

**DESCRIPTION: J. B. EDWARDS ELEMENTARY SCHOOL – ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

Offeror is to submit a signed copy of this Addendum # 1 form with BID

NAME OF OFFEROR <small>(Full legal name of business submitting the offer)</small>		
AUTHORIZED SIGNATURE <small>(Person signing must be authorized to submit binding offer to enter contract on behalf of Offeror named above.)</small>		
TITLE <small>(Business title of person signing above)</small>		
PRINTED NAME <small>(Printed name of person signing above)</small>	DATE SIGNED	

ACKNOWLEDGMENT OF AMENDMENTS	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date
Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue.  See "Amendments to Solicitation" Provision								
DISCOUNT FOR PROMPT PAYMENT See "Discount for Prompt Payment" clause	10 Calendar Days (%)		20 Calendar Days (%)		30 Calendar Days (%)		____Calendar Days (%)	

**SEE NEXT PAGE**

AMENDMENTS TO SOLICITATION (a) The Solicitation may be amended at any time prior to opening. (b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

## **Solicitation has been amended as follows:**

**FOR**

**MT. ZION ELEMENTARY SCHOOL – TOILET ROOM RENOVATIONS**

**PREPARED BY:**

**CUMMING CONSTRUCTION MANAGEMENT, INC.  
3820 FABER PLACE DRIVE, SUITE 600  
N. CHARLESTON, SOUTH CAROLINA 29405**

**AND**

**WHOLE BUILDING SYSTEMS  
26 BEE STREET, SUITE B  
MT. PLEASANT, SC 29465**

**REI ENGINEERS  
2090 EXECUTIVE HALL RD, STE. 115  
CHARLESTON, SC 29407**

This addendum consists of the following attachments:

<b>ITEM</b>	<b>No. of Pages</b>
1. Pre-Bid Minutes & Sign In Sheet dated 3/7/2018	5
2. REPLACE Specification Section 012100 Allowances	3
3. ADD Specification Section 012300 Alternates	2
4. REPLACE Specification Section 000116 Invitation for Bid	32
5. REPLACE Specification Section 070150 Preparation for Reroofing	8
6. REPLACE Specification Section 075216 Modified Bitumen Roofing	14
7. REPLACE Drawing M601 and M602	2

### **PRE BID CONFERENCE**

**ITEM 1.1 PRE\_BID CONFERENCE MEETING MINUTES: See attached Pre-Bid Conference Meeting Minutes and Sign In Sheet dated 3/7/2018.**

### **GENERAL**

**ITEM 1.2 SPECIFICATION SECTION 000100 TABLE OF CONTENTS: Add Specification Section 012300 Alternates to the Table of Contents.**

**ITEM 1.3 SPECIFICATION SECTION 000116 INVITATION FOR BIDS: Attachment “B” allows for two roofing contractors for different sectors. They are numbered Roof No. 1 and Roof No. 2. They are also separated on the bid form for pricing. However the General Contractor has the option to accept one roofing contractor provided the roofing contractor**

**provides no less than 2 crews and supporting equipment, with the crew size no less than a twelve (12) member team.**

**SPECIFICATIONS**

- ITEM 1.4 SPECIFICATION SECTION 012100 ALLOWANCES:** Replace Specification Section 012100 Allowance with revised Specification Section 012100 Allowances.
- ITEM 1.5 SPECIFICATION SECTION 012300 ALTERNATES:** Add Specification Section 012300 Alternates to the project manual.
- ITEM 1.6 SPECIFICATION SECTION 000116 INVITATION FOR BIDS:** Replace Specification Section 000116 Invitation for Bid with revised Specification Section 000116 Invitation for Bid.
- ITEM 1.6 SPECIFICATION SECTION 070150 PREPARATION FOR REROOFING:** Replace Specification Section 070150 Preparation for Reroofing with revised Specification Section 070150 Preparation for Reroofing.
- ITEM 1.6 SPECIFICATION SECTION 075216 MODIFIED BITUMEN ROOFING:** Replace Specification Section 075216 Modified Bitumen Roofing with revised Specification Section 075216 Modified Bitumen Roofing.
- ITEM 1.7 SPECIFICATION SECTION 237413 PACKAGED AIR-COOLED ROOFTOP HEAT PUMP OUTDOOR AIR UNIT WITH TOTAL ENERGY WHEEL AND MODULATING HGR:**
- A. Paragraph 1.5 Information Submittals, Add the following subparagraph 1.5.B: Seismic Qualification Data: Certificates, for RTUs, accessories, and components, from manufacturer.
    - a. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
    - b. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
    - c. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
    - d. Restraint of internal components, including fans, coils, and refrigeration components.
  - B. Paragraph 2.3 Acceptable Manufacturers, Subparagraph B: The following manufacturers are approved substitutions, subject to compliance with the Drawings and Specifications: units manufactured by AAON and Daikin. Approved substitution manufacturers shall pay particular attention to the requirements for controls interface and interoperability with the District's Siemens Building Automation System (BAS) as provided by Controls Management Inc. (CMI), factory wired sensors to terminal strips for BAS interface, and distance between coils for sensor mounting. Approved substitution vendors shall coordinate interface and interoperability requirements for their specific equipment with Mr.

Ed Reamer with CMI prior to bid. Mr. Reamer may be reached at 803-351-0895 or at [edr@controlmanagement.com](mailto:edr@controlmanagement.com).

C. Paragraph 2.5 Cabinet:

- e. Subparagraph 2.5.A: 1-inch thick double wall panel constriction is acceptable.
- f. Subparagraph 2.5.B: 2-inch-thick polyisocyanurate foam metal encapsulated with no exposed edges and an initial R-value of 7.5 per inch thickness is acceptable.
- g. Subparagraph 2.5.C: 1-inch thick polyisocyanurate foam is acceptable.
- h. Subparagraph 2.5.F, last sentence, change 1000 hours to 2,500 hours.
- i. Subparagraph 2.5.G, second sentence: G-90 galvanized steel liners are acceptable.

D. Paragraph 2.14 Outdoor Air Energy Recovery, subparagraph A: Polymer wheels with silica gel permanently bonded to the wheel is acceptable.

**ITEM 1.8 SPECIFICATION SECTION 237414 – PACKAGED ROOF MOUNTED HEAT PUMPS:**

**A. Add the following subparagraphs 1.6 and 1.7:**

“1.6 ACTION SUBMITTALS

- A. Product Data: Include manufacturer's technical data for each RTU, including rated capacities, dimensions, required clearances, characteristics, furnished specialties, and accessories.
  - 1. Factory selection calculations for each antimicrobial ultraviolet lamp installation.
- B. Delegated-Design Submittal: For RTU supports indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
  - 1. Design Calculations: Calculate requirements for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.
  - 2. Detail mounting, securing, and flashing of roof curb to roof structure. Indicate coordinating requirements with roof membrane system.
  - 3. Wind and Seismic Restraint Details: Detail fabrication and attachment of wind and seismic restraints and snubbers. Show anchorage details and indicate quantity, diameter, and depth of penetration of anchors.

1.6 INFORMATIONAL SUBMITTALS

- C. Coordination Drawings: Plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
  - 1. Structural members to which RTUs will be attached.
  - 2. Roof openings.
  - 3. Roof curbs and flashing.
- D. Product Certificates: Submit certification that specified equipment will withstand wind forces identified in "Performance Requirements" Article and in Section 230548 "Vibration and Seismic Controls for HVAC."
  - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculations.
  - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of wind force and locate and describe mounting and anchorage provisions.

3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- E. Seismic Qualification Data: Certificates, for RTUs, accessories, and components, from manufacturer.
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
  2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
  4. Restraint of internal components, including fans, coils, and refrigeration components.
- F. Field quality-control reports.”

**B. Paragraph 2.1 Packaged Heat Pump Units:**

1. **Revise Subparagraph 2.1.A.1 Substitutions as follows: The following manufacturers are approved substitutions, subject to compliance with the Drawings and Specifications: units manufactured by AAON and Daikin. Approved substitution manufacturers shall pay particular attention to the requirements for controls interface and interoperability with the District’s Siemens Building Automation System (BAS) as provided by Controls Management Inc. (CMI). Approved substitution vendors shall coordinate interface and interoperability requirements for their specific equipment with Mr. Ed Reamer with CMI prior to bid. Mr. Reamer may be reached at 803-351-0895 or at [edr@controlmanagement.com](mailto:edr@controlmanagement.com).**

**Add the following subparagraph 2.1.G.4: Coil Coating for condenser coil: Provide a flexible epoxy polymer “e-coat” uniformly applied to all coil surface areas with no material bridging between fins. The coating process will ensure complete coil encapsulation and a uniform dry film thickness of 1.2 mills on all surface areas including fin edges and meet 5b rating cross hatched adhesion per ASTM B3359- 93. Corrosion durability will be confirmed through testing with no less than 6,000 hours salt spray resistance per ASTM B117-90 using scribed aluminum test coupons.**

**DRAWINGS**

- ITEM 1.9 Drawing P101: For the water heater labeled WH-5 on the far right of the sheet describing the 119 Gallon AO Smith water heater, change its label to WH-8.**
- ITEM 1.10 Delete Drawings M601 and M602 and insert the attached drawings M601 and M602. These drawings correctly reflect the numbering of heat pumps through HP-29 and the addition of RTU-1.**

**ITEM 1.11** Drawing E101: Provide new, type written panel schedules for all panelboards affected by this Work. Electrician shall verify all circuits in a panelboard receiving new schedules whether the circuit was affected by the work or not prior to creating new schedules. New schedules shall be placed in the panels prior to substantial completion of the project.

**QUESTIONS**

**ITEM 1.12** **QUESTION:** When is the Roof Manufacturer's Acknowledgement Form contained at the beginning of Division 7 required to be submitted?

**ANSWER:** The Roof Manufacturer's Acknowledgement Form is to be included with the Bid Form attachments.

***END OF ADDENDUM No. 1***

**CHARLESTON COUNTY SCHOOL DISTRICT  
J. B. EDWARDS ES  
ROOF REPLACEMENT & HVAC UPGRADE PACKAGE**

**PRE-BID CONFERENCE MINUTES  
Tuesday, March 6, 2018  
10:00 a.m.**

**MINUTES**

**I. INTRODUCTIONS**

See Sign In Sheet

**II. PROJECT START-UP**

1. Notice to Proceed – March 26, 2018 for Equipment purchase and Submittals.
2. Mobilization – June 7, 2018
3. Submittals – Send one submittal package. Verify submittals are complete & accurate prior to sending for approval.
4. Site Conditions
  - Site Visit: March 6, 2018 @ 3:00 PM.
  - Site Visit: March 7, 2018 @ 3:00 PM.

**III. PROJECT COMMUNICATIONS**

1. General
2. Requests for Information (RFI)
  - ✓ E-mail to Dennis Knight, HVAC Engineer at [dknight@wholebuildingsystems.com](mailto:dknight@wholebuildingsystems.com) and Keith Parker, Roof Engineer at [kparker@reiengineers.com](mailto:kparker@reiengineers.com), with cc: to Cumming's Shane Lee ([slee@ccorpusa.com](mailto:slee@ccorpusa.com)) or Teresa Davis ([tdavis@ccorpusa.com](mailto:tdavis@ccorpusa.com)).

#### **IV. CONTRACT / GENERAL CONDITIONS**

#### **V. PROJECT SCHEDULE**

1. Construction Schedule – First day site will be available is June 7, 2018.
2. Working Hours – Site will be available 24/7, 7 Days a week.
3. Substantial Completion – August 5, 2018 (132 days from NTP)

#### **VI. SUBMITTALS**

1. Shop Drawings and Samples - Refer to Specification Section 013300 Submittal Procedures.
2. Payment Applications: Contractor is to submit a Draft copies by the 25<sup>th</sup> of the month, and Final copies by the 30<sup>th</sup> and will be paid by the 15<sup>th</sup> of the following month.
3. Project Close-out and Record Documents – submit one package (3 copies). We will not accept partial closeouts.

#### **VII. GENERAL INFORMATION**

1. A greenhouse was donated to the school and will be constructed onsite over the summer. Coordinate with greenhouse contractor to not impede on laydown zones, accessibility, etc. Contact info to be provided once Cumming/CCSD receives it.

#### **VIII. DISCUSSION**

- Scope of work – See SOW on separate sheet.
- Builder's Risk Policy - §16.1.8 The Contractor is required to provide a Builder's Risk policy. Contractor shall submit proof of such insurance prior to the start of work on site (AIA232-2009, page 52).
- Flooring / Hardware / Exterior Envelope projects will be ongoing through the summer. Projects are not to interfere with roofing/HVAC. Roof/HVAC schedule must be coordinated with flooring contractor, for it will drive their installation schedule, which requires conditioned air and post installation will need to be waxed prior to staff returning.



## J. B. Edwards HVAC/ROOF Scope of Work:

The following scope of work (and/or special conditions) is considered a part of the bid requirements for this project. All terms and conditions as outlined in the project plans, specifications and amendments shall apply.

- A. The HVAC Scope of work includes, but is not limited to, Remove existing roof mounted HVAC units and exhaust fans complete (unit, curb, equipment rails, supports, power supply, controls, condensate drains, roofing around unit, etc.) and provide and install new roof mounted HVAC units and exhaust fans complete (unit, full perimeter seismic and wind rated curb, seismic and wind restraints connected to existing structure and new units, supports, power supply, controls, condensate drain, roofing around unit, etc.), connect and seal duct to adapter curbs, and supply and return air ducts, and Test, Adjust and Balance (TAB) entire new equipment and existing air distribution systems. Remove existing electric water heaters and replace with new water heaters of matching size. Provide all work as more fully described and defined in the Drawings and Project Manual.
  
- B. The ROOF Scope of work includes, but is not limited to, the provision of all labor, material, equipment, supervision and administration to integrate the work outlined in this Sector project manual into the total building system such that no leakage into the system occurs. In general, the scope of work in the Roof Base Bid One will include:
  1. Sector A (Approximately 10,423 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing poured gypsum substrate; resecure the existing edge nailers to remain in place and provide new where indicated; mechanically attach base sheet; adhere new base layer insulation, new tapered layer insulation and overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly.
  
  2. Sectors B, C and D (Approximately 38,928 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural metal deck; resecure the structural deck to structural framing members; resecure the existing edge nailers to remain in place and provide new where indicated; loose lay new thermal barrier; mechanically attach new base layer insulation; adhere new tapered layer insulation and new overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly

This work includes the provision of all labor, material, equipment, supervision and administration to integrate the work outlined in this project manual into the total building system such that no leakage into the system occurs. In general, the scope of work in the Roof Base Bid Two will include:

1. Sectors E, F, G, H and I (Approximately 60,645 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural metal deck; resecure the structural deck to structural framing members; resecure the existing edge nailers to remain in place and provide new where indicated; loose lay new thermal barrier and base layer insulation; mechanically attach new tapered layer insulation; adhere new overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly.
- C. Contractor will provide separate AIA pay applications. One (1) for the HVAC Upgrade Package and one (1) for the Roof Replacement Package.
- D. Contractor shall maintain the construction entrances. This shall include (but not necessarily be limited to) grading, filling of ruts and potholes, and maintaining proper drainage. Maintenance of entry gates shall also be the contractor's responsibility. Adjacent public streets, sidewalks, curbs, and parking lots shall be swept, scraped, washed and kept clean daily (more often as necessary) throughout all operations.
- E. Contractor to schedule his work in accordance with all noise ordinances per the authority having jurisdiction.
- F. The Fire Alarm contractor shall contract directly with the general contractor in lieu of with the mechanical or any other subcontractor. Pricing for this work will be included as an allowance. Refer to Section 012100 - Allowances.
- G. The Energy Management System contractor shall contract directly with the general contractor in lieu of with the mechanical or any other subcontractor. Pricing for this work will be included as an allowance. Refer to Section 012100 - Allowances.

## DRAYTON HALL ES – HVAC UPGRADE PACKAGE

Project: Pre-Bid

Meeting Date: March 6, 2018 @ 2:00 PM

Solicitation: 18-CMG-B-002

Facilitator: Rodney Alexander

Name	Company	Phone	E-Mail
Kyle Taylor	Atlantic South Consulting	(843) 697-1924	KTaylor@atlanticsouthconsulting.com
Mitchell Brody	Triad MC	843-556-5636	Andrew@triadMC.com
Susan Collins	Whole Building Systems	843-864-7716	SCollins@wholebuilding.com
Buddy Parson	C.R. HIPP CONSTRUCTION INC	843-744-4477	buddy.parson@crhippconstruction.com
Raymond Jenkins	CCSD	843.566.8826	raymond_jenkins@charleston.k12.sc.us
Billy Smith	Smith & Associates Inc	843-200-1510	bsmithsv@upho.com
SHANE LEE	Cumming	843-754-7359	SLER@cumming.com
Ardean Buggs	Atlantic South	(843) 330-9799	abuggs@atlanticsouthconsulting.com

**CHARLESTON COUNTY SCHOOL DISTRICT  
JAMES B. EDWARDS ELEMENTARY SCHOOL  
ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**SECTION 012100**

**ALLOWANCES**

**PART I - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including AIA Documents A132 and A232, as amended, General and Supplementary conditions and other Division-1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative procedural requirements governing handling and processing allowances.
  - 1. Selected materials and equipment, and in some cases, their allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by Change Order.

- B. Types of allowances required include the following:

ROOF No. 1 and Roof No. 2

- 1. ROOF No 1 General Contingency Allowance (Sector A and Sectors B, C, and D) \$ 20,000.00
- 2. ROOF No 2 General Contingency Allowance (Sector E, F, G, H, and I) \$ 15,000.00

HVAC

- 1. HVAC General Contingency Allowance \$ 35,000.00
- 2. HVAC Energy Management Allowance \$315,000.00
- 3. HVAC Fire Alarm Allowance \$ 31,000.00

- C. Procedures for submitting and handling Change Orders are included in Section 0012600 "Contract Modification Procedures" and Article 7 of the AIA A232 General Conditions of the Contract for Construction.

- D. Inclusion of unit prices is explained in Section 012200 "Unit Prices".

**1.3 SELECTION AND PURCHASE**

- A. At earliest feasible date after Contract award, advise Program Manager of date when final selection and purchase of each product or system described by allowance must be completed in order to avoid delay in performance of Work.

**ALLOWANCES**

**012100**

**CHARLESTON COUNTY SCHOOL DISTRICT  
JAMES B. EDWARDS ELEMENTARY SCHOOL  
ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**SECTION 012100**

**ALLOWANCES**

1. When requested by Program Manager, obtain proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of Work.
  2. Purchase products and systems as selected from designated supplier.
- B. Costs Included in Allowances: Cost of product to Contractor or Subcontractor, delivery to site and applicable taxes (less applicable trade discounts), product handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage, and labor for installation and finishing, unless specifically stated otherwise in allowance for particular product. Cost shall also include overhead (including, but not limited to, field and home office overhead, insurance, bonds, labor burden, etc.) and profit associated with each item.
- D. Program Manager (in consultation with the Architect) Responsibilities:
1. Consult with Contractor in consideration and selection of products, suppliers and installers.
  2. Select products in consultation with Owner and transmit to Contractor.
  3. Prepare Change Order, if an increase or decrease in price exists from the listed allowance amount.
- E. Contractor Responsibilities:
1. Assist Program Manager in selection of products, suppliers and installers.
  2. Obtain proposals from suppliers and installers and offer recommendations.
  3. On notification of selection by Program Manager, execute purchase agreement with designated supplier and installer.
  4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
  5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

**1.4 SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances, in form specified for Submittals.
- B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to site for use in fulfillment of each allowance.

