A. Approximately 2 weeks before the scheduled commencement of the modified bitumen sheet roof system and associated work, meet at Project site with Installer, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in the around roofing that must precede or follow roofing work (including mechanical work if any), Architect/Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, test agencies, and governing authorities. Objectives to include:
 1. Review foreseeable methods and procedures related to roofing work.
 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by other trades.
 3. Review structural loading limitations of deck and inspect deck for deflections and for required attachment.
 4. Review roofing systems requirements (drawings, specifications, and other contract documents).
 5. Review required submittals, both completed and yet to be completed.
 6. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 7. Review required inspection, testing, certifying, and material usage accounting procedures.
 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).
 9. Record discussion of the pre-application meeting, including decisions and agreements reached. Furnish a copy of this record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
 10. Review notification procedures for weather or non-working days.
 11. Perform pull out test(s) with the specified fasteners, if not performed prior to the meeting, to verify the actual pull-out capacity of the fasteners, and adjust engineering calculations and fastener sizes/ layouts accordingly.

1.6 SUBMITTALS

- A. The following items shall be submitted in a letter issued by the Roof Manufacturer, along with the roofing submittals, prior to the Roofing Pre-Installation Conference:
1. Certification by the Roofing Manufacturer that the installer is an “Approved Applicator”, in good standing, and specifically stating that the installer is both acceptable and authorized to install the proposed roofing system(s), including all required warranties.
 2. Certification by the Roofing Manufacturer that the proposed system will comply with the manufacturer’s requirements, in order to qualify the project for all specified warranties and guarantee(s).
 3. Certification that the Roofing Manufacturer will provide the required full 30 year, Non-Pro-rated, No Dollar Limit, Weather Tightness Warranty with wind rider up to 90mph.
- B. Product Data:
1. Manufacturer's Design Standards and other data for each item or product provided, as needed to prove compliance with specified requirements.
 2. Manufacturer's installation instructions.
- C. Shop Drawings:
1. The Roofing Manufacturer shall prepare Shop Drawings,
 - a. Include all typical and non-typical roof system details, including, but not limited to: details of edge conditions, joints, corners, transitions, trim, flashing, closures, penetrations, supports, anchorages, and special details related to the project.
 - b. Detail and specify locations for attachments included in the Engineering Calculations.
- D. Calculations:
1. The Roofing Manufacturer and/or his Engineer shall calculate the wind uplift pressures for each zone and exposure, from the specified Design Wind Speed.
 2. Roofing system shall be designed in accordance with IBC-2021, and the wind uplift requirements of ASCE 7-16 Risk Category 111, for the geographical location.
 3. Calculations defining wind loads on all roof areas, based on the specified Building Codes, allowable fastener loads, and required number of fasteners required to secure the roof system to the designated substructure.
 4. Engineering Calculations shall be stamped by a Professional Engineer, licensed in the State of Louisiana.
- E. Certifications:

1. Letter of certification from the Roofing Manufacturer that the Roofing Installer is in compliance and meets the specified requirements.
 2. Letter of certification from the Roofing Manufacturer that materials provided for the project have been produced in accordance with the strictest applicable standards to ensure quality.
 3. Certified test results by a nationally recognized testing laboratory or a manufacturer's laboratory, and witnessed and certified by a professional engineer, in accordance the specified performance test methods and criteria for each product or system.
 4. Roofing Manufacturer's certification that materials are in compliance with the specifications.
 5. Manufacturer's affidavit that materials provided for, and used in the Project contain no Asbestos.
- F. Testing Reports: Showing that the roof system been tested in accordance with specified performance testing requirements.
- G. Field Reports: As prepared by the Roofing Manufacturer's Technical Field Representative, and required to ensure conformance with the warranty and Weathertightness requirements specified herein.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Manufacturer's Certificates: Signed by roofing manufacturer certifying that roofing system complies with specified performance requirements, will provide inspections, and issue the specified warranty.
- C. Sample Warranties: For manufacturer's special warranties.
- D. Class of Roofing System: Certification of Class A Roofing System.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is authorized and approved by the roofing system manufacturer to install the manufacturer's product and that is eligible to receive manufacturer's special warranty. A minimum of five (5) years of experience is required.
- B. Manufacturer Qualifications: Roofing system manufacturer shall have a minimum of 10 years of experience in manufacturing modified bitumen roofing products in the United States and be ISO 9001 certified.

- C. Roofing products or methods to be considered must have a minimum of ten (10) years successful performance in roofing and re-roofing applications.
- D. It is the intent of this specification to provide a roof system with an ASTM E 108 Class A fire rating.
- E. Installer's Field Supervision: The roofing system installer is required to maintain a full-time Superintendent on the job site during all phases of modified bituminous sheet roofing work and at any time roofing work is in progress. Proper supervision of workmen shall be maintained. A copy of the specification shall be in the possession of the Supervisor/Foremen and on the roof at all times.
- F. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage during construction.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end and cover these materials with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- D. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- E. Do not leave unused rolled goods on the roof overnight or when roofing work is not in progress. These items must be stored as mentioned above.
- F. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.11 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted

weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

- B. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or remove roofing when a 40% chance of precipitation is expected.
- C. Do not apply roofing insulation or membrane to damp deck surface.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

1.12 INSPECTIONS AND TESTS

- A. The Architect, Owner's Representative, Project Manager and Roofing Manufacturer's Technical Field Representative shall at all times have access to the job site and work areas.
- B. The Contractor shall provide proper and safe facilities for such access and inspection, in accordance with applicable Federal, State, and Local laws and regulations.
- C. Inspections.
 - 1. The Architect, Owner's Representative, and/or Project Manager's Inspections:
 - a. The Architect, Owner's Representative, and/or Project Manager will perform periodic inspections throughout the duration of the project.
 - b. The Architect, Owner's Representative, and/or Project Manager shall inspect the work after the completion of each major phase of construction.
 - 2. Manufacturer's Inspections:
 - a. A Technical Field Representative (full time employee) of the Roofing Material Manufacturer shall make a site visit and inspection, no less than three (3) times each week, for the duration of the performance of Work, to ensure that the installation is installed in strict accordance with the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and the Roofing Manufacturer's standard details.
 - b. A written report of each site visit and inspection, consisting of photos and written documentation, shall be prepared by the Roofing Manufacturer's Authorized Technical Field Representative, and shall be forwarded over to the Architect, the Owner's Representative, and/or the Project Manager on each Monday following the prior week.
 - c. The Roofing Manufacturer's Authorized Technical Field Representative shall be responsible for:
 - 1. Keeping the Architect, the Owner's Representative, and/or the Project

- Manager informed after periodic inspections as to the progress and quality of the work observed.
2. Calling to the attention of the Contractor those matters observed which are considered to be in violation of the Contract requirements.
 3. Reporting to the Architect, the Owner's Representative, and/or the Project Manager, in writing, of any failure or refusal of the Contractor to correct unacceptable practices called to his attention.
 4. Confirming, after completion of the work, and based on his observations and tests, that he has observed no application procedures, or other issues in conflict with the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details.
- D. Any failure by the Architect, the Owner's Representative, the Project Manager, or the roofing manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Roofing Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details.
- E. The Architect, the Owner's Representative, an/or the Project Manager, on behalf of the Owner, may require tests and inspections as necessary to verify the quality of the roofing materials and/or workmanship of installation.
1. The Owner shall select the Testing Laboratory and shall pay for all costs associated with initial testing.
 2. The costs for any initial tests meeting the applicable requirements shall remain the responsibility of the Owner.
 3. The costs for any initial tests not meeting the applicable requirements shall become the responsibility of the Contractor, and shall be deducted by the Owner from the Contractor's payment for the work.
 4. The costs for re-testing of any work not meeting the applicable requirements shall be the responsibility of the Contractor, and shall be deducted by the Owner from the Contractor's payment for the work.
 5. Subsequent non-compliance with applicable requirements will result in the Owner assigning a full time, Third-Party Quality Control Representative to the project. The costs for the Third-Party Quality Control Representative shall be the responsibility of the Contractor, and shall be deducted by the Owner from the Contractor's payment for the work.
 6. Laboratory tests shall be performed in accordance with the applicable ASTM standard testing procedures.

1.13 SEQUENCING AND SCHEDULING

- A. Sequence installation of modified bituminous sheet roofing with related units of work specified in other sections to ensure that roof assemblies, including roof accessories, flashing, trim, and joint sealers, are protected against damage from effects of weather, corrosion, and adjacent construction activity.
- B. All work must be fully completed on each day. Phased construction will not be accepted. Begin and apply as much roofing in one day as can be completed that same day.

1.14 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of the roofing system that fail in materials, workmanship, and aesthetics within specified warranty period.
 - 1. Warranty Period: Thirty (30) Year, “No Dollar Limit” “Edge to Edge” Warranty from date of Substantial Completion. Warranty shall include damage to the roof system due to wind speeds less than 90mph.
- B. Contractor Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.
- C. Annual Inspections: Membrane manufacturer will provide, free of charge, at the annual request of the Owner, annual inspections for the life of the warranty.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Description: fully-adhered 2-ply SBS modified bitumen system suitable for application method required, cap sheet to be mineral granule surface with UL Class A and FM I-90 wind uplift criteria, as required to meet the wind speed requirements of IBC-2021 and ASCE 7-16 (specified herein, above).
- B. Approved manufacturers are as listed below:
 - 1. The Garland Company, Inc.
 - 2. Prior-approved equal.
- C. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.
- D. Substitutions: Submit requests per Specification Section 013350.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation or other defects in construction. Roofing and base flashings shall remain watertight.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: The roofing system shall resist the following uplift pressures based upon the following:
 - 1. Wind Speed: 141mph.
 - 2. Risk Category: III.
 - 3. Importance Factor: 1.00.
 - 4. Exposure Category: C.
 - 5. Height: 25 feet.
- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A. Identify products with appropriate markings of applicable testing agency.

2.3 ROOFING SHEET MATERIALS

- A. Base Ply: ASTM D 5147, Grade S, 110 mil minimum thickness, SBS- modified asphalt sheet (reinforced with glass fibers); smooth surfaced; heat fusible; suitable for application method specified. HPR Torch Base by The Garland Company, Inc. or prior-approved equal.
- B. Top Ply: ASTM D 6162, Grade G, Type III, 195 mil minimum thickness; SBS-modified asphalt sheet (reinforced with glass fibers; white granule surfaced; heat fusible; suitable for application method specified. Stressply IV Plus Mineral by The Garland Company, Inc. or prior-approved equal.

2.4 BASE FLASHING SHEET MATERIALS

- A. Base Ply Sheet: ASTM D 5147, Grade S, 110 mil minimum thickness, SBS-modified asphalt sheet (reinforced with glass fibers); smooth surfaced; heat fusible; suitable for application method specified. HPR Torch Base by The Garland Company, Inc. or prior-approved equal.
- B. Granule-Surfaced Flashing Sheet: ASTM D 6162, Grade G, Type III, 195 mil minimum thickness; SBS-modified asphalt sheet (reinforced with glass fibers; white granule surfaced; heat fusible; suitable for application method specified. Stressply IV Plus Mineral by The Garland Company, Inc. or prior-approved equal.

2.5 AUXILIARY ROOFING MATERIALS

- A. Roof Coating: Aluminum Roof Coating. Garlabrite by The Garland Company, In. or pre-approved equal.
- B. Asphalt Primer: ASTM D 41. Garlaprime by The Garland Company, In. or pre-approved equal.
- C. Asphalt Roofing Cement: Garlaflex by The Garland Company, In. or pre-approved equal.
- D. Quick Setting Grout: Pitch pocket base filler as provided by prime material supplier. GarRock by The Garland Company, In. or pre-approved equal.
- E. Flashing Cement: Silver Flash by The Garland Company, Inc. or pre-approved equal.
- F. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel. Nails and fasteners shall be flush-driven through flat metal discs of not less than 1-inch diameter. Metal discs may be omitted when one piece composite nails or fasteners with heads not less than 1-inch diameter are used. Fasteners shall be designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- G. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 sieve and 98 percent of mass retained on No. 40 sieve, color to match roofing.
- H. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements specified in the appropriated steel deck specifications.
 - 4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch out of plane relative to adjoining deck.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Refer to Division 7 "Preparation for Reroofing"
- B. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.4 ROOFING INSTALLATION, GENERAL

- A. Start installation of roofing in presence of manufacturer's technical personnel.
- B. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing modified bitumen sheet system.
- C. If applicable, where roof slope exceeds 3/4 inch per 12 inches, install roofing membrane sheets parallel with slope.
 - 1. Back nail roofing sheets to substrate according to roofing system manufacturer's written instructions.
- D. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 - 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
 - 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
 - 3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.5 MECHANICAL COORDINATION

- A. Roof top mounted equipment shall be mounted level.

1. Provide curbs with sloped bases, as required to match the roof deck or structural framing slope. Where roof structure is level, provide level base curbs.
 2. Provide curbs with level tops, to allow equipment to be installed level.
 3. Provide curb types & heights as required to achieve required minimum base flashing criteria.
 4. Unless noted otherwise, curbs shall be fabricated from galvanized steel.
 5. Unless specifically noted otherwise, provide insulated curbs.
- B. Gas Equipment heights as required to achieve minimum 3" vertical clearance between roof surface and bottom of drip leg piping cap.
- C. For safety, ease of maintenance, and to minimize damage to roof system components, no equipment located within 5 feet of roof expansion joints and/or roof divider joints, vertical parapets; no equipment within 10 feet of roof edges.
- D. Roof system thermal insulation values based on HVAC system design.
- E. Coordinate the removal or relocation of mechanical equipment with the Owner's Representative, and/or Project Manager.
- F. Where roofing work involves removal, relocation, or replacement of existing mechanical equipment, coordinate and phase work to maintain climate control on building at all times.
- G. DO NOT DISCONNECT OR REMOVE MECHANICAL UNITS WITHOUT OWNER'S PRIOR APPROVAL.

3.6 BASE-PLY SHEET INSTALLATION

- A. Heat Fused Base: Install one layer of SBS heat fused base sheet to a properly prepared insulation or roof deck board.
1. Shingle in proper direction to shed water on each area of roofing.
 2. To a suitable substrate, lay out the roll in the course to be followed and unroll six (6) feet.
 3. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
 4. After the major portion of the roll is bonded, re-roll the first six (6) feet and bond it in a similar fashion.
 5. Repeat this operation with subsequent rolls with side laps of four (4) inches and end laps of eight inches.
 6. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.
 7. Extend underlayment two (2) inches beyond top edges of cants at wall and

projection bases. Install base flashing ply to all perimeter and projections details.

3.7 MISCELLANEOUS ROOFING COMPONENTS

A. Drip Edge:

1. Inspect the wood nailer to assure proper attachment and configuration.
2. Run base ply over to the outside of blocking.
3. Prime metal edge at a rate of one hundred (100) square feet per gallon and allow surface to dry.
4. Mechanically attach metal flashing at 3" c/c staggered.
5. Strip in flange with base flashing ply covering entire flange in bitumen with six (6) inches on to the field of roof. Assure ply laps do not coincide with metal laps.
6. Install a second ply of modified flashing ply over the base flashing ply, nine (9) inches onto the field of the roof.

B. Curb Type Penetrations:

1. Minimum curb height is eight (8) inches. Prime vertical at a rate of 100 square feet per gallon and allow for drying
2. Set cant in insulation adhesive. Run base ply over cant a minimum of two (2) inches.
3. Install base flashing ply covering curb set in bitumen with six (6) inches on to field of the roof.
4. Install a top ply of modified flashing over the base flashing ply, nine (9) inches on to the field of the roof. Attach top of membrane to top of curb and nail at eight (8) inches c/c. Apply a three-course application of mastic and mesh at all vertical seams and allow application to cure prior to coating.
5. Install pre-manufactured cover. Fasten sides at 24 inches c/c with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
7. Heat fuse a 6" strip of SBS granulated cap sheet over all vertical laps.

D. Plumbing Vent:

1. Minimum vent height shall be eight (8) inches.
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in ¼ inch bed of roof cement.
4. Install base flashing ply by torch.
5. Install membrane by torch.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Turn sleeve a minimum of one (1) inch down inside of stack.

E. Flange Type Vents:

1. New vents shall match existing size and profile.

2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new vent and set in ¼ inch bed of elastomeric roof cement.
4. Install base flashing ply by torch.
5. Install membrane by torch.
6. Caulk the intersection of the membrane with elastomeric sealant.

F. Flashing At Wall:

1. Minimum flashing height is 8". Install insulation and roof deck board as detailed.
2. Set cant in bitumen. Run all roofing plies over cant a minimum of 2".
3. Prepare all walls and penetrations to be flashed with asphalt primer at the rate of ½ gallon per square.
4. Heat fuse bottom ply of flashing membrane.
5. The heat fused flashing membrane will be adhered to an underlying base ply of glass felt bonded in asphalt when torching near wood nailers or combustible surfaces.
6. After the laps have been tested, and a complete positive bond has been achieved, the applicator shall heat the seam edge and trowel along the seam edge. Troweling shall continue until a sloped, beveled edge has been produced.
7. Heat fuse top ply of flashing membrane.
8. After the laps have been tested, and a complete positive bond has been achieved, the applicator shall heat the seam edge and trowel along the seam edge. Troweling shall continue until a sloped, beveled edge has been produced.
9. Install a termination bar at the top of all base flashing. The termination bar shall be mechanically attached every 8" on center. Apply a three course application of mastic and reinforcing mesh over the term bar and onto the wall.
10. All vertical laps in base flashing system shall receive a reinforcing 6" strip of SBS granulated cap sheet.

3.8 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

A. Heat Fused or Torch Applied:

1. Over the SBS torch base sheet underlayment, lay out the roll in the course to be followed and unroll six (6) feet. Seams for the top layer of modified membrane will be staggered over the SBS torch base sheet seams.
2. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
3. After the major portion of the roll is bonded, re-roll the first six (6) feet and bond it in a similar fashion.
4. Repeat this operation with subsequent rolls with side laps of four (4) inches and end laps of eight (8) inches.
5. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.

B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end

laps. Stagger end laps. Completely bond and seal laps, leaving no voids.

1. Repair tears and voids in laps and lapped seams not completely sealed.
2. Apply roofing granules to cover exuded bead at laps while bead is hot.

C. Install roofing sheets so side and end laps shed water.

3.9 FLASHING AND STRIPPING INSTALLATION

A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:

1. Prime substrates with asphalt primer if required by roofing system manufacturer.
2. Flashing-Sheet Application: Torch apply flashing sheet to substrate.

B. Extend base flashing up walls or parapets a minimum of 8 inches above roofing membrane and 6 inches onto field of roofing membrane.

C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.

1. Install a termination bar at the top of all base flashing. The termination bar shall be mechanically attached every 8" on center. Apply a three course application of mastic and reinforcing mesh over the term bar and onto the wall.
2. All vertical laps in base flashing system shall receive a 6 inch wide heat fused reinforcing ply of mineral surfaced base flashing.

D. Install roofing cap-sheet stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.

3.10 SURFACING

A. Bleed Out:

1. Immediately broadcast new clean minerals into the bleed out of the modified roof membrane.
2. The overall appearance of the finished roofing application is a standard requirement for this project. The Roofing Contractor shall make necessary preparations, utilize recommended application techniques (i.e. to immediately apply the specified granules into the bleed out) to ensure that the finished application is acceptable to the Owner. The Architect and Owner will be the sole judge as to whether the finished surface is acceptable.

B. Roof Coating:

1. After a final inspection has been performed and all items have been corrected on the punch list, Contractor shall apply specified coating.

2. Apply two applications of the specified coating at rate of 3/4 gallons per square per coat. First pass shall be North and South. Second pass shall be East and West.

3.11 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
 2. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party.
 3. The Architect reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided for the Owner by the Roofing Material Manufacturer at a negotiated price.
 4. If water and/or moisture is discovered beneath the cap and/or base sheets as a result of improper installation, all membranes must be removed and replaced with new at no additional cost to the Owner. This includes any damaged roof deck board and/or insulation boards.
 - a. If the deck system has sustained damage as a result of water and/or moisture as a result of improper installation. The Contractor must replace and/or make repairs to the deck at no additional cost to the Owner.
 - b. Conduct proper sequencing to eliminate water and moisture prior to reinstallation.
 5. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense and reimburse the Owner for the cost of the scan.
 6. Replace deteriorated or defective work found during inspections to a condition free of damage and deterioration at time of Substantial Completion.
 7. The SBS roofing membranes (including the cap sheet) must be free from, but not limited to, ripples, fish mouths, blisters, air pockets, bubbles, etc. The surface must be smooth, flat, and aesthetically pleasing for a finished appearance. The cap sheet surface must be free from, but not limited to, adhesives, mastics, smears, foot tracks of substances, and any other substance that will detract from and cause an unpleasing and unacceptable aesthetic appearance.
 - a. The SBS roofing membrane system will not be accepted if these type conditions are experienced.
 8. The Contractor is to notify the Architect upon completion of corrections.
 9. Following the final inspection, acceptance will be made in writing by the material manufacturer.

3.12 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with

copies to Architect and Owner.

- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Edge Metal, Fascia, Drip Edge, Gutters, Downspouts and Ridge Caps.
 - 2. Reglets.
 - 3. Receivers.
 - 4. Counterflashing.
 - 5. Hurricane Clips.
 - 6. Pitch Pans, Hoods, Vents.
 - 7. Expansion Joint Cover.
 - 8. Cleats.
 - 9. Termination Bar.
 - 10. Lead Flashings.

1.3 RELATED SECTIONS

- 1. Division 07 Section "SBS Modified Bitumen Roof Membrane"
- 2. Division 07 Section "Preparation for Re-Roofing."
- 3. Division 07 Section "Roof and Deck Insulation."

1.4 REFERENCES

- 1. ASTM A-446 Specification for Steel Sheet.
- 2. ASTM B-209 Specification for Aluminum Sheet.
- 3. ASTM B-221 Specification for Aluminum Extruded Shape.
- 4. FS QQ-L-201 Specification for Lead Sheet.
- 5. ASTM A792 Steel Sheet, Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process.
- 6. ASTM B32 Solder Metal.
- 7. ASTM B209 Aluminum and Alloy Sheet and Plate.
- 8. ASTM B486 Paste Solder.
- 9. ASTM D226 Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- 10. ASTM D486 Asphalt Roof Cement, Asbestos-free.
- 11. FS O-F-50 Flux, Soldering, Paste and Liquid.
- 12. WH Warnock Hersey International, Inc. Middleton, WI.

13. NRCA National Roofing Contractors Association - Roofing Manual.
14. SMACNA Architectural Sheet Metal Manual.

1.5 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leak-proof, secure, and noncorrosive installation.

1.6 PREINSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project site.
 1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
 3. Review requirements for insurance and certificates if applicable.
 4. Review sheet metal flashing observation and repair procedures after flashing installation.

1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product, including hoods, vents, edge metal, ridge cap, coping, fascia, and all other sheet metal fabrications.
 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.
 2. Indicate type, gauge, and finish of metal.
- B. Shop drawings: For sheet metal flashing and trim, indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations, and installation details.
- C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.
- D. Samples for Verification: For each type of exposed finish.
 1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
 2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
 3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.

4. Anodized Aluminum Samples: Samples to show full range to be expected for each color required.

1.8 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Product Certificates: For each type of coping and roof edge flashing that is ANSI/SPRI ES-1 tested for pressures of required wind speed.
- C. Roofing System Manufacturer's Certification: Metal edge systems and other miscellaneous metals furnished are acceptable to roofing manufacturer as a component of roofing system and are included in the manufacturer's roof system warranty.

1.9 QUALITY ASSURANCE

- A. Reference Standards:
 1. Comply with details and recommendations of SMACNA Architectural Sheet Metal Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc. Conform to dimensions and profiles shown unless more stringent requirements are indicated.
 2. ASCE 7-16.
 3. IBC 2021.
- B. In Field Mockups:
 1. The Contractor shall provide and install 10 feet long sample mockups for each different condition as follows: edge metal, fascia, coping, and gutter. The mockups shall be fabricated from the same material scheduled and specified to be used throughout. The Contractor shall allow for any dimensional, shape, or profile adjustment to the satisfaction and approval of the Architect.
- C. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance a minimum of 5 years.
 1. For copings and roof edge flashings that are ANSI/SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

1.10 CONTRACTOR'S WARRANTY

- A. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and

workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

1.11 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the Roofing System Manufacturer will provide the following:
1. Keep the Architect informed as to the progress and quality the work as observed.
 2. Provide job site inspections, three times weekly.
 3. Report to the Architect in writing, any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
 4. Confirm, after completion of the project and based on manufacturer's observations and tests, that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.12 WARRANTY

- A. Special Warranty on Finishes (Shall Be Included with the SBS Roofing System Warranty): Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 2. Finish Warranty Period: 30 years from date of Substantial Completion.
- B. Special Blow-Off and Leak-Tight Warranty: Edge metal system manufacturer agrees to make repairs or replace the edge metal system due to failure within the specified warranty period.
1. Blow-Off and Leak-Tight Warranty Period: 30 years from date of Substantial Completion.

1.13 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack performed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. ANSI/SPRI ES-1 Wind Design Standard: Manufacture and install roof edge flashings that are tested according to ANSI/SPRI ES-1 and capable of resisting the pressures for required wind speed.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.

2.2 EDGE METAL SYSTEM

- A. Products: Subject to compliance with requirements, provide products from one of the following:
 - 1. Rmer-Force and Rmer-Coping by The Garland Company, Inc. or approved equal. ANSI SPRI ES-1 rated for required pressures in stamped wind uplift calculations.

2.3 MATERIALS AND GAUGES

- A. Where sheet metal is required and no material or gauge is indicated, furnish and install the highest quality and gauges commensurate with referenced standard to match existing.
 - 1. Fascia Metal and Ridge Cap:
 - a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
 - 2. Reglets:
 - a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
 - 3. Receivers:
 - a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
 - 4. Counterflashing:

- a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
5. Hurricane Clips:
 - a. ASTM A 67; commercial quality, 2D annealed finish, 304 stainless steel, 20 gauge.
6. Pitch Pans, Bonnets, Draw Bands, Box Curb Caps, Pipe Hoods, Gravity Vents, Gooseneck Vents, and Pier Caps:
 - a. ASTM A 67; commercial quality, 2D annealed finish, 304 stainless steel, 24 gauge.
7. Expansion Joint Cover:
 - a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
8. Continuous Cleat:
 - a. Galvanized, 20 gauge.
9. Termination Bar:
 - a. 1/8" X 3/4" extruded Aluminum.
10. Lead Flashings:
 - a. Sheet complying with FS QQ-L-201. Grade B; formed from Common De-Silvered Pig Lead complying with ASTM B-29. Weight 4.0 lbs. /sq. ft. unless otherwise specified.
11. Gutters:
 - a. 22 gauge G-90 galvalume prefinished with a Kynar 500 based flourpolymer coating. Color selected by Architect.
12. Gutter Brackets:
 - a. 1/8"(thick) x 1" hot dipped galvanized flat stock for gutter brackets shall extend up the entire back height of the gutter and be attached with a minimum of two 8"x2" wood grip screws. The brackets will be installed in 36" centers and match profile of new gutter. Brackets shall be wrapped with same prefinished metal as gutters.
13. Gutter Spacers:
 - a. ASTM A67 ; commercial quality, 2D annealed finish, 304 stainless steel, 16 gauge x 1" wide. Spaced at 36" on centers alternating between gutter and brackets.
14. Downspouts:
 - a. Pre-painted, Metallic-Coated Steel: 22 gauge.

2.4 NAILS, RIVETS, AND FASTENERS

- A. Nails: Copper, Stainless Steel or Galvanized depending on application.
- B. Rivets: Copper, Aluminum, Stainless Steel or Galvanized depending on application.

- C. Exposed Fasteners and Washers: Stainless Steel Screws with covered neoprene gaskets.
- D. Unexposed Fasteners and Washers: Cadmium plated.

2.5 RELATED MATERIALS

- A. Flux: Raw Muriatic Acid killed with Zinc Chloride.
- B. Solder: Conform to current ASTM B-12. 50% tin and 50% lead.
- C. Burning Rod for Lead: Same composition as lead sheet.
- D. Joint Sealant: Polyurethane, see Joint Sealant Section.
- E. Underlayment: Vinyl Membrane.

PART 3 - EXECUTION

A. INSTALLATION

1. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
2. Torch cutting of sheet metal flashing and trim is not permitted.
3. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
6. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric or butyl non-skinning sealant.
7. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
8. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
9. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at the maximum distance recommended by the manufacturer, with no

joints allowed within 10 feet of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric] or butyl non-skinning sealant concealed within joints.

10. Fasteners: Use fasteners of sizes that will penetrate through substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.
11. Seal joints with elastomeric or butyl non-skinning sealant as required for watertight construction.
12. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm) except where pretinned surface would show in finished Work. Do not solder pre-painted, or metallic-coated steel sheet.

B. ROOF DRAINAGE SYSTEM INSTALLATION

1. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
2. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with elastomeric or butyl non-skinning sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets or straps spaced not more than 36 inches (900 mm) apart. Provide end closures and seal watertight with sealant. Slope to downspouts.
3. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.24 m) apart., or as recommended by the manufacturer. Install expansion joint caps at all expansion joints.
4. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide fasteners designed to hold downspouts securely, no more than 1/2 inch (25 mm) away from walls; locate fasteners at top and bottom and at not more than 60 inches (1500 mm) o.c. in between.

C. ROOF FLASHING INSTALLATION

1. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
2. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49.
3. Interlock bottom edge of roof edge flashing with continuous cleats anchored to substrate as recommended by the Roof Manufacturer for the Wind Loads indicated.

4. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Secure in a waterproof manner. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints a minimum of 4 inches (100 mm) and bed with elastomeric or butyl non-skinning sealant.
5. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
6. Use pre-fabricated pipe-penetration boots as recommended by the roof manufacturer.
7. Seal with elastomeric or butyl non-skinning sealant and fasteners to the roof panel as recommended by the Roof manufacturer. Clamp flashing to pipes penetrating roof with stainless steel drawband.

3.2 CLEANING

- A. Clean exposed metal surface removing substances which might cause corrosion of metal or deterioration of finish.
- B. Remove protective plastic sheeting from metal surfaces.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Standard overhead coiling doors assembly, chain operated.

1.2 RELATED WORK

- A. Support framing.

1.3 REFERENCE STANDARDS

- A. FS QQ-S-775 - Steel Sheets, Carbon, Zinc coated (Galvanized) by Hot-dip process.
- B. ASTM B221 - Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
- C. IBC 2021 and ASCE 7-16 Rick Category 111 and impact ratings for wind-born debris regions.

1.4 SUBMITTALS

- A. Submit shop drawings and product data in accordance with Section 01340.
 - 1. Indicate pertinent dimensioning, general construction, component connections and details, anchorage methods, hardware locations, and installation details.

PART 2 - PRODUCTS

2.1 CONSTRUCTION

- A. Provide complete operating door assemblies including door curtains, guides, counterbalance mechanism, operators, and installation accessories.
- B. Design and reinforce rolling doors to withstand a wind loading pressure to meet IBC 2021 and ASCE 7-16 requirements and impact rating for wind-born debris regions.
- C. Curtain: To be formed of interlocking slats fabricated from hot dipped galvanized strip steel. Material to be given a tan, baked polyester prime coat before fabrication. Bottom slat is to be reinforced by two steel angles, not less than 1/8" thick.
- D. Endlocks and windlocks: Malleable iron castings galvanized after fabrication, secured to curtain slats with galvanized rivets. Provide endlocks on alternate curtain slats for curtain alignment and resistance against lateral movement. Provide windlocks on doors exceeding 16' in width, spaced maximum 24" o.c. on both edges of curtain.
- E. Bottom bar: Two angles, minimum 1-1/2" x 1-1/2" x 1/8" thick.
- F. Curtain Guides: Formed steel angles of required sizes and configurations, minimum 3/16" thick steel. Slot bolt holes for track adjustment.
- G. Weather seals: Natural rubber or neoprene

- H. Operation: Chain lift
- I. Safety Switches: Wired to reverse door upon striking object. Neoprene or rubber covered to provide weather seal.

