

SPECIFICATION

**Mercer Middle School
Partial Roof Replacement**

**Savannah Chatham County School
System, Savannah, Georgia**



351 Commercial Dr., Ste E
Savannah, Georgia 31406
912.349.3661

July 23, 2019



Raymond Engineering Project # SAV1018.003

Index**NUMBER TITLE****Division 01 - General Requirements**

01 11 00	Summary of Work
01 23 00	Alternates
01 26 00	Modification Procedures
01 32 13	Construction Schedule
01 32 26	Progress Reports
01 33 00	Submittals
01 33 23	Shop drawings, Product Data and Samples
01 45 00	Quality Control
01 66 00	Storage and Protection
01 78 36	Warranties
01 78 39	Project Records Documents

Division 02 - Existing Conditions

02 00 00	Existing Conditions
02 41 13	Selective Demolition and Preparations
02 82 33	Removal of Asbestos Containing Materials

Division 06 - Wood, Plastics, And Composites

06 00 00	Wood, Plastic, and Composites
06 10 53	Rough Carpentry

Division 07 – Thermal and Moisture Protection

07 00 00	Thermal and Moisture Protection
07 22 16	Roof Board Insulation
07 42 13	Pre-Finish Non-Insulated Metal Wall Panels
07 54 19	Polyvinyl chloride (PVC) Roofing
07 60 00	Flashing and Sheet Metal

<<<<< END OF INDEX >>>>>

**SECTION 00 41 00
BID FORM**

PROJECT INFORMATION: Mercer Middle School Roof Replacement
201 Rommel Ave
Savannah, Georgia 31408

CONTRACT IDENTIFICATION AND NUMBER: REI Project No. SAV1018.003

BID PREPARATION DATE: _____

CALENDER DAYS TO COMPLETE CONTRACT: _____

THIS BID IS SUBMITTED TO: Savannah Chatham County School System

- 1.1 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in the Bid and in accordance with the other terms and conditions of the Contract Documents.
- 1.2 BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for sixty days after the day of Bid opening. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen days after the date of OWNER'S Notice of Intent to Award.
- 1.3 In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - 1.3.1 BIDDER has examined copies of all Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

DATE	NUMBER	DATE (continued)	NUMBER (continued)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- 1.3.2 BIDDER had familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 1.3.3 BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies which pertain to the physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as BIDDER considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

BIDDER has correlated the results of all such observations, examinations, investigations, explorations,

tests, reports and studies with the terms and conditions of the Contract Documents.

1.3.4 BIDDER has given ENGINEER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolutions thereof by ENGINEER is acceptable to BIDDER.

1.3.5 This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham BID; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or OWNER.

1.4 BIDDER will complete the Work for the following price(s):

1.4.1 BASE BID: _____
 (WORDS)

BASE BID..... \$ _____

1.5 It is the intent of the Owner to issue a Letter of Intent to Award within as stated in the General Conditions.

1.6 Roofing operations shall be substantially complete as listed in the Conditions of the Contract.

1.7 All specific cash allowances are included in the price(s) set forth above.

1.7.1 Unit Prices included in the Request for Proposal:

<u>UNIT PRICE SCHEDULE</u>						
<u>NO.</u>	<u>ITEM</u>	<u>UNIT</u>	<u>UNIT PRICE</u>		<u>ALLOWANCE</u>	<u>INCLUDED IN BASE BID</u>
1.	Wood Blocking Replacement	BF	\$ _____	x	100 BF	= \$ _____
2.	Deck Priming	SF	\$ _____	x	2,500 SF	= \$ _____
3.	Deck Screws	EA	\$ _____	x	250 EA	= \$ _____
4.	Side Lap Screws	EA	\$ _____	x	100 EA	= \$ _____

1.8 BIDDER agrees that the Work:

1.8.1 will be substantially complete and completed and ready for final payment in accordance with the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

1.8.2 BIDDER acknowledges that there are no provisions for extending the project due to adverse weather conditions, and that the BIDDER will adequately staff the project to overcome possible weather delays.

1.9 BIDDER acknowledges that this project has specific staffing requirements during waterproofing operations

and agrees to meet these requirements.

1.10 BIDDER has also provided a letter of intent from the materials manufacturer to provide a guarantee in accordance with the requirements of the Specification.