**ALLOWANCES**

**012100**

**CHARLESTON COUNTY SCHOOL DISTRICT  
JAMES B. EDWARDS ELEMENTARY SCHOOL  
ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**SECTION 012100**

**ALLOWANCES**

**1.5 UNUSED MATERIALS**

- A. Return unused materials to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
- B. When not economically feasible to return unused material for credit and when requested by Program Manager, prepare unused material for Owner's storage, and deliver to Owner's storage space as directed. Otherwise, disposal of excess material is Contractor's responsibility.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

**3.1 INSPECTION**

- A. Inspect product covered by allowance promptly upon delivery for damage or defects.

**3.2 PREPARATION**

- A. Coordinate materials and installation for each allowance with related construction to ensure that each allowance item is completely integrated and interfaced with related construction activities.

**3.3 SCHEDULE OF ALLOWANCES**

ROOF No. 1 and Roof No. 2	
1. ROOF No 1 General Contingency Allowance (Sector A and Sectors B, C, and D)	\$ 20,000.00
2. ROOF No 2 General Contingency Allowance (Sector E, F, G, H, and I)	\$ 15,000.00
HVAC	
1. HVAC General Contingency Allowance	\$ 35,000.00
2. HVAC Energy Management Allowance	\$315,000.00
3. HVAC Fire Alarm Allowance	\$ 31,000.00

END OF SECTION

**ALLOWANCES**

**012100**

**CHARLESTON COUNTY SCHOOL DISTRICT  
JAMES B. EDWARDS ELEMENTARY SCHOOL  
ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**SECTION 012300**

**ALTERNATES**

**PART 1 – GENERAL**

**1. SECTION INCLUDES**

- A. Description of alternates.
- B. Procedures for pricing alternates.

**2. RELATED DOCUMENTS**

- A. Documents affecting work of this Section include, but are not necessarily limited to, AIA Documents A132 and A232, as amended, General Conditions, Supplementary Conditions, and all applicable Sections in Division 1 of these Specifications.
- B. Document 00 21 13 – Instructions to Bidders: Instructions for preparation of pricing for alternatives.

**3. PROCEDURES**

- A. Provide alternative bids to be added to or deducted from the amount of the Base Bid if the corresponding change in scope is accepted by the Owner.
- B. Include within the alternative bid prices all costs, including materials, submittals, installation, overhead, profit and fees to provide a complete, operable and finished system.
- C. Show the proposed alternative amounts opposite their proper description of the Bid Form.
- D. Refer to Plans and Subparagraph 1.05 of this specification for a description of alternates.
- E. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner – Contractor Agreement. The Owner may accept any and all Alternates in any order or combination, and will determine the low bidder on the basis of the sum of the Base Bid and the Alternate(s) accepted.
- F. Coordinate related work and modify surrounding work to integrate the Work of each alternate.

**ALTERNATES  
012300**

**CHARLESTON COUNTY SCHOOL DISTRICT  
JAMES B. EDWARDS ELEMENTARY SCHOOL  
ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**SECTION 012300**

**ALTERNATES**

**4. SCHEDULE OF ALTERNATES**

A. All Alternates / Bid options are clearly shown on the drawings. Bids should be submitted as follows:

1. ALTERNATE NUMBER ONE:           Daikin HVAC Unit with controls
  - a) BASE BID: Trane is the Basis of Design and preferred unit.
  - b) ALTERNATE NUMBER 1A: Substitute Daikin units in lieu of Trane units. Cost of Alternate 1A to include all work required for Daikin units.
  - c) ALTERNATE NUMBER 1B: Cost of Alternate 1B to include all controls/raceways necessary for CMI to control Daikin units.
  
2. ALTERNATE NUMBER TWO:        AAON HVAC Unit with controls
  - a) BASE BID: Trane is the Basis of Design and preferred unit.
  - b) ALTERNATE NO. 2A: Substitute AAON units in lieu of Trane units. Cost of Alternate 2A to include all work required for AAON units.
  - c) ALTERNATE NO. 2B: Cost of Alternate 2B to include all controls/raceways necessary for CMI to control AAON units.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION – NOT USED**

END OF SECTION



**INVITATION FOR BIDS/BID FORM  
 SECTION 000116**

Solicitation Number	18-CMG-B-004
Date Issued	February 27, 2018
Procurement Official	Raymond Jenkins
Phone E-Mail	843-566-8826
Address	raymond_jenkins@charleston.k12.sc.us

**DESCRIPTION: J. B. EDWARDS ELEMENTARY SCHOOL – ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

*The Term "Offer" Means Your "Bid" or "Proposal".*

SUBMIT OFFER BY: **March 14, 2018 @ 2:00 P.M.**

QUESTIONS MUST BE RECEIVED BY: March 8, 2018 @ 12:00 P.M EDT via above e-mail

NUMBER OF COPIES TO BE SUBMITTED: **One (1) original and One (1) copy (marked 'copy')**

**Offers must be submitted in a sealed package. Solicitation Number & Opening Date must appear on package exterior.**

**SUBMIT YOUR SEALED OFFER TO:**

Construction Procurement Services c/o  
**Cumming Construction Management, Inc.**  
**3820 Faber Place Drive, Suite 600 North**  
**Charleston SC 29405**

See "Submitting Your Offer" provision

CONFERENCE TYPE: Pre-Bid Conference  
 DATE & TIME: **March 6, 2018 @ 10:00 A.M.**  
  
 As appropriate, see "Conferences - Pre-Bid/Proposal" & "Site Visit" provisions

**LOCATION:**  
 Cumming Construction Management, Inc.  
 3820 Faber Place Dr., Suite 600  
 North Charleston, SC 29405

<b>AWARD &amp; AMENDMENTS</b>	Award will be posted at the Physical Address stated above on March 15, 2018. The award, this solicitation, and any amendments will be posted at the following web address: <b>www.ccsdschools.com</b>
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You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, You agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of sixty (60) calendar days after the Opening Date.

NAME OF OFFEROR <span style="float: right; font-size: small;">(Full legal name of business submitting the offer)</span>	<b>OFFEROR'S TYPE OF ENTITY:</b> (Check one)  <input type="checkbox"/> Small (15 employees of less)  <input type="checkbox"/> Women  <input type="checkbox"/> Minority  <input type="checkbox"/> Other _____ (See "Signing Your Offer" provision.)
AUTHORIZED SIGNATURE  <small>(Person signing must be authorized to submit binding offer to enter contract on behalf of Offeror named above.)</small>	
TITLE <span style="float: right; font-size: small;">(Business title of person signing above)</span>	
PRINTED NAME <span style="float: right; font-size: small;">(Printed name of person signing above)</span>	DATE SIGNED

Instructions regarding Offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity identified as the offeror above. An offer may be submitted by only one legal entity. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, *i.e.*, a separate corporation, partnership, sole proprietorship, etc.

STATE OF INCORPORATION (If offeror is a corporation, identify the state of Incorporation.)

TAXPAYER IDENTIFICATION NO.  <small>(See "Taxpayer Identification Number" provision)</small>	SOUTH CAROLINA GENERAL CONTRACTOR LICENSE NO.
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**PAGE TWO**  
**(Return Page Two with Your Offer)**

<b>HOME OFFICE ADDRESS</b> (Address for offeror's home office / principal place of business)	<b>NOTICE ADDRESS</b> (Address to which all procurement and contract related notices should be sent.)				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Area Code</td> <td style="width: 25%;">Number</td> <td style="width: 25%;">Extension</td> <td style="width: 35%;">Facsimile</td> </tr> </table>	Area Code	Number	Extension	Facsimile
Area Code	Number	Extension	Facsimile		
	E-mail Address				

<b>PAYMENT ADDRESS</b> (Address to which payments will be sent.)	<b>ORDER ADDRESS</b> (Address to which purchase orders will be sent)
<input type="checkbox"/> Payment Address same as Home Office Address <input type="checkbox"/> Payment Address same as Notice Address (check only one)	<input type="checkbox"/> Order Address same as Home Office Address <input type="checkbox"/> Order Address same as Notice Address (check only one)

ACKNOWLEDGMENT OF AMENDMENTS	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date
Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue.								
See "Amendments to Solicitation" Provision								

<b>DISCOUNT FOR PROMPT PAYMENT</b>	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	____ Calendar Days (%)
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## **Solicitation Outline**

- I. Scope of Solicitation**
- II. Instructions to Offerors**
  - A. General Instructions**
  - B. Special Instructions**
- III. Scope of Work / Specifications**
- IV. Information for Offerors to Submit**
- V. Qualifications**
- VI. Award Criteria**
- VII. Terms and Conditions**
  - A. General**
  - B. Special**
- VIII. Bid Form/Cost Proposal**
- IX. Attachments to Solicitation**

**I. Scope of Solicitation**

Sealed bids for J. B. EDWARDS ELEMENTARY SCHOOL ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE (Solicitation No. 18-CMG-B-004) will be received from General Contractors properly licensed under the laws of the State of South Carolina, opened and read aloud by the Owner in the office of Cumming Construction Management, Inc., 3820 Faber Place Drive, Suite 600, N. Charleston, SC 29405, on **March 14, 2018 @ 2:00 p.m.** Bids received after 2:00 PM will be rejected and returned to the Bidder unopened.

The name of the project is: J. B. Edwards Elementary School Roof Replacement and HVAC Upgrade Package

Address: 855 Von Kolnitz Boulevard  
Mt. Pleasant, SC 29464

The Owner is: Charleston County School District  
3999 Bridge View Drive  
North Charleston, South Carolina 29405

The Program Manager is: Cumming Construction Management, Inc.  
3820 Faber Place Drive, Suite 600  
N. Charleston, South Carolina 29405  
Telephone: (843) 203-2900  
FAX: (843) 760.6880

**Project Manager: Shane Lee**

**II. Instructions to Offerors**

**A. General Instructions**

DEFINITIONS Except as otherwise provided herein, the following definitions are applicable to all parts of the solicitation. For additional definitions, see the terms and conditions below.

1. **Amendment** - means a document issued to supplement the original solicitation document.
2. **Board** - means the Charleston County School District Board of Trustees.
3. **Buyer** - means the Procurement Official.
4. **Change Order** - means any written alteration in specification, delivery point, rate of delivery, period of performance, price, quantity, or other provisions of any contract accomplished by mutual agreement of the parties of the contract.
5. **Contract Modification** - means a written order signed by the Procurement Official, directing the contractor to make changes which the changes clause of the contract authorizes the Procurement Official to order with the consent of the contractor.
6. **Contractor** – means the Offeror receiving an award as a result of this solicitation.
7. **Cover Page** - means the top page of the original solicitation on which the solicitation is identified by number. Offerors are cautioned that. Amendments may modify information provided on the Cover Page.
8. **District** - means Charleston County School District.
9. **Offer** - means the bid, or proposal submitted in response to this solicitation. The terms “Bid” and “Proposal” are used interchangeably with the term “Offer.”
10. **Offeror** - means the single legal entity submitting the offer. The term “Bidder” is used interchangeably with the term “Offeror.” See bidding provisions entitled “Signing Your Offer” and “Bid/Proposal as Offer to Contract.”
11. **Page two** – means the second page of the original solicitation, which is labeled Page Two.

12. **Procurement Official** - means the person, or designee, identified as such on the Cover Page.
13. **Solicitation** - means this document, including all its parts, attachments, and any Amendments.
14. **Subcontractor** - means any person having a contract to perform work or render service to Contractor as a part of the Contractor's agreement arising from this solicitation.
15. **You And Your** - means Offeror.

**AMENDMENTS TO SOLICITATION** (a) The Solicitation may be amended at any time prior to opening. The Solicitation may be amended at any time prior to opening. **It is solely the responsibility of the Offeror to ensure that it has received all pre-bid addenda. Failure to acknowledge each pre-bid addendum may render the Offer nonresponsive.** All actual and prospective Offerors should monitor the following web site for the issuance of Amendments: [http://www.ccsdschools.com/divisions/finance/contracts\\_and\\_procurement\\_office/construction](http://www.ccsdschools.com/divisions/finance/contracts_and_procurement_office/construction) (business services/contracts and procurement). (b) Bidders shall acknowledge receipt of any Amendment to this solicitation (1) by signing and returning the Amendment, (2) by letter, or (3) by submitting a bid that indicates in some way that the bidder received the Amendment. Addenda notifications are sent via email from the mail account of "[addendaNotification@dpibidroom.com](mailto:addendaNotification@dpibidroom.com)" and could be flagged as spam by your company network firewall. Bidder / Offeror shall be responsible for the following: To prevent not receiving timely notification of these addenda, please contact your company Information Technology Manager and ask that he "white list" the domain of [dpibidroom.com](http://dpibidroom.com) to prevent emails from being captured.

**AWARD NOTIFICATION** Notice regarding any award or cancellation of award will be posted at the location specified on the Cover Page. If the contract resulting from this Solicitation has a total or potential value in excess of fifty thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation. Should the contract resulting from this Solicitation have a total or potential value of one hundred thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation and any award will not be effective until the eleventh day after such notice is given.

**BID / PROPOSAL AS OFFER TO CONTRACT** By submitting the District a signed Bid and/or Proposal, you are offering to enter into a contract with Charleston County School District and agreeing to all terms and conditions provided herein. Your bid and/or proposal as well as the terms and conditions of this solicitation will become part of any contract created as a result of this solicitation. **THEREFORE, ANY OBJECTION TO THE TERMS AND CONDITIONS CONTAINED HEREIN MUST BE ADDRESSED WITH THE DISTRICT PRIOR TO SUBMITTAL OF YOUR BID AND/OR PROPOSAL. SUCH OBJECTIONS MUST BE SUBMITTED IN WRITING AS DESCRIBED HEREIN FOR ANY INQUIRIES.** Without further action by either party, a binding contract shall result upon final award. Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror on the Cover Page. An Offer may be submitted by only one legal entity; "joint bids" are not allowed.

**BID ACCEPTANCE PERIOD** In order to withdraw your Offer after the minimum period specified on the Cover Page, you must notify the Procurement Official in writing.

**BID IN ENGLISH & DOLLARS** Offers submitted in response to this solicitation shall be in the English language and in US dollars, unless otherwise permitted by the solicitation.

**BOARD AS PROCUREMENT AGENT** (a) **Authorized Agent.** All authority regarding the conduct of this procurement is vested solely with the responsible Procurement Official. Unless specifically delegated in writing, the Procurement Official is the only District official authorized to bind the District with regard to this procurement. (b) **Purchasing Liability.** The Procurement Official acts on behalf of Charleston County School District pursuant to the Charleston County School District Procurement Code. Any purchase orders awarded as a result of this procurement are between the Vendor and the District. The Board is not a party to such purchase orders, unless and to the extent that the Board is a using District unit, and bears no liability for any party's losses arising out of or relating in any way to the purchase order.

**CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS**

(a)

- (1) By submitting an Offer, Offeror certifies, to the best of its knowledge and belief, that
  - (i) Offeror and/or any of its Principals
    - (A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by a state or federal agency;
    - (B) Have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining,

attempting to obtain or performing a public (federal, state, or local) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of offers; or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (A) (1) (i) (B) of this provision.

(ii) Offeror has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any public (federal, state, or local) entity.

(2) 'Principals.' For the purpose of this certification, means Officials; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Offeror shall provide immediate written notice to the Procurement Official if, at any time prior to contract award, Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) If Offeror is unable to certify the representations stated in paragraphs (a) (1), Offeror must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Offeror's responsibility. Failure of the Offeror to furnish additional information as requested by the Procurement Official may render the Offeror non-responsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the District, the Procurement Official may terminate the contract resulting from this solicitation for default.

CODE OF LAWS AVAILABLE The Charleston County School District Procurement Code is available at [http://www.ccsdschools.com/financial services/contracts and procurement](http://www.ccsdschools.com/financial%20services/contracts%20and%20procurement).

COMPLETION OF FORMS/CORRECTION OF BIDS AND/OR ERRORS All prices, entries and notations should be printed in ink or typewritten on the forms provided herein. Any change to the bid information including, but not limited to, changes to bid pricing or correction of errors or information must be made by crossing out the original entry, entering the change or correction on the bid form or appropriate attachment, and initialing same. Any alteration of the Offer must be made on the bid form or attachments provided herein and must be initialed by the person signing the bid. Any other alterations may result in the Offer being deemed nonresponsive. (Alterations are not allowed elsewhere in the solicitation, on the face of the envelope submitting the Offer, or otherwise.)

DEADLINE FOR SUBMISSION OF OFFER Any offer received after the Procurement Official or designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the designated purchasing office prior to the bid opening.

DRUG FREE WORK PLACE CERTIFICATION By submitting an Offer, Contractor certifies that, if awarded a contract, Contractor will comply with all applicable provisions of the Drug-Free Workplace Act, Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

DUTY TO INQUIRE Offeror, by submitting an Offer, represents that it has read and understands the Solicitation and that its Offer is made in compliance with the Solicitation. Offerors are expected to examine the Solicitation thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation. Failure to do so will be at the Offeror's risk. Offeror assumes responsibility for any patent ambiguity in the Solicitation that Offeror does not bring to the District's attention.

ETHICS ACT By submitting an Offer, you certify that you are in compliance with South Carolina's Ethics, Government Accountability, and Campaign Reform Act of 1991, as amended. The following statutes require special attention: (a) Offering, giving, soliciting, or receiving anything of value to influence action of public employee-Section 8-13-790, (b)

Recovery of Kickbacks-Section 8-13-790m (c) Offering, soliciting, or receiving money for advice or assistance of public official - Section 8-13-720, (d) Use or disclosure of confidential Information-Section 8-1 3-725, and (e) Persons hired to assist in the preparation of specifications or evaluation of bids Section 8-1 3-1 150

**NO PROPOSAL REPLY:** Any contractor electing to submit no proposal in response to this IFB may do so by sending a letter of “no reply” to the procurement Officer. Entities not replying in any way to three (3) consecutive IFB’s from a government body may be placed in an inactive status and must then reapply to the active bidders list.

**PROTESTS** Any prospective bidder, Offeror, vendor, or sub vendor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen (15) days of issuance of the Invitation for Bids or Requests for Proposals or other solicitation documents, whichever is applicable, or any amendment to it, if the amendment is at issue. An Invitation for Bids or Request for Proposals or other solicitation document, not including an amendment to it, is considered to have been issued on the date required notice of the issuance is given in accordance with this Code.

Any actual bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest to the Chief Procurement Officer within ten (10) days of the date award or notification of intent to award, whichever is earlier, is posted in accordance with the CCSD Procurement Code; except that a matter that could have been raised pursuant to § 4210.1.1 (Protest of Solicitation) as a protest of the solicitation may not be raised as a protest of the award or intended award of a contract.