2.2 APPROVED MANUFACTURERS/PRODUCTS

- A. Approved Manufacturers:
 - 1. ERO, Inc
 - 2. Cookson Company
 - 3. Overhead door Company
 - 4. Wayne Dalton
- B. Each door assembly shall be a complete unit produced by one manufacturer, including hardware, accessories, and installation components.
- C. Door: The Cookson Company, "Standard rolling service door with No. 5 slats, 20- gage Steel."
- D. Operation: Standard chain operation

PART 3 - EXECUTION

3.1 GENERAL

- A. Install overhead coiling doors, complete with chain operator, in accordance with manufacturer's recommendations. Comply with approved shop drawings.
- B. Secure curtain guide angles with minimum 3/8" bolts at maximum 30" o.c. Extend angles above door opening head to support coil brackets. Place anchor bolts on exterior angles so that they are concealed when door is in closed position. Provide removable stops on guides to prevent over travel of curtain, and continuous bar for holding windlocks, if any.
- C. Fit, align, and adjust complete door assemblies level and plumb, and to provide smooth operation.
- D. Submit operating and maintenance instructions in accordance with Section 013300.

END OF SECTION 083310

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Non-fire rated suspended exposed grid system, complete with lay in acoustical ceiling panels.

1.2 REFERENCE STANDARDS

- A. Requirements for reference standards are defined in Section 014200.

1.3 SAMPLES AND PRODUCT DATA

- A. Submit samples and product data for the following in accordance with Section 014300.
 - 1. Grid system: Indicate construction and finish for each type.
 - 2. Ceiling panels: 12" x 12" minimum size for each type and finish.
 - 3. Manufacturer's product data describing grid and ceiling panels.

1.4 EXTRA MATERIAL

- A. Deliver one box of each type of ceiling panel, for maintenance use.
- B. This additional tile shall be from the same lot as the tile installed and furnished in original boxes properly marked.

1.5 ENVIRONMENTAL CONDITIONS

- A. Do not install grid system or panels until building is enclosed, sufficient heat is provided, dust-generating activities have terminated and overhead mechanical work is completed, tested and approved.
- B. Permit wet work to dry prior to commencement of installation.
- C. Maintain uniform temperatures of minimum (61°F) and humidity of 60% prior to, during and after installation.
- D. Deliver acoustical tile and grid in manufacturer's original unopened packages, fully identified with type, finish, performance data and compliance labels. Handle and store in accordance with manufacturer's instructions and recommendations.

1.6 WARRANTY

- A. Provide 30-year warranty on suspended acoustical ceiling system (grid and panel) by manufacturer against sag in areas up to 100% humidity.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish ceiling systems with all accessories required to complete suspended ceiling grid system.
- B. Maximum allowable deflection: 1/360.
- C. Grid size: 24" x 24".
- D. Ceiling grid and ceiling panels shall be by same manufacturer and installed according to manufacturer's recommendations and as contained herein.

2.2 CEILING GRID

- A. Prefinished Steel Grid System:
 - 1. Type: Prefinished, non fire rated, double web, exposed grid, all steel construction.
 - 2. Finish: Baked on polyester paint.
 - 3. Color: White
 - 4. Manufacturer's/Products
 - a. Armstrong Building Products, "Prelude Heavy-Duty System."
 - b. USG Interiors, Inc. "Donn Dx2 Heavy-Duty System."
 - c. Chicago Metallic 200-01 Series.

2.3 ACOUSTICAL CEILING PANEL

- A. Mineral fiber Ceiling Panel: (Medium-high humidity)
 - 1. Type: Non-directional fissured, medium textured.
 - a. Ceiling Attenuation Class (CAC): minimum 33
 - b. Flame Spread : Class A
 - c. Edges : Square
 - d. Size - 24 X 24 X 5/8"
 - e. Color: White
 - 2. Manufacturer's/Products
 - a. Armstrong Building Products, "Fine Fissured Item 1728." or prior approved equal.
 - b. CertainTeed #HHF-157.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install grid as per Architect's reflected ceiling plan. If no plan, install grid to center tile in corridors and to coordinate with installation of light fixtures, sprinkler heads, A/C grilles, etc.
- B. Layout grid to have equal size cut tile at perimeter. Verify layout with Architect.

- C. Installer shall examine the conditions under which the work is to be performed and notify the contractor in writing of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- D. Install acoustical ceiling systems in accordance with manufacturer's printed recommendations to produce finished ceiling true-to-lines and levels and free of warped, soiled or damaged grid or panels.
- E. Suspend ceiling hangers from building structural members only. Supply hangers or inserts for installation to the respective section in ample time and with clear instructions for their correct placement. Provide additional hangers and inserts as required.
- F. Install ceiling systems in a manner capable of supporting all superimposed loads with maximum permissible deflection of $1/360$ of span and maximum surface deviation of $1/8"$ in $10'$.
- G. Install system after major above ceiling work is complete. Coordinate the location of hangers with other work as required for proper installation. Ensure the layout of hangers and carrying channels are located to accommodate fittings and units of equipment, which are to be placed after the installation of ceiling grid systems.
- H. Where mechanical, electrical, or other equipment prevent the regular spacing of hangers, reinforce the nearest adjacent hangers and related carrying channels as required to span the required distance.
- I. Hang system independently of walls, columns, ducts, pipes, and conduit. Where carrying members are spliced, avoid visible displacement of the longitudinal axis or face plane of adjacent members.
- J. Do not support fixtures on main runners or cross runners. If weight of the fixture causes the total dead load to exceed the deflection capability. Support fixture loads by supplementary hangers located within $6"$ of each corner, or support the fixtures independently from structure above.
- K. Do not install fixtures so that main runners and cross runners will be eccentrically loaded. Where fixture installation would produce rotation of runners, provide stabilizer bars.
- L. Install edge moldings at intersection of ceiling and vertical surfaces, using maximum lengths, straight, true to line and level. Miter corners.
 - 1. Provide edge moldings at junctions with other ceiling finishes.
 - 2. Apply continuous bead of acoustical sealant on back of vertical leg before fastening to vertical surface. Do not expose sealant after installation complete.
- M. Fit acoustic lay in panels in place, free from damaged edges or other defects detrimental to appearance and function. Fit border units neatly against abutting surfaces.
- N. Scribe and cut tile to fit accurately at edges of ceiling and around penetrations in the ceiling.
- O. Provide ceiling grid at all sides of supply, return and exhaust grilles.

3.2 ADJUSTMENTS

- A. Adjust any sags or twists which develop in the ceiling system and replace any part which is damaged or faulty.

3.3 CLEANING AND PROTECTION

- A. Clean exposed surface of acoustical tile, and of trim, edge moldings and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- B. The installer shall advise the General Contractor of required protection for the acoustical tile ceiling, including temperature and humidity limitations and dust control, so that the work will be without damage and deterioration at the time of acceptance by the Owner.

END OF SECTION 095100

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Prepare surfaces which are to receive finish.
- B. Finish surfaces as specified in this section.
- C. Touchup field welds on primed steel work.
- D. Caulking as specified in this section.

1.2 COLOR SCHEDULE

- A. Before any work is done, Architect will furnish Contractor with a set of color cards and schedule where various colors are to be applied. Contractor shall then prepare samples at job as required until colors and textures are satisfactory.
- B. Upon completion of the painting work, the Contractor shall return the Color Schedule to the Architect complete with the manufacturer's formula for each scheduled color. The Architect will submit the color schedule to Owner to be used as information for maintenance paint.
- C. Coating Maintenance Manual: Upon conclusion of the project, the Contractor or paint manufacturer/supplier shall furnish a coating maintenance manual, such as Sherwin-Williams "Custodian Project Color and Product Information" report or equal. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touchup procedures, and color samples of each color and finish used.

1.3 MOCKUP

- A. Before proceeding with paint application, finish one complete surface of each color scheme required, clearly indicating selected colors, finish texture, materials and workmanship.
- B. If approved, sample area will serve as a minimum standard for work throughout the building.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver paint materials in sealed original labeled containers, bearing manufacturer's name, type of paint, brand name, color designation and instructions for mixing and/or reducing.
- B. Provide adequate storage facilities. Store paint materials at minimum ambient temperature of 45°F in well ventilated area.
- C. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.5 ENVIRONMENTAL CONDITIONS

- A. Ensure surface temperatures or the surrounding air temperature is in compliance with requirements of paint manufacturer.
- B. Provide adequate continuous ventilation and sufficient heating facilities to maintain the required temperatures before, during and 48 hours after application of finishes.

1.6 PROTECTION

- A. Adequately protect other surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.
- B. Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.
- C. Place cotton waste, cloths and material which may constitute a fire hazard in closed metal containers and remove daily from site.
- D. Remove electrical plates, surface hardware, fittings, and fastenings, prior to painting operations. These items are to be carefully stored, cleaned and replaced on completion of work in each area. Do not use solvent to clean hardware that may remove permanent lacquer finish.
- E. Do not paint UL label on fire rated doors and frames. UL labels must remain visible after painting work is complete. The colored 'dot' on edge of fire rated doors are used by some manufacturers to identify the rating. Do not paint these colored dots.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise noted, all surfaces which will remain exposed to view (except factory finished items) shall receive field painting. Unless otherwise noted, factory primed items which will remain exposed to view shall receive field painting.
- B. Paints shall have good flowing and brushing properties and be capable of drying or curing free of streaks or sags.
- C. Architect shall not be restricted to a minimum number of colors (up to eight maximum) and reserves the right to specify custom mix for up to 25% of the paint colors used.

2.2 HIGH PERFORMANCE INTERIOR PAINT SYSTEM

- A. Metal (Structural steel columns, joists, trusses, beams, miscellaneous and Ornamental iron, structural iron, ferrous metal). (Rigid galvanized conduit, sprinkler pipe).
 - 1. Latex Systems:
 - a. Semi-Gloss Finish:
 - (1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0-10.0 mils wet, 1.8-3.6 mils dry).
 - (2) 2nd Coat: S-W Pro Industrial DTM Acrylic Semi-Gloss, B66 Series.
 - (3) 3rd Coat: S-W Pro Industrial DTM Acrylic Semi-Gloss, B66 Series (6.0-10.0 mils wet, 2.5-4.0 mils dry per coat).

2.3 ACCEPTABLE MANUFACTURERS

- A. Coronado Paint CO, Edgewater, FL
- B. Devoe and Reynolds CO, Louisville, KY
- C. Glidden Coatings and Resins, Division of SCM Corporation, Cleveland, OH.
- D. Benjamin Moore and CO, Montvale, N.J.
- E. PPG Industries, PPG paints, Pittsburgh, PN
- F. Pratt and Lambert (P&L), Memphis, TN
- G. The Sherwin Williams Company (S-W), Cleveland, OH
- H. Tnemec Company, Kansas City, MO

2.4 EXTERIOR PAINT SCHEDULE

- A. Ferrous metal, semi gloss alkyd enamel: 2 finish coats over primer.
 - 1. Prime coat: rust inhibitive primer. (Primer is not required on items delivered shop primed.)
 - a. Sherwin Williams: Kem Kromik Universal Primer B50Z series
 - 2. First and second finish coats: semi-gloss alkyd enamel
 - a. Sherwin Williams: DTM alkyd B55 Series
- B. Zinc coated metal, high gloss alkyd enamel: 2 finish coats over primer.
 - 1. Prime coat: zinc dust-zinc oxide primer.
 - a. Sherwin Williams: Galvite HS Primer B50WZ30
 - 2. First and second finish coats: high gloss alkyd enamel.
 - a. Sherwin Williams: Industrial Urethane Enamel B54-150 Series

- C. Aluminum, high gloss alkyd enamel: 2 finish coats over primer.
 - 1. Prime coat: Latex Primer
 - a. Sherwin Williams: Pro-Cryl Primer B66-310 Series
 - 2. First and second finish coats: High gloss alkyd enamel
 - a. Sherwin Williams: Pro Industrial Urethane Enamel B66-310

2.5 INTERIOR PAINT SCHEDULE

- A. Concrete masonry units, semi-gloss finish: 2 finish coats over block filler (Common Areas)
 - 1. First finish coat: Acrylic Epoxy
 - a. Sherwin Williams: Pro Industrial Pre-Catalyzed Epoxy Semi-Gloss K46 Series
 - 2. Second finish coat Acrylic Epoxy
 - a. Sherwin Williams: Pro Industrial Pre-Catalyzed Epoxy Semi-Gloss K46 Series

PART 3 - EXECUTION

3.1 INSPECTION

- A. Thoroughly examine surfaces scheduled to be painted prior to commencement of work. Report in writing to Architect, any condition that may potentially affect proper application. Do not commence until such defects have been corrected.
- B. Correct defects and deficiencies in surfaces which may adversely affect work of this Section.
- C. Contractor's commencement of painting indicates his acceptance of the surfaces to be painted as being acceptable for the finishes to be applied.

3.2 PREPARATION OF SURFACES

- A. Prepare all surfaces in strict accordance with paint manufacturer's published instructions.
- B. Instructions listed below are minimum guidelines. Contractor shall perform additional surface preparation based on
 - 1. Particular surface or finish requirements
 - 2. Particular job conditions
 - 3. Contractor's expertise and experience in applying finishes.
- C. Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surfaces to dry completely.
- D. Remove contamination from gypsum wallboard surfaces and prime to show defects if any. Paint after

defects have been remedied.

- E. Remove surface contamination and oils from galvanized surfaces and wash with solvent. Apply coat of etching type primer.
- F. Remove surface contamination and oils from zinc coated surfaces and prepare for priming in accordance with metal manufacturer's recommendations.
- G. Remove stains from concrete and concrete block surfaces caused by weathering of corroding metals.
 - 1. Remove dirt, loose mortar, scale, powder, oil, grease, and other foreign matter from concrete and concrete block surfaces which are to be painted.
- H. Fill hairline cracks, small holes, and imperfections on plaster surfaces with patching plaster. Smooth off to match adjacent surfaces. Wash and neutralize high alkali surfaces where they occur.
- I. Remove grease, rust, scale, dirt and dust from steel and iron surfaces. Where heavy coatings of scale are evident, remove by wire brushing, sandblasting or any other necessary method. Ensure steel surfaces are satisfactory before paint finishing.
 - 1. Clean unprimed steel surfaces by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Prime surfaces to indicate defects, if any. Paint after defects have been remedied.
 - 2. Sand and scrape shop primed steel surfaces to remove loose primer and rust. Feather out edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- J. Galvanized Metal: Clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP16 as necessary to remove these treatments.
- K. Steel: Structural, Plate, And Similar Items: Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
 - 1. Solvent Cleaning, SSPC-SP1: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
 - 2. Hand Tool Cleaning, SSPC-SP2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
 - 3. Power Tool Cleaning, SSPC-SP3: Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be

removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.

3.3 PAINT APPLICATION

- A. The number of coats specified herein for various finishes is customarily sufficient to obtain satisfactory finish, but should such finish not be obtained, it shall be the responsibility of Contractor to apply such additional coats as may be required.
- B. Apply each coat at proper consistency.
- C. Sand wood lightly between coats, as required to achieve required finish.
- D. Do not apply finishes on surfaces that are not sufficiently dry.
- E. Allow each coat of finish to dry before following coat is applied, unless directed otherwise by manufacturer.
- F. Where clear finishes are required, ensure tint fillers match wood. Work fillers well into the grain before set. Wipe excess from the surface.

3.4 MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Refer to mechanical and electrical sections with respect to identification banding of equipment. Identification banding and directional arrows are not part of the painter's work.

END OF SECTION 099000

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Pre-engineered and pre-finished extruded aluminum canopy.
- B. Products Supplies But Not Installed Under This Section: Foam block-outs for column foundations.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements:
 - 1. Columns, beams, deck and trim shall be aluminum extrusions. Structural framing shall consist of [heli-arc welded, one-piece rigid bents] [and] [bolt connected members] with interlocking deck sections secured by screws. Canopy shall be self-draining from deck through bents to discharge point [at ground level] [as shown on Drawings].
 - 2. Building Code: [International Building Code], 2021 Edition.
 - 3. Design Loads: (ASCE 7-16)
 - a. Comply with Building Code for site location. Wind Speed 140 mph.
 - b. Collateral Loads: Additional loads imposed by other materials or systems identified in contract documents.
 - 4. Structural Design: Prepare complete structural design calculations for canopy members including footings.

1.3 SUBMITTALS

- A. Reference Section 01330-Submittal Procedures; submit following items:
 - 1. Product data.
 - 2. Shop Drawings: Layout and erection drawings showing roof framing, deck panels, cross sections and trim details clearly indicating proper assembly.
 - 3. Samples: Color selection samples consisting of actual coating material or anodizing process on aluminum extrusions.
 - 4. Quality Assurance/Control Submittals:
 - a. Qualifications: Letter certifying manufacturer's required qualifications.
 - b. Structural Design Calculations.
 - c. Manufacturer's Installation Instructions.

1.4 QUALITY ASSURANCE

- A. Overall Standards: Structural engineering design documents shall be stamped by a structural engineer registered to practice in the state of Louisiana.

B. Qualifications:

1. Manufacturer Qualifications: Minimum five years experience in producing covers/canopies with welded bents and of the type specified.
2. Installer Qualifications: Minimum two years experience in erecting covers/ canopies of the type specified.

1.5 DELIVERY STORAGE AND HANDLING

- A. Reference Section 01660-Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Perfection Architectural Systems, Inc., 4460 North Goldenrod Road, Bldg. 104, Winter Park, FL 32792, Tel: (800) 238-7207 Fax: (407) 671-8252
- B. Other Approved Manufactures: Peachtree, Mitchell Metals
- C. Substitutions: Reference Section 01630-Product Substitution Procedures.

2.2 MATERIALS

- A. Aluminum Extrusions: 6063 alloy, T-6 temper.
- B. Grout: 1 part Portland Cement, 3 parts masonry sand; 2,000 psi (13.8 MPa) compressive strength.
- C. Foam Block-Outs: Rigid foam blocks sized as required for column embedment depth and shape.

2.3 COMPONENTS

- A. Columns:
 1. Radius-cornered aluminum tubular extrusions [of size shown on Drawings] [as required by structural engineering design].
 2. Grout Key: Provide two 1 ½ inch (38 mm) diameter holes in column base, one each in opposite sides.
 3. Provide clear acrylic protection coat on surfaces in contact with grout.
- B. Beams: Open top aluminum tubular extrusions [of size shown on Drawings] [as required by structural engineering design].
- C. Deck: Rigid-Roll-Lock extruded aluminum, self-flashing, interlocking sections [of size and profile shown on Drawings] [as required by structural engineering design].

1. Provide welded endplate water dams where sections terminate at other than drainage channels.
- D. Fascia: Provide manufacturer's standard extruded aluminum fascia [and gutter] sections as shown on Drawings and as required to complete the installation resulting in a neat finished appearance.
- E. Flashing: Aluminum sheet, thickness as recommended by manufacturer for specific condition.

2.4 ACCESSORIES

A. Fasteners:

1. Deck Screws: No. 14 x 1 inch (25 mm), self tapping, Type 18-8 stainless steel with neoprene washer.
2. Trim Screws: No. 10 x 1/2 inch (13 mm), self tapping, Type 18-8 stainless steel.

OR

3. Trim Rivets: Aluminum rivets, size as recommended by manufacturer for specific condition.
4. Other Fasteners: Type 18-8 stainless steel, fastener type as recommended by manufacturer for specific condition.

2.5 FABRICATION

- ### A. Shop Assembly:
- Fabricate cross beams and columns into one piece rigid bents with corners mitered and heli-arc welded to the extent that completed bents can be shipped on local, state and federal highways without special permit. Provide bolted connections for bents required to be shipped unassembled.

OR

- ### B. Shop Assembly:
- Fabricate cross beams and columns for field assembled bolted connections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine footings in which bents will be set [and building surfaces to which canopy will connect]. Verify footing locations and elevations comply with shop drawings.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory footings or surfaces.
- C. Commencement of work by installer is acceptance of existing conditions.

3.2 ERECTION

- A. Erect canopy in accordance with manufacturer's installation instructions.
- B. Set bents plumb, straight and true to line, adequately braced to maintain position until grout has cured.

3.3 CLEANING

- A. Clean surfaces soiled by work as recommended by manufacturer.
- B. Remove surplus materials and debris from the site.

3.4 PROTECTION

- A. Protect finished aluminum surfaces from damage due to subsequent operations through [Substantial Completion] [final acceptance by the Owner].

END OF SECTION 10530

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Design, fabrication and installation of welded and/or through fastened, extruded aluminum overhead hanger-supported canopy.
 - 1. At exit doors
- B. Related Items and Considerations:
 - 1. Flashing, generic and/or specialty designs will be required and may be supplied by the canopy manufacturer or by the installer.
 - 2. Determine wall construction, make-up and thickness.
 - 3. Ensure adequate wall condition to carry canopy loads where required.
 - 4. Consider water drainage away from canopy where necessary.
 - 5. Any necessary removal or relocation of existing structures, obstructions or materials.
 - 6. Cantilever support brackets.

1.2 QUALITY ASSURANCE

- A. Products meeting these specifications established standard of quality required as manufactured by SKYSCAPE Architectural Canopies, Duluth, Georgia 1-877-347-0868 as basis for design.

1.3 FIELD MEASUREMENT

- A. Confirm dimensions prior to preparation of shop drawings when possible.
- B. If requested, supply manufacturers standard literature and specifications for canopies.
- C. Submit shop drawings showing structural component locations/positions, material dimensions and details of construction and assembly including anchorage requirements.

1.4 PERFORMANCE REQUIREMENTS

- A. Canopy must conform to requirements of IBC 2021 and ASCE 7-16 requirements for wind loading.

1.5 WARRANTIES

- A. Canopy manufacturer warrants the canopy components and factory applied finish to be free from defects in materials and workmanship, for a period of five (5) years form the date of shipment.
- B. Canopy installer warrants their installation and workmanship for a period of one (1) year from the date of substantial completion of the canopy and components.

1.6 DELIVER, STORAGE, HANDLING

- A. Deliver and store all canopy components in protected areas.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. SKYSCAPE Architectural Canopies Duluth, Georgia
- B. Other Acceptable Manufacturers:
 - 1. Mitchell Metals
 - 2. MASA Architectural Canopies
 - 3. MAPP

2.2 MATERIALS

- A. Decking shall consist of:
 - 1. 6" Flat Deck Extruded
 - 2. Fascia, perimeter, outrigger, and intermediate framing members shall be extruded aluminum, in profile and thickness shown in current SKYSCAPE literature.
 - 3. Fascia shall consist of:
 - a. J-8" Extruded
 - 4. Cantilever support brackets as recommended by manufacturer.

2.3 FINISHES

- A. Finish type shall be a factory applied finish, as determined by the architect.
 - 1. Kynar, SkyScape color

2.4 FABRICATION

- A. SKYSCAPE canopies may be shipped in preassembled section or stick-built at the site for ease of shipping and installation.
- B. All connections shall be mechanically assembled utilizing 3/16 fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are not acceptable.
- C. Decking shall be designed with extruded components or interlocking roll-formed aluminum members.
- D. Drainage shall consist of: Scupper, Canopy Front
- E. Escutcheon plates, aluminum as detailed:

- F. Cantilever support brackets.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Confirm that surrounding area is ready for the canopy installation.
- B. Installer shall confirm dimensions and elevations to be as shown on drawings provided by SKYSCAPE Architectural Canopies.
- C. Erection shall be performed by an approved installer and scheduled after all concrete, masonry and roofing in the area is completed.

3.2 INSTALLATION

- A. Installation shall be in strict accordance with manufacturer's shop drawings. Particular attention should be given to protecting the finish during handling and erection.
- B. Good construction practices and extreme care shall be maintained to protect and eliminate any and all damage to installed decking components during installation. This includes, but is not limited to, standing, walking, or performing other work, while on the finished decking.

3.3 AFTER INSTALLATION

- A. Following installation, entire system shall be left in a clean condition

END OF SECTION 105330

SECTION 131250 - GRANDSTAND BLEACHERS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Aluminum Portable Bleachers. (10 Rows)

1.2 RELATED WORK SECTIONS

- A. General Conditions, Special Conditions and "Scope of Work" section is part of and govern work under this section.

1.3 SUBMITTALS

- A. Section 01600 – Product Requirements: Submittal Procedures
- B. Shop Drawings: Submit for approval of Architect, complete, indicating layout, details, and structural system sealed by a professional engineer in the state of PA. Include anchorage requirements.
- C. Code Compliance: Submittals shall be based upon specifications contained within the bid documents. Determination of code compliance is the sole responsibility of government agencies. Modifications made by a government agency after the award of bid or letting of contract shall justify the contractor to an appropriate change in price and completion schedule.
- D. Bidders may not deviate from these specifications without the consent of the architect 10 days prior to bid date.

1.4 DESIGN CRITERIA

- A. Applicable Codes: All design, materials, and workmanship shall be in accordance with the following:
 - 1. International Building Code – 2021 Edition
 - 2. Americans with Disability Acts – Current Edition
 - 3. ASCE 7-16
- B. General: The structure shall be properly braced for wind and construction loads until all structural elements are secured. Understructure shall be of "open bay" design permitting clear span area underneath as shown within project documents. **Individual stringer support columns will not be allowed.** Main structural columns, stringers, and headers shall be of concentric beam sections utilizing center axis design principles. Lateral and longitudinal bays shall be properly cross braced as stated above. Guardrails shall be of adequate size, location and height to meet specified codes and be designed to withstand required loads. Stairs shall have a maximum rise per step of 7" and minimum tread depth of 11".

1.5 QUALITY ASSURANCE

- A. Grandstand shall be designed to meet or exceed specified fire and building codes.
- B. Manufacture shall have minimum of seven (7) years' experience in fabrication of grandstand and press box structures under current company name.
- C. Engineering Qualifications: Grandstand shall be designed and approved by a licensed professional engineer registered in LA and all approval drawings shall be sealed.
- D. Product Liability Insurance coverage for life of product.
- E. Manufacturer to have local representative within 150 mile radius to insure proper quality control.

1.6 WARRANTY

- A. Grandstands shall be guaranteed for five years against defective materials and workmanship. Damage resulting from abnormal use, vandalism, or incorrect installation (if installed by other than authorized installer) is not acceptable.
- B. Oxidation of mill finish aluminum plank is a natural occurrence and can occur at anytime. It is not considered a warranty item.

1.7 SITE VISITATION

- A. A visitation to the site, seven days prior to bid date, by a qualified representative of the grandstand manufacturer is mandatory. No allowance will be made after the contract award for any problems encountered which would have been discovered during the pre-bid visitation. The manufacturer's representative shall revisit the site within one month after completion of the project for joint inspection with the Owner/Architect.

PART 2 - PRODUCTS

2.1 MANUFACTURE

- A. The basis of design is GT Grandstands, Inc.
- B. Other approved manufacturers:
 - 1. Jay Sport
 - 2. Southern Bleacher Company
 - 3. Belsen Outdoors

2.2 MATERIALS

- A. Structural Steel
 - 1. All detailing, fabrication, and erection shall be in accordance with AISC Specifications, Load & Resistance Factor Design, 2nd Edition
 - 2. Structural steel shall be ASTM A572 multi-certified grade 50, Miscellaneous steel shall be ASTM A36.

3. All bolts 5/8" diameter and larger shall be ASTM A325. All bolts 1/2" and smaller shall be ASTM A307. Threaded rod shall be ASTM A36.
4. All welds shall conform to ANSI/AWS D1.1, latest edition. Electrodes shall be E70XX.
5. Columns shall be wide flange shapes.
6. Support beams shall be wide flange shapes.
7. Stringer shall be wide flange shape.
8. Steel Finish
9. **Galvanized Option: Structural steel shall be coated with a minimum of 2 oz. hot dipped galvanized in accordance with ASTM 123-A with a minimum galvanized film thickness of 3.3 mils. Zinc shall be 98% purity, certified with written test results based on samples taken from the tank.**

B. Guardrail

1. Guardrails shall be 204R1 mill finished aluminum extruded angle, 3" x 2" x 1/4" 6061-T6 alloy.
2. Chain link fence shall be 2" mesh, 9 gauge galvanized.
3. All vertical aluminum angle guardrail supports shall be 2" x 3" minimum in size.
4. Two line center aisle handrails shall be anodized extruded aluminum pipe of 6061-T6 alloy, 1-5/8" O.D. Rails shall be discontinuous and spacing between rails shall be not less than 22" nor more than 36". Rails shall not span more than 5 rows of seating.

C. Handrail

1. Two line center aisle handrails shall be anodized extruded aluminum pipe of 6061-T6 alloy, .145" thickness.
2. Handrails shall provide 1-1/2" clearance from the guardrail material and shall extend 12" past the last riser with a return. Newel posts will not interrupt handrails. Handrails will not project more than 4.5" into the width of a stair or ramp.

D. Seating

1. Seats shall be 6063-T6 extruded aluminum with a fluted surface and a minimum of 4 vertical legs. The exact size of seatboard is 2" x 10" x .080" wall thickened at the joints and weighing 1.9 lbs. per foot with 1" radius comfort curve front edge. Aluminum shall be cleaned, pre-treated and clear anodized.
2. Mounting brackets: welded aluminum angle.
3. Seatboards shall be attached to the system by riser mounted galvanized steel "L" brackets.

E. Decking System

1. Closed Deck
 - a. Footboards shall be 6063-T6 extruded aluminum with a fluted surface with a minimum wall thickness of 0.078" between flutes. The minimum acceptable vertical height is 1.750". Footboards shall be mill finish. Mill finish aluminum when exposed to the atmosphere forms a transparent, protective oxide coating. Mill finish aluminum will

stain and the stains can be erratic in nature and can vary in color from light bronze to black. This staining is a natural occurrence.

- b. Individual planks shall be interlocking design, nesting with adjacent planks.
- c. Riser boards shall be 6063-T6 aluminum and shall be cleaned, pre-treated and powder coated or anodized.

2. Walking Surface Requirement

- a. All aluminum decking intended for use as a walking surface, including walkways, aisles, walking surfaces in seating sections, stairs, ramps, platforms, handicap areas, and landings, will exhibit a slip resistant surface treatment intended to minimize the effects of wet conditions on pedestrian safety.
- b. This surface treatment will increase the slip resistance of mill finished aluminum to achieve a slip index (coefficient of friction) of 0.80 or higher in all directions of travel, including parallel to seating, as measured by the Variable Incidence Tribometer (VIT), **under wet conditions** as well as dry conditions. This testing machine is referenced in ASTM F-1679, Standard Test Method for Using a Variable Incidence Tribometer.
- c. An independent test substantiating both the minimum required .80 coefficient of friction and the durability performance of the slip resistance feature must be provided with the bid. One independent laboratory capable of performing this testing is Artech Testing LLC in Chantilly, Virginia (703-378-7263).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall be handled directly by the manufacturer or by a factory-certified installation subcontractor. Factory certification shall require three installations within the last two years within the state.
- B. Structure shall be erected in accordance with plans, shop drawings, and specifications.
- C. Site preparation is not included in this specification.

3.2 CLEANING

- A. Clean all surfaces after erection, in accordance with manufacturer's recommendations.
- B. Remove and properly dispose of all packaging and construction debris.
- C. Do not use acid solution, steel wool or other harsh abrasives.

END OF SECTION 131250

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions) and Division 0 as appropriate, apply to the Work specified in this Section.
- B. Refer to all Sections, as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding all work.



1.2 SCOPE OF WORK

- A. Furnish all labor and material necessary to provide and install the complete plumbing portion of this Contract as called for herein and on accompanying drawings. Parts of the plumbing division may be bid separately or in combination, at the Contractor's option; however, it shall be the responsibility of the General Contractor to assure himself that all items covered in the Plumbing Division have been included if he chooses to accept separate bids.
- B. It is the intent of this specification that all materials with temperatures below ambient conditions or conveying any fluid/gas at temperatures below 70 deg. F be insulated to completely eliminate the potential for condensation. Unless specified elsewhere in these specifications, for materials that do not require access, insulate with 2" thick 3/4# density fiberglass duct wrap insulation with foil face (seal all joints air and water tight). For materials requiring occasional access, use 2" thick closed cell rubberized insulation with re-sealable fabric joints (hook and loop type).
- C. Contractor shall refer to the Architectural and Structural drawings and install equipment, piping, etc. to meet building and space requirements. No equipment shall be bid on or submitted for approval if it will not fit in the space provided.
- D. It is the intention of these specifications that all plumbing systems shall be furnished complete with all necessary valves, controls, insulation, piping devices, equipment, etc. necessary to provide a satisfactory installation that is complete and in good working order.
- E. Contractor shall visit the site and acquaint himself thoroughly with all existing facilities and conditions which would affect his portion of the work. Failure to do so shall not relieve the Contractor from the responsibility of installing his work to meet the conditions.