**PUBLIC OPENING** Offers will be publicly opened at the date / time and at the location identified on the Cover Page, or last Amendment, whichever is applicable.

**QUESTIONS FROM OFFERORS** (a) Any prospective Offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing. The Procurement Official must receive questions no later than five (5) days prior to opening unless otherwise stated on the Cover Page. Oral explanations or instructions will not be binding. Any information given a prospective Offeror concerning a solicitation will be furnished promptly to all other prospective Offerors as an Amendment to the solicitation, if that information is necessary for submitting offers or if the lack of it would be prejudicial to other prospective Offerors. (b) The District seeks to permit maximum practicable competition. Offerors are urged to advise the Procurement Official, as soon as possible, regarding any aspect of this procurement, including any aspect of the Solicitation that unnecessarily or inappropriately limits full and open competition.

**REJECTION/CANCELLATION** The District may cancel this solicitation in whole or in part. The District may reject any or all proposals in whole or in part.

**RESPONSIVENESS/IMPROPER OFFERS** (a) Bid as Specified. Offers for supplies or services other than those specified will not be considered unless authorized by the Solicitation.

(b) Responsiveness. Any Offer that fails to conform to the material requirements of the Solicitation may be rejected as nonresponsive. Offers that impose conditions that modify material requirements of the Solicitation may be rejected. If a fixed price is required, an Offer will be rejected if the total possible cost to the District cannot be determined. Offerors will not be given an opportunity to correct any material nonconformity. Any deficiency resulting from a minor informality may be cured or waived at the sole discretion of the Procurement Official.

(c) Unbalanced Bidding. The District may reject an Offer as non-responsive if the prices bid are materially unbalanced between line items or sub-line items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the District even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

**RESTRICTIONS APPLICABLE TO OFFERORS** Violation of these restrictions may result in disqualification of your offer, suspension or debarment, and may constitute a violation of the State Ethics Act. (a) After issuance of the solicitation, you agree not to discuss this procurement activity in any way with any District employees, its agents or officials. All communications must be solely with the Procurement Official. This restriction expires once a purchase order has been formed and may be lifted by express written permission from the Procurement Official. (b) Unless otherwise approved in writing by the Procurement Officer, You agree not to give anything to any District employee, agent or official prior to award.

**SIGNING YOUR OFFER** Every Offer must be signed by an individual with actual authority to bind the Offeror. (a) If the Offeror is an individual, the Offer must be signed by that individual. If the Offeror is an individual doing business as a firm, the Offer must be submitted in the firm name, signed by the individual, and state that the individual is doing business as a firm. (b) If the Offeror is a partnership, the Offer must be submitted in the partnership name, followed by the words “by its

Partner,” and signed by a general partner. (c) If the Offeror is a corporation, the Offer must be submitted in the corporate name, followed by the signature and title of the person authorized to sign. (d) An Offer may be submitted by a joint venture involving any combination of individuals, partnerships, or corporations. If the Offeror is a joint venture, the Offer must be submitted in the name of the joint venture and signed by every participant in the joint venture in the manner prescribed in paragraphs (a) through (c) above for each type of participant. (e) If an Offer is signed by an agent, other than as stated in subparagraphs (a) through (d) above, the Offer must state that it is and has been signed by an Agent. Upon request, Offeror must provide proof of the agent’s authorization to bind the principal.

**OFFICE CLOSING** If an emergency or unanticipated event interrupts normal District processes so that offers cannot be received at the District office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal District’s processes resume. In lieu of an automatic extension, an amendment may be issued to reschedule bid opening. If District offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an amendment will be issued to reschedule the conference.

**SUBMITTING CONFIDENTIAL INFORMATION** For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word “CONFIDENTIAL” every page, or portion thereof, that Offeror contend contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410. For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the words “TRADE SECRET” every page, or portion thereof, that Offeror contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act.

For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word “PROTECTED” every page, or portion thereof, that Offeror contends is protected by Section 11-351810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire response (bid, proposal, quote, etc.) as confidential, trade secret, or protected! If your response or any part thereof, is improperly marked as confidential or trade secret or protected, the District may, in its sole discretion, determine it non-responsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation or request, Offeror (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked “TRADE SECRET” or “CONFIDENTIAL” or “PROTECTED”, (2) agrees that any information not marked, as required by these bidding instructions, as a “Trade Secret” is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the District will detrimentally rely on Offeror’s marking of documents, as required by these bidding instructions, as being either “Confidential” or “Trade Secret” or “PROTECTED”. By submitting a response, Offeror agrees to defend, indemnify and hold harmless the District, its Officials and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney’s fees, arising out of or resulting from the District withholding information that Offeror marked as “confidential” or “trade secret” or “PROTECTED”. (All references to S.C. Code of Laws.)

**SUBMITTING YOUR OFFER OR MODIFICATION** (a) Offers and offer modifications shall be submitted in sealed envelopes or packages (unless submitted by approved electronic means) - (1) Addressed to the office specified in the Solicitation; and (2) Showing the time and date specified for opening, the solicitation number, and the name and address of the bidder. (b) Each Offeror must submit the number of copies indicated on the Cover Page. (c) Offerors using commercial carrier services shall ensure that the Offer is addressed and marked on the outermost envelope or wrapper as prescribed in paragraphs (a)(1) and (2) of this provision when delivered to the office specified in the Solicitation. (d) Facsimile Offers, modifications, or withdrawals, will not be considered unless authorized by the Solicitation. (e) Offers submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

**TAXPAYER IDENTIFICATION NUMBER**

(a) If Offeror is owned or controlled by a Common Parent as defined in paragraph (b) of this provision, Offeror shall submit with its Offer the name and TIN of common parent. (b) Definitions:  
1) “Common Parent,” as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the Offeror is a member.



- 2) "Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the Offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.
- (c) If Offeror does not have a TIN, Offeror shall indicate if either a TIN has been applied for or a TIN is not required. If a TIN is not required, indicate whether
- 1) Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;
  - 2) Offeror is an agency or instrumentality of a state or local government;
  - 3) Offeror is an agency or instrumentality of a foreign government; or
  - 4) Offeror is an agency or instrumentality of the Federal Government.

WITHDRAWAL OR CORRECTION OF OFFER AFTER BID OPENING Offers may be withdrawn by written notice received at any time before the exact time set for opening. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for opening. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid. Correction or withdrawal of bids are only allowed pursuant to the express terms of the CCSD Procurement Code as determined by CCSD.

NOTICES All contact should be directed to Raymond Jenkins, Procurement Services Supervisor. No company should contact District staff directly. All questions should be submitted to Raymond Jenkins prior to the deadline for receipt of questions via Email [Raymond\\_jenkins@charleston.k12.sc.us](mailto:Raymond_jenkins@charleston.k12.sc.us) with copy to Shane Lee @ [slee@ccorpUSA.com](mailto:slee@ccorpUSA.com). Answers to any questions submitted will be sent to all companies via solicitation amendment.

#### B. Special Instructions

#### **Conference – Pre-Bid**

Pre-Bid/Proposal Conference Date and Time:

Due to the importance of all offerors having a clear understanding of the specifications and requirements of this solicitation, a conference of potential offerors will be held on the date specified on the cover page. Your failure to attend will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the District. The District assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available at the conference. Nor does the District assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

**A Pre-Bid Conference will be held on March 6, 2018 @ 10:00 am at Cumming Construction Management, Inc., 3820 Faber Place Drive, Suite 600, North Charleston, SC 29405. The Pre-Bid Conference is intended to answer any questions relating to instructions to the bidder, project scope of work, etc. All prospective Offerors are strongly urged to attend this conference.**

#### 1. Schedule and Activities

Listed below are the planned activities/milestones/dates/times pertaining to this solicitation. A milestone schedule is included in the documents. All information is subject to change. Changes will be communicated to prospective Offerors via an Amendment to the solicitation as necessary.

Issue of Bid Documents  
Pre-Bid Conference

**February 20, 2018**  
**March 6, 2018**

Deadline for Receipt of Questions	<b><u>March 8, 2018</u></b>
Public Opening of Bid	<b><u>March 14, 2018</u></b>
Posting of Intent to Award	<b><u>March 15, 2018</u></b>
Notice To Proceed	<b><u>March 26, 2018</u></b>
Contract Start for Equipment Purchase & Submittals	<b><u>March 26, 2018</u></b>
Contract Start for Installation	<b><u>June 7, 2018</u></b>
Substantial Completion ( <b><u>132</u></b> Calendar Days from Notice to Proceed)	<b><u>August 5, 2018</u></b>
Final Completion ( <b><u>7</u></b> Calendar Days After Substantial Complete)	<b><u>August 12, 2018</u></b>

2. CCSD Board of Trustees approval required: any award is subject to prior approval by the CCSD Board of Trustees.
3. The successful bidder will be required to furnish Performance Bond and Labor and Materials Bond in the amount of one hundred percent (100%) of the Contract Amount.
4. Discussion with bidders: After opening, discussions may be conducted with apparent responsive bidders for the purpose of clarification to assure full understanding of the requirements of the invitation for bids. All bids, in the Procurement Official's sole judgment, needing clarification must be accorded that opportunity.
5. **PROTEST**  
Any protest must be addressed to the Director Contracts and Procurement Services, and submitted in writing (a) by email to [wayne\\_wilcher@charleston.k12.sc.us](mailto:wayne_wilcher@charleston.k12.sc.us), (b) by facsimile at 843-566-7391, or (c) by post or delivery to 3999 Bridge View Dr., N. Charleston, SC 29405.

### **III. Scope of Work / Specifications**

The Owner has retained the services of a Program Manager to represent the Owner's interest during the construction of the work.

*Scope of Work includes, but is not limited to,*

*The Scope of work includes, but is not limited to,*

- A. *The HVAC Scope of work includes, but is not limited to, Remove existing roof mounted HVAC units and exhaust fans complete (unit, curb, equipment rails, supports, power supply, controls, condensate drains, roofing around unit, etc.) and provide and install new roof mounted HVAC units and exhaust fans complete (unit, full perimeter seismic and wind rated curb, seismic and wind restraints connected to existing structure and new units, supports, power supply, controls, condensate drain, roofing around unit, etc.), connect and seal duct to adapter curbs, and supply and return air ducts, and Test, Adjust and Balance (TAB) entire new equipment and existing air distribution systems. Remove existing electric water heaters and replace with new water heaters of matching size. Provide all work as more fully described and defined in the Drawings and Project Manual.*
- B. *The ROOF Scope of work includes, but is not limited to, the provision of all labor, material, equipment, supervision and administration to integrate the work outlined in this project manual into the total building system such that no leakage into the system occurs. In general, the scope of work in the Roof Base Bid One will include:*
  1. *Sector A (Approximately 10,423 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing poured gypsum substrate; resecure the existing edge nailers to remain in place and provide new where indicated; mechanically attach base sheet; adhere new base layer insulation, new tapered layer insulation and overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly.*
  2. *Sectors B, C and D (Approximately 38,928 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural metal deck; resecure the structural deck to structural framing members; resecure the existing edge nailers to remain in place and provide new where indicated; loose lay new thermal barrier; mechanically attach new*

*base layer insulation; adhere new tapered layer insulation and new overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly*

*This work includes the provision of all labor, material, equipment, supervision and administration to integrate the work outlined in this project manual into the total building system such that no leakage into the system occurs. In general, the scope of work in the Roof Base Bid Two will include:*

- 1. Sectors E, F, G, H and I (Approximately 60,645 square feet): Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural metal deck; resecure the structural deck to structural framing members; resecure the existing edge nailers to remain in place and provide new where indicated; loose lay new thermal barrier and base layer insulation; mechanically attach new tapered layer insulation; adhere new overlayment insulation in hot asphalt; adhere new base ply modified bitumen roof membrane in hot asphalt; torch apply new surface ply modified bitumen membrane and provide new sheet metal flashings and accessories to provide a complete, watertight, 20-year warrantable roof assembly.*
- C. Contractor will provide separate AIA pay applications. One (1) for the HVAC Upgrade Package and one (1) for the Roof Replacement Package.*
- D. Contractor shall maintain the construction entrances. This shall include (but not necessarily be limited to) grading, filling of ruts and potholes, and maintaining proper drainage. Maintenance of entry gates shall also be the contractor's responsibility. Adjacent public streets, sidewalks, curbs, and parking lots shall be swept, scraped, washed and kept clean daily (more often as necessary) throughout all operations.*
- E. Contractor to schedule his work in accordance with all noise ordinances per the authority having jurisdiction.*
- F. The Fire Alarm contractor shall contract directly with the Owner. Pricing for this work will be included as an allowance. Refer to Section 012100 - Allowances.*
- G. The Energy Management System contractor shall contract directly with the general contractor in lieu of with the mechanical or any other subcontractor. Pricing for this work will be included as an allowance. Refer to Section 012100 - Allowances.*
- H. Contractor shall provide a letter accepting all project conditions prior to commencing work.*
- I. Contractor is responsible for the any damages to existing fencing.*
- J. Contractor is responsible for grounds maintenance along the perimeter fence.*

#### **INSTALLATION:**

The first day the contractor will have access to the site will be **June 7, 2018** and Substantial Completion by **August 5, 2018**.

#### **PERMITS AND LICENSES:**

The Contractor shall obtain and pay for applicable licenses and fees.

Contractor must have valid South Carolina Contractors License.

The contractor or sub-contractor performing this work must have all required licenses, both State of South Carolina and Federal, prior to start of work.

**BID BOND: BID BOND in the amount of 5% of the bid is required.**

**LIENS AND INCUMBRANCES:**

The Contractor shall satisfy immediately any lien or encumbrance, which because of any act or default of the Contractor, is filed against the District.

**NON ARBITRATION:**

Disputes pertaining to this contract are not eligible for solution through arbitration procedures.

**QUALITY ASSURANCE:**

Protection of District Property:

The Contractor shall protect from damage due to his work, methods, procedures and workmen, the District's property including building surfaces, finishes, systems, equipment, furniture, supplies, and other components. The Contractor shall repair or cause to be repaired damage to District property.

Products and Materials:

The Contractor shall use materials and products in the work which are new and of top quality. The Contractor shall assume full responsibility for protection, storage, safety and damage to stored and installed materials until Substantial Completion.

Qualifications of Work Persons:

The Contractor shall use skilled work persons who are thoroughly trained and experienced in the necessary crafts and trades.

Workmanship:

The Contractor shall cause the parts to be securely anchored, bonded, joined and secured together, the installation to be done in a workman-like manner in accordance with the best recognized practices, and the working parts to be adjusted and left in perfect working order.

Corrections in the Work:

The Contractor shall replace work rejected by the District as defective or as non-conforming within 10 days from written notice of rejection at no cost to the District.

**PROJECT COORDINATION:**

The Contractor shall verify field measurements before ordering materials and prefabricated items. The Contractor shall coordinate the work of all trades and schedule the timing so as not to cause delays to any phase of construction. The Contractor shall plan the work to minimize the disruption of District operations. The Contractor shall cooperate with reasonable scheduling requirements of the District.

School may be in session during the construction, and the contractor shall coordinate with the District to avoid disruption of the school activities.

**SAFETY:**

The Contractor shall provide safety barricades, fences, temporary walks, and signals in compliance with legal requirements, police regulations, and/or as requested by Charleston County School District at no additional cost.

**CLEANING:**

The Contractor shall clean up job site as frequently as necessary, but no less than, on a daily basis. Upon Substantial Completion, the Contractor shall clean the job site of all debris, miscellaneous construction materials, trash and unused materials. The Contractor shall remove and legally dispose of all debris.

### **CONSTRUCTION FACILITIES AND TEMPORARY CONTROL:**

#### Utilities:

Contractor's use of Owner's utilities shall be paid for by the contractor.

#### Sanitary Facilities:

Provide and maintain, in sanitary condition, enclosed weather tight chemical toilets for use of construction personnel. Installation shall be in accord with applicable codes and of authorities having jurisdiction. Upon completion of the work, toilets and appurtenance shall be removed, leaving premises in satisfactory condition as approved by the owner.

NOTE: Under no circumstances will workmen be allowed to use any student's or teacher's toilet facility within the facility.

#### Barricades and Fencing:

Provide and maintain safety barricades, fences with windscreens, temporary walks, bracing and shoring and signals in compliance with local requirements, police regulations and as necessary to separate non-project persons from construction areas.

### **WARRANTY:**

All products and services shall carry, after proper completion, and under normal use, a one (1) year warranty against all defects in materials and workmanship unless noted otherwise in the individual Specifications.

### **TERMINATION OF AGREEMENT**

The District may terminate this agreement in whole or in part at any time, upon written notification to the successful bidder, for any reason at District's convenience. The District may terminate this agreement in whole or in part at any time upon written notification to successful bidder for any default involving:

(A) Failure to develop or deliver products and/or render the services within the schedule requirements of the District or the District's Designee.

(B) Successful bidder's failure to make progress reasonably satisfactory to the District, in the performance of its obligations under this Agreement. With respect to any such default, District's right to terminate shall be conditioned upon successful bidder's failure within ten (10) days after District's notification to provide a remedy satisfactory to District to cure failure of non-compliance.

(C) In the event successful bidder becomes the subject of any proceedings under State or Federal Law for the relief of debtors or otherwise becomes insolvent, bankrupt or makes assignments for the benefit of creditors.

## **IV. Information for Offerors to Submit**

Bids are to be submitted on the Bid Form provided *accompanied by the Attachments contained herein and described below pursuant to the terms of this solicitation*; enclosed in a sealed, opaque envelope bearing the name and address of the bidder, CCSD Identification Number/Solicitation Number of contract being bid, the name of project and the offerors South Carolina General Contractor License Number. All Bids must comply with the laws of the State of South Carolina. Indicate your company name on each page of the Bid Form.

**Complete and Submit attachments B, C, D, E, F and G with the bid. Complete and submit attachments E and G as applicable. Offeror must list subcontractors identified in the table appearing on Attachment B. Instructions for subcontractor listings appear on that page. Failure to properly comply with subcontractor listing requirements may render the Offeror nonresponsive and/or nonresponsible.** The SWMBE information required in attachments C, D, and F will be required to be submitted by 11:00 a.m. the following day of Bid Opening along with the bid verification.

**Submit resumes of the Superintendent and Project Manager assigned to this project with the bid.**

## **V. Qualifications**

PROPOSER'S QUALIFICATIONS Bids shall be considered only from bidders who are regularly established in the business called for and who in the judgment of the District are financially responsible and able to show evidence of their reliability, ability, experience, to render prompt and satisfactory service in the volume called for under this contract.

To be eligible for award of a contract, a prospective contractor must be responsible. In evaluating an Offeror's responsibility, CCSD Standards of Responsibility and information from any other source may be considered. An Offeror must, upon request of CCSD, furnish satisfactory evidence of its ability to meet all contractual requirements. Unreasonable failure to supply information promptly in connection with a responsibility inquiry may be grounds for determining that you are ineligible to receive an award.

Before a submittal is considered for award, the bidder may be requested by the Procurement Official to submit completed form SE-350 as to his/her previous experience in performing similar or comparable work and of his/her business and technical organization and financial resources.

## **VI. Award Criteria**

The District intends to award a contract to the contractor whose offer, conforming to the solicitation, is the most advantageous on the basis for all products, services and requirements contained herein.

In all cases, the District will be the sole judge as to whether a vendor's bid has or has not satisfactorily met the requirement of this bid.

Award will be made to the lowest responsive, responsible bidder who submits a responsive bid which is most advantageous to the Charleston County School District.

## **VII. Terms and Conditions A. General**

Charleston County School District reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein.

ASSIGNMENT No contract or its provisions may be assigned, sublet, or transferred without the written consent of the Procurement Officer.

BANKRUPTCY (a) Notice. In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the District. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all District contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract (b) Termination. This contract is voidable and subject to immediate termination by the District upon the contractor's insolvency, including the filing of proceedings in bankruptcy.

CHOICE-OF-LAW The agreement, any dispute, claim, or controversy relating to the Agreement, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the

State of South Carolina, except its choice of law rules. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation.

ORDER OF PRECEDENCE In the event of inconsistency between provisions of this solicitation, the inconsistency shall be resolved by giving precedence in the following order: (a) bid pricing schedule, (b) bid specifications, (c) standard solicitation provisions/general contract clauses, whether incorporated by reference or otherwise, (d) special solicitation provisions/special contract clauses and (e) instructions to bidders.

DISCOUNT FOR PROMPT PAYMENT:

- a) Discounts for prompt payment will not be considered in the evaluation of Offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the Offeror. As an alternative to offering a discount for prompt payment in conjunction with the Offer, Offerors awarded contracts may include discounts for prompt payment on individual invoices.
- b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the District annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal Holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day.

DISPUTES (a) Choice-of-Forum: All disputes, claims, or controversies relating to the Agreement shall be resolved exclusively by the Director Contracts and Procurement Services in accordance with the Charleston County School District Procurement Code, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Charleston County, State of South Carolina. Contractor agrees that any act by the Government regarding the Agreement is not a waiver of either the Government's sovereign immunity or the Government's immunity under the Eleventh Amendment of the United States Constitution. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation. (b) Service of Process: Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any disputes, claims, or controversies relating to the Agreement; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided as the Notice Address on Page Two or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

EQUAL OPPORTUNITY Contractor is referred to and shall comply with all applicable provisions, if any, of Title 41, part 60 of the Code of Federal Regulations, including but not limited to Sections 60-1.4, 60-4.2, 60-4.3, 60-250.5(a), and 60741.5(a), which are hereby incorporated by reference.

ILLEGAL IMMIGRATION By submitting an offer, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act, 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Contractor and any subcontractors or sub-subcontractors; or (b) the compliance with Title 8, Chapter 14 by Contractor and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14.

FALSE CLAIMS According to the S.C. Code of Laws Section 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty "of a crime.

FIXED PRICING REQUIRED Any pricing provided by contractor shall include all costs for performing the work associated with that price. Except as otherwise provided in this solicitation, contractor's price shall be fixed for the duration of this contract, including option terms. This clause does not prohibit contractor from offering lower pricing after award.

NON-INDEMNIFICATION Any term or condition is void to the extent it requires CCSD to indemnify anyone.

NOTICE (A) After award, any notices shall be in writing and shall be deemed duly given (1) upon actual delivery, if delivery is by hand, (2) upon receipt by the transmitting party of automated confirmation or answer back from the recipient's device if delivery is by telex, telegram, facsimile, or electronic mail, or (3) upon deposit into the United States mail, if postage is prepaid, a return receipt is requested, and either registered or certified mail is used. (B) Notice to contractor shall be to the address identified as the Notice Address on Page Two. Notice to the District shall be to the Procurement Officer's address on the cover Page. Either party may designate a different address for notice by giving notice in accordance with this paragraph.

PAYMENT CCSD shall pay the Contractor, after the submission of proper invoices or vouchers, the prices stipulated in this Contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified in this Contract, including the purchase order, payment shall not be made on partial deliveries accepted by CCSD.

Unless the purchase order specified another method of payment, payment will be made by check.

Payment and interest shall be made in accordance with S.C. code Section 11-35-45. Contractor waives imposition of an interest penalty unless the invoice submitted specifies that the late penalty is applicable.

PUBLICITY RELEASES Contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the user.

PURCHASE ORDER A purchase order may be enclosed with or issued pursuant to this contract, and will be an integral part of the resulting contract. The purchase order indicates that sufficient funds have been obligated in accordance with the budget of the district and assures distribution of the necessary receiving reports. The purchase order does not supersede any provisions of the resulting contract. Performance time and dates are determined solely by the contract and any modification thereto.

SETOFF CCSD shall have all of its common law, equitable, and statutory rights of set-off. These rights shall include, but not be limited to CCSD's option to withhold for the purposes of set-off any moneys due to the Contractor under this Contract up to any amounts due and owing to the CCSD with regard to this Contract, any other contract with any CCSD department or agency, including any contract for a term commencing prior to the term of this Contract, plus any amounts due and owing to the CCSD for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto.

SURVIVAL OF OBLIGATIONS The Parties' rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this Contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses: Indemnification - Third Party Claims, Intellectual Property Indemnification, and any provisions regarding warranty or audit.

TAXES: This is not a tax exempt project.

TERMINATION DUE TO UNAVAILABILITY OF FUNDS Payment and performance obligations for succeeding fiscal periods shall be subject to the availability and appropriation of funds therefore. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the Contract shall be canceled. In the event of a cancellation pursuant to this paragraph, Contractor will be reimbursed the resulting unamortized, reasonably incurred, nonrecurring costs. Contractor will not be reimbursed any costs amortized beyond the initial contract term.

THIRD PARTY BENEFICIARY This Contract is made solely and specifically among and for the benefit of the parties hereto, and their respective successors and assigns, and no other person will have any rights, interest, or claims hereunder or be entitled to any benefits under or on account of this Contract as a third party beneficiary or otherwise.

WAIVER CCSD does not waive any prior or subsequent breach of the terms of the Contract by making payments on the Contract, by failing to terminate the Contract for lack of performance, or by failing to strictly or promptly insist upon any term of the Contract. Only the Procurement Officer has actual authority to waive any of CCSD's rights under this Contract. Any waiver must be in writing.

PURCHASE ORDER AMENDMENTS, MODIFICATIONS AND CHANGE ORDERS Any change orders, alterations, amendments or other modifications hereunder shall not be effective unless reduced to writing and approved by the Procurement Official responsible for this solicitation and the vendor. All questions, problems or changes arising after award



of this purchase order shall be directed to the Procurement Official responsible for this solicitation, at 3999 Bridge View Drive, North Charleston, SC 29405.

**COMPLIANCE WITH STATUTES:** During the term of the contract, it shall be the Contractor's responsibility to ensure compliance with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs.

**INSURANCE** The Contractor (or Subcontractor, or anyone directly or indirectly employed by any of them) will provide and maintain, as a minimum or greater, if required by law, the following types and amounts of insurance:

1. Commercial General Liability: Contractor must provide Commercial General Liability insurance using the 1993 ISO Occurrence For (CG 00 01 10/93) or an equivalent form. The Commercial General Liability insurance must include coverage for premises-operations, independent contractors, products-completed operations, personal injury and contractual liability. The contractual liability must include the tort liability of another assumed in a business contract. The Contractor or his agent shall verify that there is no endorsement or modification of the CGL limiting the scope of coverage for liability arising from explosion, collapse or underground property damage. This insurance shall be maintained throughout the duration of the project and for a minimum of one year after final payment as provided for in Article 9.10. Limits shall be as follows:

Each Occurrence Limit	
Bodily Injury/Property Damage Liability	\$1,000,000
Personal Injury Liability	\$1,000,000
General Aggregate Limit	\$2,000,000
Products/Completed Operations Aggregate Limit	\$2,000,000

2. The General Aggregate Limit is to be written on a "per project" basis using contractor's per project endorsement Amendment-Aggregate Limits of Insurance (CG2503) The Project/Completed Operations Aggregate Limit must be at least \$2,000,000 or written confirmation provided that the Commercial Umbrella coverage includes liability coverage for damage to the insured's completed work equivalent to that provided under the CG 00 01 10/93 coverage form.

3. The Owner is to be named as an additional insured in the Contractor's policy with respect to this project using the ISO Additional Insured-Owners, Contractors endorsement (CG 20 10) or a substitute providing equivalent coverage. Verification of additional insured status shall be furnished to the Owner by mailing a copy of the endorsement or Certificate of Insurance.

4. Insurance for all owned, non-owned and hired vehicles on ISO form CA 00 01 12/4. This insurance will apply as primary insurance with respect to any other insurance or self-insurance the Owner may have or elect to carry with respect to this Project.

5. Comprehensive Automobile Liability Insurance: Contractor must provide and maintain business auto liability 90 or equivalent coverage form with the following limits;

Combined Single Limit	\$1,000,000 per accident (or equivalent "split limits" satisfying Umbrella Excess Liability requirements).
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If necessary, the policy shall be indorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of the ISO CA 00 01 form.

6. Workers Compensation: Contractor shall provide and maintain workers compensation and employers liability insurance providing coverage in South Carolina. Limits and coverage shall be as follows;

Workers Compensation Insurance	SC statutory benefits
Employers Liability Insurance	\$500,000 each accident
	\$1,000,000 policy limit
	\$500,000 each employee

If the project involves work which may be subject to the US Longshore and Harborworkers Act (USL&HW), or which may involve watercraft, Contractor will attach the respective endorsements to provide this coverage. USL&HW (WC 00 01 06 A) and maritime Coverage (WC 00 02 01 A).

7. Umbrella Excess Liability: Contractor shall provide umbrella excess liability insurance on an "occurrence" basis providing "following form" coverage for the underlying coverages outlined above with the following limits:

Excess Liability (Umbrella Form)	
General Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

8. Certificates of insurance which shall be signed by a duly authorized representative of each insurance company, showing compliance with the insurance requirements attached hereto and which shall be acceptable to the Owner shall be submitted to the Owner upon execution of this Agreement. When requested by the Owner, the Contractor shall furnish copies of Certificates of Insurance for each subcontractor as well. All Certificates of Insurance shall include a statement that the Owner will receive written notice 30 days prior to cancellation of any policy. Further, the Charleston County School District will be named as an additional insured on all policies.

CONTRACTOR PERSONNEL The Contractor shall enforce strict discipline and good order among the Contractor’s employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

CONTRACTOR SOLELY RESPONSIBLE FOR PERFORMANCE: The District will rely upon the Contractor for full, complete, and satisfactory performance under the terms and conditions of this agreement.

If the Contractor’s services provided for hereunder include services, equipment, or materials supplied by a subcontractor, the Contractor must act as the prime Contractor for these items and assume full responsibility for performance hereunder. The Contractor will be considered the sole point of contact with regard to all situations, including payment of all charges and the meeting of all other requirements.

TERMINATION Subject to the conditions below, the District providing a 30-day advance notice in writing is given to the vendor may terminate the purchase order for any reason.

NON-APPROPRIATIONS Any purchase order entered into by the District resulting from this bid invitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.

FOR CONVENIENCE In the event that this purchase order is terminated or canceled upon request and for the convenience of the District without the required thirty (30) days advance written notice, then the District may negotiate reasonable termination costs, if applicable.

FOR CAUSE Termination by the District for cause, default or negligence on the part of the vendor shall be excluded from the foregoing conditions; termination costs, if any, shall not apply. The thirty (30) days advance notice requirement is waived and the default clause in this bid shall apply.

DEFAULT In case of default by the vendor, the District reserves the right to purchase any or all items in default in the open market, charging the vendor with any additional costs. The defaulting vendor shall not be considered a responsible bidder until the assessed charge has been satisfied.

INDEMNIFICATION

1. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Charleston County School District, its agents, Board, officers and/or officials, employees and volunteers (hereinafter, the “Indemnitees”) 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 including loss of use resulting therefrom, but only to the extent caused in whole or in part by 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 indemnify which would otherwise exist as to a party or person described herein.

2. In claims against any person or entity indemnified herein by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation herein 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. Further, any performance bond or insurance protection required by the contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the Indemnitees as herein provided.

3. The Contractor's indemnity obligations shall also specifically include, without limitation, all fines, penalties, damages, liability, costs, expenses (including, without limitation, reasonable attorneys' fees and court costs), and punitive damages (if any) arising out of, or in connection with, and (1) violation of or failure to comply with any law, statute, ordinance, rule, regulation, code or requirement of a public authority that bears upon the performance of this contract by the Contractor, a Subcontractor, or any person or entity for whom either is responsible, (2) means, methods, procedures, techniques or sequences or execution or performance of the services required, and (3) failure to secure and pay for permits, fees, approvals, and/or licenses related to performance of the contract by the Contractor, a Subcontractor or any person or entity for whom either is responsible.

4. The Contractor shall indemnify and hold harmless all of the Indemnitees from and against any costs and expenses (including reasonable attorneys' fees and court costs) incurred by any of the Indemnitees in enforcing any of the Contractor's defense, indemnity and hold-harmless obligations under this contract.

5. The Contractor shall further indemnify and hold harmless the Indemnitees from all suits or claims of any character brought by reason of infringing on any patent, trademark or copyright. Contractor shall have no liability to the Indemnitees if such patent, trademark or copyright infringement or claim is based upon the Contractor's use of materials furnished to the Contractor by an Indemnitee.

LICENSES AND PERMITS: During the term of the contract, the Contractor shall be responsible for obtaining, and maintaining in good standing, all licenses (including professional licenses, if any), permits, inspections and related fees for each or any such licenses, permits and /or inspections required by the District, county, city or other government entity or unit to accomplish the work specified in this solicitation and the contract.

QUALITY OF PRODUCT (This clause does not apply to solicitations for service requirements). Unless otherwise indicated in this bid it is understood and agreed that any item offered or shipped on this bid shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging. For information technology procurements as defined in Provision I., of the Charleston County School District Procurement Code, if items that are other than new (i.e. remanufactured or refurbished) are desired to be bid, the bidder must obtain written permission to bid such items at least 5 days in advance of bid opening from the person to whom inquiries are to be directed as listed on the front page of the invitation for bid.

PRICE ADJUSTMENTS: (1) Method of Adjustment. Any adjustment in the contract price made pursuant to a clause in this contract shall be consistent with this Contract and shall be arrived at through whichever one of the following ways is the most valid approximation of the actual cost to the Contractor (including profit, if otherwise allowed):

- (a) by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
  - (b) by unit prices specified in the Contract or subsequently agreed upon;
  - (c) by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon;
  - (d) in such other manner as the parties may mutually agree; or,
  - (e) in the absence of agreement by the parties, through a unilateral initial written determination by the Procurement Officer of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the Procurement Officer in accordance with generally accepted accounting principles, subject to the provisions of Section 4210 of CCSD Procurement Codes.
- (2) Submission of Price or Cost Data. Upon request of the Procurement Officer, the contractor shall provide reasonably available factual information to substantiate that the price or cost offered, for any price adjustments is reasonable, consistent with the provisions of Section 1830.

RISK OF LOSS The contractor shall assume all risk of loss, and shall maintain insurance coverage on all items installed, up to the time of final acceptance.

RECORDS RETENTION AND RIGHT TO AUDIT Charleston County School District has the right to audit the books and records of the contractor as they pertain to this contract, both independent of, and pursuant to, the District Procurement Code. Such books and records shall be maintained for a period of three (3) years from the date of final payment under the contract.

The District may conduct, or have conducted, performance audits of the contractor. The District may conduct, or have conducted, audits of specific requirements of this bid as determined necessary by the District.

Pertaining to all audits, contractor shall make available to the District access to its computer files containing the history of contract performance and all other documents related to the audit. Additionally, any software used by the contractor shall be made available for auditing purposes at no cost to the District.

**FORCE MAJEURE** The contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the contractor. Such causes may include, but are not restricted to acts of God or of the public enemy, acts of the government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather but in every case the failure to perform must be beyond the control and without the fault or negligence of the contractor. If the failure to perform is caused by default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and subcontractor, and without the fault or negligence of either of them, the contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the contractor to meet required delivery schedule.

**SOUTH CAROLINA GOVERNING LAW CLAUSE** The agreement and any dispute, claim, or controversy relating to the agreement shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina. All disputes, claims, or controversies relating to the agreement shall be resolved exclusively by the Purchase orders and Procurement Services Director in accordance with the District Procurement Code, or in the absence of jurisdiction, only in the court of common pleas for, or a federal court located in, Charleston County, State of South Carolina. Vendor agrees that any act by the government regarding the agreement is not a waiver of either the government's sovereign immunity or the government's immunity under the eleventh amendment of the United States Constitution. As used in this paragraph, the term "agreement means any transaction or agreement arising out of, relating to, or contemplated by the solicitation.

**SWMBE PARTICIPATION** Charleston County School District encourages SWMBE businesses to participate in the Bid process. It is the intent of the Charleston County School District to provide equal opportunity to small, minority, and woman-owned businesses in every aspect of procurement. All business conducted with SWMBE businesses certified by the South Carolina Governor's Office of Small and Minority Business Assistance is recorded in a yearly report submitted to the Charleston County School District Board of Trustees. In order to be included in this report you must submit a copy of your certificate with your proposal.

**ITEM SUBSTITUTION** (This clause does not apply to solicitations for service requirements). No substitutes will be allowed on purchase orders received from the District without permission from the Procurement Official.

**RESTRICTIONS/LIMITATIONS** No purchases are to be made from this contract for any item that is not listed or for any item that is currently authorized under any other contract awarded prior to this contract.

**NON INTERFERENCE**: In the event Contractor is unable for any reason to provide any material, services, supplies, products or other items of any type or variety to the District under this agreement, including but not limited to any such materials, services, supplies, etc. available from any other party (such as subcontractors) supplying said materials, services, etc. to Contractor, the District will have the right to deal directly with the other supplier without penalty or interference from Contractor.

**SUBCONTRACTORS**: Subcontractors are subject to same terms and conditions of this agreement as the Contractor.

**LIENS AND ENCUMBRANCES** The Contractor shall satisfy immediately any lien or encumbrance which, because of any act or default of the Contractor, is filed against the District.

**PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT** The District requires all vendor activities to be in compliance with local, state, and federal mandates concerning "protection of human health and the environment". Any vendor doing business with the District will be required to document compliance and to specify prudent practices used by the vendor to address applicable mandates including, but not restricted to "the hazard communication standard" OSHA CFR 191 0.1200 (SCRR article 1,71-1910.1200). By submission of this bid, the vendor agrees to take all necessary steps to ensure compliance with these requirements.

**COMPLIANCE WITH LAWS** During the term of the Contract, Contractor shall comply with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs.