- F. This Contractor shall protect the entire system and all parts thereof from injury throughout the project and up to acceptance of the work. Failure to do so shall be sufficient cause for the Architect to reject any piece of equipment.

1.3 DEMOLITION

- A. The contractor shall visit the site prior to bid to determine the extent of work required to complete the project.
- B. Contractor shall coordinate demolition with owner. All equipment shall be salvaged for owner. Locate equipment as directed by owner. All equipment and materials not salvaged by the owner shall be removed from the site and discarded at the contractors expense.
- C. Contractor shall coordinate all work with general contractor and phase work as required by project.
- D. All equipment piping, etc. required to be removed to accommodate the modifications shall be removed.
- E. Contractor shall maintain services to existing facilities which shall remain during and after construction is complete.
- F. Contractor shall coordinate any shutdown of services with the owner. It is intended that the existing buildings will remain occupied during construction. Contractor shall schedule shut down of services with the owner in order to prevent disruption of building occupancy.
- G. Contractor shall be responsible for draining down of existing systems to complete demolition. All work shall be scheduled with the owner. Contractor shall also be responsible for refilling system and removing all air in order to return the systems to proper operating conditions.
- H. All shutdown of services shall be done at night during a time period approved by owner. The systems shall be required to be back up and running each morning unless otherwise approved by the owner.

1.4 GROUNDS AND CHASES

- A. This Contractor shall see that all required chases, grounds, holes and accessories necessary for the installation of his work are properly built in as the work progresses; otherwise, he shall bear the cost of providing them.

1.5 CUTTING AND PATCHING

- A. Initial cutting and patching shall be the responsibility of the General Contractor, with the Mechanical Contractor being responsible for laying out and marking any and all holes required for the reception of his work. No structural beams or joists shall be cut or thimble without first receiving the approval of the Architect. After initial surfacing has been done, any further cutting, patching and painting shall be done at this Contractor's expense.

1.6 FILL AND CHARGES FOR EQUIPMENT

- A. Fill and charge with materials or chemicals all those devices or equipment as required to comply with the manufacturer's guarantee or as required for proper operation of the equipment.

1.7 BIDDING REQUIREMENTS AND RESPONSIBILITIES

- A. Prime bidder is responsible for all work, of all trades and sub-contractors bidding this project. It is the prime bidder's responsibility, prior to submitting a bid to ensure that sub-contractors coordinate all aspects of the work between trades, sub-contractors, etc. to the fullest extent possible.
- B. Prime bidder shall ensure that all sub-contractors, suppliers, equipment vendors, etc., obtain all necessary and pertinent contract document information pertaining to their work prior to the submission of a bid. Contractor shall realize that different sub-contractors may furnish equipment, accessories, devices, etc. necessary for a complete and working installation, that require provision of services by another sub-contractor or trade.
- C. Bidders of all or any portions of this section or division are required to review all contract documents including but not limited to Architectural drawings, Structural drawings, Mechanical drawings, Plumbing drawings, Electrical drawings, etc. to coordinate requirements and responsibilities with and through prime bidder.
- D. Bidders of all or any portions of this section or division, by furnishing a bid on a portion of the prime contract are indicating that they have received all contract documents and coordinated services provided under their portion of the work with the prime bidder; they are indicating that they have expressed any pertinent questions (which would result from a detailed, thorough review of the entire set of contract documents) to the prime bidder in accordance with Division 0 & 01 requirements, prior to bidding.
- E. All timely, pertinent, questions provided in writing prior to bids, in accordance with Division 0 & 01 requirements, will be clarified, defined, or otherwise explained in a written addendum and/or addendums prior to bids, in accordance with Division 0 & 01 requirements.

- F. It is not the intention of these contract documents to leave any issue relating to coordination between trades or sub-contractors vaguely defined. The intention is to define all issues, coordination matters, equipment requirements, sizes, routing, etc. to the satisfaction of the prime bidder, prior to receipt of bids.
- G. Bidders of all or any portions of this section or division, by virtue of the submission of a bid to the prime bidder, are indicating that they have reviewed the entire set of contract documents with due diligence and regard for the Owner's desire for a comprehensive and complete bid proposal; that they have expressed all concerns or questions requiring clarification on matters of coordination between trades and/or sub-contractors; that they have expressed any such concerns or questions in writing in accordance with Division 0 & 01 requirements.
- H. Prime bidders, by submission of a comprehensive bid on the project are indicating that the subcontractors selected in their bid have complied with all Division 0 & 01 requirements, that they have indicated in writing, prior to bidding, all questions or concerns requiring clarification and/or explanation and have documented any and all specific exclusions involving work that would generally be considered to be work of their trade. The prime bidder shall coordinate all work so that anything excluded by the bidder of all or any portions of this section or division, have been addressed prior to bids in one of the following manners:
 - 1. The work has been confirmed, by the prime bidder, to be work of another trade or subcontractor (whose proposal is also being accepted).
 - 2. Clarification of the matter has been made through the prime design professional via written addendum and is clearly and mutually understood by the prime bidder and the party raising the issue/question, or seeking clarification.
 - 3. The work has been accepted as the responsibility of the prime contractor directly.

1.8 MATERIAL AND EQUIPMENT

- A. The term "provide" when used in the Contract Documents includes all items necessary for the proper execution and completion of the Work.
- B. Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgement of the Architect expressed in writing is equal to that specified.
- C. Coordinate and properly relate all Work of this Division to building structure and work of all other trades.

- D. Visit premises and become thoroughly familiar with existing conditions; verify all dimensions in field. Advise Architect of any discrepancies prior to Bid Date in accordance with Division 0.
- E. Do not rough-in for any item or equipment furnished by others or noted "Not in Contract" (NIC), without first receiving rough-in information from physically examining the existing equipment, receiving specific cut sheet information from the Owner's representative, other trades and/or Architect. Rough-in services for "NIC" equipment as required, as the work progresses.
- F. Provide storage and protection for all equipment and materials in accordance with requirements of Division 0 & 01. Replace any equipment and materials damaged by improper handling, storage, or protection, at no additional cost to Owner.
- G. Keep premises clean in accordance with requirements of Division 0 & 01.

1.9 SUBSTITUTIONS

- A. Substitutions are only allowed by approval of the Architect prior to Bid Date as stipulated in Division 0 and/or Division 0 & 01.
- B. Design of systems is based on specific equipment. If the use of other manufacturer's equipment, even though approved by Architect, involves additional cost due to space requirements, foundation requirements, increased mechanical or electrical services, the cost of such extra work shall be borne by manufacturer of substituted equipment. Even though a manufacturer's name appears in the Contract Documents as having acceptable equipment, their equipment with different model numbers shall be classified as being a substitute to the equipment originally designed for and named in the Contract Documents. Substitute equipment, materials, etc., will not be allowed to deviate from Contract Document requirements. Furnish all options specified or reasonably implied from the contract documents. Specifically identify any variance in regard to submittal versus specified performance on the cover sheet of each submittal.

1.10 VALUE ENGINEERING (V/E):

- A. While it may be in the project Owner's interest to consider the first cost money saving that may be generated via alternatives and options generated via participation in Value Engineering, Division 22 contractor shall realize that substantive offers of Value Engineering (V/E), if accepted by the Owner, constitute a design-build agreement (offer and acceptance) with the owner, and drastically change the design concept of the project, as developed by the Professional of Record identified on the Contract Documents.
- B. Should contractor offer, and the owner accept value engineering options that alter aspects of the system design, equipment, performance and/or performance verification or monitoring of respective systems, Division 22 contractor shall provide duly licensed

professional engineering consultants working on behalf of the Division 22 contractor (including sub-contractors and equipment vendors/manufacturers) to review, approve and take professional responsibility for performance and suitability of V/E hybrid systems, materials or operational changes related to respective V/E items. The Division 22 contractor's licensed professional engineering consultants and the Division 22 contractor assume any and all responsibility for the design and suitability in terms of performance, of hybrid systems installed, as Division 22 contractor's Professional of Record, absolving the original project Professional of Record (identified on the original Contract Documents, released for the original project Bid/Negotiation) from responsibility for the V/E hybrid systems portion of the work.

- C. Division 22 contractor, via the offer and acceptance of value engineering items on the project agrees to provide professional engineering design services and take full and complete responsibility for the hybrid design. Further, the Division 22 contractor's (V/E Items) professional of record (either employees, or independent consultants to the Division 22 contractor) through the offer and acceptance of V/E items, agree to indemnify and hold harmless the project owner, the owner's original A/E team (Professional of Record on behalf of the owner for the original Contract Documents) their heirs and assigns in regard to the V/E changes and their impact on the Division 22 systems altered, affected or modified, in whole or in part. The Professional of Record shown on the original Contract Documents in regard to the systems altered, adjusted, revised, modified or otherwise affected by the value engineering items implemented, shall be absolved of design responsibility as a result of implementation of V/E items, and their original use of Engineering Seals used for original Contract Documents, shall not apply.

1.11 DRAWINGS AND SPECIFICATIONS

- A. The specific intent of these Contract Documents is to provide the various systems, equipment, etc. to the Owner complete and in a thoroughly calibrated functional condition.
- B. The Drawings shall not be construed as shop drawings. In the event of a possible interference with piping or equipment of another trade, items requiring set grade and elevations shall have precedence over other items. Should any major interference develop, immediately notify the Architect.
- C. In laying out Work, refer to mechanical, electrical, structural, and architectural drawings at all times in order to avoid interference and undue delays in the progress of the Work.

1.12 CODES AND REGULATIONS

- A. Work shall be in full accord with the most stringent interpretation of the State Sanitary Code, local ordinances, building codes, and other applicable national, local, and state regulations.

- B. Equipment shall conform to requirements and recommendations of the National bureau of Fire Underwriters and National Fire Protection Association (NFPA).
- C. Items provided under this Division shall comply with the American National Standards Institute (ANSI) "Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People," ANSI A 117.1
- D. In the possible event of conflict between codes or regulations and Contract Documents, the most stringent interpretation of either shall govern (provided if exceeds the requirements of other codes. In the event of an irreconcilable difference between codes or regulations notify the Architect/Engineer immediately.
- E. In addition to the codes heretofore mentioned, all mechanical work and equipment shall conform to the applicable portions of the following specifications, codes and/or regulations:
 - 1. National Electrical Code (NEC)
 - 2. National Fire Protection Association (NFPA)
 - 3. American Society of Mechanical Engineers (ASME)
 - 4. American Gas Association(AGA)
 - 5. Underwriters Laboratories (UL)
- F. All materials, equipment and accessories installed under this Contract shall conform to all rules, codes, etc. as recommended by National Associations governing the manufacturer, rating and testing of such materials, equipment and accessories. All materials shall be new and of the best quality and first class in every respect. Whenever directed by the Architect, the Contractor shall submit a sample for approval before proceeding.
- G. Where laws or local regulations provide that certain accessories such as gauges, thermometers, relief valves and parts be installed on equipment, it shall be understood that such equipment be furnished complete with the necessary accessories, whether or not called for in these Specifications.
- H. All unfired and fired pressure vessels shall be built in accordance with the A.S.M.E. Code and so stamped. Furnish shop certificates for each vessel. Contractor shall provide and pay for first operating certificate as per State Fire Marshal Regulations.

1.13 FEES, PERMITS, AND TAXES

- A. Obtain and pay for permits required for the Work of this Division. Pay fees in connection therewith, including necessary inspection fees.
- B. Pay any and taxes levied for Work of this Division, including municipal and/or state sales tax where applicable.

- C. All permits, fees, certificates, etc. for the installation, inspections, plan review, service connections locations, and/or construction of the work which are required by any authority and/or agencies having jurisdiction, shall be obtained and paid for by the Contractor.
- D. The Contractor shall make all tests required by the Architect, Engineer or other governing authorities at no additional cost to the Owner.
- E. The Contractor shall notify the Architect and local governing authorities before any tests are made, and the tests are not to be drawn off a line covered or insulated until examined

and approved by the authorities. In event defects are found, these shall be corrected and the work shall be retested.
- F. Prior to requesting final inspection by the Architect, the Contractor shall have a complete coordination and adjustment meeting of all of his sub-contractors directly responsible for the operation of any portion of the system. At the time of this meeting, each and every sequence of operation shall be checked to assure proper operation. Notify the Architect in writing ten (10) days prior to this meeting, instructing him of the time, date and whom you are requesting to be present.
- G. This project shall not be accepted until the above provisions are met to the satisfaction of the Architect.

1.14 MANUFACTURER'S DIRECTIONS

- A. Install and operate equipment and material in strict accord with manufacturer's installation and operating instructions. The manufacturer's instructions shall become part of the Contract Documents and shall supplement Drawings and Specifications.

1.15 SUBMITTAL DATA

- A. Submit shop drawings, project data, and samples in accordance with requirements of Division 0/and or Division 0 & 01.
- B. Shop drawings shall consist of published ratings or capacity data, detailed construction drawings for fabricated items, wiring and control diagrams, performance curves, installation instructions, manufacturer's installation drawings, and other pertinent data. Submit drawings showing revisions to equipment layouts due to use of alternate or substitute equipment.
- C. Where approved manufacturers and suppliers of equipment, materials, etc. are unable to fully comply with Contract Document requirements, specifically call such deviations to attention of Architect on submittals. Type deviations on a separate sheet; underlined statements or notations on standard brochures, equipment fly sheets, etc. will not be

accepted.

- D. Approval of submittals shall not relieve Contractor from furnishing required quantities and verifying dimensions. In addition, approval shall not waive original intent of Contract Documents.
- E. Failure to obtain written approval of equipment shall be considered sufficient grounds for rejection of said equipment regardless of the stage of completion of the project.

1.16 REVIEW OF MATERIALS:

- A. Whenever manufacturers or trade names are mentioned in these Plans or Specifications, the words "or approved equivalent" shall be assumed to follow whether or not so stated. Manufacturers or trade names are used to establish a standard of quality only, and should not be construed to infer a preference. Equivalent products which meet the Architect's approval will be accepted; however, these products must be submitted to the Architect a minimum of ten (10) days prior to the Bid Date.
- B. Submission shall include the manufacturer's name, model number, rating table and construction features.
- C. Upon receipt and checking of this submittal, the Architect will issue an addendum listing items which are approved as equivalent to those specified. THE CONTRACTOR SHALL BASE HIS BID SOLELY ON THOSE ITEMS SPECIFIED OR INCLUDED IN THE "PRIOR APPROVAL ADDENDUM", AS NO OTHER ITEM WILL BE ACCEPTABLE.
- D. Prior approval of a particular piece of equipment does not mean automatic final acceptance and will not relieve the Contractor of the responsibility of assuring himself that this equipment is in complete accord with the Plans and Specifications and that it will fit into the space provided. Shop drawings must be submitted on all items of equipment for approval as hereinafter specified.
- E. Before proceeding with work and/or within thirty (30) days after the award of the General Contract for this work, the Mechanical Contractor shall furnish to the Architect complete shop and working drawings of such apparatus, equipment, controls, insulation, etc. to be provided in this project. These drawings shall give dimensions, weights, mounting data, performance curves and other pertinent information.
- F. The Architect's approval of shop drawings shall not relieve the Contractor from the responsibility of incorrectly figured dimensions or any other errors which may be contained in these drawings. Any omission from the shop drawings or specifications, even through approved by the Architect, shall not relieve the Contractor from furnishing and erecting same.
- G. Seven (7) sets of shop drawings shall be submitted to the Architect for approval.

These submittals shall be supplied as part of this Contractor's contract. Any drawings not approved shall be resubmitted until they are approved. **SUBMIT ALL SHOP DRAWINGS AT THE SAME TIME. NO SEPARATE ITEMS WILL BE ACCEPTED.**

- H. Submit one (1) sepia with two (2) blue-line prints of all mechanical room layouts showing locations of all equipment, piping, etc. to insure all will fit in space provided. Submit drawings at 1/4" scale.

1.17 PROJECT RECORD DOCUMENTS

- A. Keep Project Record Documents in accordance with requirements of Division 0 & 01.
- B. During construction period, keep accurate records of installations made under this Division, paying particular attention to major interior and exterior underground and concealed piping, ductwork, etc.
- C. The Contractor shall obtain at his cost, two sets of blue-line prints of the original bid documents by the Architect. One set shall be kept on the site with all information as referenced below, and shall update same as the work progresses. The other set will be utilized to record all field changes to a permanent record copy for the Owner.
- D. If the Contractor elects to vary from the Contract Documents and secures prior approval from the Architect for any phase of the work, he shall record in a neat and readable manner, **ALL** such variances on the blue-line print in red. The original blue-lines shall be returned to the Architect for documentation.
- E. All deviations from sizes, locations, and from all other features of the installations shown in the Contract Documents shall be recorded.
- F. In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions and the like, as well as other features of the work which will be concealed underground and/or in the finished building.
- G. Locations of underground work shall be established by dimensions to columns, lines or walls, locating all turns, etc., and by properly referenced centerline or invert elevations and rates of fall.
- H. For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was actually installed. The Architect's/Engineer's decision in this matter will be final.
- I. The following requirements apply to all "As-Built" drawings:
 - 1. They shall be maintained at the Contractor's expense.

2. All such drawings shall be done carefully and neatly, and in a form approved by the Architect/Engineer.
3. Additional drawings shall be provided as necessary for clarifications.
4. These drawings shall be kept up-to-date during the entire course of the work and shall be available upon request for examination by the Architect/Engineer; and when necessary, to establish clearances for other parts of the work.
5. "As-built" drawings shall be returned to the Architect upon completion of the work and are subject to approval of the Architect/Engineer.

1.18 EXCAVATING AND BACKFILLING

- A. Provide excavating and backfilling necessary for Work of this Division. Comply with provisions of Division 2, Site Work, if applicable.
- B. Trenches shall be inspected by Code Authorities and/or Owner's Representative before and after piping is laid. Give Owner's Representative 24-hour notice for each inspection. If any trenches are filled without Owner's Representative inspection and as subsequently found to be deficient, the trenches shall be uncovered, inspected, and then re-filled, if requested by Owner's Representative.
- C. Provide minimum 18 inches of cover or in compliance with local published frost line data (if greater than 18 inches) to finish grades or paving at water piping.
- D. For piping, provide bell holes at trench bottom to assure uniform bearing. Accurately grade trench bottoms by instrument before laying any pipe.
- E. Protect and maintain trenches in dry condition until piping has been inspected and approved. Immediately after approval, backfill trenches in tamped layers.
- F. Compact fill to satisfaction of Architect and/or Owner's Representative.

1.19 CUTTING AND PATCHING

- A. Comply with requirements of Division 0 and Division 0 & 01 regarding cutting and patching. Locate and timely install sleeves as required to minimize cutting and patching.
- B. Cutting, fitting, repairing, patching, and finishing of Work shall be done by craftsmen skilled in their respective trades. Where cutting is required, cut in such a manner as not to weaken structure, partitions, or floors. Holes required to be cut must be cut or drilled without breaking out around the holes. Where patching is necessary in finished areas of the building, the Architect will determine the extent of such patching and refinishing.
- C. Repairing Roadways and Walks: Coordinate all roadway work with authorities having jurisdiction. Cut and/or bore under roadways for connection of utilities as required. Coordinate work through General Contractor. Where this contractor cuts or breaks

roadways or walks to lay the piping, he shall repair or replace these sections to match existing, unless specifically identified as the responsibility of others.

1.20 PAINTING

- A. Painting shall be provided by General Contractor's painting sub-contractor, unless specified otherwise. Leave exposed piping, materials, and equipment clean and free of rust, grease, dirt, etc. before and after painting.
- B. Factory finished equipment, fixtures, and materials which are marred, chipped, scratched, or otherwise unacceptable shall be repaired or replaced under this Division to Architect satisfaction, at no additions cost to Owner.
- C. Coordinate all painting requirements with prime bidder prior to bids.
- D. Paint all exposed piping inside and outside of building. Label all piping after painting as required. Utilize industry standard paint colors for respective system unless directed otherwise by Architect. Review proposed color scheme with Architect/Engineer prior to ordering materials.
- E. All piping shall be color coded per the following:
 - 1. Domestic Cold Water Piping Yellow
 - 2. Domestic Hot Water Piping Blue

1.21 CLEANING AND ADJUSTING:

- A. Upon completion of his work, the Contractor shall clean and adjust all equipment, controls, valves, etc.; clean all piping, ductwork, etc.; and leave the entire installation in good working order.

1.22 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Provide the Owner with three (3) copies of printed instructions indicating various pieces of equipment by name and model number, complete with parts lists, maintenance and repair instructions and test and balance report.

COPIES OF SHOP DRAWINGS WILL NOT BE ACCEPTABLE AS OPERATION AND MAINTENANCE INSTRUCTIONS.

- B. This information shall be bound in plastic hardbound notebooks with the job name, Architect and Engineer names permanently embossed on the cover. Rigid board dividers with labeled tabs shall be provided for different pieces of equipment. Submit manuals to the Architect for approval.

- C. In addition to the operation and maintenance brochure, the Contractor shall provide a separate brochure which shall include registered warranty certificates on all equipment, especially any pieces of equipment which carry warranties exceeding one (1) year.
- D. The operation and maintenance brochure shall be furnished with a detailed list of all equipment furnished to the project, including the serial number and all pertinent nameplate data such as voltage, amperage draw, recommended fuse size, rpm, etc. The Contractor shall include this data on each piece of equipment furnished under this contract.

1.23 GUARANTEE

- A. The Contractor shall guarantee all materials, equipment and workmanship for a period of one (1) year from the date of final acceptance of the project. This guarantee shall include furnishing of all labor and material necessary to make any repairs, adjustments or replacement of any equipment, parts, etc. necessary to restore the project to first class condition. This guarantee shall exclude only the changing or cleaning of filters. Warranties exceeding one (1) year are hereinafter specified with individual pieces of equipment.
- B. If the Contractor's office is in excess of a fifty (50) mile radius of the project, he shall appoint a local qualified contractor to perform any emergency repairs or adjustments required during the guarantee period. The name of the contractor appointed to provide emergency services shall be submitted to the Architect for his approval.

1.24 LOCAL CONDITIONS

- A. The location and elevation of all utility services is based on available surveys and utility maps and are reasonably accurate; however, these shall serve as a general guide only, and the Contractor shall visit the site and verify the location and elevation of all services to his satisfaction in order to determine the amount of work required for the execution of the Contract.
- B. The Contractor shall contact the various utility companies, determine the extent of their requirements and he shall include in his bid all lawful fees and payments required by these companies for complete connection and services to the building, including meters, connection charges, street patching, extensions from meters to main, etc.
- C. In case major changes are required, this fact, together with the reasons therefor, shall be submitted to the Architect, in writing, not less than seven (7) days before the date of bidding. Failure to comply with this requirement will make the Contractor liable for any changes, additions and expenses necessary for the successful completion of the project.

1.25 MINOR DEVIATIONS

- A. Plans and detail sketches are submitted to limit, explain and define conditions, specified requirements, pipe sizes and manner of erecting work. Structural or other conditions may require certain modifications from the manner of installation shown, and such deviations are permissible and shall be made as required. However, specified sizes and requirements necessary for satisfactory operation shall remain unchanged. It may be necessary to shift ducts or pipes, or to change the shape of ducts, and these changes shall be made as required. All such changes shall be referred to the Architect for approval before proceeding. Extra charges shall not be allowed for these changes.
- B. The Contractor shall realize that the drawings could delve into every step, sequence or operation necessary for the completion of the project, without drawing on the Contractor's experience or ingenuity. However, only typical details are shown on the Plans. In cases where the Contractor is not certain about the method of installation of his work, he shall ask for details. Lack of details will not be an excuse for improper installation.
- C. In general, the drawings are diagrammatic and the Contractor shall install his work in a manner so that interferences between the various trades are avoided. In cases where interferences do occur, the Architect is to state which item was first installed.

1.26 VALVE TAGS

- A. Secure metal tags to all valves. Labeling on all valve tags shall include type of system the valve controls and the area of building, zone, or equipment number affected by valve operation. Tag shall be 2" minimum diameter brass, engraved with code number, service and size. A framed list of the valves, giving manufacturer's name, model number, type and location shall be mounted in the main basement equipment room.

1.27 LABELING MECHANICAL EQUIPMENT

- A. All equipment furnished under Division 0 & 01 of contract documents shall be labeled with permanent laminated plate secured to equipment. Units shall be labeled as indicated on plans and schedules.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 220000

PART 1 - GENERAL

1.1 SANITARY SEWER WASTE AND SANITARY VENT PIPE

- A. Sanitary Sewer Waste and Vent Lines (concealed and below grade and above slab): These shall be Schedule 40 plastic PVC sewer pipe and fittings with solvent joints.
- B. Sanitary sewer pipe penetrating concrete slabs shall be wrapped with Virginia Chemical K-501 or equal foam insulation tape.
- C. Provide tracer wire for all PVC piping below grade.



1.2 DOMESTIC COLD AND HOT WATER LINES

- A. All such lines shall be Government Type "L", hard copper water tubing of standard weight and thickness as made by Mueller, Chase, Anaconda or equivalent, unless indicted otherwise. Use 95-5 solder on all piping above slab. Use Silfos 1000° solder on all piping beneath the slab.
- B. Domestic water lines shall be insulated at all penetrations through slab per insulation.
- C. Domestic cold water piping within 5'-0" of building may be Schedule 40 PVC plastic pipe with solvent welded joints, or slip joint fittings with EPDM seals. Provide thrust blocks all at changes in direction. Installation shall be in accordance with manufacturer's recommendations.

1.3 WATER HEATER RELIEF LINES, EQUIPMENT DRAIN LINES

- A. Equipment Emergency Drain Pan Lines and Condensate Drain Lines: These shall be Government Type "L" hard copper.

1.4 TRAP PRIMER LINES

- A. All such lines shall be Type "L" soft copper, without joints.

1.5 PIPE SPECIALTIES

- A. Dielectric unions shall be used between copper and iron pipe.

1.6 PIPE HANGERS AND SUPPORTS

- A. This Contractor shall furnish and install all foundations and supports required for his equipment unless indicated otherwise on the Drawings.
- B. This Contractor shall furnish and install all escutcheons, inserts, thimbles, hangers, etc. required for the proper support and installation of his equipment and piping and he shall cooperate with other trades in locating and placing these items.

1.7 PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH WALLS, FLOORS, BEAMS, ETC.

- A. Sleeves passing through structural members or concrete footings shall be of cast iron or Schedule 40 steel pipe. Sleeves passing through nonstructural walls or floors shall be of 26 gauge galvanized iron. Joints between sleeves and pipes passing through floors shall be made weather tight with plastic materials. Where pipes pass through water proofing membrane, flashing sleeves shall be installed.
- B. Provide Grinnel, Fee & Mason, or equivalent malleable iron split ring hangers with rod supports throughout. **STRAP HANGERS OR WIRE WILL NOT BE ACCEPTED.**
- C. Maximum spacing of hangers for cast iron pipes shall be 5 ft.; for other than soil, use 10 ft.
- D. Provide galvanized iron shields between hangers and pipe covering.
- E. Provide Grinnel, Fee & Mason, Crane or equivalent heavy steel riser clamps on vertical risers at floors to support pipes.
- F. Provide producer speciality, Jones Manufacturing or equal chrome plated brass escutcheons wherever pipes pass through floors, walls or ceilings in exposed or finished areas.
- G. All piping projecting from chases shall be rigidly supported in the wall or chase. Loosely supported fixtures or accessories will not be accepted.

1.8 VALVES AND UNIONS

- A. Furnish and install all valves, unions, stops, connections, etc. shown on plans and necessary to make a complete system in working order. Provide valves on inlet and outlet of all equipment and fixtures and on branch lines to fixtures or groups of fixtures.

- B. Ball Valves, 3" and smaller, rated for 150 PSI saturated steam pressure, 600 PSI WOG pressure; shall be 2-piece construction, bronze body conforming to ASTM B-62, conventional port, chrome-plated brass ball, replaceable TFE seats and seals, blow-out proof stem, and vinyl-covered steel handle. Provide solder ends for condenser water, chilled water and domestic hot and cold water service of NIBCO Design S-580-70, Milwaukee BA-150-S or equal, threaded ends of heating hot water and low pressure steam of NIBCO Design T-580-70, Milwaukee BA-100-S or equal. For chilled water insulated piping systems, provide ball valves with extended stem, insulated handle with protective thermal barrier sleeve to prevent condensate moisture drip and pipe insulation deterioration. At Contractor's option, Victaulic Style 722 or 721 ball valves may be used.
- C. All valves, unions, etc. where pipe is chrome plated shall have similar finish. All exposed supplies to plumbing fixtures shall be chrome plated.
- D. Domestic water valves (below grade): M & H AWWA Series C-509 resilient gate valve with low torque operation, positive shut-off, O- Ring seals, full epoxy coating and square valve stem end. Provide two (2) adjustable "TEE" handle valve wrenches to be turned over to the owner after construction is complete.
- E. Gate Valves, 3 Inch and Larger: MSS SP-70; Class 125 iron body, bronze mounted, with body and bonnet conforming to ASTM A 126 Class B; with flanged ends "Teflon" impregnated packing, and two-piece backing bland assembly.
- F. Globe Valves, 2-Inch and Smaller: NSS SP-80; Class 125; body and screwed bonnet of ASTM B 62 cast bronze; with threaded or solder ends, brass or replaceable composition disc, copper-silicon alloy stem, brass packing gland, "Teflon" impregnated packing, and malleable iron handwheel. Provide Class 150 valves meeting the above where system pressure requires.
- G. Butterfly Valves, 2-1/2-Inch and Larger: MSS SP-67; rated at 200 psi; cast-iron body conforming to ASTM A 126, Class B. Provide valves with field replaceable EPDM sleeve, nickel-plated ductile iron disc (except aluminum bronze disc for valves installed in condenser water piping), stainless steel stem, and EPDM O-ring stem seals. Provide lever operators with locks for sizes 2 through 6 inches and gear operators with position indicator for sizes 8 through 24 inches. Provide "Non-Leakage" full threaded lug flange body type capable of being broken down at one side of the valve remaining closed. Drill and tap valves on dead-end service or requiring additional body strength. At Contractor's option Victaulic 300 BFV for grooved piping systems maybe used.
- H. Swing Check Valves, 2 Inch-and Smaller: MSS SP-80; Class 125 cast-bronze body and cap conforming to ASTM B 62; with horizontal swing, Y-pattern, and bronze disc; and having threaded or solder ends. Provide valves capable of being reground while the valve remains in the line. Provide Class 150 valves

meeting the above specifications, with threaded end connections, where system pressure requires or where Class 125 valves are not available.

- I. Swing Check Valves, 2-1/2-Inch and Larger: MSS SP-71; Class 125 (Class 175 FM approved for fire protection piping system), cast iron body and bolted cap conforming to ASTM A 126, Class B; horizontal swing, and bronze disc or cast-iron disc with bronze disc ring; and flanged ends. Provide valves capable of being refitted while the valve remains in the line. At Contractor's option, Victaulic Style 716 for grooved piping systems may be used.
- J. Wafer Check Valves: Class 2500, cast-iron body; with replaceable bronze seat, and non-slam design lapped and balanced twin bronze flappers and stainless steel trim and torsion spring. Provide valves designed to open and close at approximately one foot differential pressure.
- K. Lift Check Valves, 2 Inch-and Smaller: Class 125; cast-bronze body and cap conforming to ASTM B 62; horizontal or angle pattern, lift-type valve, with stainless steel spring, bronze disc holder with renewable "Teflon" disc, and threaded ends. Provide valves capable of being refitted and grounded while the valve remains in the line.
- L. Select Valves with the following ends or types of pipe/tube connections:
 - 1. Copper Tube Size 2 Inch and Smaller: Solder ends, except provide threaded ends for heating hot water.

1.9 PIPE MARKERS

- A. Provide pipe markers and directional arrows on all piping in building and on both sides of all valves located above ceiling. Markers shall be as manufactured by W.H. Bradley Co., or equal. All letters shall be color-coded and sized as recommended by OSHA. Samples of the type of letters to be used shall be submitted with shop drawings.
- B. The following pipe and valves shall be identified: Domestic cold, hot water, natural gas pipe and valves throughout project.
- C. Pipe markers with arrows shall indicate lines content and shall be located 20 feet on center and at each change of direction of line. Identification bands shall be color coded to match pipe markers and shall be provided 10 feet on center. Pipe identification markers shall be taped at each end and shall be taped around the entire circumference of pipe.

1.10 PIPING SYSTEMS GENERALLY

- A. Arrange, install piping approximately as indicated, straight, plumb and as direct as possible; form right angles, or parallel lines with building walls. The most practical appearance of piping runs is required. Keep pipes close to walls, partitions, ceilings; off-set only where necessary to follow walls as directed.
- B. Before installing piping, check plumbing and HVAC drawings with architectural, mechanical, structural, electrical drawings; make accurate layout of plumbing and HVAC piping. Where interferences may appear and departures from indicated arrangements are required, consult with other trades involved; come to agreement as to changed locations and elevations of piping; obtain approval of proposed changes. Note runs of other contractor's piping and large conduits and cooperate to achieve neat appearance.
- C. Unless otherwise indicated, conceal all piping in building construction in finished areas. Install such piping in time so as not to cause delay to work of other trades and to allow ample time for tests and approval; do not cover before approval is obtained.
- D. Locate groups of pipes parallel to each other and building lines; space them at distance to permit access for serving, valves, and to create most practical appearance when racked with conduits, refrigerant, etc., provided by other contractors.
- E. Keep fixture branches concealed to points above floor close to fixtures; expose only as much as necessary for final connection. Rigidly support pipes projecting from walls, chases, etc., in wall or chase to make firm, well-braced installation. Loosely supported pipe or accessory is not acceptable.
- F. Install horizontal piping to coordinate with other trades and install without sags or humps.
- G. Grade inside sewer piping at uniform slope of 1/4 inch per foot, minimum; where this is impossible, maintain slope as directed but in no case less than 1/8 inch per foot. Waste lines 3 inches and smaller must grade at minimum 1/4 inch per foot. See drawings for fall on exterior sewer lines.
- H. Grade other piping as specified under heading or service where used, or as directed.
- I. Keep piping free from scale and dirt, protect open pipe ends whenever work is suspended during construction. To prevent foreign bodies entering and lodging in pipe, use temporary plugs or other approved material.
- J. Where changes in pipe sizes occur, do not bush down; use only reducing fittings. For drainage piping changes in direction, use long sweep where possible; otherwise, short-sweep 1/4 bends or combination Y and 1/8 bends; also Y's in

combination with other bends.

- K. Provide shut off valves at all supply connections to all equipment. Suppliers of equipment shall provide rough-in drawings and this contractor shall fully connect all items, supplying necessary piping and fittings as required, unless otherwise noted individually.
- L. Do not locate valves with stems below horizontal.
- M. Locate valves for easy access and operations. Where concealed, notify General Contractor of exact location in order that he may leave openings for access panels. Provide access panels.
- N. Provide unions, screwed or flanged, where indicated, and in following locations even if not indicated and one inch by-passes around equipment.
- O. All 90 deg changes in direction shall be poured in concrete thrust blocks (4000 PSI concrete).
- P. All straight joints shall be insulated and sealed as per manufacturer standard procedures.
- Q. Complete installation shall be in accordance with manufacturers recommendations.
- R. The Contractor shall exercise care in cleaning joints after making cuts on pipe to prevent pipe particles from entering the system.
- S. Drilled "T" shall be acceptable for use in hard copper pipe. Weld-O-let fittings shall be used in iron pipe.
- T. Provide dielectric unions between copper and iron pipe.
- U. All piping penetrations thru fire and/or smoke rated partitions shall be sealed with 3M fire stop or approved fire rated sealant.

1.11 SHOCK ABSORBERS

- A. All water service to fixtures or groups of fixtures shall have concealed air chambers. Air chambers shall be of the same diameter as the supply or header pipes and 12 inches long on both hot and cold water branches. Locate shock absorbers close to fixture or at end of header.
- B. Shock arresters shall be installed for sterilizer water supplies.

1.12 SLEEVES

- A. Provide sleeves in new construction for all pipes passing through walls, floors, beams, etc. Sleeves passing through structural members shall be of cast iron or Schedule 40 steel pipe. Sleeves passing through non-structural walls or floors shall be of 26 gauge galvanized iron or manufactured plastic sleeves. Joints between sleeves and pipes passing through non-structural walls or floors shall be of 26 gauge galvanized iron or manufactured plastic sleeves. Joints between sleeves and pipes passing through floors shall be made watertight with plastic materials. Where pipes pass through waterproofing membrane, flashing sleeves shall be installed.

1.13 ESCUTCHEONS

- A. Provide escutcheons for all exposed lines passing through floors, walls, and ceilings. They shall be chrome plated brass and shall be of such flange size as to cover necessary penetrating openings.

1.14 FLASHING

- A. Flash all vent penetrations through roof. Extend flashing approximately 10 inches in all directions at base and turn ends down into top of pipe. Off-set vents where necessary to provide 4 feet minimum clearance from other flashing such as outside walls, curbs, etc. Note: All vents shall be 25 feet from fresh air intakes.

1.15 TEST

- A. Make such tests of work as specified, or required by Architect or by State and Municipal Bureaus having jurisdiction, and under their supervision. Perform tests in presence of Architect's representative. Notify Architect two days prior to testing.
- B. Provide apparatus, temporary piping connections, or other requirements necessary for tests. Take precautions to prevent damage to building or contents by tests. Contractor is required to repair and make good at his expense damage so caused.
- C. Correct leaks, defects, or deficiencies discovered as result of tests. Repeat tests until test requirements are fully complied with caulking of pipe joints to remedy leaks is not permitted, except on lead and oakum joints.

1.16 VALVE TAGS

- A. Provide metal valve tags on all valves.
- B. All valve tags shall have identification number. Contractor shall obtain

numbering sequence from owner.

- C. Provide catalog listing of each valve tag number with identification as to type of system valve controls and area of building or equipment affected when valve is closed. Include in an index to other valves required for isolation.
- D. Contractor shall also provide and install on ceiling grid location as directed by owner, white gravoply 1/8" thick, 1" wide length as required for name tag, with colored capital letters as following:
- E. Domestic cold water, and domestic hot water, cut off valves above ceilings - color to be determined by owner during shop drawing stage.

1.17 INSTALLATION OF VALVES

- A. General Application: Use gate ball, and butterfly valves for shut-off duty; globe, ball, and butterfly for throttling duty.
- B. Locate valves for easy access and provide separate support where necessary.
- C. Install valves and unions for each fixture and item of equipment arranged to allow equipment removal without system shutdown. Unions are not required on flanged devices.
- D. Install three-valve bypass around each pressure reducing valve using throttling-type valves.
- E. Install valves in horizontal piping with stem at or above the center of the pipe.
- F. Install valves in a position to allow full stem movement.
- G. All valves, on insulated piping shall be complete with extended lever handle stem.

1.18 ACCESS PANELS

- A. Furnish and install access panels where valves, dampers, control boxes, etc. are concealed in walls, ceilings, floors, or otherwise inaccessible or where specifically called for on plans. Panels shall be Milcor Style DW, or Bar-Co. Model 500, J-L Industries Model WB, or equal sized as required and furnished

with prime coat finish.

END OF SECTION 22 05 00

PART 1 - GENERAL

1.1 GENERAL

- A. Pipe insulation shall not begin until all work has been tested and found to be tight. All insulation adhesives, sealers, tapes and mastic shall meet the latest NFPA requirements and shall meet 25/50/50 flame spread and smoke developed ratings.
- B. All insulation shall be installed in strict accordance with the manufacturer's recommendations.
- C. All pipe insulation exterior of building shall be banded with aluminum bands, three to a section and with one band on each side of each fitting, valve, etc.
- D. Insulation shall be continuous through walls and ceilings.
- E. All valves, strainers, etc. shall be insulated the same as its adjacent piping and the covering shall extend all the way up to the equipment.
- F. USE HIGH DENSITY INSULATION INSERTS AT HANGERS ON ALL PIPING 1-1/2" AND ABOVE TO PREVENT CRUSHING OF INSULATION.



1.2 THERMAL INSULATION: After all work has been tested and approved, insulate as follows:

- A. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

1.3 ROOF DRAIN PIPING:

- A. Roof drain bodies and roof drain piping, both horizontal and vertical, shall be wrapped on outside with 2-1/8" thick 3/4# density fiberglass insulation with aluminum foil vapor barrier. Insulation shall be taped at all joints and installed per the manufacturer's recommendations.

1.4 DOMESTIC WATER PIPING:

- A. Cover all domestic cold and hot water piping, valves and fittings above slab with 1" thick, high density fiberglass insulation with Universal Fire Retardant Jacket, Owens/Corning "25 ASJ/SSL", Knauf ASJ-SSL, or equal. All laps are to be sealed and stapled in place. Fittings are to be mitered segments of insulation held in place with white vapor barrier tape for concealed areas and Zeston 25/50 PVC, Knauf 25/50 rated PVC, pre-molded insulated fitting covers in exposed areas.

- B. All water lines on the outside of the building exposed to the weather shall be covered with 0.160 smooth aluminum jacket and elbows in addition to fiberglass insulation.
- C. Domestic cold and hot water lines run below slab within building shall be insulated with 1/2" thick closed cell tube insulation. Apply two (2) coats of mastic on insulation.

1.5 INSULATION THROUGH HANGERS AND SLEEVES

- A. The insulation shall be continuous through pipe hangers and pipe sleeves. At hangers where the pipe is supported by insulation, provide a galvanized iron protection shield. Provide pipes 2-inch i.p.s. and larger with insulation inserts at points of hanger supports. The inserts shall be of calcium silicate, cellular glass, prestressed molded glass fiber of minimum 13-pound density, or other approval material of the same thickness as adjacent insulation and not less than 13-pound density. The inserts shall have sufficient compression strength to adequately support the pipe without compressing the inserts to a thickness less than the adjacent insulation. Inserts shall be 180 degrees and not less than the length of the protection shield. Vapor barrier facing of the insert shall be the same as the facing on the adjacent insulation. Where copper clad hanger are used on domestic copper pipe, insulation may cover pipe and hanger.

1.6 CONDENSATE WASTE LINES & P-TRAPS

- A. P-traps and drain lines receiving HVAC condensate shall be insulated with 2-1/8" thick 3/4 # density fiberglass ductwrap insulation with aluminum foil vapor barrier. Insulation shall be sealed at all seams and joints.

END OF SECTION 22 07 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 01 as appropriate, apply to the Work specified in this Section.
- B. Refer to all Division as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding mechanical work.



1.2 SCOPE OF WORK

- A. Furnish all labor and material necessary to provide and install the complete mechanical portion of this Contract, including plumbing, air conditioning, heating and ventilating systems as called for herein and on accompanying drawings. Parts of the mechanical division may be bid separately or in combination, at the Contractor's option; however, it shall be the responsibility of the General Contractor to assure himself that all items covered in the Mechanical Division have been included if he chooses to accept separate bids.
- B. It is the intent of this specification that all Division 23 materials with temperatures below ambient conditions or conveying any fluid/gas at temperatures below 70 deg. F be insulated to completely eliminate the potential for condensation. Unless specified elsewhere in these specifications, for materials that do not require access, insulate with 2-1/8" thick 3/4# density fiberglass duct wrap insulation with foil face (seal all joints air and water tight). For materials requiring occasional access, use 2" thick closed cell rubberized insulation with re-sealable fabric joints (hook and loop type).
- C. Contractor shall refer to the Architectural and Structural drawings and install equipment, piping, etc. to meet building and space requirements. No equipment shall be bid on or submitted for approval if it will not fit in the space provided.
- D. It is the intention of these specifications that all mechanical systems shall be furnished complete with all necessary valves, controls, insulation, piping devices, equipment, etc. necessary to provide a satisfactory installation that is complete and in good working order. The HVAC system shall ensure that under all circumstances, the building shall be kept at temperatures and indoor space relative humidities that when compared to outside temperatures and relative humidities protect building finishes installed under this contract and/or existing floor, wall and ceiling finishes within the building from damage due to excessive temperature or humidity. HVAC system shall ensure that building remain under a slight positive pressure and shall alarm in the event of a negative pressure condition. In addition Contractor shall provide training to Owner in

regard to the need for space temperature and humidity control whenever the outdoor dew point (wetbulb temperature) exceed 62.5 deg. F and freeze protection procedures whenever the outdoor temperature (drybulb temperature) drops below 32 deg. F. Contractor shall obtain written sign-off on the part of the Owner to the receipt of all training including the above and all required training referenced hereafter, throughout these specifications. Failure to obtain this sign-off shall be constructed as evidence that proper training was not given.

- E. Contractor shall visit the site and acquaint himself thoroughly with all existing facilities and conditions which would affect his portion of the work. Failure to do so shall not relieve the Contractor from the responsibility of installing his work to meet the conditions.
- F. This Contractor shall protect the entire system and all parts thereof from injury throughout the project and up to acceptance of the work. Failure to do so shall be sufficient cause for the Architect to reject any piece of equipment.

1.3 DEMOLITION

- A. The contractor shall visit the site prior to bid to determine the extent of work required to complete the project.
- B. Contractor shall coordinate demolition with owner. All equipment shall be salvaged for owner. Locate equipment as directed by owner. All equipment and materials not salvaged by the owner shall be removed from the site and discarded at the contractors expense.
- C. Contractor shall coordinate all work with general contractor and phase work as required by project.
- D. All equipment piping, etc. required to be removed to accommodate the modifications shall be removed.
- E. Contractor shall maintain services to existing facilities which shall remain during and after construction is complete.
- F. Contractor shall coordinate any shutdown of services with the owner. It is intended that the existing buildings will remain occupied during construction. Contractor shall schedule shut down of services with the owner in order to prevent disruption of building occupancy.
- G. Contractor shall be responsible for draining down of existing systems to complete demolition. All work shall be scheduled with the owner. Contractor shall also be responsible for refilling system and removing all air in order to return the systems to proper operating conditions.

- H. All shutdown of services shall be done at night during a time period approved by owner. The systems shall be required to be back up and running each morning unless otherwise approved by the owner.

1.4 GROUNDS AND CHASES

- A. This Contractor shall see that all required chases, grounds, holes and accessories necessary for the installation of his work are properly built in as the work progresses; otherwise, he shall bear the cost of providing them.

1.5 CUTTING AND PATCHING

- A. Initial cutting and patching shall be the responsibility of the General Contractor, with the Mechanical Contractor being responsible for laying out and marking any and all holes required for the reception of his work. No structural beams or joists shall be cut or thimble without first receiving the approval of the Architect. After initial surfacing has been done, any further cutting, patching and painting shall be done at this Contractor's expense.

1.6 FILL AND CHARGES FOR EQUIPMENT

- A. Fill and charge with materials or chemicals all those devices or equipment as required to comply with the manufacturer's guarantee or as required for proper operation of the equipment.

1.7 BIDDING REQUIREMENTS AND RESPONSIBILITIES

- A. Prime bidder is responsible for all work, of all trades and sub-contractors bidding this project. It is the prime bidder's responsibility, prior to submitting a bid to ensure that sub-contractors coordinate all aspects of the work between trades, sub-contractors, etc. to the fullest extent possible.
- B. Prime bidder shall ensure that all sub-contractors, suppliers, equipment vendors, etc., obtain all necessary and pertinent contract document information pertaining to their work prior to the submission of a bid. Contractor shall realize that different sub-contractors may furnish equipment, accessories, devices, etc. necessary for a complete and working installation, that require provision of services by another sub-contractor or trade.
- C. Bidders of all or any portions of this section or division are required to review all contract documents including but not limited to Architectural drawings, Structural drawings, Mechanical drawings, Plumbing drawings, Electrical drawings, etc. to coordinate requirements and responsibilities with and through prime bidder.
- D. Bidders of all or any portions of this section or division, by furnishing a bid on a portion of the prime contract are indicating that they have received all contract documents and

coordinated services provided under their portion of the work with the prime bidder; they are indicating that they have expressed any pertinent questions (which would result from a detailed, thorough review of the entire set of contract documents) to the prime bidder in accordance with Division 0 & 01 requirements, prior to bidding.

- E. All timely, pertinent, questions provided in writing prior to bids, in accordance with Division 0 & 01 requirements, will be clarified, defined, or otherwise explained in a written addendum and/or addendums prior to bids, in accordance in Division 0 & 01 requirements.
- F. It is not the intention of these contract documents to leave any issue relating to coordination between trades or sub-contractors vaguely defined. The intention is to define all issues, coordination matters, equipment requirements, sizes, routing, etc. to the satisfaction of the prime bidder, prior to receipt of bids.
- G. Bidders of all or any portions of this section or division, by virtue of the submission of a bid to the prime bidder, are indicating that they have reviewed the entire set of contract documents with due diligence and regard for the Owner's desire for a comprehensive and complete bid proposal; that they have expressed all concerns or questions requiring clarification on matters of coordination between trades and/or sub-contractors; that they have expressed any such concerns or questions in writing in accordance with Division 0 & 01 requirements.
- H. Prime bidders, by submission of a comprehensive bid on the project are indicating that the subcontractors selected in their bid have complied with all Division 0 & 01 requirements, that they have indicated in writing, prior to bidding, all questions or concerns requiring clarification and/or explanation and have documented any and all specific exclusions involving work that would generally be considered to be work of their trade. The prime bidder shall coordinate all work so that anything excluded by the bidder of all or any portions of this section or division, have been addressed prior to bids in one of the following manners:
 - 1. The work has been confirmed, by the prime bidder, to be work of another trade or subcontractor (whose proposal is also being accepted).
 - 2. Clarification of the matter has been made through the prime design professional via written addendum and is clearly and mutually understood by the prime bidder and the party raising the issue/question, or seeking clarification.
 - 3. The work has been accepted as the responsibility of the prime contractor directly.

1.8 MATERIAL AND EQUIPMENT

- A. The term "provide" when used in the Contract Documents includes all items necessary for the proper execution and completion of the Work.
- B. Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgement of the Architect expressed in writing is equal to that specified.
- C. Coordinate and properly relate all Work of this Division to building structure and work of all other trades.
- D. Visit premises and become thoroughly familiar with existing conditions; verify all dimensions in field. Advise Architect of any discrepancies prior to Bid Date in accordance with Division 0.
- E. Do not rough-in for any item or equipment furnished by others or noted "Not in Contract" (NIC), without first receiving rough-in information from physically examining the existing equipment, receiving specific cut sheet information from the Owner's representative, other trades and/or Architect. Rough-in services for "NIC" equipment as required, as the work progresses.
- F. Provide storage and protection for all equipment and materials in accordance with requirements of Division 0 and Division 0 & 01. Replace any equipment and materials damaged by improper handling, storage, or protection, at no additional cost to Owner.
- G. Keep premises clean in accordance with requirements of Division 0 and Division 01.

1.9 SUBSTITUTIONS

- A. Substitutions are only allowed by approval of the Architect prior to Bid Date as stipulated in Division 0 and/or Division 01.
- B. Design of systems is based on specific equipment. If the use of other manufacturer's equipment, even though approved by Architect, involves additional cost due to space requirements, foundation requirements, increased mechanical or electrical services, the cost of such extra work shall be borne by manufacturer of substituted equipment. Even though a manufacturer's name appears in the Contract Documents as having acceptable equipment, their equipment with different model numbers shall be classified as being a substitute to the equipment originally designed for and named in the Contract Documents. Substitute equipment, materials, etc., will not be allowed to deviate from Contract Document requirements. Furnish all options specified or reasonably implied from the contract documents. Specifically identify any variance in regard to submittal versus specified performance on the cover sheet of each submittal.

1.10 VALUE ENGINEERING (V/E):

- A. While it may be in the project Owner's interest to consider the first cost money saving that may be generated via alternatives and options generated via participation in Value Engineering, Division 23/23 contractor shall realize that substantive offers of Value Engineering (V/E), if accepted by the Owner, constitute a design-build agreement (offer and acceptance) with the owner, and drastically change the design concept of the project, as developed by the Professional of Record identified on the Contract Documents.
- B. Should contractor offer, and the owner accept value engineering options that alter aspects of the system design, equipment, performance and/or performance verification or monitoring of respective systems, Division 23 contractor shall provide duly licensed professional engineering consultants working on behalf of the Division 23 contractor (including sub-contractors and equipment vendors/manufacturers) to review, approve and take professional responsibility for performance and suitability of V/E hybrid systems, materials or operational changes related to respective V/E items. The Division 23 contractor's licensed professional engineering consultants and the Division 23 contractor assume any and all responsibility for the design and suitability in terms of performance, of hybrid systems installed, as Division 23 contractor's Professional of Record, absolving the original project Professional of Record (identified on the original Contract Documents, released for the original project Bid/Negotiation) from responsibility for the V/E hybrid systems portion of the work.
- C. Division 23 contractor, via the offer and acceptance of value engineering items on the project agrees to provide professional engineering design services and take full and complete responsibility for the hybrid design. Further, the Division 23 contractor's (V/E Items) professional of record (either employees, or independent consultants to the Division 23 contractor) through the offer and acceptance of V/E items, agree to indemnify and hold harmless the project owner, the owner's original A/E team (Professional of Record on behalf of the owner for the original Contract Documents) their heirs and assigns in regard to the V/E changes and their impact on the Division 23 systems altered, affected or modified, in whole or in part. The Professional of Record shown on the original Contract Documents in regard to the systems altered, adjusted, revised, modified or otherwise affected by the value engineering items implemented, shall be absolved of design responsibility as a result of implementation of V/E items, and their original use of Engineering Seals used for original Contract Documents, shall not apply.

1.11 DRAWINGS AND SPECIFICATIONS

- A. The specific intent of these Contract Documents is to provide the various systems, equipment, etc. to the Owner complete and in a thoroughly calibrated functional condition.
- B. The Drawings shall not be construed as shop drawings. In the event of a possible interference with piping or equipment of another trade, items requiring set grade and elevations shall have precedence over other items. Should any major interference develop, immediately notify the Architect.
- C. In laying out Work, refer to mechanical, electrical, structural, and architectural drawings at all times in order to avoid interference and undue delays in the progress of the Work.
- D. Furnish all plumbing fixtures (with required accessories) shown on either the plumbing drawings or the architectural drawings. Review Architectural casework elevations and identify fixtures indicated. Provide fixtures indicated. Rough-in for all fixtures as work progress. Verify prior to fixture shop drawing submittal.

1.12 CODES AND REGULATIONS

- A. Work shall be in full accord with the most stringent interpretation of the State Sanitary Code, local ordinances, building codes, and other applicable national, local, and state regulations.
- B. Equipment shall conform to requirements and recommendations of the National Bureau of Fire Underwriters and National Fire Protection Association (NFPA).
- C. Items provided under this Division shall comply with the American National Standards Institute (ANSI) "Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People," ANSI A 117.1
- D. In the possible event of conflict between codes or regulations and Contract Documents, the most stringent interpretation of either shall govern (provided it does not exceed the requirements of other codes). In the event of an irreconcilable difference between codes or regulations notify the Architect/Engineer immediately.
- E. In addition to the codes heretofore mentioned, all mechanical work and equipment shall conform to the applicable portions of the following specifications, codes and/or regulations:
 - 1. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
 - 2. National Electrical Code (NEC)
 - 3. National Fire Protection Association (NFPA)
 - 4. American Society of Mechanical Engineers (ASME)
 - 5. American Gas Association (AGA)
 - 6. Underwriters Laboratories (UL)

7. International Building Code (IBC)
- F. All materials, equipment and accessories installed under this Contract shall conform to all rules, codes, etc. as recommended by National Associations governing the manufacturer, rating and testing of such materials, equipment and accessories. All materials shall be new and of the best quality and first class in every respect. Whenever directed by the Architect, the Contractor shall submit a sample for approval before proceeding.
- G. Where laws or local regulations provide that certain accessories such as gauges, thermometers, relief valves and parts be installed on equipment, it shall be understood that such equipment be furnished complete with the necessary accessories, whether or not called for in these Specifications.
- H. All unfired and fired pressure vessels shall be built in accordance with the A.S.M.E. Code and so stamped. Furnish shop certificates for each vessel. Contractor shall provide and pay for first operating certificate as per State Fire Marshal Regulations.

1.13 FEES, PERMITS, AND TAXES

- A. Obtain and pay for permits required for the Work of this Division. Pay fees in connection therewith, including necessary inspection fees.
- B. Pay any and taxes levied for Work of this Division, including municipal and/or state sales tax where applicable.
- C. All permits, fees, certificates, etc. for the installation, inspections, plan review, service connections locations, and/or construction of the work which are required by any authority and/or agencies having jurisdiction, shall be obtained and paid for by the Contractor.
- D. The Contractor shall make all tests required by the Architect, Engineer or other governing authorities at no additional cost to the Owner.
- E. The Contractor shall notify the Architect and local governing authorities before any tests are made, and the tests are not to be drawn off a line covered or insulated until examined and approved by the authorities. In event defects are found, these shall be corrected and the work shall be retested.
- F. Prior to requesting final inspection by the Architect, the Contractor shall have a complete coordination and adjustment meeting of all of his sub-contractors directly responsible for the operation of any portion of the system. At the time of this meeting, each and every sequence of operation shall be checked to assure proper operation. Notify the Architect in writing ten (10) days prior to this meeting, instructing him of the time, date and whom you are requesting to be present.

- G. This project shall not be accepted until the above provisions are met to the satisfaction of the Architect.

1.14 MANUFACTURER'S DIRECTIONS

- A. Install and operate equipment and material in strict accord with manufacturer's installation and operating instructions. The manufacturer's instructions shall become part of the Contract Documents and shall supplement Drawings and Specifications.

1.15 SUBMITTAL DATA

- A. Submit shop drawings, project data, and samples in accordance with requirements of Division 0/and or Division 01.
- B. Shop drawings shall consist of published ratings or capacity data, detailed construction drawings for fabricated items, wiring and control diagrams, performance curves, installation instructions, manufacturer's installation drawings, and other pertinent data. Submit drawings showing revisions to equipment layouts due to use of alternate or substitute equipment.
- C. Where approved manufacturers and suppliers of equipment, materials, etc. are unable to fully comply with Contract Document requirements, specifically call such deviations to attention of Architect on submittals. Type deviations on a separate sheet; underlined statements or notations on standard brochures, equipment fly sheets, etc. will not be accepted.
- D. Approval of submittals shall not relieve Contractor from furnishing required quantities and verifying dimensions. In addition, approval shall not waive original intent of Contract Documents.
- E. Failure to obtain written approval of equipment shall be considered sufficient grounds for rejection of said equipment regardless of the stage of completion of the project.

1.16 REVIEW OF MATERIALS:

- A. Whenever manufacturers or trade names are mentioned in these Plans or Specifications, the words "or approved equivalent" shall be assumed to follow whether or not so stated. Manufacturers or trade names are used to establish a standard of quality only, and should not be construed to infer a preference. Equivalent products which meet the Architect's approval will be accepted; however, these products must be submitted to the Architect a minimum of ten (10) days prior to the Bid Date.
- B. Submission shall include the manufacturer's name, model number, rating table and construction features.

- C. Upon receipt and checking of this submittal, the Architect will issue an addendum listing items which are approved as equivalent to those specified. THE CONTRACTOR SHALL BASE HIS BID SOLELY ON THOSE ITEMS SPECIFIED OR INCLUDED IN THE "PRIOR APPROVAL ADDENDUM", AS NO OTHER ITEM WILL BE ACCEPTABLE.
- D. Prior approval of a particular piece of equipment does not mean automatic final acceptance and will not relieve the Contractor of the responsibility of assuring himself that this equipment is in complete accord with the Plans and Specifications and that it will fit into the space provided. Shop drawings must be submitted on all items of equipment for approval as hereinafter specified.
- E. Before proceeding with work and/or within thirty (30) days after the award of the General Contract for this work, the Mechanical Contractor shall furnish to the Architect complete shop and working drawings of such apparatus, equipment, controls, insulation, etc. to be provided in this project. These drawings shall give dimensions, weights, mounting data, performance curves and other pertinent information.
- F. The Architect's approval of shop drawings shall not relieve the Contractor from the responsibility of incorrectly figured dimensions or any other errors which may be contained in these drawings. Any omission from the shop drawings or specifications, even through approved by the Architect, shall not relieve the Contractor from furnishing and erecting same.
- G. Seven (7) sets of shop drawings shall be submitted to the Architect for approval. These submittals shall be supplied as part of this Contractor's contract. Any drawings not approved shall be resubmitted until they are approved. **SUBMIT ALL SHOP DRAWINGS AT THE SAME TIME. NO SEPARATE ITEMS WILL BE ACCEPTED.**
- H. Submit one (1) sepia with two (2) blueline prints of all mechanical room layouts showing locations of all equipment, piping, etc. to insure all will fit in space provided. Submit drawings at 1/4" scale.

1.17 PROJECT RECORD DOCUMENTS

- A. Keep Project Record Documents in accordance with requirements of Division 0 and/or Division 01.
- B. During construction period, keep accurate records of installations made under this Division, paying particular attention to major interior and exterior underground and concealed piping, ductwork, etc.
- C. The Contractor shall obtain at his cost, two sets of blueline prints of the original bid documents by the Architect. One set shall be kept on the site with all information as referenced below, and shall update same as the work progresses. The other set will be utilized to record all field changes to a permanent record copy for the Owner.

- D. If the Contractor elects to vary from the Contract Documents and secures prior approval from the Architect for any phase of the work, he shall record in a neat and readable manner, **ALL** such variances on the blue-line print in red. The original blue-lines shall be returned to the Architect for documentation.
- E. All deviations from sizes, locations, and from all other features of the installations shown in the Contract Documents shall be recorded.
- F. In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions and the like, as well as other features of the work which will be concealed underground and/or in the finished building.
- G. Locations of underground work shall be established by dimensions to columns, lines or walls, locating all turns, etc., and by properly referenced centerline or invert elevations and rates of fall.
- H. For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was actually installed. The Architect's/Engineer's decision in this matter will be final.
- I. The following requirements apply to all "As-Built" drawings:
 - 1. They shall be maintained at the Contractor's expense.
 - 2. All such drawings shall be done carefully and neatly, and in a form approved by the Architect/Engineer.
 - 3. Additional drawings shall be provided as necessary for clarifications.
 - 4. These drawings shall be kept up-to-date during the entire course of the work and shall be available upon request for examination by the Architect/Engineer; and when necessary, to establish clearances for other parts of the work.
 - 5. "As-built" drawings shall be returned to the Architect upon completion of the work and are subject to approval of the Architect/Engineer.

1.18 EXCAVATING AND BACKFILLING

- A. Provide excavating and backfilling necessary for Work of this Division. Comply with provisions of Division 2, Site Work, if applicable.
- B. Trenches shall be inspected by Code Authorities and/or Owner's Representative before and after piping is laid. Give Owner's Representative 24-hour notice for each inspection. If any trenches are filled without Owner's Representative inspection and as

subsequently found to be deficient, the trenches shall be uncovered, inspected, and then re-filled, if requested by Owner's Representative.

- C. Provide minimum 18 inches of cover or in compliance with local published frost line data (if greater than 18 inches) to finish grades or paving at water piping.
- D. For piping, provide bell holes at trench bottom to assure uniform bearing. Accurately grade trench bottoms by instrument before laying any pipe.
- E. Protect and maintain trenches in dry condition until piping has been inspected and approved. Immediately after approval, backfill trenches in tamped layers.
- F. Compact fill to satisfaction of Architect and/or Owner's Representative.

1.19 CUTTING AND PATCHING

- A. Comply with requirements of Division 0 and Division 01 regarding cutting and patching. Locate and timely install sleeves as required to minimize cutting and patching.
- B. Cutting, fitting, repairing, patching, and finishing of Work shall be done by craftsmen skilled in their respective trades. Where cutting is required, cut in such a manner as not to weaken structure, partitions, or floors. Holes required to be cut must be cut or drilled without breaking out around the holes. Where patching is necessary in finished areas of the building, the Architect will determine the extent of such patching and refinishing.
- C. Where return air plenums above ceilings are utilized, Division 23 Contractor shall ensure that return air openings are provided in walls run to deck, for proper return air flow back to the AHU. Cut walls as required to provide openings sized for maximum 1000 feet per minute air flow velocity through openings above ceiling. Provide a fire damper at openings of fire walls and a smoke damper at openings of smoke walls. Coordinate electric or pneumatic services to smoke dampers via automatic temperature control/EMS Contractor.
- D. Repairing Roadways and Walks: Coordinate all roadway work with authorities having jurisdiction. Cut and/or bore under roadways for connection of utilities as required. Coordinate work through General Contractor. Where this contractor cuts or breaks roadways or walks to lay the piping, he shall repair or replace these sections to match existing, unless specifically identified as the responsibility of others.