**LIQUIDATED DAMAGES** If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages and not as a penalty, daily amounts of **\$500.00** commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work. If the Contractor fails to obtain Final Completion with 100% of the punchlist completed within thirty days from the date of Substantial Completion, the Owner shall be entitled to retain or recover from the Contractor as liquidated damages the amount of **\$750.00** per calendar day from the thirty-first day following the date of Substantial Completion until completion of the punchlist and until a Final Completion Certificate is obtained, regardless of how the punchlist is completed.

**STORAGE OF MATERIALS** Absent approval of CCSD, Contractor shall not store items on the premises of CCSD prior to the time set for installation.

## MINORITY BUSINESS ENTERPRISE (MBE) PLAN

### Statement of Policy

It is the policy of the Charleston County School District that discrimination against businesses on the basis of race, color, national origin, and gender is prohibited. No person shall be denied the benefit of, or otherwise discriminated against, on the grounds of race, color, national origin or gender in connection with the award and/or performance of any contract or modification of a contract between a vendor or contractor and the Board which contract is paid or is to be paid for, in whole or part, with monetary appropriations of the Board. Further, it is the policy of CCSD to encourage and promote on an inclusionary basis contracting opportunities for all business, without regard to race, color, national origin or gender. It is expected that all firms seeking to do business with the Charleston County School District will comply with this CCSD policy.

### MBE Designated Procurement Plan

The regulations and procedures for implementation of this program are outlined in the procurement code approved by the Board of Trustees. The Charleston County School District will establish goals that include expending, with Minority Business Enterprises certified by the Office of Small and Minority Business Assistance and non-certified Minority business Enterprises, an amount equal to twenty percent (20%) of the District's controllable dollars expended (with the exclusion of salary, benefits, professional services, utilities and travel) for the procurement of supplies, services, Information Technology and construction. Bidders are requested to provide good faith effort in helping the District meet this goal.

### MBE Subcontractor Participation

Charleston County School District, through its contract documents, encourages contractors to utilize minority subcontractors on their projects.

A prime contractor must identify MBE utilization expenditures to certified MBE subcontractors that perform a commercially useful function in the work of the contract. An MBE subcontractor is considered to perform a commercially useful function when it is responsible for the execution of a distinct element of the work of a contract for which the MBE has the skill and expertise and carries out its responsibility by actually performing, managing and supervising the work involved.

### MBE Utilization Commitment Report

In order to facilitate an effective monitoring system, each contractor, bidder or offeror must submit a completed and signed MBE Utilization Commitment Report (Attachment D) with the proposal submission which lists the names, addresses and contact persons of the MBE and minority owned businesses, if any, to be used in the contract, the type of work each business will perform, the dollar value of the work and the scope of work. The Utilization Report submitted by the contractor shall be submitted as a part of the contract with CCSD. If the information contained in the Contractors Utilization Report changes by the time the contract is executed, the Contractor shall amend the Utilization Report and such amended Utilization Report shall be incorporated into the contract.

All employees involved in the execution of this contract must be of legal status and be in adherence to all Federal and South Carolina State Laws.

**VIII. Bid Form /Cost Proposal**

**JAMES B. EDWARDS ELEMENTARY SCHOOL ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**A. ALLOWANCES**

1. ROOF No 1 General Contingency Allowance (Sector A and Sectors B, C, and D)	\$ 20,000.00
2. ROOF No 2 General Contingency Allowance (Sector E, F, G, H, and I)	\$ 15,000.00
1. HVAC General Contingency Allowance	\$ 35,000.00
2. HVAC Energy Management Allowance	\$315,000.00
3. HVAC Fire Alarm Allowance	\$ R31,000.00

**B. BASE BID**

ROOF No. 1

1. Total ROOF Base Bid NO. 1 <u>without</u> Allowances (Sector A and Sectors B, C, and D)	\$ _____
2. Total of ROOF No. 1 Allowances	<u>\$20,000.00</u>
3. Total of ROOF Base Bid No. 1 <u>with</u> Allowances	\$ _____

ROOF No. 2

1. Total ROOF Base Bid NO. 1 <u>without</u> Allowances (Sector E, F, G, H, and I)	\$ _____
2. Total of ROOF No. 1 Allowances	<u>\$15,000.00</u>
3. Total of ROOF Base Bid No. 1 <u>with</u> Allowances	\$ _____

HVAC

1. Total HVAC Base Bid <u>without</u> Allowances	\$ _____
2. Total of HVAC Allowances	<u>\$381,000.00</u>
3. Total of HVAC Base Bid <u>with</u> Allowances	\$ _____

ROOF No. 1, ROOF No. 2 and HVAC

1. Total of ROOF Base Bid No. 1 & No. 2 and HVAC Base Bid <u>with</u> Allowances	\$ _____
---	----------

**C. ALTERNATES**

Alternate #1

1. Alternate 1A – Daikin Units without CMI costs \$ \_\_\_\_\_
2. Alternate 1B – CMI costs to control Daikin Units including controls/raceways \$ \_\_\_\_\_
3. Total of Alternate 1A & 1B – Daikin Units with CMI Controls \$ \_\_\_\_\_

Alternate #2

1. Alternate 2A – AAON Units without CMI costs \$ \_\_\_\_\_
2. Alternate 2B – CMI costs to control AAON Units including controls/raceways \$ \_\_\_\_\_
3. Total of Alternate 2A & 2B – AAON Units with CMI Controls \$ \_\_\_\_\_

**D. UNIT PRICES**

<u>ITEM</u>	<u>Unit</u>	<u>COST</u>
1. UP-1: Repair Steel Deck with Coating. Refer to Section 05 31 23.	Square Foot	\$ _____
2. UP-2: Repair Steel Deck with Steel Plates. Refer to Section 05 31 23.	Square Foot	\$ _____
3. UP-3: Replace Damaged or Deteriorated Steel Deck. Refer to Section 05 31 23.	Square Foot	\$ _____
4. UP-4: Replace Damaged or Deteriorated Wood Blocking. Refer to Section 06 10 00.	Board Foot	\$ _____
5. UP-5: Provide New Wood Blocking. Refer to Section 06 10 00.	Board Foot	\$ _____
6. UP-6: Replace Damaged or Deteriorated 1/2-inch Plywood. Refer to Section 06 10 00.	Board Foot	\$ _____
7. UP-6: Repair Damaged or Deteriorated Gypsum with Fill. Refer to Section 07 01 50.	Board Foot	\$ _____
8. UP-6: Replace Damaged or Deteriorated Gypsum Substrate. Refer to Section 07 01 50.	Board Foot	\$ _____
9. UP-7: Provide Additional Manufacturer’s Walk Pad Material. Refer to Section 07 52 16.	Linear Foot	\$ _____

**GC License #** \_\_\_\_\_

COMPANY NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 COMPANY \_\_\_\_\_  
 REPRESENTATIVE BY \_\_\_\_\_  
 Authorized to Sign TITLE \_\_\_\_\_  
 TELEPHONE \_\_\_\_\_

ADDENDA RECEIPT ( ) Addendum #1 Date \_\_\_\_\_  
 (if applicable) ( ) Addendum #2 Date \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The undersigned, as bidder, proposes and agrees, if this bid is accepted, to contract with Charleston County School District, in the form of contract specified, to pay all required fees and permits, and to furnish any necessary materials, tools, equipment, apparatus, transportation, and labor to complete the projects, and has bid in full and complete accordance with the shown, noted, described and reasonably intended requirements of the contract documents.

1. The bidder further declares that he/she has examined the site of work and has become thoroughly familiar with all conditions pertaining to the work to be performed. The bidder also has examined the plans and specifications for the work and contractual documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he/she has been satisfied relative to the work to be performed.
2. The bidder agrees that this Bid Proposal is valid from bid date and for a minimum of 60 days hence.
3. The bidder finally agrees that this IFB supersedes any and all previous agreements, both written and oral, and that the terms and conditions of this Agreement shall exclusively govern the agreement between the parties.
4. CHARLESTON COUNTY SCHOOL DISTRICT RESERVES THE RIGHT TO REJECT A CONTRACTOR'S BID IF THE CONTRACTOR IS CURRENTLY PERFORMING WORK FOR THE DISTRICT AND HIS CURRENT PROJECT IS BEHIND SCHEDULE.
5. Time is of the essence. By submitting a bid and signing this bid form, Contractor acknowledges that the time for completion of this project is reasonable and that it can complete this project in the time allotted. Further, Contractor acknowledges that it has notice of the liquidated damages provisions contained within Article 3.6 of the AIA A132 Standard Form of Agreement Between Owner and Contractor, Program Manager as Adviser Edition, as amended.

\_\_\_\_\_  
 Company Name Name of Authorized Rep. – Typed or Printed  
 \_\_\_\_\_  
 Signature of Authorized Representative Street Address  
 \_\_\_\_\_  
 City / State / Zip Code Date



**ATTACHMENT LISTING**

- A. Offeror's Checklist**
- B. List of Sub-Contractor's**
- C. Minority Participation Affidavit**
- D. MBE Utilization Commitment Form**
- E. Statement of Intent to Perform Work without Subcontracting**
- F. Certificate of Minority Business Enterprise Unavailability**
- G. Charleston County School District No Bid Form**

**Attachment A**

**OFFEROR'S CHECKLIST**  
**AVOID COMMON MISTAKES**

Web site:

Review this checklist prior to submitting your proposal  
If you fail to follow this checklist, you risk having your proposal rejected.

- COMPLETED AND SIGNED ALL REQUIRED DOCUMENTS.
- DO NOT INCLUDE ANY OF YOUR STANDARD CONTRACT FORMS!
- UNLESS EXPRESSLY REQUIRED, DO NOT INCLUDE ANY ADDITIONAL BOILERPLATE CONTRACT CLAUSES.
- REREAD YOUR ENTIRE PROPOSAL TO MAKE SURE YOUR PROPOSAL DOES NOT TAKE EXCEPTION TO ANY OF THE DISTRICTS MANDATORY REQUIREMENTS.
- MAKE SURE YOU HAVE PROPERLY MARKED ALL PROTECTED, CONFIDENTIAL, OR TRADE SECRET INFORMATION IN ACCORDANCE WITH THE HEADING ENTITLED: FOIA BIDDING INSTRUCTIONS, SUBMITTING CONFIDENTIAL INFORMATION. ***DO NOT MARK YOUR ENTIRE BID AS CONFIDENTIAL, TRADE SECRET, OR PROTECTED! Do NOT INCLUDE A LEGEND ON THE COVER STATING THAT YOUR ENTIRE RESPONSE IS NOT TO BE RELEASED!***
- HAVE YOU PROPERLY ACKNOWLEDGED ALL AMENDMENTS? INSTRUCTIONS REGARDING HOW TO ACKNOWLEDGE AN AMENDMENT SHOULD APPEAR IN ALL AMENDMENTS ISSUED.
- MAKE SURE YOUR PROPOSAL INCLUDES A COPY OF THE SOLICITATION COVER PAGE.
- MAKE SURE A PERSON THAT IS AUTHORIZED TO CONTRACTUALLY BIND YOUR BUSINESS SIGNS THE COVER PAGE.
- MAKE SURE YOUR PROPOSAL INCLUDES THE NUMBER OF COPIES REQUESTED.
- CHECK TO ENSURE YOUR PROPOSAL INCLUDES EVERYTHING REQUESTED INCLUDING A BID SUBMITTAL AS REQUIRED BY PARAGRAPH VIII OF THE INVITATION FOR BIDS!
- IF YOU HAVE CONCERNS ABOUT THE SOLICITATION, DO NOT RAISE THOSE CONCERNS IN YOUR RESPONSE! **AFTER OPENING, IT IS TOO LATE! IF THIS SOLICITATION INCLUDES A PRE-PROPOSAL CONFERENCE OR A QUESTION & ANSWER PERIOD, RAISE YOUR QUESTIONS AS A PART OF THAT PROCESS! PLEASE SEE BIDDING INSTRUCTIONS AND ANY PROVISIONS REGARDING PRE-BID CONFERENCES.**

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**NOTE:** This checklist is included only as a reminder to help Offerors avoid common mistakes Responsiveness will be evaluated against the solicitation **not** against this checklist. You do not need to return this checklist with your response.

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Attachment B

**LIST OF SUBCONTRACTORS**

SPECIALTY	NAME
Mechanical	
Roofing (Roof No. 1 - Sectors A and Sectors B, C, and D)	
Roofing (Roof No. 2 - Sectors E, F, G, H, and I)	

***Any Bidder in response to this Invitation for Bids shall list in his bid, at Attachment B List of Subcontractors, the name of only those SUBCONTRACTOR(S) that will perform the category of work so identified.***

***If the Bidder will use his own employees to perform any category of the work for which he would otherwise be required to list a SUBCONTRACTOR, The Bidder must be qualified to perform such work under the terms of the “Invitation for Bids”, the Contract, and South Carolina law and the Bidder shall list his company name in the appropriate place herein.***

***A SUBCONTRACTOR is an entity who is properly licensed pursuant to SC law that will perform work or render service to the prime contractor. Material suppliers, manufacturers and fabricators are not SUBCONTRACTORS and are not to be listed. Bidders should insure that listed subcontractors hold the proper license (both subcategory and financial level required) for the entire scope of work in their category. If the prime contractor intends to submit more than one subcontractor for a particular category listing, it must designate which portion of work each subcontractor will perform on the subcontractor listing submitted with its bid. (Ex: one listed subcontractor for BUR and another listed subcontractor for metal roofing.)***

***FAILURE BY THE RESPONDENT TO LIST THE NAME(S) OF SUBCONTRACTORS IN ACCORDANCE WITH THIS REQUEST MAY RENDER THE PROPOSAL NONRESPONSIVE AND/OR NONRESPONSIBLE.***

**Attachment C**

**Minority Participation Affidavit**

- Is the bidder a South Carolina Certified Minority Business? (Yes) \_\_\_\_\_ (No) \_\_\_\_\_
- Is the bidder a Minority Business certified by another governmental entity?  
(Yes) \_\_\_\_\_ (No) \_\_\_\_\_
- If so, please list the certifying governmental entity: \_\_\_\_\_  
\_\_\_\_\_
- Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? (Yes) \_\_\_\_\_ (No) \_\_\_\_\_
- If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor? \_\_\_\_\_%
- Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? (Yes) \_\_\_\_\_ (No) \_\_\_\_\_
- If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor? \_\_\_\_\_%

If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:

- \_\_\_\_\_ Traditional minority
- \_\_\_\_\_ Traditional minority, but female
- \_\_\_\_\_ Women (Caucasian females)
- \_\_\_\_\_ Hispanic minorities
- \_\_\_\_\_ Temporary certification
- \_\_\_\_\_ Other minorities (Native American, Asian, etc.)

**Note:** *If more than one minority Contractor will be utilized in the performance of this contract, please provide the information above for each minority business.*

**Attachment D      MINORITY BUSINESS ENTERPRISE (MBE) UTILIZATION COMMITMENT**

Firm Name: \_\_\_\_\_

Project: \_\_\_\_\_

Bid/Proposal #: \_\_\_\_\_

Signature: \_\_\_\_\_

The bidder/proposer will utilize the following MBE firms:

Name/address/city/telephone/ of MBE Firm	Type of MBE *	Trade/service category	Dollar Value
Name:			
Address:			
City & State:			
Telephone:			
Name:			
Address:			
City & State:			
Telephone:			
Name:			
Address:			
City & State:			
Telephone:			
Name:			
Address:			
City & State:			
Telephone:			
Name:			
Address:			
City & State:			
Telephone:			
Name:			

Address:			
City & State:			
Telephone:			
Name:			
Address:			
City & State:			
Telephone:			
		Total	\$

This MBE total is \_\_\_\_ % of total anticipated work  
 \_ % with ethnic minority firms  
 \_\_\_\_\_ % with women-owned firms

MBE – Minority Business Enterprise, a business concern that is at least fifty-one percent owned and daily managed by one or more of the following citizens of the United States: B-Black/African Americans, H-Hispanic Americans, N-Native Americans (includes American Indians, Eskimos, Aleuts and Native Hawaiians), APAsian Pacific Americans, A-Asians, W-Woman citizen of the United States, regardless of race or origin. Code by type of MBE: B, H, N, AP, A, W.

NOTE: A business that presents itself as a minority business may participate in the project but may not be counted toward the MBE goal until it is a certified minority business enterprise. Certification must be obtained prior to the completion of the project. The Program Manager accepts firms that have MBE certification from the South Carolina Governor’s Office of Small and Minority Business Assistance, a Minority Supplier Development Council, a SDB certification from the U.S. Small Business Administration or others as approved.

The responding firm agrees to furnish additional information as required by Program Manager.

**Attachment E**

**STATEMENT OF INTENT TO PERFORM WORK WITHOUT SUBCONTRACTING**

Firm Name: \_\_\_\_\_

Project: \_\_\_\_\_

Bid/Proposal #: \_\_\_\_\_

Signature: \_\_\_\_\_

It is the intent of the above named firm to self-perform 100% of the work as outlined in this bid/proposal.

The bidder/proposer states the following:

1. That it is a normal business practice of the bidder to perform **all elements** of this type contract with its own employees.
2. That if it should become necessary to subcontract some portion of the work at a later date, the bidder/proposer will notify program manager and provide documented good-faith efforts to comply with all requirements of the MBE program in providing equal opportunities to MBE firms.
3. Bidder/proposer will provide equal opportunity for MBEs to participate in significant material-supplier opportunities available under this scope of work and will document good faith efforts as required by program manager.

**Attachment F**

**CERTIFICATE OF MINORITY BUSINESS ENTERPRISE UNAVAILABILITY**

Firm Name: \_\_\_\_\_

Project: \_\_\_\_\_

Bid/Proposal #: \_\_\_\_\_

Signature: \_\_\_\_\_

---

	Name of	Address, City,	Date of Contact
<u>Trade/Service Category</u>	<u>MBE Firm</u>	<u>&amp; Contact Person</u>	<u>&amp; Contact</u>
<u>Person</u>	<u>Participating</u>		

Bidder/proposer in accordance with the bid/proposal documents, states that the above MBE firm(s): a) are capable subcontractor(s) and (b) were contacted in good faith and (c) that the MBE firm(s) are not participating in this bid/proposal as indicated above. Form may be copied and supplemental information attached.

A finding that any of the information submitted is false will constitute grounds for recommending that the bid/proposal not responsive



CHARLESTON COUNTY SCHOOL DISTRICT

**BID TITLE:**  
**JAMES b. EDWARDS ELEMENTARY SCHOOL – ROOF REPLACEMENT AND HVAC UPGRADE PACKAGE**

**IF YOU INTEND TO ENTER A “NO BID” RESPONSE TO OUR REQUEST FOR BIDS, PLEASE INDICATE YOUR REASONS BELOW. WE WILL USE THIS INFORMATION TO BETTER IDENTIFY BIDDERS FOR PARTICULAR COMMODITIES, UPDATE OUR RECORDS AND IMPROVE THE QUALITY AND CONTENT OF OUR REQUESTS FOR BIDS. THIS INFORMATION WILL NOT PRECLUDE YOUR RECEIPT OF FUTURE INVITATIONS UNLESS YOU REQUEST REMOVAL FROM THE BIDDERS LIST OR FROM A PARTICULAR PRODUCT CATEGORY. WE TREAT THIS “NO BID” RESPONSE AS A PROPER REPLY TO AN INVITATION. FAILURE TO RETURN THIS FORM FOR A “NO BID” COULD RESULT IN YOUR BEING REMOVED FROM THE BIDDERS LIST AS “NOT INTERESTED”.**

( ) 1. We do not wish to participate in the bid process.