1.20 PAINTING

- A. Painting shall be provided by General Contractor's painting sub-contractor, unless specified otherwise. Leave exposed piping, materials, and equipment clean and free of rust, grease, dirt, etc. before and after painting.

- B. Factory finished equipment, fixtures, and materials which are marred, chipped, scratched, or otherwise unacceptable shall be repaired or replaced under this Division to Architect satisfaction, at no additions cost to Owner.
- C. Coordinate all painting requirements with prime bidder prior to bids.
- D. Paint all exposed piping inside and outside of building. Label all piping after painting as required. Utilize industry standard paint colors for respective system unless direct otherwise by Architect. Review proposed color scheme with Architect/Engineer prior to ordering materials.
- E. All piping shall be color coded per the following:
 - 1. Domestic Cold Water Piping Yellow
 - 2. Domestic Hot Water Piping Blue
 - 3. Fire Protection Piping Red

1.21 CLEANING AND ADJUSTING:

- A. Upon completion of his work, the Contractor shall clean and adjust all equipment, controls, valves, etc.; clean all piping, ductwork, etc.; and leave the entire installation in good working order.

1.22 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Provide the Owner with three (3) copies of printed instructions indicating various pieces of equipment by name and model number, complete with parts lists, maintenance and repair instructions and test and balance report.
- B. COPIES OF SHOP DRAWINGS WILL NOT BE ACCEPTABLE AS OPERATION AND MAINTENANCE INSTRUCTIONS.
- C. This information shall be bound in plastic hardbound notebooks with the job name, Architect and Engineer names permanently embossed on the cover. Rigid board dividers with labeled tabs shall be provided for different pieces of equipment. Submit manuals to the Architect for approval.
- D. In addition to the operation and maintenance brochure, the Contractor shall provide a separate brochure which shall include registered warranty certificates on all equipment, especially any pieces of equipment which carry warranties exceeding one (1) year.
- E. The operation and maintenance brochure shall be furnished with a detailed list of all equipment furnished to the project, including the serial number and all pertinent nameplate data such as voltage, amperage draw, recommended fuse size, rpm, etc. The Contractor shall include this data on each piece of equipment furnished under this contract.

1.23 GUARANTEE

- A. The Contractor shall guarantee all materials, equipment and workmanship for a period of one (1) year from the date of final acceptance of the project. This guarantee shall include furnishing of all labor and material necessary to make any repairs, adjustments or replacement of any equipment, parts, etc. necessary to restore the project to first class condition. This guarantee shall exclude only the changing or cleaning of filters. Warranties exceeding one (1) year are hereinafter specified with individual pieces of equipment.
- B. If the Contractor's office is in excess of a fifty (50) mile radius of the project, he shall appoint a local qualified contractor to perform any emergency repairs or adjustments required during the guarantee period. The name of the contractor appointed to provide emergency services shall be submitted to the Architect for his approval.

1.24 LOCAL CONDITIONS

- A. The location and elevation of all utility services is based on available surveys and utility maps and are reasonably accurate; however, these shall serve as a general guide only, and the Contractor shall visit the site and verify the location and elevation of all services to his satisfaction in order to determine the amount of work required for the execution of the Contract.
- B. The Contractor shall contact the various utility companies, determine the extent of their requirements and he shall include in his bid all lawful fees and payments required by these companies for complete connection and services to the building, including meters, connection charges, street patching, extensions from meters to main, etc.
- C. In case major changes are required, this fact, together with the reasons therefor, shall be submitted to the Architect, in writing, not less than seven (7) days before the date of bidding. Failure to comply with this requirement will make the Contractor liable for any changes, additions and expenses necessary for the successful completion of the project.

1.25 MINOR DEVIATIONS

- A. Plans and detail sketches are submitted to limit, explain and define conditions, specified requirements, pipe sizes and manner of erecting work. Structural or other conditions may require certain modifications from the manner of installation shown, and such deviations are permissible and shall be made as required. However, specified sizes and requirements necessary for satisfactory operation shall remain unchanged. It may be necessary to shift ducts or pipes, or to change the shape of ducts, and these changes shall be made as required. All such changes shall be referred to the Architect for approval before proceeding. Extra charges shall not be allowed for these changes.

- B. The Contractor shall realize that the drawings could delve into every step, sequence or operation necessary for the completion of the project, without drawing on the Contractor's experience or ingenuity. However, only typical details are shown on the Plans. In cases where the Contractor is not certain about the method of installation of his work, he shall ask for details. Lack of details will not be an excuse for improper installation.
- C. In general, the drawings are diagrammatic and the Contractor shall install his work in a manner so that interferences between the various trades are avoided. In cases where interferences do occur, the Architect is to state which item was first installed.

1.26 VALVE TAGS

- A. Secure metal tags to all valves. Labeling on all valve tags shall include type of system the valve controls and the area of building, zone, or equipment number affected by valve operation. Tag shall be 2" minimum diameter brass, engraved with code number, service and size. A framed list of the valves, giving manufacturer's name, model number, type and location shall be mounted in the main basement equipment room.

1.27 MACHINERY GUARDS

- A. This Contractor shall provide v-belt guards for each v-belt drive or other hazardous drive. The guard shall enclose the drive entirely and shall have a hole for taking a tachometer reading.

1.28 LABELING MECHANICAL EQUIPMENT

- A. All mechanical equipment (A/C units, air handlers, fan coil units, fan powered boxes, water heaters, etc.) furnished under Division 23 of contract documents shall be labeled with permanent laminated plate secured to equipment. Units shall be labeled as indicated on plans and schedules.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 23 00 00

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work in this section includes furnishing and installing all piping for project as hereinafter described.
- B. Related Work: All piping shall be coordinated with Plumbing, Air Conditioning and Ventilation section of these specifications.



PART 2 - PRODUCTS

2.1 PIPE

- A. Refrigerant lines and condensate drain lines shall be ACR hard copper pipe and fittings.
- B. Installation of Piping:
 - 1. All pipe shall be true and straight, without sags or traps.
 - 2. The Contractor shall exercise care in cleaning joints after making cuts on pipe to prevent pipe particles from entering the system.
 - 3. All pipe fittings shall be same as piping specified unless indicated otherwise.
 - 4. Arrange, install piping approximately as indicated, straight, plumb and as direct as possible; form right angles, or parallel lines with building walls. The most practical appearance of piping runs is required. Keep pipes close to walls, partitions, ceilings; off-set only where necessary to follow walls as directed.
 - 5. Before installing piping, check plumbing and HVAC drawings with architectural, mechanical, structural, electrical drawings; make accurate layout of plumbing and HVAC piping. Where interferences may appear and departures from indicated arrangements are required, consult with other trades involved; come to agreement as to changed locations and elevations of piping; obtain approval of proposed changes. Note runs of other contractor's piping and large conduits and cooperate to achieve neat appearance.
 - 6. Unless otherwise indicated, conceal all piping in building construction in finished areas. Install such piping in time so as not to cause delay to work of other trades and to allow ample time for tests and approval; do not cover before approval is obtained.
 - 7. Locate groups of pipes parallel to each other and building lines; space them at distance to permit access for servicing, valves, and to create most practical appearance when racked with conduits, refrigerant, etc., provided by other contractors.

8. Keep fixture branches concealed to points above floor close to fixtures; expose only as much as necessary for final connection. Rigidly support pipes projecting from walls, chases, etc. in wall or chase to make firm, well-braced installation. Loosely supported pipe or accessory is not acceptable.
9. Install horizontal piping to coordinate with other trades and install without sags or humps.
10. Grade inside sewer piping at uniform slope of 1/4 inch per foot, minimum; where this is impossible, maintain slope as directed but in no case less than 1/8 inch per foot. Waste lines 3 inches and smaller must grade at minimum 1/4 inch per foot. See Drawings for fall on exterior sewer lines.
11. Grade other piping as specified under heading or service where used, or as directed.
12. Keep piping free from scale and dirt, protect open pipe ends wherever work is suspended during construction. To prevent foreign bodies entering and lodging in pipe, use temporary plugs or other approved material.
13. Where changes in pipe sizes occur, do not bush down; use only reducing fittings. For drainage piping changes in direction, use longsweep bends where possible; otherwise, short sweep 1/4 bends or combination Y and 1/8 bends; also Y's in combination with other bends.
14. Provide shut off valves at all supply connections to all equipment. Supplier of equipment shall provide rough-in drawings and this contractor shall fully connect all items, supply necessary piping and fittings as required, unless otherwise noted individually.
15. Do not locate valves with stems below horizontal.
16. Locate valves for easy access and operations. Where concealed, notify General Contractor of exact location in order that he may leave openings for access panels. Provide access panels.
17. Provide unions, screwed or flanged, where indicated, and in following locations even if not indicated.
18. In by-passes around equipment.
19. In connection to equipment requiring disconnection for repairs or replacement. Locate between shut-off and equipment.
20. Weld-O-let fittings shall be used in iron pipe.
21. All screwed fittings and pipe shall have threads cut to standard pipe thread dimensions. Pipe shall be properly reamed after cutting of threads.
22. Joint compound, Rector Seal Series 100, LACO Series Slick-tite or equal thread lubricant shall be applied to male threads of the screwed pipe and fittings only.
23. Approved expansion joints or flexible couplings shall be provided as necessary.
24. Care shall be taken in making up pipe and fittings such that the pipe does not extend into fitting sufficiently to reduce the waterway.
25. Standard, one-piece reducing fittings of approved design shall be used wherever a change in size is made. Changes in pipe sizes shall not be made by means of reducing flanges.
26. Bushings may be used only where standard, one-piece reducing fittings are not available and shall be subject to the following:

- a. Bushings shall be of the face or flush type.
- b. Bushings shall not be used in elbow fittings.
- c. Bushings shall not be used when the reduction in size of the outlet is less than 1/2".
- d. Bushings shall not be used in more than one outlet of any tee or two outlets of any cross fitting.

2.2 PIPE FITTINGS

- A. All pipe fittings shall be same as piping specified unless indicated otherwise.
- B. All screwed fittings and pipe shall have threads cut to standard pipe thread dimensions. Pipe shall be properly reamed after cutting of threads.
- C. Joint compound, Crane Thread lubricant or equal, shall be applied to male threads of the screwed pipe and fittings only.
- D. Approved expansion joints or flexible couplings shall be provided as necessary.
- E. Care shall be taken in making up pipe and fittings such that pipe does not extend into fitting sufficiently to reduce the waterway.
- F. Unions for use on above grade pipe larger than 2 inches shall be cast iron, screwed flanges, 125 pound flat face with 1/16" non-asbestos composition gasket.
- G. All risers 3" or larger shall have a flanged joint at each floor.
- H. Standard, one-piece reducing fittings of approved design shall be used wherever a change in size is made. Changes in pipe sizes shall not be made by means of reducing flanges.

2.3 PIPE HANGER AND SUPPORTS

- A. This Contractor shall furnish and install all foundations and supports required for his equipment unless otherwise indicated on the drawings.
- B. This Contractor shall furnish and install all escutcheons, inserts, thimbles, hangers, etc. required for the proper support and installation of his equipment and piping. Cooperate with other trades in locating and placing these items.
- C. Provide sleeves for all pipes passing through walls, floors, beams, etc. Sleeves passing through structural members shall be of cast iron or Schedule 40 steel pipe. Sleeves passing through non-structural walls or floors shall be of 26 gauge galvanized iron. Joints between sleeves and pipes passing through floors shall be made watertight with plastic materials. Where pipes pass through waterproofing membrane, flashing sleeves shall be installed.
- D. Provide Grinnell # 108, Fee and Mason Fig. 57, Carpenter & Patterson # 34, Michigan # 450, or equal malleable iron split ring hangers with rod supports

throughout. Strap hangers or wire will not be accepted. Maximum spacing of hangers for cast iron pipes shall be 5'; for other than soil, use 10'.

- E. Provide galvanized iron shields between hangers and pipe covering.
- F. Provide Grinnell, Fee and Mason, Crane, or equivalent heavy steel riser clamps on vertical risers at floors to support pipes.
- G. Provide chrome plated brass escutcheons wherever pipes pass through floors, walls or ceilings in exposed or finished areas.
- H. All piping projecting from chases shall be rigidly supported in the wall or chase. Loosely supported fixtures or accessories will not be accepted.

2.4 PIPE SPECIALTIES

- A. Dielectric unions shall be used between copper and iron pipe.

2.5 FLASHING

- A. Flash all vent penetrations through roof. Extend flashing approximately 10 inches in all directions at base and turn ends down into top of pipe. Off-set vents where necessary to provide 4 feet minimum clearance from other flashing such as outside walls, curbs, etc. Note: All vents shall be 25 feet from fresh air intakes.

2.6 ACCESS PANELS

- A. Furnish and install access panels where valves, drains, dampers, etc. are concealed in walls, ceilings, or floors, or otherwise inaccessible. Panels shall be Milcor, or equivalent, sized as required and furnished with prime coat finish.

2.7 MOTORS, STARTERS AND ELECTRICAL WORK

- A. The Mechanical Contractor shall furnish to the Electrical Contractor for installation, all the motor starters, start-stop switches and pilot lights for each piece of motor driven equipment unless shown otherwise.
- B. The Electrical Contractor shall install all motor starters, start-stop switches and pilot lights as furnished by the Mechanical Contractor. The Electrical Contractor shall also do all power wiring required for the installation of such mechanical equipment.
- C. The Mechanical Contractor shall furnish and install equipment interlocking, control wiring, etc., as hereinafter specified under Temperature Controls. All work shall be done in accordance with the National Electric Code requirements. The Mechanical Contractor shall be responsible for coordinating all work to provide a complete system in working order.

- D. All electrical equipment shall have the U.L. Label and shall meet the standards of the National Electrical Code and NEMA.
- E. All motors for the mechanical equipment shall be of the 40oC rise type and shall be furnished and installed by the Mechanical Contractor. All motors shall be wound for plus or minus 10% of the specified voltage. Motors ½ HP and smaller shall be 120 volt, single phase, 60 cycle. Motors above ½ HP shall be the voltages as indicated on the Drawings. All motors shall be PREMIUM EFFICIENCY type with a minimum motor efficiency of: 1, 1.5 and 2 HP-84%; 3 HP-85%; 5 HP-87%; 7.5 and 10 HP-89%; 15 HP-90%; 20 HP-91%; 25 and 30 HP-92%; 40 HP-93%. Contractor shall submit certification after project is complete indicating minimum motor efficiency requirement has been met. All motors shall be rated for inverter duty.
- F. Mechanical contractor shall furnish magnetic type starters for all motors regardless of horse power and phase.
- G. Exception: Manual starters can be furnished for fractional horsepower motors that are not controlled automatically or remotely. Refer to Section 15800 (Temperature Control) and mechanical drawings to determine if fractional horsepower motors are controlled automatically or remotely.

2.8 SINGLE PHASE AC FRACTIONAL HORSEPOWER MANUAL STARTERS - 1HP OR LESS FHP manual starters shall be Square D Class 2150 or Allen Bradley Bulletin 600.

- A. The manual starters shall consist of a manually operated toggle switch equipped with melting alloy type thermal overload relay. Thermal unit shall be of one-piece construction and interchangeable. Starter shall be inoperative if thermal unit is removed. Contacts shall be double break, silver alloy visible from both sides of starter.
- B. All FHP MANUAL STARTERS shall be double-pole type with one thermal overload relay and general purpose enclosure and red pilot light.

2.9 SINGLE AND THREE PHASE AC MAGNETIC STARTERS - LINE VOLTAGE TYPE (ALL MOTORS BELOW 10 HP

- A. Motor starters shall be Square "D" Class 8536 or Allen Bradley Bulletin 509. Motor starters shall be across-the-line magnetic type rated in accordance with NEMA Standards, sizes and horsepower ratings. Starters shall be mounted in general purpose enclosures unless otherwise indicated on plans.
- B. Across-the-line magnetic starters through NEMA Size seven shall be equipped with double break silver alloy contacts. Single break contacts shall be supplied on Size eight. All contacts shall be replaceable without removing power wiring or removing

starter from panel. The starter must have straight-through wiring.

- C. Coils shall be of molded construction through NEMA Size seven. Coils on size eight starters shall be form wound, taped, varnished and baked. All coils shall be replaceable from the front without removing the starter from the panel.
- D. Overload relays shall be them letting alloy type with a replaceable control circuit module. Thermal units shall be of one-piece construction and interchangeable. The starter shall be inoperative if the thermal unit is removed.
- E. NEMA Size 0 thru 7 starters shall be suitable for the addition of at least four external auxiliary contracts of any arrangement normally open or normally closed; Sizes 0-7 external auxiliary contacts shall be field convertible. Size 00 and Size 8 starters shall be suitable for the addition of up to three external auxiliary contacts of any arrangement normally open or normally closed. A minimum of two auxiliary contacts (one normally open and one normally closed) shall be provided.
- F. Single and Three-Phase Starter:
 - 1. All magnetic starters shall be equipped with a "HAND-OFF-AUTO" SELECTOR SWITCH, A RED RUN PILOT LIGHT, and a control circuit transformer with two fuses in primary circuit and one fuse in secondary. Control voltage shall be coordinated with other trades.
- G. Three Phase Starters:
 - 1. All three phase starters shall be equipped with an individual phase relay for protection against phase failures, phase voltage unbalance, and phase reversal. This relay shall have a response delay adjustable from ½ to 1 second and an adjustable unbalance voltage level of 5 of 30%.

2.10 REDUCED VOLTAGE AC MAGNETIC STARTERS - (ALL MOTORS 10 HP AND ABOVE)

- A. All starters for motors 10 HP and above shall be autotransformer type containing a starter and contactors with a vertically actuated magnet and armature assembly, and horizontally actuated contacts through NEMA Size 4, contacts, on NEMA Size 5 through NEMA size 7.
- B. The controller will be supplied for use on an electrical system as indicated on drawings.
- C. The Reduced Voltage Starter will be sized to control horsepower, as indicated on drawings.
- D. The Reduced Voltage Starter shall be Square "D" Class 8606 or Allen Bradley Bulletin 570 and shall have the following features: hand-off-automatic selector switch, pilot light (red), control circuit transformer with two fuses in the primary circuit, and one fuse in the secondary circuit. Control voltage shall be coordinated

with other trades.

- E. All three phase starters shall be equipped with an individual phase relay for protection against phase failures, phase voltage unbalance, and phase reversal. This relay shall have a response delay of approximately 3 seconds. After either the undervoltage or voltage unbalance limits are exceeded.

REFER TO DESCRIPTION OF MAGNETIC STARTERS FOR DETAILS REGARDING CONTACTORS AND STARTERS INTERNAL TO THIS DEVICE.

- F. Refer to electrical plans and provide combination starters and disconnects where required.
- G. All starters which are to be energized from remote "start-stop" stations shall be equipped with a step-down transformer to 120 volts.

END OF SECTION 23 05 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. All Division 23 specifications, drawings, and general provisions of the contract apply to work of this section, as do other documents referred to in this section.

1.2 SCOPE OF WORK

- A. The Mechanical Contractor shall obtain the services of an independent Test and Balance Company which specializes in the testing and balancing of heating, ventilating and air conditioning (HVAC) systems to test, adjust and balance all HVAC systems in the construction area.
- B. The work included in this section consists of furnishing labor, instruments, and tools required in testing, adjusting and balancing the HVAC systems, as described in these specifications or shown on accompanying drawings. Services shall include checking equipment performance, taking the specified measurements, and recording and reporting the results.
- C. Representatives of the Test and Balance Company shall visit the job site at 90% completion of installation of the HVAC equipment, piping and ductwork to review the installation. After each site visit, the Test and Balance Company shall report to the Architect any items that are not installed properly, are missing from the Contract Documents or items that are required to enable him to perform the testing and balancing of the HVAC systems as per normal standard practice. After review, the Architect shall of the HVAC systems as per normal standard practice. After review, the Architect shall instruct the Contractor to implement the recommendations at no additional cost to the Owner if these items were specified in the original scope of the project.
- D. Upon completion of the HVAC system installation, the Test and Balance Company shall perform all required testing and balancing with the full cooperation of the Contractor and his Sub-contractors. The Contractor shall make changes and/or adjustments to the HVAC system components that are required by the Test and Balance Company to accomplish proper balancing. The TAB agency shall not supply or install any materials or balancing devices such as pulleys, drives, belts, etc. All of this work by the Contractor shall be performed at no additional cost to the Owner.
- E. The test and balance report shall be submitted to the Architect for review by his Mechanical Engineer. If the Mechanical Engineer agrees with the report, he shall meet with the Test and Balance Company to determine what needs to be done to obtain a properly balanced system.



- F. After the Mechanical Engineer signs the testing and balancing report, the Test and Balance Company shall supply four (4) copies of the final and complete report to the Architect for inclusion in the Operation and Maintenance Manuals.
- G. The items requiring testing, adjusting, and balancing include (but are not restricted to) the following:

1.3 AIR SYSTEMS

- A. Supply Fan AHU
- B. Exhaust Fans, Fresh Air Fans
- C. Zone branch and main ducts
- D. Diffusers, Registers, Grilles and Dampers
- E. Coils (Air Temperatures)
- F. Vibration Isolators

1.4 DEFINITIONS, REFERENCES, STANDARDS

- A. All work shall be in accordance with the latest edition of the Associated Air Balance Council (AABC) National Standards or the latest standards of the National Environmental Balancing Bureau (NEBB). If these contract documents set forth more stringent requirements than the AABC National Standards or the NEBB Standards, these contract documents shall prevail.

1.5 QUALIFICATIONS

- A. Agency Qualifications: The TAB Agency shall be a current member of the AABC or the NEBB.

1.6 SUBMITTALS

- A. Qualifications: The TAB agency shall submit a company resume listing personnel and project experience in air and hydronic system balancing and a copy of the agency's test and balance engineer (TBE) certificate.
- B. Procedures and Agenda: The TAB agency shall submit the TAB procedures and agenda proposed to be used.

- C. Sample Forms: The TAB agency shall submit sample forms, which shall include the minimum data required by the AABC National Standards or the NEBB Standards.

1.7 TAB PREPARATION AND COORDINATION

- A. Shop drawings, submittal data, up-to-date revisions, change orders, and other data required for planning, preparation, and execution of the TAB work shall be provided when available and no later than 30 days prior to the start of the TAB work.
- B. System installation and equipment startup shall be complete prior to the TAB agency's being notified to begin.
- C. The building control system (BCS) contractor shall provide and install the control system, including all temperature, pressure and humidity sensors. These shall be calibrated for accurate control. If applicable, the BCS contractor shall install all necessary computers and computer programs, and make these operational. Assistance shall be provided as required for reprogramming, coordination, and problem resolution.
- D. All test points, balancing devices, identification tags, etc., shall be accessible and clear or insulation and other obstructions that would impede TAB procedures.
- E. Qualification installation or startup personnel shall be readily available for the operation and adjustment of the systems. Assistance shall be provided as required for coordination and problem resolution.
- F. If, upon commencing the work, the TAB contractor finds that the systems are not ready, or if a dispute occurs as to the readiness of the systems, the TAB contractor may request an inspection to be made by the Designer's Mechanical Engineer. This inspection shall establish to the satisfaction of the represented parties whether or not the systems meet the basic requirements for testing and balancing. Items that are determined to be not ready for testing and balancing shall be completed by the Mechanical Contractor and placed in operational readiness before TAB services are again requested.

1.8 REPORTS

- A. Final TAB Report - The TAB agency shall submit the final TAB report for review by the Architect. On plans provide, all outlets, devices, HVAC equipment, etc., shall be identified, along with a numbering system corresponding to report unit identification. The TAB agency shall submit an AABC "National Project Performance Guaranty" (or similar NEBB Guarantee) assuring that the project systems were tested, adjusted and balanced in accordance with the project specifications and AABC National Standards (or similar NEBB Standards).

- B. Submit 4 copies of the Final TAB Report to the Architect for inclusion in the Operation and Maintenance Manuals.

1.9 INSTRUMENTATION

- A. All instruments used for measurements shall be accurate and calibrated. Calibration and maintenance of all instruments shall be in accordance with the requirements of AABC National Standards (or similar NEBB Standards).

1.10 EXECUTION

A. GENERAL

1. The specified systems shall be reviewed and inspected for conformance to design documents. Testing, adjusting and balancing on each identified system shall be performed. The accuracy of measurements shall be in accordance with AABC National Standards (or similar NEBB Standards). Adjustment tolerances shall be + or - 10% unless otherwise stated.
2. Equipment settings, including manual damper quadrant positions, valve indicators, fan speed control levers, and similar controls and devices shall be marked to show final settings.
3. All information necessary to complete a proper TAB project and report shall be per AABC or NEBB standards unless otherwise noted. The descriptions of work required, as listed in this section, are a guide to the minimum information needed.
4. TAB contractor shall cut insulation, ductwork and piping for installation of test probes to the minimum extent necessary to allow adequate performance of procedures. Upon completion, patch insulation, ductwork and housings using materials identical to those removed. Seal insulation to reestablish integrity of the vapor barrier.
5. TAB work shall include additional inspection and adjustment of components during the season following the initial balance to include re-balance of any items influenced by seasonal changes or as directed by the Owner.

1.11 AIR SYSTEMS

- A. The TAB agency shall verify that all ductwork, splitters, extractors, dampers, grilles, registers, and diffusers have been installed per design, are functional and set full open. Any leakage in the ductwork shall be repaired prior to the test. The TAB agency shall perform the following TAB procedures in accordance with the AABC National Standards or NEBB Standards:
 - B. For Supply Fans:
 1. Fan speeds - Test and adjust fan RPM to achieve design CFM requirements.
 2. Current and Voltage - Test and record motor voltage and amperage, and compare data with the nameplate limits to ensure fan motor is not in or above the service factor.

3. Pitot-Tube Traverse - Perform a Pitot-tube traverse of main supply and return ducts, as applicable to obtain total CFM. If a Pitot-tube traverse is not practical an explanation of why a traverse was not made must appear on the appropriate data sheet.
 4. Outside Air - Test and adjust the outside air on applicable equipment using a Pitot-tube traverse. If a traverse is not practical, an explanation of why a traverse was not made must appear on the appropriate data sheet. If a traverse is not practical use the mixed-air temperature method if the inside and outside temperature difference is at least 20 degrees Fahrenheit or use the difference between Pitot-tube traverses of the supply and return air ducts.
 5. Static Pressure - Test and record system static pressure, including the static pressure profile of each supply fan.
- C. For Exhaust Fans and Fresh Air Fans:
1. Fan speeds - test and adjust fan RPM to achieve design CFM requirements.
 2. Current and Voltage - Test and record motor voltage and amperage, and compare data with the nameplate limits to ensure motor is not in or above the service factor.
 3. Pitot-Tube Traverse - Perform a Pitot-tube traverse of main exhaust ducts to obtain total CFM. If a Pitot-tube traverse is not practical, an explanation of why a traverse was not made must appear on the appropriate data sheet.
 4. Static Pressure - Test and record system static pressure, including the static pressure profile of each exhaust fan.
- D. For Zone, Branch and Main Ducts:
1. Adjust ducts to within design CFM requirements. As applicable, at least one zone balancing damper shall be completely open. Multi-diffuser branch ducts shall have at least one outlet or inlet volume damper completely open.
- E. For Diffusers, Registers and Grilles:
1. Tolerances - Test, adjust, and balance each diffuser, grille, and register to within 10% of design requirements. Minimize drafts include required CFM, initial test CFM and final CFM.
 2. Identification - Identify the type, location, and size of each grille, diffuser, and register. This information shall be recorded on air outlet data sheets.
- F. For Coils:
1. Air Temperature - Once air flows are set to acceptable limits, take wet bulb and dry bulb air temperatures on the entering and leaving side of each cooling coil. Dry-bulb temperature shall be taken on the entering and leaving side of each heating coil.

1.12 INDOOR AIR QUALITY VERIFICATION

- A. The Tab agency shall take measurements at minimum outside air. It shall measure temperature and humidity uniformity throughout the space, check filter installation for proper fit, seal, and operation, and verify condensate drain operation. The TAB agency shall note any water damage or obvious contamination sources from inside or outside.
- B. The TAB agency shall conduct the following air sampling tests using TWA limits shown in ASHRAE Standard 62-1989, Table C-1:
 - 1. Carbon Dioxide - Air Handling Unit
- C. The TAB agency shall prepare a short report showing the results and location of each test, a summary of the HVAC operating conditions, and a listing of any discrepancies.

1.13 ADDITIONAL TAB SERVICES

- A. Job Site Inspections: During construction, the TAB agency shall inspect the installation of pipe systems, sheet metal work, temperature controls, and other component parts of the HVAC systems. Inspections shall be conducted a minimum of two times. (Typically, these are performed when 60% of the total system is installed and again when 90% of the total system is installed, prior to insulation of the duct and piping). The TAB agency shall submit a written report of each inspection to the Architect.
- B. Verification of HVAC Controls: The TAB agency shall be assisted by the building control systems contractor in verifying the operation and calibration of all HVAC and temperature control systems. The following tests shall be conducted:
 - 1. Verify that all control components are installed in accordance with project requirements and are functional, including all electrical interlocks, damper sequences, air and water resets, fire and freeze stats, and other safety devices.
 - 2. Verify that all controlling instruments are calibrated and set for design operating conditions.
- C. Temperature Testing: To verify system control and operation, a series of three temperature tests shall be taken at approximately two-hour intervals in each separately controlled zone. The resulting temperatures shall not vary more than two degrees Fahrenheit from the thermostat or control set point during the tests. Outside temperature and humidity shall also be recorded during the testing periods.
- D. TAB Report Verification: At the time of final inspection, the TAB agency may be required to recheck, in the presence of the owner's representative, specific and random selections of data, air quantities, and air motion recorded in the certified report. Points and areas for recheck shall be selected by the owner's representative. Measurements and test procedures shall be the same as approved for the initial work for the certified report. Selections for recheck, specific plus random, will not exceed 10% of the total number tabulated in the report.

- E. Fire and Smoke Testing: The TAB agency shall test fire/smoke dampers to assure operation. It shall verify that an access door has been installed for each fire and smoke damper. For fire dampers, the TAB agency shall open the access door, disconnect the fusible link, and allow the damper to close. Operation should be smooth and the damper must close completely. The TAB agency shall then reset the damper.
- F. For the smoke damper, the TAB agency shall open the access door, activate the damper, and observe operation. The damper must close quickly and completely. The TAB agency shall then reset the damper and observe its complete opening.
- G. Life Safety Controls: The TAB agency shall test and record life safety control operation of the HVAC equipment. It shall verify the installation of required smoke detectors in air handling equipment (AHE), and shall verify operation of the smoke detector by activating the smoke detector and observing air handler shutdown. With the controls and alarm contractors, the TAB agency shall verify the operation of interconnected systems such as the AHE smoke detector's activation of the fire alarm system and the alarm system's activation of the life safety control sequences.

END OF SECTION 230593

PART 1 - GENERAL

1.1 GENERAL

- A. Pipe insulation shall not begin until all work has been tested and found to be tight. All insulation adhesives, sealers, tapes and mastic shall meet the latest NFPA requirements and shall meet 25/50/50 flame spread and smoke developed ratings.
- B. All insulation shall be installed in strict accordance with the manufacturer's recommendations.
- C. All pipe insulation exterior of building shall be banded with aluminum bands, three to a section and with one band on each side of each fitting, valve, etc.
- D. Insulation shall be continuous through walls and ceilings.
- E. All valves, strainers, etc. shall be insulated the same as its adjacent piping and the covering shall extend all the way up to the equipment.
- F. USE HIGH DENSITY INSULATION INSERTS AT HANGERS ON ALL PIPING 1-1/2" AND ABOVE TO PREVENT CRUSHING OF INSULATION.



1.2 THERMAL INSULATION: After all work has been tested and approved, insulate as follows:

- A. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

1.3 CONDENSATE DRAIN PIPING

- A. Insulate with 3/4" Aerotube or Armaflex pipe insulation applied in accordance with manufacturer's recommendations and instructions. Tape all joints.

1.4 WASTE LINE P-TRAPS

- A. P-traps receiving HVAC condensate (exposed to weather or above ceilings) shall be insulated with 2" thick 3/4 # density fiberglass ductwrap insulation with aluminum foil vapor barrier. Insulation shall be sealed at all seams and joints.

1.5 REFRIGERANT LINES

- A. Insulate with 3/4" closed cell, tube insulation, Aerotube, Armaflex or equivalent. Apply two coats of weatherproof mastic on all piping below grade or exposed to weather.