( ) 2. We do not wish to bid under the terms and conditions of the request for bid document. Our objections are.....

\_\_\_\_\_  
\_\_\_\_\_

( ) 3. We do not feel we can be competitive.

( ) 4. We cannot submit a bid because of the marketing or franchising policies of the manufacturing company.

( ) 5. We do not wish to sell to Charleston County School District. Our objections are.....

\_\_\_\_\_  
\_\_\_\_\_

( ) 6. We do not sell the items/service on which bids are requested.

( ) 7. Other \_\_\_\_\_  
\_\_\_\_\_

( ) 8. We wish to remain on the bidders’ list.

( ) 9. We wish to be deleted from the bidders’ list.

( ) 10. Remove us from this item(s)/service only.

**COMPANY NAME** \_\_\_\_\_

**SIGNED** \_\_\_\_\_

**Date:** \_\_\_\_\_

## SECTION 07 01 50

### PREPARATION FOR REROOFING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Preparatory work to be completed prior to roof installation including but not limited to:
1. Roof Replacement Pre-Construction Meeting.
  2. Removal of existing roof assemblies down to the structural deck or gypsum substrate.
  3. Fastener withdrawal tests on Sector A.
  4. Water test of roof drains/below grade storm drainage leaders.
  5. Soil pipe extensions.
  6. Raising of mechanical units/HVAC units to meet the required minimum flashing height.
  7. Installation and/or modification of through edge overflow scuppers.
  8. Repairs to existing poured gypsum substrate.

##### 1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:
- |                                      |                  |
|--------------------------------------|------------------|
| 1. Steel Roof Deck Repair/Securement | Section 05 31 23 |
| 2. Rough Carpentry                   | Section 06 10 00 |
| 3. Roof Insulation                   | Section 07 22 16 |
| 4. Modified Bitumen Roofing          | Section 07 52 16 |

##### 1.03 DEFINITIONS

- A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.
- B. Existing to remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.
- C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site.

##### 1.04 EXISTING ROOF ASSEMBLIES\*

- A. Sector A
1. Surfacing – Gravel
  2. Membrane – Built-up Roof
  3. Insulation – Varying thicknesses tapered insulation
  4. Insulation – 2 inch poured gypsum
  5. Deck – Metal

B. Sectors B, C, D, E, F, G, H and I

1. Surfacing – Gravel
2. Membrane – Built-up Roof
3. Insulation – Varying thicknesses tapered insulation
4. Thermal Barrier – 5/8-inch gypsum board
5. Deck – Metal

\*Roof system composition is based on random sampling. Contractor is responsible for verification of roof system composition.

**1.05 SUBMITTALS**

- A. Refer to Section 01 33 00-Submittal Procedures for Submittals.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with this specification.
- C. Submit:
1. Emergency contact list including pager, mobile and home numbers of key Contractor and Subcontractor personnel, and office and mobile numbers of key Owner and REI personnel.
  2. Letter describing in detail any proposed changes, substitutions, or deviations from the project or manufacturer's specifications. A written explanation of why substitutions should be considered is required.
  3. Shop drawings or letter stating that the contractor will install materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
  4. Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to; asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates Contractor has discovered no existing damaged components and takes responsibility for any damages caused by operations.
  5. Complete list of materials with Safety Data Sheets (SDS).
- D. Submit Fastener Pull Test Report from membrane or fastener manufacturer.

**1.06 QUALITY ASSURANCE**

- A. Qualifications: Previous experience removing existing roof systems.
- B. Requirements: Contractor to comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.
- C. A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract. The Engineer's Representative will compile minutes of the meeting, and will furnish a copy of the minutes to the Contractor and each person present.
1. Attendance: Contractor Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and all other persons concerned with the installation and performance. The Contractor shall also provide three (3) local telephone numbers, which may be used to contact the Contractor or his authorized representative in the event of an emergency after normal business hours.

2. Minimum Agenda: Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the Project Manager; channels and procedures for communication; construction schedule, including sequence of critical work; contract documents, including distribution of required copies of Drawings and revisions; processing of Shop Drawings and other data submitted to the Project Manager for review; rules and regulations governing performance of the work and procedures for safety, first aid, security, quality control, housekeeping and related matters.

## **1.07 SCHEDULING**

- A. Conduct demolition so that Owner's operations will not be disrupted. Provide 72 hours notification to Owner of activities that will affect Owner's operations.

## **1.08 WARRANTIES**

- A. Any damage to existing items under warranty shall be repaired/replaced with materials acceptable to the Warrantor.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Steel Deck
  1. Refer to Specification Section 05 31 23.
- B. Poured Gypsum
  1. Gypsum Fill: Shall be gypsum concrete fill composed of calcined gypsum and wood chips/shavings conforming to ASTM C317.
  2. Gypsum Formboard shall be ½" thick moisture resistant rigid board with a treated gypsum core, glass mat top and bottom surfaces, and meet ASTM C1177.
  3. Wire Mesh shall be galvanized woven wire mesh with 16-gauge straight wires and 19-gauge diagonal wires.
  4. Steel Support Angles shall be 2" by 2" by ¼" steel angle meeting ASTM A36.
- C. Soil Pipe Extensions:
  1. Acceptable Manufacturer:
    - a. OMG Tubos
    - b. Engineers accepted equivalent
  2. Soil Pipe Extension: Solid-wall PVC fitting consisting of pipe and splice sleeve inserts, configured for insertion and sealing to existing plumbing vent piping, sized to fit inside diameter of plumbing vent piping, enabling extension of piping to field-determined height:
    - a. Material: Solid-wall PVC, white.
    - b. Splice Sleeve Insert:
      - i. 6 inches Length at both ends of precut extension.
      - ii. Outside Diameter to be 1/4" less than outside diameter of soil pipe.

- c. Length:
  - i. Overall Length: 28 inches.
  - ii. Net Usable Length: 16 inches excluding Splice Sleeve Inserts.
- d. Sealant: Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT, and acceptable to roofing membrane manufacturer.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Survey existing conditions to determine extent of demolition.
- B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.
- C. Contractor shall not remove any element that may result in structural deficiency or collapse of any part of the structure or adjacent structures during demolition.
- D. Contractor to inspect substrate for soundness and notify Engineer in writing of any deficiencies. Commencement of work signifies Contractor's acceptance of site conditions.

#### **3.02 UTILITIES/SERVICES**

- A. Maintain existing utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.
  - 1. Locate all conduits and equipment attached to the underside of the decking prior to reroofing. Insulation fastener locations are not to disturb existing conduits or interior components/equipment.
  - 2. If utilities serving occupied portions of the site must be shut down, temporary services shall be provided.
  - 3. Provide 72 hours notice to Owner if shut down is required.
  - 4. Where services are to be removed, relocated or abandoned, provide necessary bypass connections to remaining occupied buildings and areas.

#### **3.03 PREPARATION**

- A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.
- B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.
- C. Provide safe conditions for pedestrians. Erect temporary protection such as walkways, fences, railings and canopies as required by OSHA and other governing authorities.
- D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.

- E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

### **3.04 POLLUTION CONTROLS**

- A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.
  - 1. Do not use water where damage may occur or where hazardous conditions would be created such as ice or flooding.

### **3.05 REMOVALS**

- A. Demolish and remove existing construction only to the extent required by new construction.
- B. Remove all existing roofing, roof insulation, membrane and sheet metal and discard.
- C. Remove or correct any obstruction which might interfere with the proper application of new materials.
- D. Lift or remove all existing equipment so that existing flashings can be totally removed and new flashings installed.
- E. Lift existing sheet metal flashings to remain to remove all existing materials. After installation of new materials, neatly bend flashing back into place.
- F. Remove debris from existing materials to provide clean, dry substrate.
- G. Demolish asphalt, concrete and masonry in small sections. Cut concrete and masonry at juncture with construction to remain using powered masonry saw, core drill or hand tools. Do not use powered impact tools.
- H. Remove and transport debris in a manner that will prevent damage/spills to adjacent buildings and areas.
- I. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.
- J. Transport demolished materials off-site and dispose of materials in a legal manner.
- K. Perform progress inspections to detect hazards resulting from demolition activities.

### **3.06 FLASHING HEIGHTS**

- A. Permanently raise roof top equipment as required to achieve 8” minimum flashing height.
- B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8” flashing height.
- C. Extend all existing sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system. Refer to Soil Pipe Extension as indicated below.

### 3.07

#### POURED GYPSUM DECK

##### A. Gypsum Fill Repair

1. Remove all loose, wet, and/or deteriorated existing gypsum fill from repair area.
2. Mix gypsum fill with water utilizing ratios, quantities, and methods recommended by the manufacturer.
3. Slowly pour gypsum fill into repair area and screed off flush with surrounding existing fill.
4. Base sheet installation shall not may begin prior to the new gypsum fill has properly cured according to the manufacturer's recommendations.

##### B. Gypsum Roof Deck Replacement

1. Remove the existing gypsum fill over one complete formboard panel.
2. Cut wire mesh and remove both the wire mesh and the formboard. Leave at least 3" of wire mesh beyond the existing bulb tees to tie in with the new wire mesh.
3. Mechanically attach steel support angles to structural member on all 4 sides of the opening with fasteners spaced 8" on center. Angles shall be placed with one leg against the structural support and the other leg oriented up to form a platform for the new formboard.
4. Install new formboard.
5. Install new wire mesh and tie into the existing wire mesh.
6. Mix the gypsum fill with water utilizing ratios, quantities, and methods recommended by the manufacturer. Install gypsum fill slurry on all flanges of the bulb tees and cross tees. Add a 2 inch wide pour of gypsum diagonally across each formboard.
7. After the slurry and diagonal pattern gypsum has set, slowly pour additional gypsum fill onto the new formboard and screed off flush with the surrounding existing fill.
8. Base sheet installation shall not may begin prior to the new gypsum fill has properly cured according to the manufacturer's recommendations.

### 3.08

#### SOIL PIPE EXTENSION

##### A. Preparation

1. Remove existing flashing from plumbing vent piping to extent required to enable installation of new plumbing vent pipe extensions and completion of flashings.
2. Clean plumbing vent piping to ensure that joint surfaces are clean, dry, and free from contamination including dirt, oils, grease, tar, wax, rust, and other substances that may inhibit adhesive or sealant performance.

##### B. Installation

1. Insert end of plumbing vent pipe extension into existing plumbing vent piping.
  - a. Verify circumference of existing plumbing vent piping and plumbing vent pipe extension is appropriate to achieve secure, rigid installation.
  - b. Mark plumbing vent pipe extension at required height above finished roof surface level, and cut to required length.
  - c. Apply adhesive or sealant to plumbing vent piping as appropriate to existing pipe material and plumbing vent pipe extension, and mate plumbing vent pipe extension to existing piping. Apply adequate adhesive or sealant

to achieve secure, rigid installation.

### **3.09 COUNTERFLASHING PREPARATION**

- A. Counterflashing to Remain: Neatly bend existing counterflashing up at walls as required to completely remove existing base flashings and to install new base flashings. After installation of new base flashings, neatly bend counterflashing back in place using sufficient care to prevent deformation to the finished counterflashing.
- B. Receiver Flashing to Remain: Neatly bend existing receiver up at walls as required to completely remove existing base flashings and counterflashings and to install new base flashings and counterflashings. After installation of new base flashings and counterflashings, neatly bend counterflashing receiver back in place using sufficient care to prevent deformation to the finished counterflashing.
- C. Saw reglet to a maximum depth of 1-1/4 inches in a straight line to allow proper installation of new counterflashings. Utilize all procedures necessary including, but not limited to, saw guides to ensure straight, clean reglets.

### **3.10 ROOF DRAINS AND LEADERS**

- A. Prior to commencement of any work on the project the Contractor shall inspect each existing roof drain/below grade storm drain leader for damage and water flow.
  - 1. Each drain shall be cleaned of accumulated debris and loose gravel. Drain bowl and drain outlet shall be cleaned of bitumen build-up to bare metal by hand scraping.
  - 2. A power vacuum shall be provided by the Contractor and utilized to vacuum debris, loose gravel, and bitumen scraping. Vacuum hose shall be of sufficient length to reach the first elbow in the drain line in order to vacuum the line.
  - 3. After cleaning bitumen from the drain bowl, Contractor shall inspect the bowl carefully for cracks, and the drain pipe connection for possible deterioration.
  - 4. Each drain/leader shall be water tested for proper flow utilizing a minimum 3/4-inch hose. Water shall flow into the line under maximum pressure available for a period of not less than 15 minutes.
  - 5. Inspection and testing operation shall precede any roofing tear-off. If deficiencies or damages are observed, Contractor shall record the deficiency on a Roof Plan and forward to the Engineer. The Engineer will notify the Owner's Maintenance Department accordingly. Contractor shall allow 48 hours after notification for any corrective work by the Owner.
  - 6. If no deficiencies or damages are reported to the Owner prior to commencement of work, Contractor shall assume full responsibility for the condition and operation of the drains/leaders.
  - 7. Contractor shall install temporary drain plugs while performing any work at or near the roof drains. Drain plugs shall be removed at the end of each work day.
- B. Roof drain lowering
  - 1. Inspect all existing drain bowls for elevation relative to top surface of roof deck.
  - 2. Remove vertical portion of drain leader and lower bowl so flange is located where indicated in Contract Drawings.



### **3.11 SCUPPER INSTALLATION**

- A. Locate overflow scupper adjacent to the nearest roof drain where indicated.
- B. Remove existing masonry and store for reuse if in good condition. Reinstall masonry units to extent possible. Provide new brick or concrete masonry units to match existing.
- C. Extend opening through entire thickness of parapet. Take precautions to avoid damaging adjacent wall surfaces.
- D. Provide finished openings as indicated.
- E. Install veneer materials of same type, size and finish to match existing. Set units in full beds of mortar to match adjacent joints in thickness. Tool joints to match.
- F. Repair exterior finish to match adjacent surfaces.

### **3.12 FASTENER WITHDRAWAL TESTS**

- A. Notify Engineer a minimum of 7 days prior to testing.
- B. Conduct fastener pull tests in accordance with ANSI/SPRI FX-1-2016 requirements. Perform a minimum of 5 pull tests per individual roof area. Provide a report along with a roof plan showing test locations and corresponding withdrawal value of each pull test. Minimum withdrawal value to be 40 pounds. Testing to be performed either by manufacturer of fasteners tested or by roof manufacturer.

### **3.13 CLEANING**

- A. Inspect the site daily and clean up debris and hazards at the end of each day. Adjacent roads, drives and walkways shall remain in operation and free from construction materials debris.
- B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

**END OF SECTION 07 01 50**

## SECTION 07 52 16

### MODIFIED BITUMEN ROOFING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Furnish and install an SBS modified bituminous membrane system consisting of two plies of asphalt elastomeric membrane reinforced with polyester and/or fiberglass mat.

##### 1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:
- |    |                                   |                  |
|----|-----------------------------------|------------------|
| 1. | Steel Roof Deck Repair/Securement | Section 05 31 23 |
| 2. | Rough Carpentry                   | Section 06 10 00 |
| 3. | Preparation for Reroofing         | Section 07 01 50 |
| 4. | Roof Insulation                   | Section 07 22 16 |
| 5. | Sheet Metal Flashing and Trim     | Section 07 62 00 |
| 6. | Roof Accessories                  | Section 07 72 00 |

##### 1.03 REFERENCES

- A. Refer to the following references, current edition for specification compliance:
- 2015 International Building Code with SC Modifications
  - National Roofing Contractors Association - NRCA
    - NRCA Roofing and Waterproofing Manual
  - ASTM International
    - ASTM D 41 - Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
    - ASTM E 108 Standard Test Methods for Fire Tests of Roof Coverings
    - ASTM E 119 Standard Test Methods for Fire Tests of Building Construction Materials.
    - ASTM D 3019 Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered and Non Asbestos Fibered.
    - ASTM D 3409 Standard Test Method for Adhesion of Asphalt-Roof Cement to Damp, Wet, or Underwater Surfaces.
    - ASTM D 4479 Standard Specification for Asphalt Roof Coatings - Asbestos Free.
    - ASTM D 4586 Specification for Asphalt Roofing Cement, Asbestos Free.
    - ASTM D 6162 Specification for SBS Modified Bitumen Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
    - ASTM D 6163 Specification for SBS Modified Bitumen Sheet Materials Using Glass Fiber Reinforcements.
    - ASTM D 6164 Specification for SBS Modified Bitumen Sheet Materials Using Polyester Reinforcements.
  - Asphalt Roofing Manufacturers Association - ARMA

5. FM Global
  - a. FM 4450 - Approval Standard for Class 1 Insulated Steel Deck Roofs
  - b. FM 4470 - Approval Standard for Class 1 Roof Coverings
6. Underwriters Laboratories, Inc. - UL
  - a. UL 580 - Test for Uplift Resistance of Roof Assemblies
  - b. UL 790 - Tests for Fire Resistance of Roof Covering Materials
  - c. UL 1897 - Uplift Resistance for Roof Covering Systems

#### **1.04 SUBMITTALS**

- A. Refer to Section 01 33 00-Submittal Procedures for Submittals.
- B. Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- D. Submit documentation of approved, tested roof system to meet the specified requirements for the following:
  1. Wind uplift pressures
  2. UL Fire Resistance Rating
- E. Certified Roofing Torch Applicator (CERTA) credentials from NRCA.

#### **1.05 QUALITY ASSURANCE**

- A. Roofing applicator shall be approved by the material manufacturer. Additionally, roofing applicator shall have the experience experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance. Verification shall be provided to the Engineer upon request of 5 similar roof projects.
  1. Acceptable Roofing Applicator:
    - a. Be certified in writing for a minimum of two years by the roofing materials manufacturer to install the primary roofing products.
    - b. Be recognized in the commercial roofing industry.
    - c. Have a minimum of five (5) years experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Also all crew workers on site are to be experienced and have a working knowledge of the system being installed.
    - d. Principals of the firm to have a minimum of ten (10) years experience in the estimating, supervision, management and administration of a contracting firm engaged in the application of building envelope involving removal of the existing building envelope systems.
    - e. At any time during the construction and completion of work covered by these Specifications, if the conduct of any workman of the various crafts be determined unsuitable or a nuisance to the Owner or Engineer, or if the

workman be considered incompetent or detrimental to the work, the Contractor shall order such party removed immediately from the grounds with the person not returning at any time during the course of work on the project.

- f. During the performance of any work by the Contractor or subcontractors, the Contractor shall provide for the entire length of the project a full time onsite superintendent/representative meeting the following requirements:
  - i. For the purpose of these Specifications the designation “superintendent” is hereby defined as the individual present on the job site at all times while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.
  - ii. The superintendent shall be in attendance at the project site at all times during the progress of the work and his duties as superintendent shall be limited to this project only. The superintendent shall supervise and instruct workmen without engaging in the work process. Should the superintendent be absent temporarily from the project at any time, he shall designate a competent foreman to assume duties. During the superintendent’s absence the foreman shall not engage in the work process but shall supervise and instruct only. Likewise, any communications given to the foreman shall be as binding as if given to the Contractor.
  - iii. It shall be the superintendent’s responsibility to communicate all matters pertaining to the Work with the Owner and/or Engineer. In case of emergency or safety, superintendent shall communicate directly with the Owner and/or Engineer. No decisions regarding changes in the Work will be made without the Owner’s knowledge.
  - iv. Decision making authority and ability.
  - v. Able to demonstrate knowledge of work being installed.
  - vi. Fluent in the English language (i.e. reading, writing and speaking).
  - vii. In possession of mobile telephone at all times.
  - viii. Employed by the Contractor at least six months prior to project commencement.
  - ix. Owner and Engineer/Engineer approval.
  - x. No later than ten days prior to the pre-construction conference, Contractor shall provide the Owner, in writing, the names of the proposed project manager, job superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the pre-construction conference.
  - xi. Once approved, the superintendent will not be changed except with the consent of the Owner unless either prove to be unsatisfactory to the Owner or Contractor, or cease to be in the Contractor’s employment.
  - xii. Promotion, transfer, or reorganization within the company will not be an acceptable cause for reassignment of the superintendent.
  - xiii. The superintendent shall have had a minimum of five (5) years continuous experience as a job superintendent.

B. Install roofing system to meet UL 790 Class A/ASTM E 108 Class A Fire Rating.

- C. Wind Design:
1. Install roofing system to meet or exceed the requirements of the current adopted version of ASCE-7, and shall be an approved assembly tested to the wind uplift pressures listed below:
    - a. Field of Roof: -32 psf.
    - b. Perimeter of Roof: -53 psf.
    - c. Corner of Roof: -79 psf.
- D. Manufacturer shall have been producing modified bitumen products in the United States for a minimum of 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years without a change in the basic product design or SBS modified bitumen blend (e.g. no substantive changes in product composition, polymer specification, asphalt or filler formulation).
- E. The base ply and flashing reinforcing ply shall be fully inspected by the Contractor and Manufacturer's technical representative, and repaired and prepared to meet the Manufacturer's requirements prior to installing the surface ply.
- F. The base ply shall not be exposed for longer than the manufacturer's maximum requirement for exposure and shall be acceptable for surface ply applications. Any base ply exposed longer than the maximum requirement will be subject to rejection or additional remedial requirements prior to application of the surface ply.
- G. Punch List Inspection Meeting:
1. Scheduled by Owner and Engineer upon written notification of substantial completion of work from the Contractor.
  2. Attendance: Owner, Engineer, Contractor, material manufacturer.
  3. Minimum Agenda: Walkover inspection; verification of substantial completion; identification of punch list items; identification of problems, which may impede issuance of warranties.
- H. Final Inspection Meeting
1. Scheduled by Owner and Engineer upon written notification of final completion of work from the Contractor.
  2. Attendance: Owner, Engineer, Contractor, material manufacturer.
  3. Minimum Agenda: Walkover inspection; verification of final completion including the completion of the punch list items.
- I. Contractor's Responsibilities:
1. Repair and protection of work and materials are Contractor's responsibility.
  2. Should any work or materials not conform with requirements of the Specifications or become damaged during the progress of the work, such work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the project. All such work shall be done at the expense of the Contractor.
  3. Contractor shall correct deficiencies in the work within 24 hours after reported by the Engineer in writing or verbally. If the deficiencies are not corrected within 24 hours, the Owner or Engineer will stop all other work until the deficiencies are

corrected. The Contractor will not be allowed additional time for a work stoppage to correct deficiencies.

4. Contractor will coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.
5. Inclement Weather
  - a. In the event of temporary suspension of work as during inclement weather, or whenever the Engineer shall direct, the Contractor will protect carefully its work and materials against damage or injury from weather. If, in the opinion of the Engineer, any work or materials have been damaged or injured by reason of failure of the Contractor to protect its work, such materials shall be removed and replaced at the expense of the Contractor.
  - b. During inclement weather and temporary suspension of work, the Contractor shall inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Inspections shall be made daily during extended periods of inclement weather. Upon arrival at the facility, Superintendent shall immediately inform the Owner of his presence and purpose.
  - c. If Contractor does not inspect the facility by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner shall exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. The Contractor shall reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, the outside contractor shall be reimbursed the fixed amount of \$500.00, each occasion, for mobilization and/or travel expenses.
  - d. Should inclement weather occur after normal business hours Friday, Saturday, and Sunday or holidays, Contractor shall make arrangements with the Owner to provide access to the building to inspect for leaks. The Owner shall be compensated for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

J. Manufacturer's Field Services: During construction and until substantial completion, manufacturer's representative shall perform quality assurance site visits every other week to ensure materials are being properly installed and as required to obtain the specified warranty.

1. The first site visit shall be performed within the first three (3) days of operations.
2. Coordinate all site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel will not be acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
4. Manufacturer's final inspections shall be performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Any manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
5. Any violation of this requirement will result in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

## **1.06 DELIVERY, STORAGE AND HANDLING**

- A. Delivery: Materials shall be delivered in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. Storage: Store materials out of direct exposure to the elements on pallets at least 4 inches above ground level at site location acceptable to the Owner.
  - 1. Storage trailers are acceptable provided they are equipped with a lock and located at a site location acceptable to the Owner.
  - 2. Utilize tarps that will completely cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
  - 3. Install vapor retarders under material storage areas located on the ground.
  - 4. Store roll goods on end on a clean flat surface.
  - 5. Remove damaged or deteriorated materials from the job site.
- C. Handling. Material shall be handled in such manner as to preclude damage and contamination with moisture or foreign matter.

## **1.07 JOB CONDITIONS**

- A. Environmental Requirements
  - 1. Roofing shall not be applied during precipitation and shall not be started in the event there is a probability of precipitation during applications.
  - 2. The membrane shall not be applied at or below the dew point temperature.
  - 3. When conditions are damp and where adjacent roof areas have moisture or dew, the roof shall be fully dried to prevent tracking water over the membrane substrates.
  - 4. At ambient temperatures of 40°F and below, including wind chill, take all precautions to ensure all adhesives and other materials maintain the minimum acceptable temperature at the point of roofing application as recommended by the membrane manufacturer.
- B. Protection
  - 1. Protect against staining and mechanical damage of adjacent surfaces and work areas during application. Staining, mechanical damage, or discoloration of the membrane shall be cause for rejection.
  - 2. Post a fire watch on site for a minimum of sixty (60) minutes subsequent to the completion of any open flame activities. Sufficient number of fire extinguishers to handle any contingency which might develop are to be on the roof at all times. The roofing applicators shall be trained in the proper use of fire extinguishers. Extinguish torches when not in use.
  - 3. Prevent smoke and other fumes from entering facility by coordinating with Facility representative and by temporary intake shut down and/or covering intake.
  - 4. Protect materials being installed and storage of materials against wind related damage.

## **1.08 TORCH OPERATION AND SAFETY**

- A. Refer to Section 01 11 00-Summary of Work for torch operation and safety.

- B. The Owner's hot work permit system shall be used by the Contractor. All hot work operations shall be coordinated with the Owner.
- C. The Contractor shall coordinate work around HVAC, fans, vents, etc. with the Owner in advance of work to ensure flames or smoke will not be pulled into the building or equipment. The Contractor shall coordinate the work and work schedule with the Owner to ensure conditions are satisfactory to proceed with work around the equipment.
- D. A full-time hot work monitor shall be employed by the Contractor to monitor interior and interstitial spaces during periods when hot work operations are conducted on the roof. The Contractor shall gain access to the space between the roof and ceiling to monitor conditions during and after Hot Work.
- E. The Contractor shall be responsible for hot work safety for their employees and their sub contractors.
- F. Contractor shall take all necessary measures to prevent fire exposure at roof tie-ins between new and existing roofing, at wood curbs, expansion joints and at rooftop equipment. All necessary materials and methods shall be provided by the Contractor to prevent fire at these locations.

**1.09 WARRANTY**

- A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility). Warranty to remain in effect for wind speeds up to 74 mph. Warranties requiring the Owner's signature will not be acceptable.
  - 1. Warranty to include but not be limited to membrane, insulation, base sheet, mastics, adhesives, fasteners, sealants, base flashings, etc.
  - 2. Warranty Period: Twenty years from date of Substantial Completion
  - 3. Manufacturer's Representative shall attend two post construction field inspections: the first no earlier than twenty -three (23) months and no later than twenty-four (24) months after the date of Substantial Completion and the second no earlier than fifty-nine (59) months and no later than sixty (60) months. Submit a written report within seven (7) days of the site visits to the Engineer listing observations, conditions and any recommended repairs or remedial action.
- B. Provide Roof Contractor's five year warranty on company letterhead using sample contained in Division 07.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. One membrane manufacturer shall be utilized for Base Bid One and Base Bid Two.
- B. Subject to compliance with requirements herein, the following manufacturers are approved:
  - 1. Firestone Building Products



2. Johns Manville (JM)
3. Siplast
4. Soprema, Inc.

## 2.02 MEMBRANE MATERIALS

### A. Roof Membrane Assembly:

1. A dimensionally stable roof membrane assembly consisting of 2 plies of a prefabricated, reinforced, homogeneous Atactic Polypropylene (APP) or Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane secured to a prepared substrate. Both reinforcement mats shall be impregnated and coated each side with a high quality APP or SBS modified bitumen blend.
2. The roof system shall pass ASTM D 5849, Resistance to Cyclic Joint Displacement at 14°F. Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles as manufactured and 200 cycles after heat conditioning according to ASTM D 5147.
3. Base Ply Membrane (Hot Asphalt): Glass fiber and/or polyester reinforced ply sheet manufactured for cold-adhesive/hot asphalt application, meeting or exceeding requirements of ASTM D 6163 or D 6164, Type I or II, Grade S; or ASTM D 6509.
  - a. Firestone SBS Premium Base
  - b. JM Dynalastic 180 S
  - c. Siplast Paradiene 20
  - d. Soprema Elastophene Sanded
4. Surface Ply Membrane (Torch Application): Glass fiber and/or polyester reinforced ply sheet manufactured for torch application, meeting or exceeding requirements of ASTM D 6163, D6164 or D6222, Type I or II, Grade G. Granules to be white.
  - a. Firestone Premium FR Torch
  - b. JM Dynaweld Cap FR
  - c. Siplast Paradiene 30 FR TG
  - d. Soprema Elastophene Flam FR GR

### B. Flashing shall consist of:

1. Reinforcing/Stripping Ply (Torch Application):
  - a. Firestone SBS Poly Torch Base
  - b. JM Dynabase HW
  - c. Siplast Paradiene 20 TG
  - d. Soprema Sopralene Flam 180
2. Aluminum Clad Flashing/Target Ply:
  - a. Firestone SBS Metal Flash-AL
  - b. JM Dynaclad
  - c. Siplast Veral
  - d. Soprema Sopralast 50 TV Alu

- C. Fluid Applied Flashing System: Shall be membrane manufacturer's polyurethane or PMMA based resin with polyester fleece flashing system.
  - 1. Firestone Ultraflash Liquid Flashing
  - 2. JM SeamFree PMMA Liquid Membrane
  - 3. Siplast Parapro
  - 4. Soprema Alsan RS

### **2.03 RELATED MATERIALS**

- A. Asphalt: Shall be certified for full compliance with the requirements for Type III asphalt listed in Table 1, ASTM D-312. Each container or bulk shipping ticket shall indicate the equiviscous temperature (EVT), the finished blowing temperature (FBT), and the flash point (FP).
- B. Asphalt primer: Shall meet ASTM D-41 requirements and be approved for intended use by membrane manufacturer.
- C. Fume Recovery System: Refer to Section 07 22 16.
- D. Utility Roof Cement: An asphalt cutback general utility mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges and temporary seals conforming to ASTM D 4586 Type II requirements.
- E. Sealant: An SBS polymer modified asphaltic flashing cement in a 10.4 ounce cartridge conforming to ASTM 4586 requirements approved by the roofing membrane manufacturer for use in conjunction with the roofing membrane materials.
- F. Ceramic granules: Shall be of color scheme matching the granule surfacing of the cap sheet comparable to No. 11 granules.
- G. Metallic Powder: A finely graded metal dust as supplied or approved by the membrane manufacturer, used for covering bitumen overruns over the foil surfaced materials.
- H. Walk Pad Material: Shall be a prefabricated (by the membrane manufacturer), puncture resistant polyester core reinforced, polymer modified bitumen sheet material topped with a ceramic granule wearing surface.

### **2.04 FASTENERS**

- A. Base Flashing Fasteners (Wood): Shall be galvanized ring shank nail with one inch diameter cap, such as Regular Round Head Fasteners as manufactured by Simplex Nails. Fastener length shall be one inch minimum and must be approved by the membrane manufacturer for inclusion in warranty.
- B. Base Flashing Fasteners (Concrete/Masonry): Shall be 1/4" diameter metal based expansion anchor for use in concrete or masonry substrates with length to penetrate substrate a minimum of 1-1/2".
- C. Termination Bar: 1/8" X 1" aluminum or stainless steel flat bar with pre-drilled oversized or slotted holes 8" on center.

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

- A. A pre-job conference including the Engineer, Contractor, and the membrane manufacturer's representative shall be conducted prior to the application of the roofing.
- B. Contractor shall verify that work penetrating the roof deck or work which may otherwise affect the roofing has been properly completed.
- C. Contractor shall inspect insulation system substrate prior to application of membrane. Commencement of work signifies Contractor's acceptance of substrate. Any defects in roofing work resulting from such accepted substrates shall be corrected to Owner's satisfaction at no additional expense.

### **3.02 PREPARATION**

- A. General. All surfaces shall be swept or vacuumed prior to commencement of roofing.
- B. Contractor shall coordinate closure of air intakes prior to application of primer and cold adhesives.
- C. All membranes shall be unrolled and allowed to relax in accordance with membrane manufacturer's recommendations or a minimum of thirty minutes, whichever is greater.
- D. Where walls, curbs, expansion joints, etc. present an unacceptable substrate for flashing and where flashings substrates are combustible, a layer of non-combustible overlayment insulation shall be fastened to provide a suitable substrate for flashing.

### **3.03 APPLICATION**

- A. General:
  - 1. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of the roofing membrane base ply shall immediately follow application of base sheet/insulation system as a continuous operation.
  - 2. Aesthetic Considerations: An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner. Excessive footprints or impressions in the surface ply will be grounds for rejection thereby requiring complete membrane tear-off and replacement.
  - 3. Priming:
    - a. Prime metal flanges, concrete and masonry surfaces with a uniform coating of asphalt primer.
    - b. Primer shall provide full coverage to ensure surfaces are dark brown to black. No less than 1 to 1-1/4 gallons per square will be accepted.
    - c. Allow primer to fully dry prior to application of asphalt/adhesive.
  - 4. Inspect membrane and flashing application each day. Repair all deficiencies daily prior to beginning or resuming other work.
    - a. Membrane deficiencies shall be cut open and removed as necessary.

- b. Repairs shall extend from lap to lap.

B. Roof Membrane:

1. Apply membrane in accordance with the manufacturer's instructions and the following requirements.
2. Apply all layers of roofing free of wrinkles, creases or fishmouths.
3. Exert sufficient pressure by use of roller or broom on the roll during application to ensure prevention of air pockets.
4. Stagger the lap seams between the base ply layer and the finish ply layer.
5. Apply all layers of roofing perpendicular to the slope of the deck.
6. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
7. Fully bond the surface ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the applicator. Stagger end laps of the surface ply a minimum 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger side laps of the surface ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the surface ply a minimum 3 feet from end laps in the underlying base ply.
8. Follow membrane manufacturer's recommendations if hot air welding of laps is required.

C. Asphalt Application: Kettles and tankers shall be equipped with accurate, fully readable thermometers. Asphalt shall not be heated to or above its flash point (FP). Avoid heating at or above the final blowing temperature (FBT); should conditions make this prohibition impracticable, heating above the FBT must not be done for more than four (4) hours. Application temperatures must be not more than 25°F (14°C) below the EVT nor more than 25°F (14°C) above the EVT.

1. If EVT information is not provided, the following asphalt temperature limits shall be observed:
  - a. Maximum heating temperature shall be: Type III - 525°F
  - b. Minimum heating temperature shall be: Type III - 375°F
2. Cutting or alteration of bitumens will not be permitted.
3. All asphalt moppings shall be a nominal of 25 pounds/square, and shall be total in coverage, leaving no breaks or voids.
4. Fume Recovery System:
  - a. Shall be utilized and properly maintained for each asphalt kettle in operation at the project site.
  - b. On the first day of operation of the fume recovery system, a qualified technical representative of the manufacturer shall inspect and adjust the system as necessary for proper operation.

D. Torch Application:

1. Utilize heat welders experienced in torch application.

2. Warm the surface to which the membrane is being applied, preheat portions of the roll which are about to be applied and melt the modified asphalt on the back of the sheet which will be used to adhere the membrane. The area of the roll where the modified asphalt is being melted is the most critical. Roll must be heated evenly across the entire width of the sheet being heat welded.
  3. Ensure a small bead of asphalt precedes the roll as it is laid down. Bead of asphalt shall be visible to the applicator and should flow out on both sides of the sheet.
- E. Granule Embedment: Embed granules at all locations where membrane material will be installed over a granulated surface and a selvage edge is not present. Using a torch or embedment tool, heat the area and push the granules down into the heated bitumen. Do not scrape or remove the granules from the surface.
- F. Metallic Powder Embedment: Dress asphalt bleed-out at aluminum clad areas with manufacturer's aluminum fibered roof coating after bleed-out has cooled.
- G. Water cut-off: At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.
- H. Flashings: Shall be installed concurrently with the membrane installation.
1. Prior to installing flashings over plywood substrates, install a layer of rosin paper and base sheet. Secure materials to plywood with approved fasteners at 6" on center staggered in all directions.
  2. Base flashing shall be accomplished using a reinforcing ply and flashing ply. The reinforcing sheet shall be lapped a minimum of three (3) inches to itself and shall extend a minimum of four (4) inches onto the base ply surface from the base of the cant and a minimum of three (3) inches up the vertical termination above the toe of the cant. The flashing sheet shall be lapped a minimum of three (3) inches to itself and shall extend a minimum of six (6) inches from the toe of the cant onto the surface ply surface and a minimum of three (3) inches up the vertical termination above the toe of the cant or as noted in the detail drawings. Lap seams in the reinforcing layer shall never coincide with the laps of the flashing layer. The reinforcing sheet and flashing sheet shall be adhered by cold adhesive (in accordance with the manufacturer's guidelines). All flashing sheets shall be cut off the end of the roll and be applied vertically, always working to a selvage edge.
  3. Aluminum Clad Flashing:
    - a. Exert pressure on the flashing sheet during application to ensure complete contact with the substrate, preventing air pockets, utilizing a damp sponge or shop rag.
    - b. Where aluminum clad flashing will be lapped over adjacent aluminum clad flashing, remove the aluminum clad surface.
  4. Base flashing shall be mechanically terminated a minimum of eight (8) inches above the finished roof surface.
    - a. Wood Substrate: Base flashing shall be mechanically terminated using approved fasteners eight (8) inches on center. Fastener heads shall be covered with a three-course roof cement and fabric.
    - b. Concrete/Masonry Substrate: Base flashing shall be mechanically terminated using approved fasteners and termination bar.