1.6 HVAC DUCTWORK INSULATION

- A. Low pressure supply ductwork, return air ductwork, fresh air, and exhaust ductwork shall be wrapped on outside with 2.33" thick 3/4# density fiberglass insulation with aluminum foil vapor barrier. Insulation shall be taped at all joints and installed per the manufacturer's recommendations.
- B. Refer to air distribution section of mechanical specifications for low pressure duct insulation supplied by the sheet metal sub-contractor.
- C. Transfer ductwork across walls shall be internally lined with 1" thick acoustical insulation.

1.7 HVAC FLEX-CONNECTIONS

- A. Shall be wrapped on outside with 2.33" thick 3/4 # density fiberglass insulation with aluminum foil vapor barrier. Insulation shall be taped at all joints and installed per the manufacturer's recommendations.

1.8 INSULATION THROUGH HANGERS AND SLEEVES

- A. The insulation shall be continuous through pipe hangers and pipe sleeves. At hangers where the pipe is supported by insulation, provide a galvanized iron protection shield. Provide pipes 2-inch i.p.s. and larger with insulation inserts at points of hanger supports. The inserts shall be of calcium silicate, cellular glass, prestressed molded glass fiber of minimum 13-pound density, or other approval material of the same thickness as adjacent insulation and not less than 13-pound density. The inserts shall have sufficient compression strength to adequately support the pipe without compressing the inserts to a thickness less than the adjacent insulation. Inserts shall be 180 degrees and not less than the length of the protection shield. Vapor barrier facing of the insert shall be the same as the

facing on the adjacent insulation. Where copper clad hanger are used on domestic copper pipe, insulation may cover pipe and hanger.

END OF SECTION 230700

PART 1 - GENERAL

1.1 GENERAL

- A. Furnish and install all ducts for Air Conditioning, Heating and Ventilating System as shown on the plans and as may be required to provide complete system. Ductwork shall be complete with grilles, vanes, flashings, hangers, flexible connections, splitters, dampers, fresh air inlets, louvers, reinforcing angles, etc. All ductwork shall be concealed and insulated as hereinafter specified. All ductwork indicated on drawings shall be metal-to-metal outside dimensions.



1.2 DUCT HANGERS AND SUPPORTS

- A. All ductwork shall be properly braced to prevent rattling, breathing or other unnecessary noise. No sharp edges or obstructions shall project into the air stream. (1" wide x 16 gauge minimum)

1.3 LOW PRESSURE DUCTWORK

- A. All ductwork for constant air units shall be galvanized steel and shall be of gauges and construction as recommended by ASHRAE Guide and Data Book. Gauges are as follows, with longest side governing.
- | | |
|-------------------------------|-------------------|
| 1. Dimensions of longest side | Sheet Metal Gauge |
| 0"-12" | 26 Gauge |
| 13"-30" | 24 Gauge |
| 31"-54" | 22 Gauge |
| 55"-84" | 20 Gauge |
- B. Joints and reinforcing shall be as per ASHRAE Guide and Data Book and all slips shall be installed without edge of internal part of slip facing downstream.
- C. All joints shall be sealed with hard cast FTA adhesive and hardcast DT 5300 tape.
- D. Construction standards of Article 110 of the National Board of Fire Underwriters, Bulletin 90, latest edition, shall apply throughout.
- E. Flashings shall be sheet copper, and shall be furnished and installed around all outside openings used for ducts of fans and wherever required. Roof flashings shall extend at least 8" above roof.
- F. All ducts shall be straight and true and installed in a neat and workmanlike manner.

- G. All edges shall be straight and true, and all bends shall be made with vaned turns. Where long radius turns cannot be used, the Contractor shall use square turns and use air splitters spaced not more than 3" center to center, and of a length so air will be properly distributed over the ducts.

1.4 ROUND DUCTWORK

- A. Shall be constructed of 26 gauge galvanized sheet metal with screwed and taped joints or snap lock joints.
- B. At contractor's option, pre-insulated flexible ductwork (R-6) as manufactured by Thermaflex Model MKE, Flexmaster 8M or prior approved equal may be used to connect to ceiling diffusers (maximum 6'-0" length). Quietflex Series 80 and Thermaflex Model KM are not approved.
- C. Flexible duct shall be maximum 4' in length, properly installed tight and straight with hangers and no sagging or kinks. Provide hard round snap lock duct wrapped with insulation for all runs greater than 6' in length. Any flexible duct runs 6' or less shall only be used for straight runs. Any turns shall have hard round elbows at spin in fittings prior to running flexible duct.
- D. Insulated Acoustical Low Pressure Flexible Duct Specification:
 - 1. The duct shall be constructed of a CPE fabric supported by helical wound galvanized steel. UL181 Class I Air Duct. Fabric shall be mechanically locked to the steel helix without the use of adhesives or chemicals. The internal working pressure rating shall be at least 6" w.g. positive and 4" w.g. negative with a bursting pressure of at least 2½ time the working pressure. The duct shall be rated for a velocity of at least 4000 feet per minute. The duct must be suitable for continuous operation at a temperature range of -20° F to +250° F. Factory insulate the flexible duct with fiberglass insulation. The R value shall be at least 6.0 at a mean temperature of 75° F. (R-4.2 is not acceptable) Cover the insulation with a fire retardant metalized vapor barrier jacket reinforced with crosshatched scrim having a permeance of not greater than 0.05 perms when tested in accordance with ASTM E96, Procedure A. All flex connections to ceiling diffusers must be connected with an insulated square to round box.

1.5 DUCTWORK SEALANT

- A. All ductwork shall be air tight. All seams, both shop made and field installed, and shall be sealed with tape and glue. All transverse joints shall be sealed as well as spin collar takeoffs and rough duct connections. All duct connections and seams shall be sealed with a UL approved non-flammable tape and mastic system. Strict adherence to manufacturers installation instruction is required. The duct sealant

shall be equal to Hardcast FTA20/DT5300, United McGill Unit-Sealer Tape and Glue or 3M Company Sealing System.

1.6 DUCT ACCESSORIES

- A. Dampers of the fusible link operated type shall be provided in all ductwork passing through the floor or firewalls. In all cases, the time rating of damper shall be equal to or greater than the time rating of the wall.
- B. Provide quadrant or adjustable splitters and mark shaft to give position of splitter damper in duct.
- C. Provide vanes behind every supply grille or diffuser. Splitters shall be provided where shown on Plans and where located in concealed, non-accessible space, provide Young Regulators to operate splitter. Vanes shall be Tuttle and Bailey "Ducturns", Barber Coleman Uniflo or equivalent. Shop fabricated vanes will be acceptable. All dampers shall be constructed of 14 gauge steel.

1.7 REGISTERS, GRILLES AND DIFFUSERS

- A. Square or rectangular ceiling supply outlets, unless noted otherwise, shall be Anemostat, Metalaire, Price, Titus or equal, as indicated in schedules. Color shall be white. Grilles shall be of aluminum construction with baked enamel finish. Where noted on plans, grilles with the fire dampers in ceiling shall be steel construction with fire rated blanket behind grille as required by grille type scheduled.
- B. All wall supply grilles shall be complete with horizontal and vertical adjustable deflectors and opposed blade volume control damper. Grilles shall be manufactured by Titus, Anemostat, Metalaire, Price or prior approved equivalent.
- C. Return air grilles shall be as manufactured by Anemostat, Metalaire, Titus, Price or equivalent, and shall be of the style called for on the Plans. Provide filters in filter back grilles.
- D. All supply outlets shall have a sponge rubber gasket.
- E. "Stamped" grilles and diffusers are not approved.
- F. Unless otherwise shown on Drawings, all grilles installed in walls and doors shall be furnished with prime coat finish suitable for painting by painting sub-contractor.

1.8 MOTORIZED DAMPERS

- A. Mechanical Contractor shall furnish and install motorized dampers at outdoor intakes as indicated on mechanical and architectural drawings. Damper shall be parallel blade motorized type equivalent to Ruskin CD36/PB, Arrow Series 1770, or equal. Motorized dampers shall be operated by 120/1/60 electric actuator as indicated on plans. Damper shall be complete with outboard support bearing, blade and jamb seals. Dampers shall be low - leakage type.

1.9 MANUAL DAMPERS

- A. Mechanical contractor shall furnish and install manual dampers at outdoor air intakes and in other rectangular ductwork as indicated on plans. Damper shall be complete with outboard support bearing, and manual locking quadrant lever for balancing, blade and jamb seals.
- B. Manual balancing dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules. Dampers shall consist of: a 16 ga galvanized steel hat channel frame with 5 in depth; triple V type blades fabricated from 16 ga galvanized steel; 0.5 india. plated steel axles; external (out of the airstream) blade-to-blade linkage. Damper manufacturer's printed application and performance data including pressure, velocity and temperature limitations shall be submitted for approval showing damper suitable for pressures to 4 in wg, velocities to 2,000 ft/min and temperatures to 180 F. Testing and ratings to be in accordance with AMCA Standard 500. Basis of design is Greenheck's Model MBD-15, Nailor 1022, Ruskin MBD-35.
- C. Manual balancing damper and motorized damper sizes shall be 6" in height. Transition 4" high fresh air ductwork to standard manual and motorized damper sizes.

1.10 SPIN COLLARS:

- A. All round low pressure connections to rectangular ducts shall be made with a factory fabricated spin collar fitting with damper and constructed of minimum 26 ga galvanized steel. The damper shall have a 2" raised handle with a high quality locking quadrant. A 3/8" continuous rod with "U" bolts connects the damper to the rod. Nylon end bearings are required where the rod penetrates the spin collar barrel. Provide Dace #SM-7 SPININ-W/SOLQ-CR, Flexmaster #FLD-B03, or prior approved equal. A sample must be submitted for engineer's approval prior to installation.

1.11 DUCT ACCESS PANELS

- A. Access panel shall be Flex Master “Inspector Series” Model SDSM low leakage spin-in access door. Door shall be 1” insulated type and shall be 24 gauge steel with 24 gauge steel frame. A continuous 3/8” wide by 3/16” thick open cell adhesive neoprene gasket shall be installed in the door frame to provide a positive seal upon insertion and locking of door. The door shall be held secure with every spaced cast aluminum cam latches for even pressure against the gasket.

END OF SECTION 233000

PART 1 - GENERAL

1.1 GENERAL

- A. The air conditioning system, in general, shall be for the entire building, providing cooling and dehumidification in summer and heating in winter. A constant amount of fresh air shall be taken into the system and all air shall be filtered.



1.2 EMERGENCY DRAIN PAN

- A. Provide an emergency drain pan for air units. The pan shall be constructed of 18 gauge galvanized steel, extending 6" beyond unit all around and turning up a minimum of 4" around the perimeter. A 1-1/4" x 1-1/4" x 1/8" galvanized angle iron frame shall be welded around the top of the pan. Entire pan should be painted with black asphalt rust preventative paint. Extend a Type "L" hard copper drain line (minimum 1") as indicated on the drawings. Provide connection at low point of pan and provide ball valve to drain pan.
- B. Emergency drain pans for all water heaters shall be 20 gauge galvanized sheet metal with sides of pan extending 4" above the bottom of the pan per detail.

1.3 LABELING EQUIPMENT

- A. All equipment shall be labeled with permanent laminated plate riveted to unit. Units shall be labeled as indicated in schedules. Plate shall be black with white unit numbers. Height of unit number shall be minimum of one (1) inch. Label shall also indicate area serviced by unit as noted in schedules. Height of letters shall be minimum of one-half (1/2) inch. Submit sample to Architect for approval.

1.4 VENTILATING SYSTEM

- A. Contractor shall furnish and install all exhaust fans shown and scheduled on Plans. Fans shall be of the type indicated in schedules.
- B. All exhaust fans shall be equipped with bird screen, automatic back-draft dampers and integral disconnect switch unless noted otherwise. Fan motors shall be high efficiency type of the 40^{deg}C ambient temperature rise type and shall be suitable for continuous or inverter duty operation as required. The fan shall be U.L. listed.
- C. Direct drive fans shall complete with solid state speed control switch mounted in unit housing. Switch shall be used for final balancing of the system.

- D. In-line fans shall complete with inlet guide vanes with manual adjustable level which shall be locked at final balanced position.
- E. All roof mounted fans shall be complete with insulated roof curb. Curb shall be compatible with roofing manufacturer's requirements. Coordinate requirements with General Contractor and Roofing Manufacturer.

1.5 AIR COOLED CONDENSING UNIT

- A. Furnish and install high-efficiency, air-cooled top discharge where shown and with capacities scheduled. UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED, PRE-CHARGED AND TESTED, AND SHALL BE SUPPLIED FROM THE FACTORY WITH **ALL** FEATURES LISTED BELOW.
- B. Condenser coil shall be constructed of aluminum fins mechanically bonded to an aluminum coil and shall be protected with stamped louvered panels on outside of unit.
- C. Condenser fan shall be propeller type, direct driven. Motor shall have inherent protection and be of the permanently lubricated type, resiliently mounted. Fans shall be complete with safety guards.
- D. Compressor shall be a single speed serviceable hermetic or sealed hermetic design complete with crankcase heater and external spring isolators and compressors, and shall have a 5-year warranty. Unit shall be equipped with time delay to prevent compressor from starting within five minutes of "off" time.
- E. All controls shall be factory wired and shall consist of condenser fan overload devices, hard start kit (single phase only), internal pressure relief valve, filter dryers, pressure taps for refrigerant check, quick connect refrigerant couplings and liquid and suction line service valves. Unit shall also be furnished with outdoor expansion valve or metering valve and check valve.
- F. Casing shall be fully weatherproof for outdoor installation and shall be bonderized steel with baked enamel finish. Panels shall be removable to provide access for servicing. Unit shall be set in place on rubber mounting pads.
- G. Contractor shall advise the Electrical Contractor of the manufacturer's recommended fuse size if different from that specified on the Electrical Drawings. Mechanical Contractor shall pay any additional costs required to change fuse sizes.
- H. Unit shall be as manufactured by Trane, Lennox, Carrier, York or approved equivalent.

1.6 HIGH EFFICIENCY AIR CONDITIONING UNIT - INDOOR SECTION

- A. Furnish and install vertical discharge/bottom return, or horizontal type (as indicated on plans) air conditioning unit of size, type and capacities as scheduled. Units shall be Trane, Lennox, Carrier, York or approved equivalent.
- B. Units shall be complete with fan, multi-speed direct drive blower, motor, direct expansion cooling coil, low voltage control transformer, grease fittings, drain pan, etc. All units shall be factory insulated on the interior with not less than 3/4# density neoprene coated fiberglass cemented in place with waterproof adhesive.
- C. Each unit shall be mounted on a suitable base as indicated on plans or 24" high painted angle iron base approved by the Engineer to allow for proper return air. Unit shall also be designed for continuous operation at the maximum rated static pressure. Fan capacities shall be rated with the fans in the units, and the horsepowers specified shall include all losses.
- D. Casings shall be suitable for operation at the pressures specified and constructed of bonderized steel.
- E. Cooling coils shall be of aluminum or copper and shall be tested at 400 psi air pressure. Cooling coil face velocity shall not exceed that guaranteed by manufacturer for no moisture carry-over.
- F. Electric strip heaters shall be as hereinafter specified and shall be mounted inside unit housing. Coordinate electric service to heaters and blower with Electrical Contractor. Heater and air unit shall be internally wired and fused to receive one electrical source of power.
- G. Filter shall be 1" thick, pleated, throw-way mounted in an accessible factory filter rack at unit, or in R.A. ductwork as indicated on plans.
- H. Contractor shall provide a new set of filters upon completion of project, to turn building over to Owner.
- I. If the manufacturer's equipment is not available internally wired to receive one source of power, necessary modifications to electric service shall be the responsibility of the equipment supplier. Any modifications required shall be submitted in writing ten (10) days prior to the bid date.

1.7 ELECTRIC STRIP HEATERS

- A. Electric strip heaters shall consist of open coils made from Grade "A" resistant wire insulated by floating ceramic bushings and supported in an aluminum steel frame.

- B. All terminal studs, nuts and washers shall be stainless steel, insulated with phenolic terminal bushings. Terminals shall be machine crimped to coils and heater shall be tested at 2000 volts before shipment. All voltages and phases shall be as scheduled.
- C. Heater shall be provided with built-in contactors, with one terminal block furnished for each circuit and separate contactors for each stage of heating. Heaters with air units supplying 2000 CFM or less shall be internally wired with air unit to receive one electric source of power.
- D. An automatic reset thermal cut-off shall be provided to break the heater load directly on over-temperature. In addition, provide manual reset thermal cut-off to break the heater load manually.
- E. Control circuit transformer shall be built into heater terminal box and sized to carry full contactor holding coil load.
- F. Heaters shall be listed by UL and shall be as manufactured by Chromalox, Electric Heaters, Inc., Industrial Engineering and Equipment Co., or an approved equivalent.
- G. Heater shall be equipped with built-in pressure type air flow switch. Heater shall be mounted inside unit housing.
- H. Where indicated on drawings, heaters in ductwork shall be provided with duct flanges. Outside of heater shall be wrapped with 2" thick fiberglass ductwrap with aluminum foil vapor barrier.

1.8 TESTING REFRIGERANT PIPING SYSTEMS

- A. Refrigerant lines shall be tested under 1.5 times the working pressure with carbon dioxide pressure for 5 hours using soap suds at joints to test for leaks. Evacuate system and charge with refrigerant.

END OF SECTION 238000

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions as appropriate, apply to the Work specified in this Section.
- B. Refer to all Electrical Divisions of the Specifications as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding electrical work.

1.2 BIDDING REQUIREMENTS AND RESPONSIBILITIES

- A. Bidders of all or any portions of this section or division are required to review all contract documents including but not limited to Architectural drawings, Structural drawings, Mechanical drawings, Plumbing drawings, Electrical drawings, etc. to coordinate requirements and responsibilities with and through prime bidder.
- B. Bidders of all or any portions of this section or division, by furnishing a bid on a portion of the prime contract are indicating that they have received all contract documents and coordinated services provided under their portion of the work with the prime bidder; they are indicating that they have expressed any pertinent questions (which would result from a detailed, thorough review of the entire set of contract documents) to the prime bidder in accordance with the general provisions of the Specifications requirements, prior to bidding.
- C. All timely, pertinent, questions provided in writing prior to bids, in accordance with the general provisions of the Specifications requirements, will be clarified, defined, or otherwise explained in a written addendum and/or addendums prior to bids, in accordance with the general provisions of the Specifications requirements.
- D. It is not the intention of these contract documents to leave any issue relating to coordination between trades or sub-contractors vaguely defined. The intention is to define all issues, coordination matters, equipment requirements, sizes, routing, etc. to the satisfaction of the prime bidder, prior to receipt of bids.
- E. Bidders of all or any portions of this section or division, by virtue of the submission of a bid to the prime bidder, are indicating that they have reviewed the entire set of contract documents with due diligence and regard for the Owner's desire for a comprehensive and complete bid proposal; that they have expressed all concerns or questions requiring clarification on matters of coordination between



trades and/or sub-contractors; that they have expressed any such concerns or questions in writing in accordance with contract document's General Provisions requirements.

1.3 MATERIAL AND EQUIPMENT

- A. The term "provide" when used in the Contract Documents includes all items necessary for the proper execution and completion of the work.
- B. Specific reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgement of the Architect expressed in writing is equivalent to that specified.
- C. Coordinate and properly relate all work of this Division to building structure and work of all other trades.
- D. Visit premises and become thoroughly familiar with existing conditions; verify all dimensions in field. Advise Architect of any discrepancies prior to Bid Date in accordance with contract document's General Provisions.
- E. Do not rough-in for any item or equipment furnished by others or noted "Not in Contract" (NIC), without first receiving rough-in information or determining rough-in requirements from other trades and/or Architect.
- F. Provide storage and protection for all equipment and materials in accordance with requirements of contract document's General Provisions. Replace any equipment and materials damaged by improper handling, storage, or protection, at no additional cost to the Owner.
- G. Keep premises clean in accordance with requirements of contract document's General Provisions.

1.4 SUBSTITUTIONS

- A. Substitutions are allowed under La. R.S. 38:2291 and La R.S. 38:2292. Any requests for prior approval (as provided for under La. R.S. 38:2295) including any re-submitted data, shall be received by the Architect/Engineer a minimum of ten (10) working days prior to bid date. Submittals sent via facsimile and/or electronic mail will not be accepted. The Contractor shall recognize that it may be necessary to submit certain requests for prior approval sooner than the final date listed in the Instructions to Bidders, depending upon the complexity and

completeness of the submittal. If, in the opinion of the Architect/Engineer, there is neither sufficient time available nor adequate descriptive data attached to the submittal, the submittal will not be considered. Except as otherwise specified, materials and equipment shall be new and bear the approval label of the Underwriters Laboratories, Inc. for the type of installation required.

- B. Basis of design of systems is based on specific equipment for performance, size, shape, color, construction material, etc... If the use of other manufacturer's equipment, even though approved by Architect, involves additional cost due to space requirements, foundation requirements, increased mechanical or electrical services, the cost of such extra work shall be borne by the contractor. Even though a manufacturer's name appears in the Contract Documents as having acceptable equipment, his equipment shall be classified as being a substitute to the equipment originally designed for and named in the Contract Documents. Substitute equipment, materials, etc., will not be allowed to deviate from basis of design requirements.
- C. All requests for prior approval shall identify where proposed material matches or exceeds the performance of the equipment specified. In addition, such submittal shall also clearly identify all deficiencies compared to specified product. Submittal of general cut sheets will be returned rejected.
- D. The following items shall be submitted for prior approval:
 - 1. Lighting Fixtures
 - 2. Fluorescent Ballasts
 - 3. Emergency Ballasts

1.5 DRAWINGS AND SPECIFICATIONS

- A. The specific intent of these Contract Documents is to provide the various systems, equipment, etc. to the Owner complete and in a thoroughly calibrated and functional condition.
- B. The Drawings shall not be construed as shop drawings. Should any major interference develop, immediately notify the Architect.
- C. In laying out Work, refer to mechanical, electrical, structural, and architectural drawings at all times in order to avoid interference and undue delays in the progress of the Work.

1.6 CODES AND REGULATIONS

- A. Work shall be in full accord with the LA Administrative Code, 2020 N.E.C. (NFPA 70), local ordinances, building codes, and other applicable national, state, and local regulations.
- B. Equipment shall conform to requirements and recommendations of the National Bureau of Fire Underwriters and National Fire Protection Association (NFPA).
- C. Items provided under this Division shall comply with the American National Standards Institute (ANSI) "Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People," ANSI A 117.1, and the Americans with Disabilities Act (A.D.A.).
- D. Work called for in these Plans and Specifications shall be executed by competent workmen.
- E. In the possible event of conflict between codes or regulations and Contract Documents, notify the Architect/Engineer immediately.
- F. Because of the small scale of the drawings, it is not possible to indicate all of the offsets, fittings, and accessories required. The Contractor shall investigate the structural and finish conditions affecting his work and shall arrange such work accordingly, fittings, bends, junction boxes, pull boxes, access panels, and accessories required to meet such conditions at no additional costs to the Owner.

1.7 FEES, PERMITS, AND TAXES

- A. Obtain and pay for permits required for the Work of this Division. Pay fees in connection therewith, including necessary inspection fees.
- B. Pay any and all taxes levied for Work of this Division, including municipal and/or state sales tax where applicable.

1.8 MANUFACTURER'S DIRECTIONS

- A. Install and operate equipment and material in strict accord with manufacturer's installation and operating instructions. The manufacturer's instructions shall become part of the Contract Documents and shall supplement Drawings and Specifications.

1.9 SUBMITTAL DATA

- A. Submit shop drawings, project data, and samples in accordance with requirements of the General Provisions of the contract documents. Submittals shall be received no later than thirty (30) consecutive calendar days from effective date of "Notice to Proceed".
- B. Shop drawings shall consist of published ratings or capacity data, detailed construction drawings for fabricated items, wiring and control diagrams, performance curves, installation instructions, manufacturer's installation drawings, and other pertinent data. Submit drawings showing revisions to equipment layouts due to use of alternate or substitute equipment.
- C. Where manufacturers and suppliers of equipment, materials, etc. are unable to fully comply with Contract Document basis of design requirements, specifically call such deviations to attention of Architect/Engineer on submittals. Typed deviations on a separate sheet; underlined statements or notations on standard brochures, equipment fly sheets, etc. will not be accepted. Submittals shall clearly indicate where material submitted meets and/or exceeds the performance criteria of the equipment used as the basis of design of the project. Failure to note compliance with the basis of design material/equipment shall result in rejection of submittals.
- D. Approval of submittals shall not relieve Contractor from furnishing required quantities and verifying dimensions. In addition, approval shall not waive original intent of Contract Documents.
- E. Failure to obtain written approval of equipment shall be considered sufficient grounds for rejection of said equipment regardless of the stage of completion of the project.
- F. Contractor shall submit Submittals/Shop Drawings on all equipment listed below. In addition, contractor shall refer to subsequent sections of the Electrical portion of the specifications for additional shop drawing submittal requirements.
 - 1. Lighting Fixtures
 - 2. Fluorescent Ballasts
 - 3. Emergency Ballasts
- G. Shop drawings may be submitted electronically as described below.
 - 1. Must be in a portable document format (PDF).
 - 2. Must be submitted to the prime designer and the prime designer will forward to ADG Engineering for distribution/processing.

1.10 PROJECT COORDINATION

- A. Refer to applicable Electrical Specification Sections for products work of this Division.
- B. Refer to all plumbing, mechanical and fire protections specifications sections for related products affecting work of these electrical sections.
- C. Coordinate handling of all products, materials, etc., through the Contractor. Coordinate space, access, clearances, etc., through the Contractor prior to preparation of shop drawing submittal.
- D. The Contractor is herein cautioned to note that the work involved is a renovation project requiring continuous owner occupancy. The Contractor should review the phasing plans/descriptions and visit the project site to determine existing conditions. The Contractor will be held responsible for allowing for these conditions in his bid.

1.11 SERVICE CONTINUITY

- A. At all times during the construction of the project, electric service shall be maintained to all portions of the site and existing facility, except with prior written approval from the Architect/Engineer of interruptions. Any required interruptions of electric service due to work being performed under this Contract shall be scheduled in writing a minimum of forty-eight (48) hours in advance after consultation with the Architect/Engineer and the Owner, and shall occur when permitted by the Architect/Engineer. The Contractor shall be responsible for any overtime pay required to meet these requirements, at no additional cost to the Owner.

1.12 VALUE ENGINEERING (V/E):

- A. While it may be in the Owner's interest to consider the first cost money saving that may be generated via alternatives and options generated via participation in Value Engineering, contractor shall realize that substantive offers of Value Engineering (V/E), if accepted by the Owner, constitute a design-build agreement (offer and acceptance) with the owner, and drastically change the design concept of the project, as developed by the Professional of Record identified on the Contract Documents.
- B. Should contractor offer, and the owner accept value engineering options that alter aspects of the system design, equipment, performance and/or performance verification or monitoring of respective systems, the contractor shall provide duly licensed professional engineering consultants working on behalf of the contractor

(including sub-contractors and equipment vendors/manufacturers) to review, approve and take professional responsibility for performance and suitability of V/E hybrid systems, materials or operational changes related to respective V/E items. The contractor's licensed professional engineering consultants and the contractor assume any and all responsibility for the design and suitability in terms of performance, of hybrid systems installed, as contractor's Professional of Record, absolving the original project Professional of Record (identified on the original Contract Documents, released for the original project Bid/Negotiation) from responsibility for the V/E hybrid systems portion of the work.

- C. The contractor, via the offer and acceptance of value engineering items on the project agrees to provide professional engineering design services and take full and complete responsibility for the hybrid design. Further, the contractor's (V/E Items) professional of record (either employees, or independent consultants to the contractor) through the offer and acceptance of V/E items, agree to indemnify and hold harmless the project owner, the owner's original A/E team (Professional of Record on behalf of the owner for the original Contract Documents) their heirs and assigns in regard to the V/E changes and their impact on the systems altered, affected or modified, in whole or in part. The Professional of Record shown on the original Contract Documents in regard to the systems altered, adjusted, revised, modified or otherwise affected by the value engineering items implemented, shall be absolved of design responsibility as a result of implementation of V/E items, and their original use of Engineering Seals used for original Contract Documents, shall not apply.
- D. Contractor shall refer to subsequent specification sections for additional requirements for submission and approval of VE items.

1.13 PROJECT RECORD DOCUMENTS

- A. Keep Project Record Documents in accordance with general provision requirements of the specifications.
- B. During construction period, keep accurate records of installations paying particular attention to major interior and exterior underground and concealed piping, ductwork, etc.
- C. The Contractor shall obtain a minimum of one (1) set of the contract documents including all addenda and change orders (including CAD/Revit files) as prepared by the Architect/Engineer.
- D. If the Contractor elects to vary from the Contract Documents and secures prior approval from the Architect/Engineer for any phase of the work, he shall record in a neat and readable manner all such variances on the contract documents in

red ink. Prior to requesting substantial completion the marked-up set of contract documents shall be returned to the Architect/Engineer for approval.

- E. All deviations from sizes, locations and from all other features of the installation shown in the Contract Documents shall be recorded.
- F. In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions, and the like, as well as other features of work which will be concealed underground and/or in the finished building.
- G. Locations of underground work shall be established by dimensions to columns, lines or walls, locating all turns, etc. and by properly referenced centerline or invert elevations and rates of fall.
- H. For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was actually installed. The decision of the Architect/Engineer in this matter will be final.
- I. The following requirements apply to all Record Drawings:
 - 1. They shall be maintained at the Contractor's expense.
 - 2. All such drawings shall be done carefully and neatly.
 - 3. Additional drawings shall be obtained at the Contractor's expense.
 - 4. They shall be kept up-to-date during the entire course of the work and shall be available upon request for examination by the Architect/ Engineer and when necessary, by other trades, to establish clearances for other parts of the work.
 - 5. Record Drawings shall be returned to the Architect/Engineer upon completion of the work and are subject to approval of the Architect/ Engineer.

1.14 OPERATION AND MAINTENANCE DATA

- A. Refer to the specification Sections related to PROJECT CLOSEOUT or OPERATION AND MAINTENANCE DATA for procedures and requirements for preparation and submittal of maintenance manuals.
- B. Provide the Owner with three (3) copies of printed instructions indicating various pieces of equipment by name and model number, complete with parts lists, maintenance and repair instructions and test and balance report.

- C. COPIES OF SHOP DRAWINGS WILL NOT BE ACCEPTABLE AS OPERATION AND MAINTENANCE INSTRUCTIONS.
- D. This information shall be bound in plastic hardbound notebooks with the job name, Architect and Engineer names permanently embossed on the cover. Rigid board dividers with labeled tabs shall be provided for different pieces of equipment. Submit manuals to the Architect for approval.
- E. In addition to the operation and maintenance brochure, the Contractor shall provide a separate brochure which shall include registered warranty certificates on all equipment, especially any pieces of equipment which carry warranties exceeding one (1) year.
- F. The operation and maintenance brochure shall be furnished with a detailed list of all equipment furnished to the project, including the serial number and all pertinent nameplate data such as voltage, amperage draw, recommended fuse size, rpm, etc. The Contractor shall include this data on each piece of equipment furnished under this contract including but not limited to those items listed below.
 - 1. Lighting Fixtures
 - 2. Fluorescent Ballasts
 - 3. Emergency Ballasts

1.15 CUTTING AND PATCHING

- A. Comply with requirements of the Specifications regarding cutting and patching. Locate and timely install sleeves as required to minimize cutting and patching.
- B. Cutting, fitting, repairing, patching, and finishing of Work shall be done by craftsmen skilled in their respective trades. Where cutting is required, cut in such a manner as not to weaken structure, partitions, or floors. Holes required to be cut must be cut or drilled without breaking out around the holes. Where patching is necessary in finished areas of the building, the Architect will determine the extent of such patching and refinishing.

1.16 PAINTING

- A. Painting shall be provided under the Specification section regarding painting, unless specified otherwise. Leave exposed piping, materials, and equipment clean and free of rust, grease, dirt, etc. before and after painting.
- B. Factory finished equipment, fixtures, and materials which are marred, chipped, scratched, or otherwise unacceptable shall be repaired or replaced under this Division to Architect satisfaction, at no additional cost to Owner.

- C. Coordinate all painting requirements with prime bidder prior to bids.

1.17 EXISTING CONDITIONS

- A. The Electrical Contractor shall visit the building site to determine existing conditions and will be held responsible for allowing for these conditions in his bid.
- B. There will be no extra consideration for work discovered as being hidden after the bid, and no change orders for extra cost that may be caused by unknown after bid conditions. The drawings show approximate locations only of feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Architect reserves the right to make reasonable changes in locations indicated, before roughing-in, without additional cost to the Owner.

1.18 PROTECTION OF APPARATUS

- A. The Contractor shall take precautions necessary at all times to properly protect his apparatus from damage. Failure on the part of the Contractor to comply with the above to the Architect's satisfaction shall be sufficient cause for the rejection of the particular piece of apparatus in question.

1.19 MINOR DEVIATIONS

- A. The Contractor shall realize that the drawings cannot delve into every step, sequence, or operation necessary for the completion of the project without drawing on the Contractor's experience. Only typical details are shown on the plans. In cases where the Contractor is not certain about the method of installation of his work, he shall ask for details. Lack of details will not be an excuse for improper installation.

1.20 SALVAGED MATERIALS

- A. The Owner shall have priority for the selection of salvaged material and equipment. Any equipment, light fixtures, devices, ballasts, materials, etc. selected to remain property of the Owner shall be removed and delivered to a location on the site as designated by the Owner. Material and equipment not retained by the Owner shall become the property of this Contractor and shall be removed from the site by him.
- B. The Contractor shall obtain written approval of all material and equipment determined not to be salvaged by the Owner.

1.21 SAFETY PRECAUTIONS

- A. Work methods and project safety are the Contractor's sole responsibility.
- B. Contractor shall furnish and place proper guards for prevention of accidents. He should provide and maintain any other necessary construction required to secure safety of life or property, including maintenance of sufficient lights during all day and night hours as required to secure such protection.
- C. Temporary electrical services during construction should be maintained in perfect condition. Frayed, loose or opened connections should not be used for temporary services. The Contractor should use only equipment in first class working condition for construction services.

1.22 SUPERVISION

- A. Contractor shall personally, or through an authorized and competent representative, constantly supervise the work done from beginning to completion and final acceptance. To the best of his ability he shall keep the same foreman and workmen throughout the project duration. Foreman shall be present at project site at all times while work under this section of the contract documents is being performed. Foreman shall be accessible by cellular phone at all times. Respective telephone numbers shall be forwarded to Architect/Engineer prior to commencement of work on this project.

1.23 CAD/REVIT FILES

- A. ADG will provide, upon request, AutoCAD files to the contractors for use in preparing submittals and record drawings. Plans will be provided at a cost of \$10.00 per drawings sheet requested. By submitting request for CAD files, contractors automatically consent to the verbiage contained in the CAD release form contained in the plans. This includes any all limitations, restrictions, indemnifications, etc... contained therein.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 COORDINATION OF TRADES

- A. Where work is in close proximity to the work of other contractors, the Contractor shall review plans of other contractors and coordinate his work with theirs. The Electrical Contractor shall verify the location of lighting fixtures, beams, structural members, conduit, ductwork, pipes or other obstructions before beginning his work in the area. Notify the Architect where proper clearances do not occur or where the work of others would interfere with the safe and/or proper operation of this work.

3.2 SUPPORTS AND FOUNDATIONS

- A. Support all items covered by this Specification directly from building structural members independent of any ceilings or any other installed item.
- B. Do not attach items of this Specification to HVAC ductwork, ceiling grids and ceiling support members, piping or other equipment unless specifically shown otherwise. Where applicable, all equipment including conduit shall be supported from overhead wall or roof structures using galvanized channel or angle members for a rigid support. Position supports and equipment such that access through lay-in ceilings or panels is not impaired and all Code required clearances are maintained.
- C. Where applicable, under no circumstances is the Contractor to attach to or support from any bar joist bridging. Any supports to the bar joists or any structural systems shall be approved by the Architect. All supplemental angle or channel iron required to support equipment of this Specification shall be furnished by the Electrical Contractor.

3.3 GUARANTEE

- A. The Contractor shall guarantee all materials, equipment and workmanship for a period of one (1) year from the date of final acceptance of the project. This guarantee shall include furnishing of all labor and material necessary to make any repairs, adjustments or replacement of any equipment, parts, etc. necessary to restore the project to first class condition. This guarantee shall include the replacement of lamps. Warranties exceeding one (1) year are hereinafter specified with individual pieces of equipment.

- B. If the Contractor's office is in excess of a fifty (50) mile radius of the project, he shall appoint a local qualified contractor to perform any emergency repairs or adjustments required during the guarantee period. The name of the contractor appointed to provide emergency services shall be submitted to the Architect/Engineer for approval.

3.4 CLEANING

- A. Refer to the Specification Section relating to PROJECT CLOSEOUT or FINAL CLEANING for general requirements for final cleaning.
- B. Clean all light fixtures, and lenses prior to final acceptance and replace inoperable drivers or LED modules.

END OF SECTION 260001

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions; as appropriate, apply to the work specified in this section.
- B. Refer to all portions of the Contract Documents as well as the plans and specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding electrical work.



PART 2 - PRODUCTS

2.1 WIRE (600 VOLT AND BELOW)

- A. All conductors used in the work shall be soft drawn annealed copper having a composition of not less than 98% of pure copper. Conductors shall be standard code gauge in size, insulated, and shall have insulation rated for use at 600 volts. The contractor's bid shall reflect the use of all copper conductors unless specifically indicated otherwise.
- B. Unless otherwise noted or specified, insulation shall be Type THWN. Wires shall be of the single conductor type and shall be stranded. Wire insulation shall not contain any asbestos materials.
- C. Wire #8 AWG and smaller may be type MC-cable where allowed by applicable codes and ordinances.
- D. Throughout the system, conductors shall be identified as to phase and voltage of system by color-coding. Color-coding shall be continuous the full length of wire for all wire sizes. Identification by permanent paint bands or tags at outlets will not be acceptable. Surface printing at regular intervals on all conductors shall indicate manufacturer, size, voltage, and insulation type. White and/or gray colored insulation shall be used for grounded conductors and only for grounded conductors.
- E. The color code assigned to each phase wire shall be consistently followed throughout the project. The following systems of color-coding shall be strictly adhered to:

1. 208/120 V 3P 4W Systems
 - a. Grounding leads green
 - b. Grounded neutral leads white
 - c. Ungrounded phase wires black, red and blue
 2. 277/480 V 3P 4W Systems
 - a. Grounding leads green
 - b. Grounded neutral leads gray
 - c. Ungrounded phase wires brown, orange, yellow
- F. Where multiple neutral conductors are installed in a common raceway, the neutral conductor for each circuit shall be separately identified in accordance with the National Electric Code (NEC).

2.2 CONDUIT

- A. Unless otherwise specified or shown on the drawings, all conduit shall be rigid galvanized steel (RGS) or electrical metallic tubing (EMT).
- B. RGS may be used for conduit shown run underground (red concrete encasement required), may be used in concrete slabs, and shall be used for conduit run exposed to the weather (locations defined as damp locations and wet locations in Article 100 of the NEC) and shall be run in hazardous areas.
- C. EMT shall be used for conduit run exposed or concealed inside the building.
- D. PVC may be used for conduit run in concrete slabs or may be run underground (underground only where permitted by NEC and local ordinances). PVC shall not be run exposed nor concealed in walls nor above ceilings nor in hazardous areas. When rigid nonmetallic conduit (PVC) is installed underground, it shall be Schedule 80 at all underground road crossings, at all underground driveway crossings, and when required by the NEC or local ordinance or specified otherwise. PVC Schedule 40 may be used at all other underground locations.
- E. Where PVC is utilized for underground installations, RGS 90° elbows and conduit shall be utilized to turn conduit vertical and to rise up to above grade/slab. Red concrete encasement shall be required for all elbows and vertical conduits.

- F. All conduit shall be new and shall bear the inspection label of the Underwriters Laboratories, Inc. (U.L.).
- G. Fittings for rigid steel conduit and EMT shall be hot-dipped galvanized and shall be of an approved type specially designed and manufactured for their purpose.
- H. All flexible conduit, where installed indoors and outdoors, shall be of the flexible liquid tight metallic type. Flexible weatherproof electrical conduit is prohibited from use on this project.
- I. Metallic conduit shall be metallized, sheradized, or hot-dipped galvanized.

2.3 METAL-CLAD CABLE (600 VOLTS AND BELOW)

- A. Where permitted by NEC and local codes and ordinances, metal-clad (MC) cables may be used in lieu of conduit and wiring specified elsewhere herein.
- B. Installation of MC cables shall be in compliance with the National Electric Code (NEC).
- C. Conductors shall be softdrawn annealed copper having a composition of not less than 98% of pure copper.
- D. Conductors shall be solid -type, standard Code gauge in size, insulated, and shall be rated for use at 600 volts or below. Minimum size shall be No. 12.
- E. Conductor insulation shall be of a type listed in the NEC and be rated for 75 deg. C (167 deg. F) as a minimum and shall be of a type approved for use in MC cable.

2.4 EXPANSION FITTINGS

- A. Each conduit that is rigidly secured to the building construction on opposite sides of a building expansion joint and each long run of exposed conduit that may be subject to excessive stresses shall be provided with an expansion fitting. Expansion fittings shall be made of hot-dipped galvanized malleable iron and shall have a factory-installed packing, which will prevent the entrance of water, a pressure ring, and a grounding ring.

2.5 OUTLET BOXES

- A. Outlet boxes in concealed conduit systems shall be flush mounted. Boxes shall be galvanized steel of sufficient size to accommodate devices shown and shall have raised covers. Requirements of the NEC shall be minimum.
- B. Boxes for lighting fixtures shall be four-inch (4") octagon, not less than 1-1/2" deep. Where boxes are installed in concrete, boxes designed for this application shall be used.
- C. Outlet boxes for switches and receptacles in concealed work shall be 4" square, and not less than 1-1/2" deep. Flush mounted outlet boxes shall be installed with plaster rings.
- D. Outlet boxes for switches and receptacles installed in exposed conduit system shall be cast iron or cast aluminum Type FD or approved equivalent.
- E. Outlet boxes for adjacent rooms shall not be installed in the same stud space to minimize sound transmission.
- F. Outlet boxes used for lighting toggle switches shall have outlet box stabilizer(s) installed.

PART 3 - EXECUTION

3.1 MOUNTING HEIGHTS

- A. Where overcurrent or safety switch devices are to serve exterior equipment, the Contractor shall review in detail with the Architect/Engineer proposed exterior mounting locations, mounting heights, conduit routing, etc., and receive approval prior to rough-in.
- B. Where overcurrent or safety switch devices are shown to serve condensing units, the top of the overcurrent device shall be 3'-0" AFG or level with the top of the condensing unit(s) whichever is lower.

3.2 WIRE (600 VOLT AND BELOW)

- A. Joints and splices in branch circuit wiring shall be made with compression type solderless connectors. Connectors of the nonmetallic screw on type are not acceptable.

- B. Terminations or splices for conductors # 6 AWG and larger shall utilize Burndy Unitap, Polaris Black or equivalent connectors.
- C. Unless otherwise specified, all wiring shall be installed in conduit.
- D. No wire shall be smaller than No. 12 for power or lighting service, fixture whips or for switch legs. Wire for each branch circuit shall be of a single size and type from the branch circuit protective device to the last outlet on the circuit unless noted otherwise.
- E. Not more than three (3) branch circuits shall be installed in a raceway for three-phase electrical systems. For single phase electrical systems, the number of circuits in any one raceway shall be limited to two (2).
- F. Branch circuits shall have a 200% rated neutral where more than one (1) branch circuit is in a raceway and the neutral conductor is shared. The neutral should match the branch phase wire size when only one (1) circuit is in a raceway and when the neutral conductor is not shared. Refer to the "Multiple Circuit Neutral Wiring Diagram." Provide multi-pole breakers to simultaneously trip all phase conductors for shared neutral circuits.
- G. Branch circuit home run numbers shown on the drawings shall be used for connection of circuit wiring to similarly numbered protective devices in branch circuit panelboards.
- H. Where the length of a home run, from panel to the first outlet exceeds 75 feet (75') for 120-volt circuits or 175 feet (175') for 277-volt circuits, the conductor size shall be No. 10 AWG or that shown on the drawings, whichever is larger.
- I. For all 3-phase circuits, contractor shall provide and install a full-size neutral conductor and a grounding conductor for a complete 5-wire circuit. If the neutral conductor is not required by the equipment, contractor shall install wire nuts on each end of the neutral conductor for future use.

3.3 CONDUIT

- A. Conduits shown underground but not in or under a floor slab shall be installed not less than thirty inches (30") below grade. Conduit locations shall be identified by means of 4" wide, detectable, Red warning/ marker tape installed in trench in accordance with NEC requirements
- B. Rigid conduit joints shall be made with threaded fittings made up tight with at least five threads fully engaged. Compression type threadless

fittings and setscrew type fittings shall not be used for RGS unless specifically approved in writing by the Architect/Engineer.

- C. Couplings and connectors for EMT shall be compression type or cast iron set screw type.
- D. Where conduits enter boxes or cabinets that do not have threaded hubs the conduit shall be secured in place with galvanized locknuts inside and outside and shall have bushings inside for interior locations. All exterior terminations shall be made with Meyers hubs or approved equivalent. Conduits larger than one inch (1") shall have galvanized insulating bushings.
- E. All conduits shall be installed as indicated or scheduled on the drawings and shall be of sufficient size to accommodate the required number of insulated conductors including equipment-grounding conductor. A grounding conductor shall be pulled in every raceway and properly terminated. The Contractor shall increase the conduit size from that shown on the drawings where necessary to accommodate the equipment-grounding conductor and/or where to comply with the NEC.
- F. Unless otherwise noted, conduit shall be run concealed.
- G. Conduit runs shall be straight; elbows and bends shall be uniform, symmetrical, and free from dents or flattening. All conduit shall be installed with runs parallel or perpendicular to walls, ceilings and structural members.
- H. Conduit shall not be run nearer than three inches (3") to hot water or steam pipes except where crossings are unavoidable. Conduit shall be kept at least one inch (1") from covering of pipe crossed and the conductor size shall be increased one (1) size
- I. Conduit shall be held securely in place by approved hangers and fasteners of appropriate design and dimensions for the particular application. Support shall be such that no strain will be transmitted to the outlet box and/or pull box supports. Conduit shall be secured only to the building structure.
- J. All conduit runs shall be installed in accordance with all applicable sections of the National Electrical Code and local codes or ordinances.
- K. Terminations to all mechanical equipment and to all dry-type transformers shall be made using a minimum of 12" to a maximum of 24" liquid-tight flexible metallic conduit.

- L. Where conduits are run from condition spaces to/thru un-conditioned spaces, the ends of the conduits shall be sealed (after conductor installation) to prevent the transmission of air from non-conditioned spaces into the conditioned spaces. Expanding spray foam and EYS seals are approved methods of sealing conduits.
- M. For all surface mounted devices, including fire alarm, device boxes shall be Wiremold 2000 Series or approved equivalent style boxes sized such that device does not overhang edge(s) of back box. Color of box shall match device.

3.4 METAL-CLAD CABLE (600 VOLTS AND BELOW)

- A. The metallic sheath shall be galvanized steel or aluminum corrugated sheath type and shall be terminated at outlet boxes, cabinets, etc. with fittings specifically approved for such use, which shall properly ground the metallic sheath.
- B. Each metal-clad cable assembly shall have one (1) green insulated ground conductor sized as required by NEC for the application as a minimum size.
- C. Where run in walls, cable shall be fastened using B-Line Series BX4 or approved equivalent cable fasteners. Cable shall be fastened to wall stud not more than 8" from entry into device box.
- D. MC Cable shall be supported horizontally and vertically every 5' minimum or closer where required by NEC and applicable federal, state and local ordinances.

3.5 MANUFACTURER'S DIRECTION

- A. Contractor shall be responsible for coordinating all aspects of equipment electrical service installation for all electrical gear, devices, mechanical, plumbing, fire protection, architectural, and owner furnished equipment. Contractor shall obtain and review actual manufacturer's installation instructions and shall install electrical facilities to said equipment in accordance with the instructions, NEC, NFPA and contract documents. Should a discrepancy exist between the manufacturer's installation directions and the contract documents, the engineer shall be notified in writing immediately.

3.6 COORDINATION WITH OTHER TRADES

- A. Prior to purchasing and installing any wire and/or conduit for all circuitry to mechanical equipment, owner furnished equipment, and other equipment requiring electrical power furnished by other trades as part of this project, contractor shall review equipment cut sheets and shall verify exact equipment electrical requirements. Any discrepancies between contract documents and equipment submittals shall be immediately brought to the architect/engineer's attention for clarification.

END OF SECTION 260500

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions) as appropriate, apply to the Work specified in this Section.
- B. Refer to other Electrical specifications, as well as the Specifications for the other various trades and materials and be thoroughly familiar with all provisions regarding electrical work.

1.2 GENERAL

- A. The Contractor shall furnish and install lighting fixtures and accessories as shown on the drawings and/or described herein. The Contractor shall also furnish and install new lamps for existing fixtures to be re-used in project area.
- B. Unless otherwise specified, lighting fixtures shall be permanently installed and connected to the wiring system.
- C. The Contractor shall support each new fixture independently, from the building structure. Ceiling framing members shall not be used to support fixtures except in specific areas where ceiling supports for this purpose have been specified elsewhere in these specifications.
- D. Catalog numbers scheduled on the drawings or descriptions of lighting fixtures contained herein may indicate fixture compatibility with certain types of ceiling construction. The Contractor shall determine exact type of ceilings actually to be furnished in each area and shall obtain fixtures to suit, deviating from specified catalog numbers or descriptions only where necessary, and only to the extent necessary to insure fixture-ceiling compatibility. The Contractor shall notify the Architect/Engineer in writing where such changes are to be made. Contractor shall clean all lighting fixtures of dirt and debris upon completion of project prior to requesting substantial completion inspection.



- E. Unless noted otherwise on the drawings, lamps installed in each fixture shall be of the type specifically recommended by the manufacturer of the fixture for use in the fixture. Fixtures shall not be wired with or have any parts constructed using asbestos materials.
- F. All requests for prior approval shall contain the following:
 - 1. Photometric data for each fixture being submitted.
 - 2. Listing of all deviations of fixtures proposed as compared to fixtures specified.

PART 2 - PRODUCTS

2.1 LAMPS

- A. Unless otherwise noted on the drawings or in the light fixture schedule, fluorescent lamps shall be specification grade, tri-phosphor, 3500o K, low mercury content (Philips ALTO or equivalent by GE or Sylvania) energy efficient type.

2.2 BALLASTS

- A. Ballasts shall be furnished where required to operate fluorescent lighting fixtures.
- B. Fluorescent ballasts shall be multi-voltage programmed-start, parallel sequence, and high power factor type. Fluorescent ballasts shall be Class P, sound rated A, and shall be provided with an automatic thermal cutout device to de-activate the ballast when it is over-heated. Fluorescent ballasts shall be ETL certified as meeting CBM specifications, and shall be electronic type limiting total harmonic distortion to less than ten percent (10%).

2.3 EMERGENCY BATTERY PACKS

- A. New emergency battery packs shall be provided and installed in all fixtures as denoted on the drawings.

- B. Emergency operation of the light fixture shall provide a minimum total lamp output of 1200 lumens for a minimum time period of ninety (90) minutes.
- C. Emergency battery packs shall be as manufactured by Bodine, Iota Engineering Co., or approved equivalent.
- D. The Contractor shall be responsible for any additional wiring, conduit, labor, etc., to provide the emergency lighting system specified at no additional cost to the Owner. This includes running of a continuously energized conductor to each and every battery pack.

2.4 LED FIXTURES

- A. Manufacturers of LED luminaires shall demonstrate a suitable testing program incorporating high heat, high humidity and thermal shock test regimens to ensure system reliability and to substantiate lifetime claims.
- B. The use of IESNA LM-80 data to predict luminaire lifetime is not acceptable.
- C. At time of manufacture, electrical and light technical properties shall be recorded for each luminaire. At a minimum, this should include lumen output, CCT, and CRJ. Each luminaire shall utilize a unique serial numbering scheme. Technical properties must be made available for a minimum of 5 years after the date of manufacture.
- D. Luminaires shall be provided with a full, non-pro-rated, non-limited, 5-year warranty covering LEDs, drivers, paint and mechanical components.
 - 1. Each luminaire shall consist of an assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array and electronic driver (power supply).
 - 2. The rated operating temperature range shall be 30°C to +40°C.
 - 3. Each luminaire is capable of operating above 100°F° (37°C), but not expected to comply with photometric requirements at elevated temperatures.
 - 4. Photometry must be compliant with IESNA LF-79 and shall be conducted at 25°C ambient temperature.
 - 5. The individual LEDs shall be constructed such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.

6. Luminaire shall be constructed such that LED modules may be replaced or repaired without replacement of whole luminaire.
7. Each luminaire shall be listed with Underwriters Laboratory, Inc. under UL 1598 for luminaires, or an equivalent standard from a nationally recognized testing laboratory.
8. Power Consumption: Maximum power consumption allowed for the luminaire shall be determined by application. The luminaire shall not consume power in the off state.
9. Operation Voltage: The luminaire shall operate from a 60 HZ \pm 3HZ AC line over a voltage ranging from 108 VAC to 305 VAC. The fluctuation of line voltage shall have no visible effect on the luminous output.
10. Power Factor: The luminaire shall have a power factor of 0.90 or greater.
11. THD: Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent.
12. Surge Suppression: The luminaire onboard circuitry shall include fused surge protection devices (SPD) to withstand high repetition noise transients as a result of utility line switching, nearby lightning strikes, and other interference. The SPD shall protect the luminaire from damage and failure for common mode transient peak voltages up to 2.5 kV (minimum) and transient peak currents up to 5 kA (minimum) SPD shall conform to UL 1449 depending on the components used in the design. SPD performance shall be tested per the procedures in ANSI/IEEE C62.41-1992 (or current edition for category C (standard)). The SPD shall fail in such a way as the luminaire will no longer operate. The SPD shall be field replaceable.
13. Each luminaire shall have integral UL Listed Class II power supplies. Class I power supplies will not be acceptable.
14. Operational Performance: The LED circuitry shall prevent visible flicker to the unaided eye over the voltage range specified above.
15. RF Interference: LED drivers must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise.
16. Drivers shall have a Class A sound rating.
17. Illuminance: The illuminance shall not decrease by more than 30% over the expected operating life. The measurements shall be calibrated to standard photopic calibrations.
18. Light Color Quality: The luminaire shall have a correlated color temperature (CCT) range of 4000K. The color rendition index (CRI) shall be 80 or greater. Binning of LEDs shall conform to ANSI/G.NEMA SSL 3-2010.

19. Backlight –Uplight-Glare: the luminaire shall not allow more than 10 percent of the rated lumens to project above 80 degrees from vertical. The luminaire shall not allow more than 2.5 percent of the rated lumens to project above 90 degrees from vertical. Backlight and Glare ratings as per fixture schedule and calculated per IESNA TM-15.
20. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life.
21. The LED manufacturer's maximum thermal pad temperature for the expected life shall not be exceeded.
22. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.
23. The luminaire shall have a minimum heat sink surface such that LED manufacturer's maximum junction temperature is not exceeded at maximum rated ambient temperature.
24. The heat sink shall be aluminum.
25. The luminaires shall be dimmable from 100 percent output to 0 percent output.
26. Driver shall be integral to the fixture and field replaceable.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All surface mounted fixtures shall be properly anchored so that all sides of the fixture are butted up against the mounting surface. A minimum of two (2) anchors shall be used; however, where additional anchors are required to properly install fixture (all sides evenly spaced from ceiling), the Contractor shall provide and install them at no additional cost to the Owner.

1. Anchor types shall be as follows:

Mounting Surface Material Anchor type

* Gypsum board (wall)	Toggle bolts or blocking with screws
Gypsum board (ceiling)	Expansion type anchor
Concrete/concrete block	Expansion type anchor
** Wood	Screws

*Anchor type shall be determined in field by Architect/Engineer as dictated by fixture weight.

** Any fixture installed on combustible material shall be installed on ½ minimum spacers unless prior approved, otherwise in writing by Architect/Engineer.

- B. All recessed fixtures in suspended ceiling shall be supported by a minimum of two (2) support wires, at opposite corners of the fixture. Each support wire shall be continuous without splices to the building structure and separately anchored. Fixture support wires shall support only the light fixture and not the ceiling. Surface mounted fixtures installed on lay-in ceiling shall be supported as lay-in fixtures. Refer to details for additional requirements.

END OF SECTION 265100

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes exterior lighting fixtures, lamps, ballasts, and accessories.
- B. Where a "Standard Specification" (i.e. ANSI, UL, etc.) is referenced and no manufacturers are listed the Contractor shall submit manufacturers for Prior Approval in adherence with the specified standard.

1.3 DEFINITIONS

- A. Fixture: A complete lighting unit. Fixtures include LED's and drivers and parts required to distribute the light and connect to the power supply.
- B. Lighting Unit: A fixture, or an assembly of fixtures with a common support and support accessories.
- C. Luminaire: A fixture.

1.4 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.
- B. Product data describing fixtures and accessories. Arrange product data for fixtures in order of fixture designation. Include data on features, accessories, and the following:
 - 1. Outline drawings of fixtures indicating dimensions and principal features.
- C. Maintenance data for products for inclusion in Operating and Maintenance Manual specified in Division 1.



1.5 QUALITY ASSURANCE

- A. Comply with NFPA 70 "National Electrical Code" for components and installation.
- B. Comply with ANSI C2, "National Electrical Safety Code."
- C. Listing and Labeling: Provide fixtures and accessories that are listed and labeled for their indicated use and location on the Project.
 - 1. The Terms "Listed" and "Labeled": As defined in the "National Electrical Code," Article 100.
 - 2. Listing and Labeling Agency Qualification: A "Nationally Recognized Testing Laboratory" (NRTL) as defined in OSHA Regulation 1910.7.
- D. Manufacturers' Qualifications: Firms experienced in manufacturing lighting units that are similar to those indicated for this Project and that have a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 FIXTURE COMPONENTS, GENERAL

- A. Metal Parts: Free from burrs and sharp edges and corners.
- B. Sheet Metal Components: Corrosion-resistant aluminum, except as indicated. Form and support to prevent warping and sagging.
- C. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed fixtures.
- D. Doors, Frames, and Other Internal Access Provisions: Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and when secured in the operating position. Provide for door removal for cleaning or replacing lens. Arrange for door opening to disconnect ballast.
- E. Exposed Hardware Material: Stainless steel.

- F. Reflecting Surfaces: Minimum reflectances as follows, except as otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
- G. Lenses and Refractors: Materials as indicated. Use heat- and aging-resistant, resilient gaskets to seal and cushion lens and refractor mounting in fixture doors.

2.2 LED FIXTURES

- A. Each luminaire shall consist of an assembly that utilizes LEDS as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply).
- B. Each luminaire shall be rated for a minimum operational life of 50,000 hours at an average operating time of 11.5 hours per day. This life rating must be conducted at 40C ambient temperature.
- C. The individual LEDS shall be constructed such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.
- D. Luminaire shall be constructed such that LED modules may be replaced or repaired without replacement of whole luminaire.
- E. Each luminaire shall be listed with Underwriters Laboratory, Inc. Under UL 1598 for luminaires or an equivalent standard from a nationally recognized testing laboratory.
- F. Operation Voltage: The luminaire shall operate from a 60 HZ±3 HZ AC line over a voltage ranging from 108 VAC to 305 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
- G. Power factor: The luminaire shall have a power factor of 0.90 or greater.
- H. Surge Suppression: The luminaire onboard circuitry shall include fused surge protection devices (SPD) to withstand high repetition noise transients as a result of utility line switching, nearby lightning strikes and other interference. The SPD shall protect the luminaire from damage and failure for common mode transient peak voltages up to 2.5 kV (minimum) and transient peak currents up to 5 kA (minimum). SPD shall conform to UL 1449 depending on the components used in the design. SPD performance shall be tested per the procedures in ANSI/IEEE C62.41-1992

(or current edition) for Category C (standard). The SPD shall fail in such a way as the luminaire will no longer operate. The SPD shall be replaceable.

- I. Each luminaire shall have integral UL Listed Class II power supplies. Class I power supplies will not be acceptable.
- J. Drivers shall have a Class A sound rating.
- K. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life.
- L. The LED manufacturer's maximum thermal pad temperature for the expected life shall not be exceeded.
- M. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.
- N. The luminaire shall have a minimum heat sink surface such that LED manufacturer's maximum junction temperature is not exceeded at maximum rated ambient temperature
- O. The heat sink material shall be aluminum.
- P. The luminaire shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply for the luminaire shall be integral to the unit.
- Q. LED luminaires shall include 5-year warranty including labor to replace said drivers or fixtures for 5-year period.

2.3 FINISH

- A. Metal Parts: Manufacturer's standard finish except as otherwise indicated. Finish applied over corrosion-resistant primer, free of streaks, runs, holidays, stains, blisters, and similar defects. Remove poles, fixtures, and accessories showing evidence of corrosion or finish failure during Project warranty period and replace with new items.
- B. Other Parts: Manufacturer's standard finish except as otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set units plumb, square, level, and secure according to manufacturer's written instructions and shop drawings.
- B. Fixture Attachment: Fasten to structural supports.
- C. Fixture Attachment with Adjustable Features or Aiming: Attach fixtures and supports to allow aiming for indicated light distribution.

3.2 FIELD QUALITY CONTROL

- A. Inspect installed units for damage.
- B. Tests: Verify normal operation of lighting units after installing fixtures and energizing circuits with normal power source.
- C. Replace or repair damaged and malfunctioning units and retest.

3.3 ADJUSTING AND CLEANING

- A. Clean components on completion of installation. Use methods and materials recommended by manufacturer.
- B. Adjust aimable fixtures to provide required light intensities.

END OF SECTION 265600

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Dry-installed drilled piers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture. Submit alternative design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Shop Drawings: For concrete reinforcement, detailing fabricating, bending, supporting, and placing.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer that has specialized in drilled-pier work.
- B. Testing Agency Qualifications: Qualified according to ASTM C1077, ASTM D3740, and ASTM E329 for testing indicated.

1.6 FIELD CONDITIONS

- A. Existing Utilities: Locate existing underground utilities before excavating drilled piers. If utilities are to remain in place, provide protection from damage during drilled-pier operations.

1. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, adapt drilling procedure if necessary to prevent damage to utilities. Cooperate with Owner and utility companies in keeping services and facilities in operation without interruption. Repair damaged utilities to satisfaction of utility owner.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed.

2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source, throughout Project:
 1. Portland Cement: ASTM C150, Type I/II. Supplement with the following:
 - a. Fly Ash: ASTM C618, Class F. The use of fly ash is an option, not a requirement.
- B. Normal-Weight Aggregate: ASTM C33, graded, 1-inch nominal maximum coarse-aggregate size. Provide aggregate from a single source.
 1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C94 and potable.
- D. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 1. Water-Reducing Admixture: ASTM C494, Type A.
 2. Water-Reducing and Retarding Admixture: ASTM C494, Type D.
 3. High-Range, Water-Reducing and Retarding Admixture: ASTM C494, Type G.
 4. Plasticizing and Retarding Admixture: ASTM C1017, Type II.

2.3 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

- B. Cementitious Materials: Limit percentage, by weight, of fly ash to 15%. The use of fly ash is an option, not a requirement.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- D. Proportion normal-weight concrete mixture as follows:
 - 1. Compressive Strength (28 Days): 3000 psi
 - 2. Maximum Water-Cementitious Materials Ratio: 0.50
 - 3. Minimum Slump: Capable of maintaining the following slump until completion of placement:
 - a. 4 inches for dry, uncased, or permanent-cased drilling method.
 - b. 6 inches for temporary-casing drilling method.
 - c. 7 inches for slurry displacement method.
 - 4. Air Content: Do not air entrain concrete.

2.4 REINFORCEMENT FABRICATION

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.5 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, vibration, and other hazards created by drilled-pier operations.

3.2 EXCAVATION

- A. Unclassified Excavation: Excavate to bearing elevations regardless of character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions.
 - 1. Obstructions: Unclassified excavation may include removal of unanticipated subsurface obstructions. No changes in the Contract Sum or the Contract Time are authorized for removal of obstructions.
- B. Prevent surface water from entering excavated shafts. Conduct water to site drainage facilities.
- C. Excavate shafts for drilled piers to indicated elevations. Remove loose material from bottom of excavation.
 - 1. Remove water from excavated shafts before concreting.
- D. Tolerances: Construct drilled piers to remain within ACI 336.1 tolerances.
 - 1. If location or out-of-plumb tolerances are exceeded, provide corrective construction. Submit corrective construction proposals to Architect for review before proceeding.