- c. Gypsum Sheathing Substrate over Metal Stud Wall: Base flashing shall be mechanically terminated using approved fasteners and termination bar into each metal stud.
5. Base flashing shall be terminated at all roof edges by extending the base flashing at least two inches beyond the edge of the roof and mechanically attaching a termination bar vertically with appropriate fasteners eight inches on center. Provide a continuous bead of sealant along outside edge of termination bar.
6. Sheet metal incorporated into the roofing system shall be sealed off with stripping ply. Stripping plies shall be installed in roof cement and fit tight to the edge of the sheet metal. The stripping ply shall extend four inches beyond sheet metal onto roof membrane. Stripping ply shall be installed prior to application of surface ply.
7. Provide sealant installed to fill void between edge of sheet metal and surface ply edge (i.e. at metal edge, pipe penetrations, etc.) properly tooled to ensure adhesion and slope to shed water. Broadcast granules into properly installed sealant.

I. Fluid Applied Flashing Application

1. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set.
2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
3. Refer to manufacturer's installation instructions for application rates and additional installation information.
4. Broadcast granules into horizontal surface of fluid to match adjacent surface ply.

J. Roof Drain

1. Provide roof drain flashings as indicated in detail drawing. Refer to the above requirements for fluid applied flashings.
2. Provide new cast iron strainer dome and clamping ring and provide new stainless steel clamping ring bolts.
3. Clamping rings shall be secured in place with all bolts at the end of each work day. Contractor shall water test roof drains after every instance the clamping ring is removed and reinstalled. The Contractor shall notify the Owner and Engineer of the water test schedule.

K. Walk Pad Material

1. Apply walk pad material to a clean, dry surface.
2. Prior to application, cut walk pad material into maximum 5' lengths and allow to relax until flat. A straight edge or chalk line should be used to ensure straight square cuts. Do not cut the walk pad material directly on the roof surface.
3. Position walk pad material so as to leave minimum 2" gaps between panels to allow for proper drainage.
4. Adhere walk pad panels to surface ply with roof cement applied to the back of the panels in spots approximately 5" square. Use a notched trowel to keep the cement 3/8" thick.
5. Walk-in each panel to ensure complete contact with the membrane surface.
6. Provide walk pads where indicated in Contract Drawings and at the following locations:
  - a. Around roof hatches.

- b. At base and top of fixed wall access ladders.
- c. Around HVAC units.
- d. At door access to roof areas.

L. Ponding Water

- 1. The ponding of any water on the roof surface after installation of the roofing system is not acceptable and will be grounds for rejection of the roof. Ponding is herein defined as precipitation remaining in a four square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation. Contractor shall not apply surface ply until verification of proper drainage has been determined. Contractor shall be responsible for modifications to roof system to ensure proper drainage including but not limited to reinstallation of roof system, installation of additional tapered insulation and/or installation of additional base plies.

**3.04 CLEAN UP**

- A. Remove all debris and excess material from the roof area. Pick-up all loose fasteners and sheet metal scraps.
- B. The Contractor shall clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.

**END OF SECTION 07 52 16**

Packaged Air Cooled Rooftop Dedicated Outdoor Air Unit (DHS) and Rooftop Heat Pump (HP) Schedule (Units with Enthalpy Wheels - Spec Section 237413)

Tag	Supply Air CFM	Outdoor Air CFM	Econ Exhaust Air Flow (Max) 1950	External Static Pressure In. H2O	Supply Fan					Total Cooling Capacity BTUH	Cooling Coil					Primary Heating Coil			Auxiliary Heater	Filters					Electrical Characteristics					Basis Of Design		Notes	
					Type	Quantity	Drive	Fan RPM 1902	Nominal Motor RPM		Supply Fan HP	Sensible Cooling Capacity BTUH	Entering Air Temp Deg F DB	Entering Air Temp Deg F WB	Leaving Air Temp Deg F DB	Leaving Air Temp Deg F WB	Total Heating Capacity BTUH	Entering Air Temp Deg F DB		Leaving Air Temp Deg F DB	Rating	Pressure Drop Clean In H2O	Pressure Drop Dirty In H2O	Economizer	Volts	Phase	Frequency	Minimum Circuit Amps	Maximum Overcurrent Protection Device Amps	Manufacturer	Model Number		
DHS-1	1950	1950	1950	1.00	Plenum	1	Direct/VFD	2045	1800	1.5	124100	76100	80.10	67.90	49.50	49.30	120200	62.60	110.10	20	2" Thick Pleated	MERV 13	0.16 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	38 A	40 A	Trane	OAD120	Electric Heater shall have SCR control
DHS-2	2250	2250	2250	1.00	Plenum	1	Direct/VFD	2045	1800	1.5	124100	76100	80.10	67.90	49.50	49.30	120200	62.60	110.10	20	2" Thick Pleated	MERV 13	0.16 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	38 A	40 A	Trane	OAD144	Electric Heater shall have SCR control
HP-1	3300	2000	3300	0.50	Plenum	1	Direct/VFD	1893	1800	2	199900	92500	78.30	65.90	52.90	52.80	124100	66.90	100.10	20	2" Thick Pleated	MERV 13	0.26 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	41 A	45 A	Trane	OAD144	Electric Heater shall have SCR control
HP-2	2750	1000	2750	0.50	Plenum	1	Direct/VFD	2669	1800	4	87400	67100	76.30	63.70	54.10	52.80	82300	71.70	96.60	10	2" Thick Pleated	MERV 13	0.29 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-3	2750	1000	2750	0.50	Plenum	1	Direct/VFD	2669	1800	4	87400	67100	76.30	63.70	54.10	52.80	82300	71.70	96.60	10	2" Thick Pleated	MERV 13	0.29 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-4	2000	500	2000	0.50	Plenum	1	Direct/VFD	2051	1800	2.5	65800	51400	76.00	63.20	52.60	51.80	61600	72.60	99.20	10	2" Thick Pleated	MERV 13	0.20 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	30 A	Trane	OAB072	Electric Heater shall have SCR control
HP-5	2000	500	2000	0.50	Plenum	1	Direct/VFD	2051	1800	2.5	65800	51400	76.00	63.20	52.60	51.80	61600	72.60	99.20	10	2" Thick Pleated	MERV 13	0.33 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	30 A	Trane	OAB072	Electric Heater shall have SCR control
HP-6	4000	1600	4000	0.50	Plenum	1	Direct/VFD	2122	1800	3	151600	112800	77.00	64.40	51.40	51.40	154900	70.00	103.90	20	2" Thick Pleated	MERV 13	0.33 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	43 A	50 A	Trane	OAD180	Electric Heater shall have SCR control
HP-7	4000	1600	4000	0.50	Plenum	1	Direct/VFD	2122	1800	3	151600	112800	77.00	64.40	51.40	51.40	154900	70.00	103.90	20	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	43 A	50 A	Trane	OAD180	Electric Heater shall have SCR control
HP-8	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-9	2750	1000	2750	0.50	Plenum	1	Direct/VFD	1669	1800	4	87400	67100	76.30	63.70	54.10	52.80	82300	71.70	96.60	10	2" Thick Pleated	MERV 13	0.29 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-10	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-11	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-12	2750	1000	2750	0.50	Plenum	1	Direct/VFD	2669	1800	4	87400	67100	76.30	63.70	54.10	52.80	82300	71.70	96.60	10	2" Thick Pleated	MERV 13	0.29 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-13	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-14	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-15	2750	1000	2750	0.50	Plenum	1	Direct/VFD	2669	1800	4	87400	67100	76.30	63.70	54.10	52.80	82300	71.70	96.60	10	2" Thick Pleated	MERV 13	0.29 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-16	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-17	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-18	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-19	1750	700	1750	0.50	Plenum	1	Direct/VFD	1908	1800	2.5	71100	50300	76.40	63.80	50.30	49.50	67500	71.40	105.20	10	2" Thick Pleated	MERV 13	0.17 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	27 A	35 A	Trane	OAB084	Electric Heater shall have SCR control
HP-A	2835	550	2835	0.50	Plenum	1	Direct/VFD	2696	1800	4	86600	68300	75.80	63.00	53.90	52.50	83000	73.10	97.40	10	2" Thick Pleated	MERV 13	0.30 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-B	2835	550	2835	0.50	Plenum	1	Direct/VFD	2696	1800	4	86600	68300	75.80	63.00	53.90	52.50	83000	73.10	97.40	10	2" Thick Pleated	MERV 13	0.30 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control
HP-C	2835	550	2835	0.50	Plenum	1	Direct/VFD	2696	1800	4	86600	68300	75.80	63.00	53.90	52.50	83000	73.10	97.40	10	2" Thick Pleated	MERV 13	0.30 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz	29 A	40 A	Trane	OAB108	Electric Heater shall have SCR control

SEE SHEET M801 FOR EXISTING HVAC UNIT INFORMATION  
SEE SHEET E101 FOR LOCATION OF EXISTING POWER PANELS

Enthalpy Wheel Schedule

Tag	Outside Air Flow	Exhaust Air Flow	Wheel Air Pressure Drop	Exhaust Fan				Outside Air										Exhaust Air										Comments
				Type	Quantity	Drive	External Static Pressure	Fan RPM	Motor RPM	Motor HP	OA Entering Air Temp DB Summer	OA Entering Air Temp WB Summer	OA Air Temp Leaving DB Summer	OA Air Temp Leaving WB Summer	OA Entering Air Temp DB Winter	OA Entering Air Temp WB Winter	OA Air Temp Leaving DB Winter	OA Air Temp Leaving WB Winter	Exhaust Air Temp Entering DB Summer	Exhaust Air Temp Entering WB Summer	Exhaust Air Temp Leaving DB Summer	Exhaust Air Temp Leaving WB Summer	Exhaust Air Temp Entering DB Winter	Exhaust Air Temp Entering WB Winter	Exhaust Air Temp Leaving DB Winter	Exhaust Air Temp Leaving WB Winter		
DHS-1	1950	1950	0.45	Plenum	1	Direct/VFD	0.75 in-wg	1443	1800	1	95	80	79.60	67.50	29	28	63.70	54.80	75	62	89.10	74.80	75	62	42.60	40.90		
DHS-2	2250	2250	0.51	Plenum	1	Direct/VFD	0.75 in-wg	1533	1800	1.5	95	80	80.10	68.00	29	28	62.60	54.10	75	62	88.90	74.60	75	62	43.10	41.30		
HP-1	1000	800	0.41	Plenum	1	Direct/VFD	0.69 in-wg	1393	1800	2	95	80	80.40	68.30	29	28	61.60	53.40	75	62	90.40	75.80	75	62	39.10	38.20		
HP-2	1000	800	0.39	Plenum	1	Direct/VFD	0.25 in-wg	1281	1800	4	95	80	78.60	66.50	29	28	66.00	56.30	75	62	92.50	77.60	75	62	34.40	33.70		
HP-3	1000	800	0.39	Plenum	1	Direct/VFD	0.25 in-wg	1281	1800	4	95	80	78.60	66.50	29	28	66.00	56.30	75	62	92.50	77.60	75	62	34.40	33.70		
HP-4	500	400	0.19	Plenum	1	Direct/VFD	0.25 in-wg	1014	1800	2.5	95	80	78.90	66.70	29	28	65.30	55.90	75	62	93.50	78.30	75	62	31.90	31.70		
HP-5	500	400	0.19	Plenum	1	Direct/VFD	0.25 in-wg	1014	1800	2.5	95	80	78.90	66.70	29	28	65.30	55.90	75	62	93.50	78.30	75	62	31.90	31.70		
HP-6	1000	800	0.32	Plenum	1	Direct/VFD	0.25 in-wg	1065	1800	3	95	80	80.00	67.90	29	28	62.60	54.10	75	62	90.80	76.10	75	62	38.70	37.60		
HP-7	1000	800	0.32	Plenum	1	Direct/VFD	0.25 in-wg	1065	1800	3	95	80	80.00	67.90	29	28	62.60	54.10	75	62	90.80	76.10	75	62	38.70	37.60		
HP-8	700	600	0.27	Plenum	1	Direct/VFD	0.25 in-wg	1109	1800	2.5	95	80	78.60	66.40	29	28	66.00	56.30	75	62	93.20	78.00	75	62	33.10	32.70		
HP-9	1000	800	0.39	Plenum	1	Direct/VFD	0.25 in-wg	1281	1800	4	95	80	78.60	66.50	29	28	66.00	56.30	75	62	92.50	77.60	75	62	34.40	33.70		
HP-10	700	600	0.27	Plenum	1	Direct/VFD	0.25 in-wg	1109	1800	2.5	95	80	78.60	66.40	2													



**Packaged Air Cooled Rooftop Heat Pump (HP) Schedule (No Enthalpy Wheel - Spec Section 237414)**

Tag	Supply Fan				Cooling Coil				Primary Heating Coil				Auxiliary Heater		Filters				Electrical Characteristics					Basis Of Design		Notes									
	Supply Air CFM	Outdoor Air CFM	External Static Pressure In. H2O	Motor Type	Quantity	Drive	Fan RPM	Motor Nominal RPM	Supply Fan HP	Total Cooling Capacity	Sensible Cooling Capacity	Entering Air Temp Deg F DB	Entering Air Temp Deg F WB	Leaving Air Temp Deg F DB	Leaving Air Temp Deg F WB	Total Heating Capacity BTUH	Entering Air Temp Deg F DB	Leaving Air Temp Deg F DB	KW	Number Of Stages	Type	Rating	Pressure Drop Clean In H2O	Pressure Drop Dirty In H2O	Economizer		Volts	Phase	Frequency	Panel	Circuit Number	Minimum Circuit Amps	Maximum Overcurrent Protection Device Amps	Manufacturer	Model Number
HP-20	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-21	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-22	1400	0	0.75	FC	1	BELT	1132	1800	2	36380	32020	75.00	62.00	52.08	51.99	35660	70.10	93.50	12.0	1	2" Thick Pleated	MERV 13	0.05 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC036	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-23	2400	0	0.75	Plenum	1	DIRECT	1112	1800	2	73540	56410	75.00	62.00	53.24	50.93	67290	69.30	95.10	9.0	1	2" Thick Pleated	MERV 13	0.15 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			34 A	40 A	TRANE	WSC072	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-24	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-25	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-26	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-27	2400	0	0.75	FC	1	BELT	1112	1800	2	73540	56410	75.00	62.00	53.24	50.93	67290	69.30	95.10	9.0	1	2" Thick Pleated	MERV 13	0.15 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			34 A	40 A	TRANE	WSC072	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-28	2400	0	0.75	FC	1	BELT	1112	1800	2	73540	56410	75.00	62.00	53.24	50.93	67290	69.30	95.10	9.0	1	2" Thick Pleated	MERV 13	0.15 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			34 A	40 A	TRANE	WSC072	No outside air. OA comes from DHS-1 & 2 ducted to space
HP-29	1700	0	0.75	Plenum	1	DIRECT	1155	1800	2	45970	39910	75.00	62.00	51.78	51.69	47110	69.10	94.60	12.0	1	2" Thick Pleated	MERV 13	0.08 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			32 A	35 A	TRANE	WSC048	No outside air. OA comes from DHS-1 & 2 ducted to space
RTU-1	1140	270	0.70	Plenum	1	DIRECT	1504	1800	2.5	69200	42300	83.60	69.80	49.90	49.90	0	0.00	0.00	0.0	0	2" Thick Pleated	MERV 13	0.15 in-wg	0.35 in-wg	Yes	460 V	3	60 Hz			37 A	50 A	TRANE	OAB072	Economizer, cooling only, HGR, Note 1

**NOTES:**

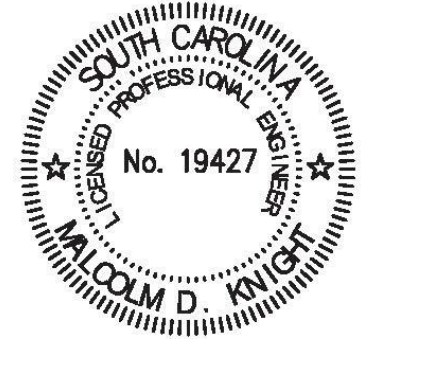
- RTU-1 Is a cooling only unit with HGR serving the kitchen. Construct to Specification Section 237413 without the enthalpy wheel and exhaust fan section. Provide Outside Air Damper and Return Air Damper and Economizer Sequences as shown on Drawing M702

**Reheat Coil Schedule**

Tag	Type	Airflow	Air Pressure Drop	Entering Air Temp DB	Leaving Air Temp DB
DHS-1	Hot Gas Reheat	1950	0.01	48.90	71.24
DHS-2	Hot Gas Reheat	2250	0.01	49.50	70.00
HP-1	Hot Gas Reheat	3300	0.02	52.90	71.41
HP-2	Hot Gas Reheat	2750	0.05	54.10	74.61
HP-3	Hot Gas Reheat	2750	0.05	54.10	74.61
HP-4	Hot Gas Reheat	2000	0.03	52.60	75.60
HP-5	Hot Gas Reheat	2000	0.03	52.60	75.60
HP-6	Hot Gas Reheat	4000	0.04	51.40	71.58
HP-7	Hot Gas Reheat	4000	0.04	51.40	71.58
HP-8	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-9	Hot Gas Reheat	2750	0.05	54.10	74.61
HP-10	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-11	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-12	Hot Gas Reheat	2750	0.05	54.10	74.61
HP-13	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-14	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-15	Hot Gas Reheat	2750	0.05	54.10	74.61
HP-16	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-17	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-18	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-19	Hot Gas Reheat	1750	0.03	50.30	76.51
HP-20	None	0	0.00	0.00	0.00
HP-21	None	0	0.00	0.00	0.00
HP-22	None	0	0.00	0.00	0.00
HP-23	None	0	0.00	0.00	0.00
HP-24	None	0	0.00	0.00	0.00
HP-25	None	0	0.00	0.00	0.00
HP-26	None	0	0.00	0.00	0.00
HP-27	None	0	0.00	0.00	0.00
HP-28	None	0	0.00	0.00	0.00
HP-29	None	0	0.00	0.00	0.00
HP-A	Hot Gas Reheat	2835	0.05	53.90	76.40
HP-B	Hot Gas Reheat	2835	0.05	53.90	76.40
HP-C	Hot Gas Reheat	2835	0.05	53.90	76.40
RTU-1	Hot Gas Reheat	1140	0.05	49.90	75.00



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**JAMES B  
 EDWARDS  
 ELEMENTARY**

**PROJ. NO.** 15025004  
  
**DATE:** 02/05/2018  
  
**DRAWN BY:** MDK

REVISIONS		
NO.	DATE	NOTES

**M602**