3.3 STEEL REINFORCEMENT INSTALLATION

- A. Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy bond with concrete.
- C. Fabricate and install reinforcing cages symmetrically about axis of shafts in a single unit.
- D. Accurately position, support, and secure reinforcement against displacement during concreting. Maintain minimum cover over reinforcement.
- E. Use templates to set anchor bolts, leveling plates, and other accessories furnished in work of other Sections. Provide blocking and holding devices to maintain required position during final concrete placement.
- F. Protect exposed ends of extended reinforcement, dowels, or anchor bolts from mechanical damage and exposure to weather.

3.4 CONCRETE PLACEMENT

- A. Place concrete in continuous operation and without segregation immediately after inspection and approval of shaft by a qualified testing agency.
- B. Free fall of concrete shall not exceed ten (10) feet; use of a pump or tremie is required for shaft depths in excess of ten (10) feet.
- C. Dry Method: Place concrete to fall vertically down the center of drilled pier without striking sides of shaft or steel reinforcement.
 - 1. Vibrate top 60 inches of concrete.
- D. Slurry Displacement Method: Place concrete in slurry-filled shafts by tremie methods or pumping. Control placement operations to ensure that tremie or pump pipe is embedded no less than 60 inches into concrete and that flow of concrete is continuous from bottom to top of drilled pier.
- E. Coordinate withdrawal of temporary casings with concrete placement to maintain at least a 60-inch head of concrete above bottom of casing.
 - 1. Vibrate top 60 inches of concrete after withdrawal of temporary casing.
- F. Screed concrete at cutoff elevation level and apply scoured, rough finish. Where cutoff elevation is above the ground elevation, form top section above grade and extend shaft to required elevation.
- G. Protect concrete work, according to ACI 301, from frost, freezing, or low temperatures that could cause physical damage or reduced strength.
 - 1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 2. Do not use calcium chloride, salt, or other mineral-containing antifreeze agents or chemical accelerators.
- H. If hot-weather conditions exist that would seriously impair quality and strength of concrete, place concrete according to ACI 301 to maintain delivered temperature of concrete at no more than 90 deg F.
 - 1. Place concrete immediately on delivery. Keep exposed concrete surfaces and formed shaft extensions moist by fog sprays, wet burlap, or other effective means for a minimum of seven days.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage] qualified testing agency to perform tests and inspections.

- B. Concrete Tests and Inspections: ASTM C172 except modified for slump to comply with ASTM C94.
1. Slump: ASTM C143; one test at point of placement for each compressive-strength test but no fewer than one test for each concrete load.
 2. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40 deg F and below and 80 deg F and above, and one test for each set of compressive-strength specimens.
 3. Compression Test Specimens: ASTM C31; one set of four standard cylinders for each compressive-strength test unless otherwise indicated. Mold and store cylinders for laboratory-cured test specimens unless field-cured test specimens are required.
 4. Compressive-Strength Tests: ASTM C39; one set for each drilled pier but not more than one set for each truck load. Test one specimen at seven days, test two specimens at 28 days, and retain one specimen in reserve for later testing if required.
 5. If frequency of testing provides fewer than five strength tests for a given class of concrete, conduct tests from at least five randomly selected batches or from each batch if fewer than five are used.
 6. If strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 7. Strength of each concrete mixture is satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
 8. Report test results in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. List Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests in reports of compressive-strength tests.
 9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but not be used as sole basis for approval or rejection of concrete.
 10. Additional Tests: Testing and inspecting agency to make additional tests of concrete if test results indicate that slump, compressive strengths, or other requirements have not been met, as directed by Architect.
 11. Perform additional testing and inspecting, at Contractor's expense, to determine compliance of replaced or additional work with specified requirements.
 12. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- C. An excavation, concrete, or a drilled pier will be considered defective if it does not pass tests and inspections.

- D. Prepare test and inspection reports for each drilled pier as follows:
1. Actual top and bottom elevations.
 2. Actual drilled-pier diameter.
 3. Description of soil materials.
 4. Description, location, and dimensions of obstructions.
 5. Ground-water conditions and water-infiltration rate, depth, and pumping.
 6. Description, length, diameter, and top and bottom elevations of temporary or permanent casings.
 7. Description of soil or water movement, sidewall stability, loss of ground, and means of control.
 8. Date and time of starting and completing excavation.
 9. Inspection report.
 10. Condition of reinforcing steel and splices.
 11. Position of reinforcing steel.
 12. Concrete placing method, including elevation of consolidation and delays.
 13. Elevation of concrete during removal of casings.
 14. Concrete volume.
 15. Concrete testing results.
 16. Remarks, unusual conditions encountered, and deviations from requirements.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 316329

PART 1 - GENERAL

1.1 DESCRIPTION OF THE WORK

- A. Provide metal fences and gates as complete units produced by a single manufacturer including necessary erection accessories, fittings and fastenings.

1.2 SUBMITTALS

- A. Submit 6 copies of manufacturer's technical data, and installation instructions for metal fencing and gates. Transmit copy of each instruction to the Installer.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Pipe sizes indicated are commercial pipe size. Equivalent tubular sections, H-sections or roll-formed sections may be substituted for pipe sections, if acceptable to the Architect.

2.2 STEEL FENCING

- A. Fabric: Number 9-gauge (0.148") steel wires, 2" mesh, with top salvages knuckled for fabric 5' high and under, and both top and bottom salvages twisted and barbed for fabric over 5' high.

- 1. Furnish one piece fabric widths for fencing up to 12' high.

- B. Framework: Galvanized steel, ASTM A120 with not less than 1.8 ounces zinc per square foot.

- C. Hardware and Accessories: Galvanized, ASTM A153, with zinc weights of ASTM A153.

2.3 FRAMING AND ACCESSORIES

- A. End, Corner and Pull Posts: Minimum sizes and weights as follows:

- 1. Up to 6' fabric height: 2.375" outside diameter steel pipe, 3.65 pounds per lineal foot, weight, .154" wall thickness.
 - 2. Over 6' fabric height: 2.875" outside diameter steel pipe, 5.79 pounds per lineal foot weight, .203" wall thickness.

- B. Line Posts: Space 10' on center maximum unless otherwise shown of following minimum sizes and weights.

- 1. Up to 6' fabric height: 1.90" outside diameter steel pipe, 2.70 pounds per lineal foot weight, .154" wall thickness.

2. Over 6' fabric height: 2.375" outside diameter steel pipe, 3.65 pounds per lineal foot weight, .154" wall thickness.
- C. Gate Posts: Furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:
 1. Up to 6' wide, 2.875" outside diameter steel pipe, 5.79 pounds per lineal Foot weight, .203" wall thickness.
 2. Over 6' and up to 12' wide: 4.0" outside diameter steel pipe, 9.11 pounds per lineal Foot weight, .226" wall thickness.
- D. Top Rail, Bottom Rail, & Mid Rail: 1.660" outside diameter steel pipe, 1.431 pounds per lineal foot weight, .085" wall thickness. Furnish in manufacturer's longest lengths with expansion type couplings, approximately 6" long, for each joint. Provide means for attaching rail securely to each gate, corner, pull, and end post.
 1. Provide top rail and bottom rail at all fencing.
 2. Provide mid/brace rails at all fencing 6' high and over. Maximum spacing of mid rails shall be 5'-0" o.c.
- E. Stretcher Bars: One-piece lengths equal to full height of fabric with minimum cross-section of 3/16" x 3/4". Provide one stretcher bar for each gate and end post and two for each corner and pull post, except where fabric is integrally woven into post.
- F. Stretcher Bar Bands: Space not over 15" on center to secure stretcher bars to end, corner, pull and gate posts.
- G. Wire Ties: For tying fabric to line posts, use wire ties spaced 12" on center. For tying to rails and braces, use wire ties spaced 24" on center. For tying fabric to tension wire, use hog rings spaced 24" on center.
- H. Manufacturer's alternate standard procedure will be accepted if of equal strength and durability.
- I. Concrete: Provide concrete consisting of Portland cement, ASTM C150, aggregates, ASTM C33, and clean water. Mix materials to obtain concrete with a minimum 28 day compressive strength of 2500 pounds per square inch using at least 4 sacks of cement per cubic yard, 1" maximum size aggregate, maximum 3" slump and 2% to 4% entrained air.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the conditions under which the fence and gates are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
- B. Contractor shall be responsible for locating and marking all existing underground utilities, drainage, etc. that may be detrimental to proper and timely completion of the work.

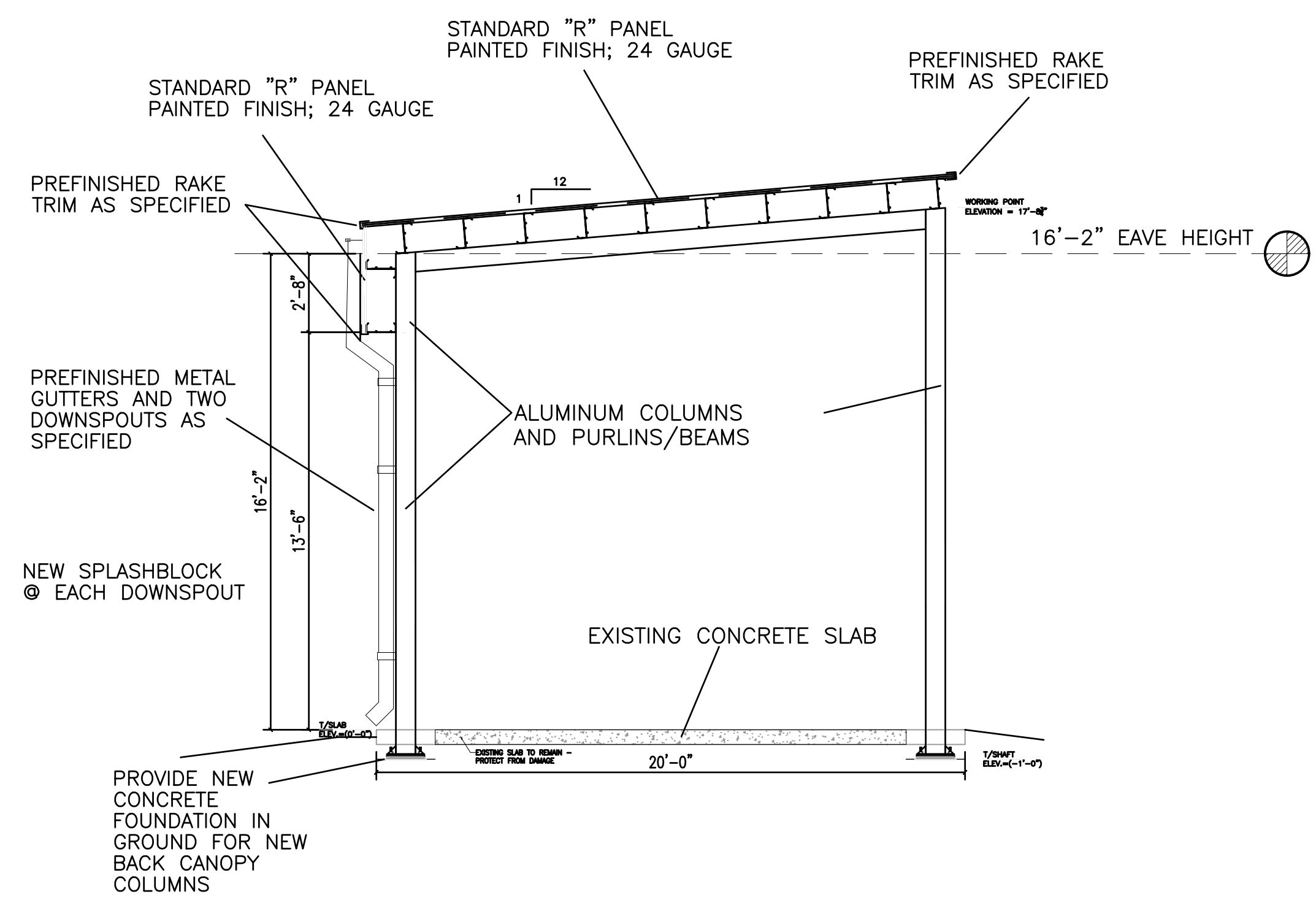
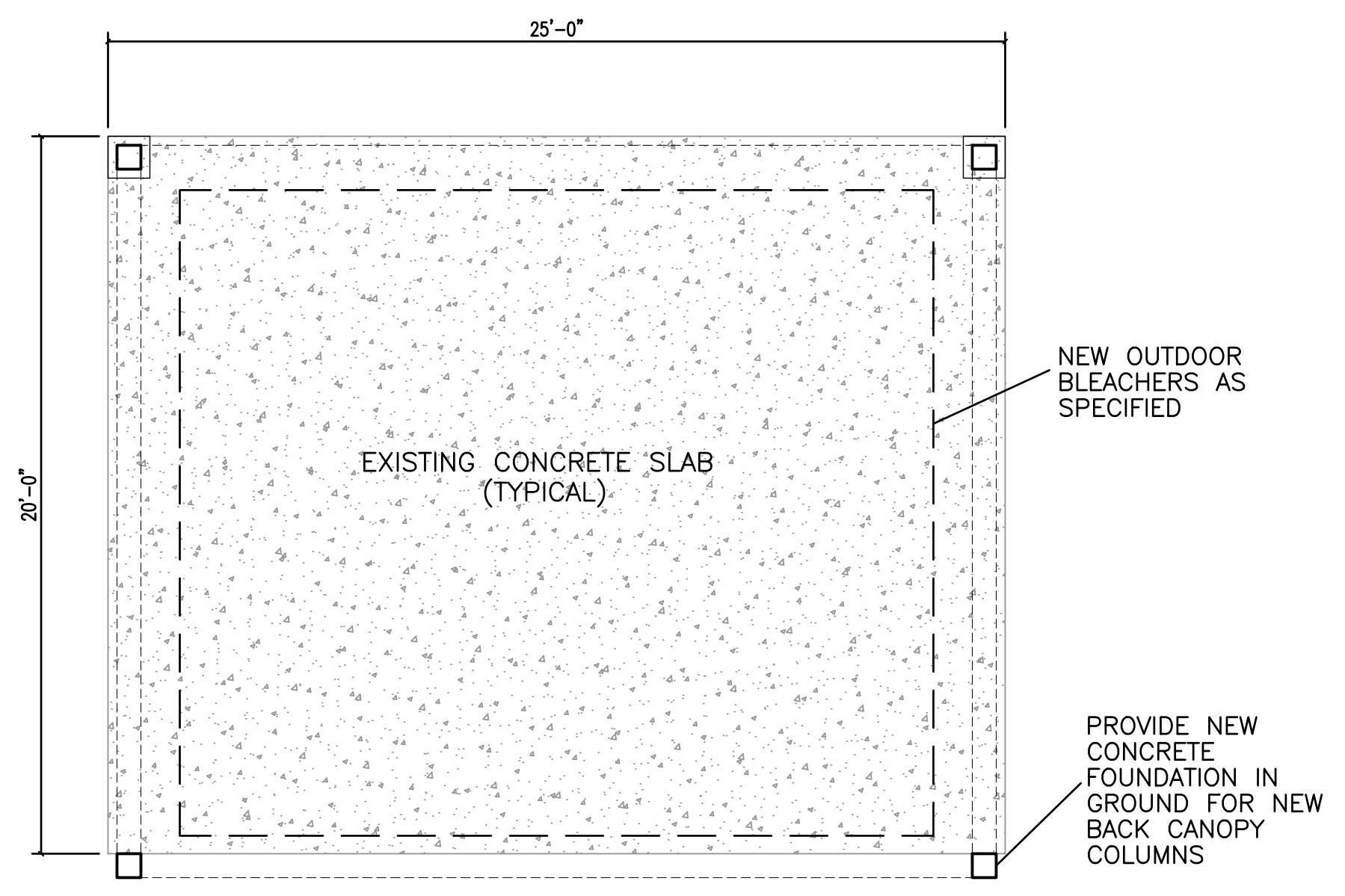
3.2 INSTALLATION

- A. Do not begin installation and erection before final grading is completed, unless otherwise permitted.
- B. Excavation: Drill holes for posts of diameters and spacing shown, in firm, undisturbed or compacted soil.
 - 1. If not shown on the drawings, excavate holes to the minimum diameters as recommended by fence manufacturer.
- C. Unless otherwise indicated, excavate hole depths approximately 3" lower than the post bottom with bottom of posts set not less than 36" below the surface.
- D. Setting Posts: Center and align posts in holes 3" above bottom of excavation.
- E. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations.
- F. Top Rails: Run rail continuously through post caps bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.
- G. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.
- H. Tension Wire: Install tension wires by weaving through the fabric and tying to each post with not less than 6-gauge galvanized wire or by securing the wire to the fabric.
- I. Fabric: Leave approximately 2" between finish grade and bottom salvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence and anchor to framework so that fabric remains in tension after pulling force is released.
- J. Stretcher Bars: Thread through or clamp to fabric 4" on center and secure to posts with metal bands spaced 15" on center.
- K. Tie Wires: Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least 2 full turns. Bend wire to minimize hazard to persons or clothing.
- L. Fasteners: Install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

END OF SECTION 323113



Laydown area



NEW CANOPIES OVER EXISTING BLEACHER SLABS
SCALE: 1/4" = 1'-0"



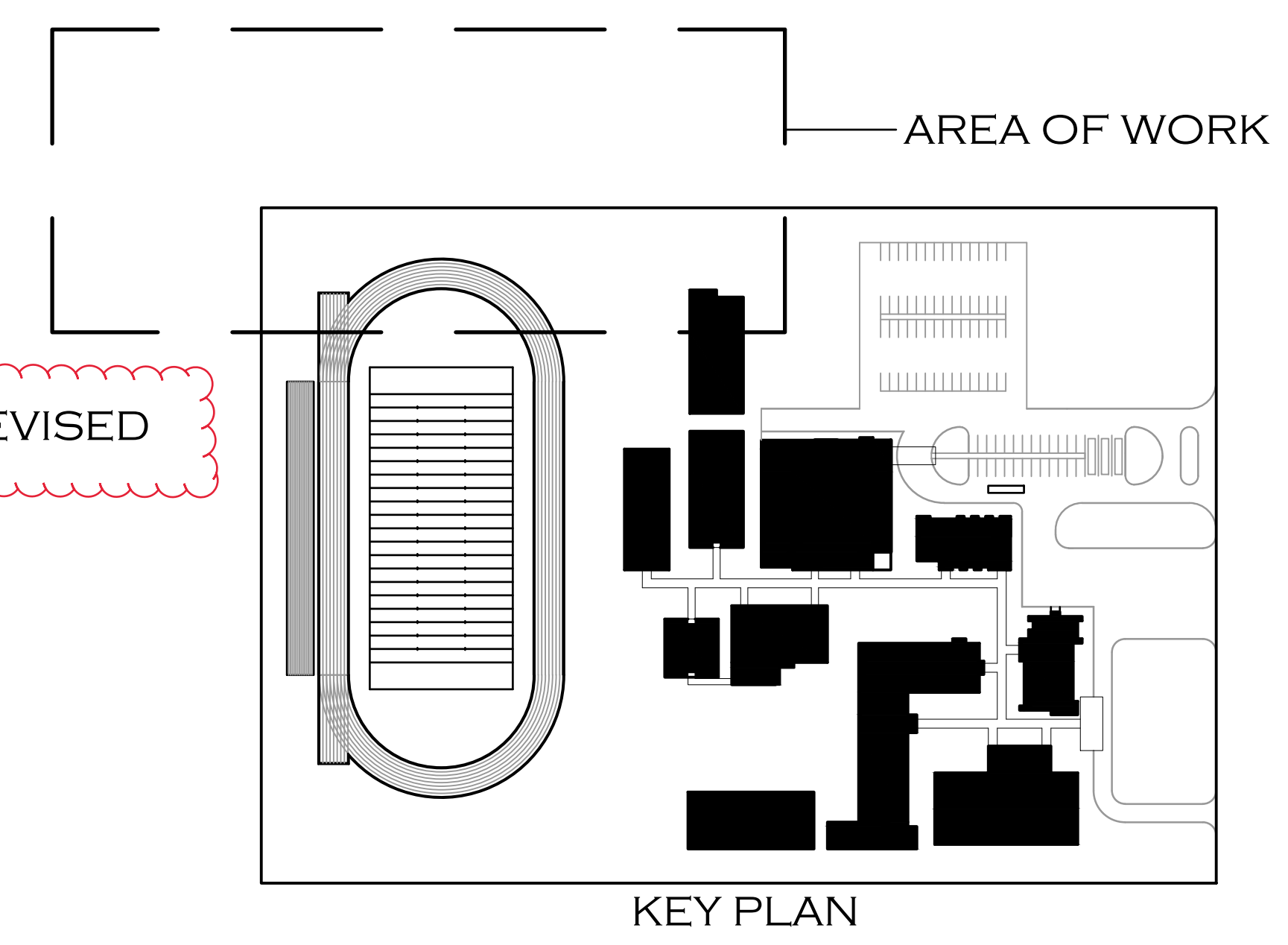
ENLARGED SPORTS FACILITY AERIAL - AREA C
N.T.S.

REPAIR NOTES:

- 16. REPLACE DAMAGED 8'-0" X 8'-0" ROLLING OVERHEAD DOOR IN SHED BUILDING. MATCH EXISTING.
- *17 REPLACE ALL DAMAGED PREFINISHED METAL ROOF PANELS (APPROX 6 PANELS), PREFINISHED METAL WALL PANELS (APPROX 6 PANELS), PREFINISHED METAL RAKE TRIM & TRIM, APPROX 20 LF. MATCH EXISTING.

REPLACE MISSING CANOPY (APPROX. 1250 SF). FLASH TO EXISTING BATTING CAGE BUILDING. REPLACE MISSING AND DAMAGED CANOPY COLUMNS AS SPECIFIED (APPROX. 6). FIELD VERIFY DIMENSIONS. (SEE ATTACHED BATTING CAGE CANOPY SHEET)
- 18. STRAIGHTEN EXISTING POLE LIGHT AND RE-ANCHOR INTO EXISTING CONCRETE BASE; PROVIDE NEW FASTENING HARDWARE WHERE REQUIRED, MATCH EXISTING. V.O.J.
- *19. REMOVE BROKEN SECTION OF CONCRETE AT LOCATION SHOWN. SAWCUT AND DEMO 2'-0" X 2'-0" AREA AROUND BROKEN PORTION. FILL EXISTING LOW SPOT WITH COMPACTED STRUCTURE FILL UP TO EXISTING GRADE. POUR NEW CONCRETE FLUSH WITH EXISTING CONCRETE WALK. PROVIDE THREE #4 REBAR IN NEW CONCRETE PORTION DOWELED INTO EXISTING CONCRETE, 6" IMBEDMENT. (APPROX. 12 SF)
- *20. REMOVE FOUR DAMAGED BLEACHERS. RELOCATE ORIGINAL BLEACHERS ON SITE TO DESIGNATED AREA NOTED ON PLAN. PROVIDE NEW FREESTANDING BLEACHERS AS SPECIFIED. DEMO ONE EXISTING CANOPY ON NORTH SIDE OF GIRL'S SOFTBALL FIELD. PROVIDE FOUR NEW CANOPIES AT EXISTING BLEACHER PADS AS DETAILED. SEE DETAILS ABOVE FOR ARCHITECTURAL DETAILS ON NEW CANOPIES. SEE STRUCTURAL SHEETS S1.0 & S2.0 FOR CANOPY & FOUNDATION DETAILS.

* INDICATES WHAT IS REVISED



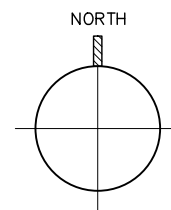
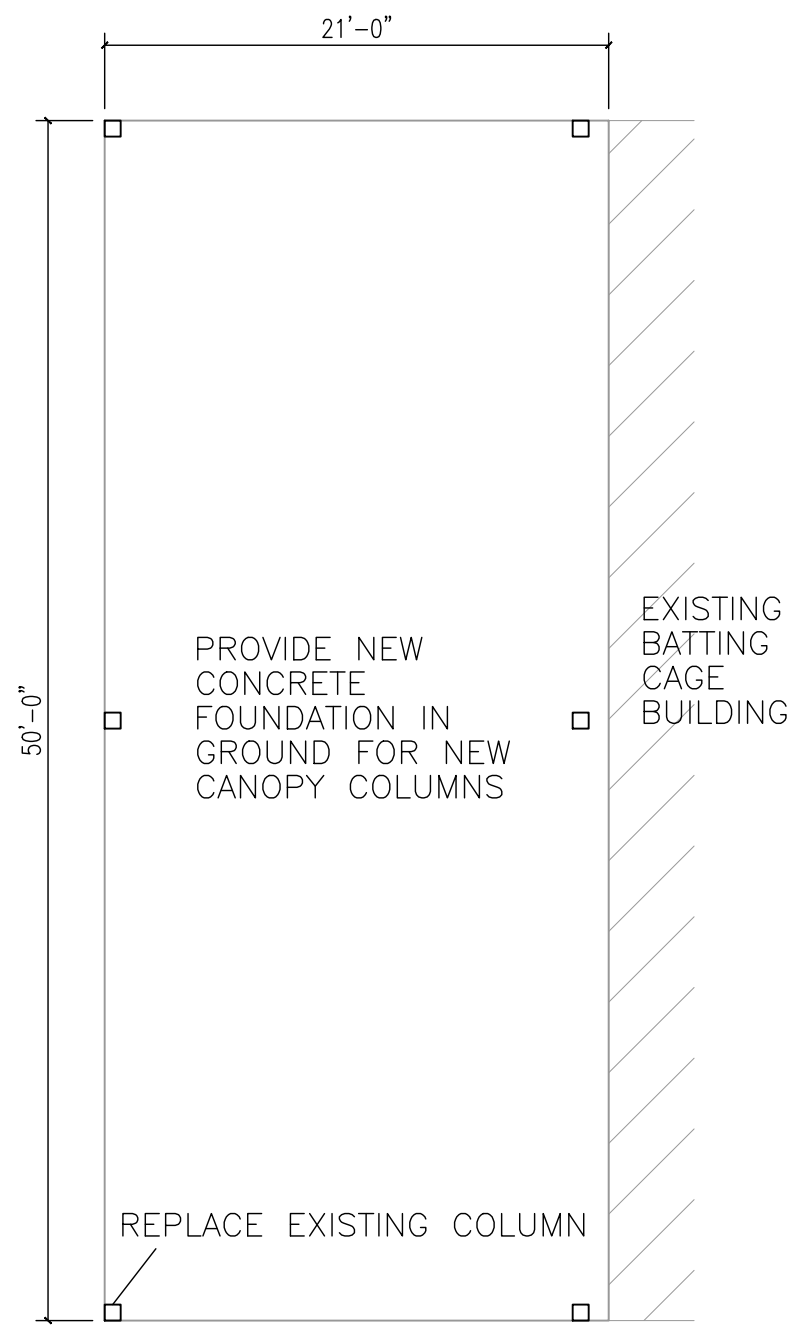
DATE: NOVEMBER 2021
 BID SET
 ISSUE FOR BID: JUNE 2023
 ADDENDUM 1: 08/17/2023

MOSS ARCHITECTS, INC.
 A Professional Corporation
 3221 RYAN ST., SUITE B
 LAYNE, CHARLES, LA 70601
 RICHARD A. STEEN, AIA, ARCHITECT
 LAYNE, CHARLES, LA 70601
 KYLE W. BENNETT, ASSOCIATE AIA
 SCOTT, MANING, EI
 WWW.MOSSARCHITECTS.COM



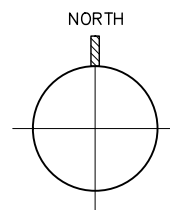
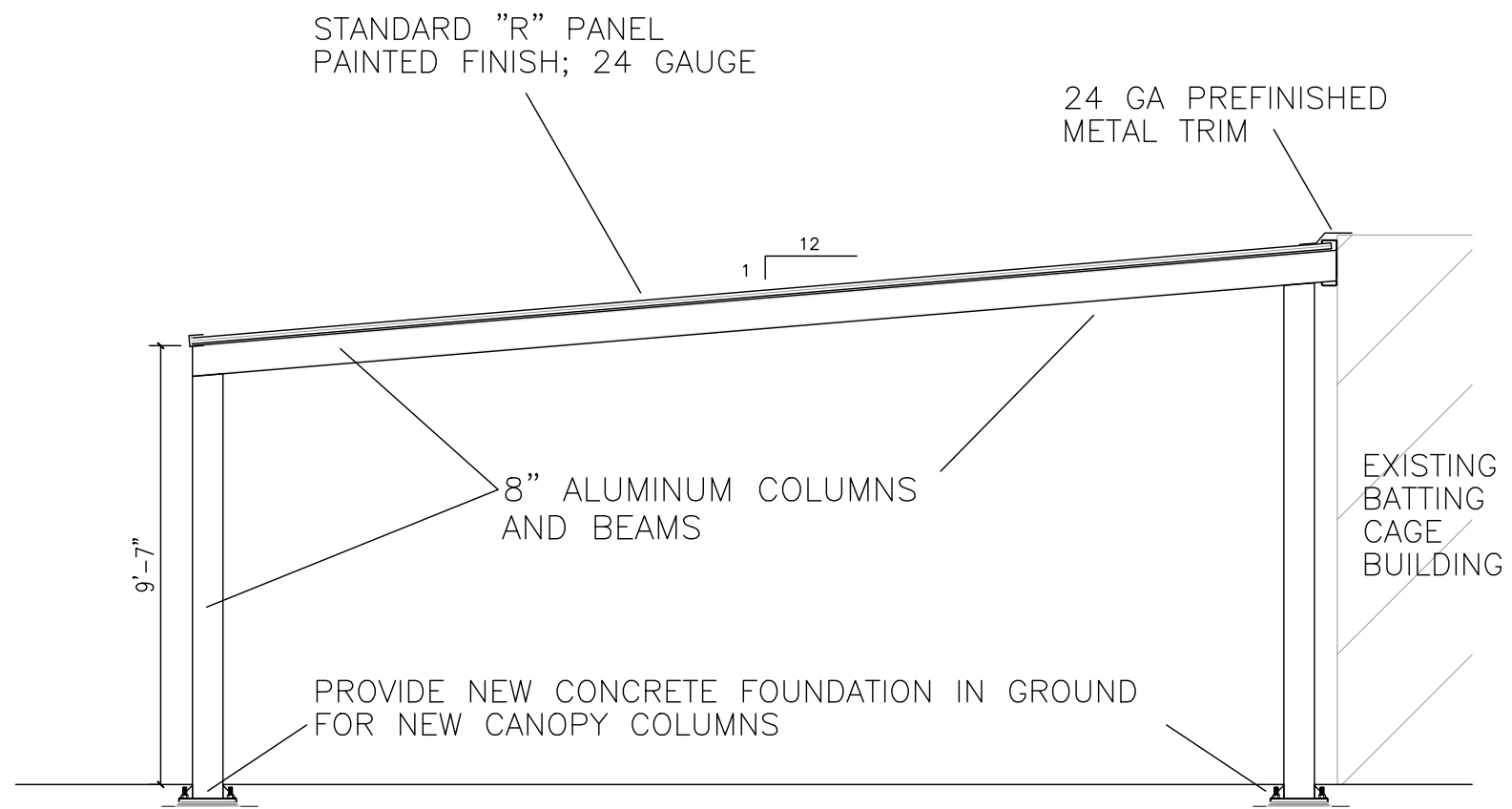
BELL CITY CAMPUS
 HURRICANE LAURA REPAIRS
 HL-004-01 HURRICANE LAURA REPAIRS
 7161 HWY LA-14
 BELL CITY, LOUISIANA 70630

CALCASIEU PARISH SCHOOL BOARD
 ENLARGED SITE PLAN - AREA C



NEW CANOPY AT BATTING CAGE

SCALE: 1/8" = 1'-0"



NEW CANOPY AT BATTING CAGE

SCALE: 1/4" = 1'-0"

NEW CANOPY AT BATTING CAGE. REF: 17/A1.3

ADDENDUM 1
08/17/2023