1.11 BIDDER has also provided:

- 1.11.1 Letter of Intent to Warrant
- 1.11.2 AIA Document G705 List of Subcontractors (2001)
- 1.11.3 Other forms as required by the Owner

If BIDDER is:

A Partnership

By _____
(Firm Name)

(SEAL)

(general partner)

Business address: _____

Phone No: _____

A Corporation

By _____
(Corporation name)

(State of Incorporation)

By _____
(name of person authorized to sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No: _____

A Joint Venture

By _____
(Name)

(Address)

By _____
(Name)

(Address)

(Each joint venture member must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

END OF THE BID FORM

DIVISION 1
GENERAL REQUIREMENTS

**SECTION 01 11 00
SUMMARY OF WORK****PART 1 - GENERAL**

- 1.1 Work Covered by Contract Documents
 - 1.1.1 Work under this Contract consists of furnishing all labor, materials and equipment necessary to perform the quality remedial roofing of the Mercer Middle School as shown on drawings.
 - 1.1.2 The work will include, but is not necessarily limited to, the following:
 - 1.1.2.1 At the library add fluted insulation between the ribs. Provide protection board over with decorative PVC membrane and decorative battens.
 - 1.1.2.2 At gymnasium soffit remove asbestos siding and related construction and fasteners
 - 1.1.2.3 At gymnasium soffit provide metal fascia panels to cover existing soffit panels
 - 1.1.2.4 At gymnasium sills provide PMMA flashings
- 1.2 Description of the Existing Roof System
 - 1.2.1 Information in this Section is provided only to establish general description and is not necessarily accurate. The Contractor is responsible for visiting the site and satisfying himself as to the existing conditions, size of roof areas, etc. before submitting his Bid.
 - 1.2.2 The roof assembly at the Library is composed of the following:
 - 1.2.2.1 Metal standing seam roof with ridge + cap flashings
 - 1.2.3 The gymnasium wall assembly
 - 1.2.3.1 The wall is brick with Kalwall window system with soffit over it

PART 2 - PRODUCTS: Not used.

PART 3 - EXECUTION: Not used.

END OF SECTION

**SECTION 01 23 00
ALTERNATES**

PART 1 - GENERAL

- 1.1. Work Included: No alternates provided; owner may option alternates at their discretion.
- 1.2. Related Work
 - 1.2.1. Summary of Work – Section 01 11 00
 - 1.2.2. Miscellaneous Rough Carpentry – Section 06 10 53
 - 1.2.3. Metal Wall Panels – Section 07 42 13
- 1.3. Procedures
 - 1.3.1. Alternates will be exercised at the option of the Owner.
 - 1.3.2. The Owner reserves the right to select the lowest responsive bidder using the value of the Base Bid plus any alternate or combination of alternates.
 - 1.3.3. Modify and coordinate related activities as required to complete the work if, and when, acceptance is designated by the Owner.
 - 1.3.4. In the event alternates are exercised, applicable sections of this Specification shall govern. Other sections may be modified as required to address the alternate.

PART 2 – PRODUCTS: See applicable specification sections.

PART 3 – EXECUTION

END OF SECTION

**SECTION 01 26 00
MODIFICATION PROCEDURES****PART 1 - PROCEDURES**

1.1 Summary

1.1.1 This Section specifies administrative and procedural requirements for processing Contract modifications.

1.3 Requests for Information or Clarification

1.3.1 Request for Information (RFI): The Designer will issue a written RFI Response to each written Contractor inquiry. Unless specifically addressed, RFIs and RFI Responses shall not involve any adjustment to the Contract Sum or the Contract Time. RFI Responses when issued, become a part of the Contract Documents, and as such, must be adhered. The effects of RFI Responses must be reflected in the Project Record Documents. Each RFI Response shall bear words addressed by the Designer to the Contractor: "The work shall be carried out according to the following instructions or clarifications issued in response to Request For Information #(enter RFI #), and in accordance with The Contract Documents without change in The Contract Sum or Contract Time. If you determine that this response does affect The Contract Sum or Contract Time, you shall notify The Designer immediately, and shall do so prior to proceeding with the work in accordance with this response. Proceeding with the work in accordance with this response without your prior notification otherwise indicates your acknowledgment that there will be no change in The Contract Sum or Contract Time."

1.4 Changes in the Work Affecting Cost And/or Time

1.4.1 Proposed Change Order Requests: The Designer (or Owner) may issue a Proposed Change Order Request, which is a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. The description will include supplemental or revised Drawings and Specifications. Each PCO will be numbered and dated, and subsequent communications regarding each PCO should give reference to the PCO number and date.

1.4.1.1 Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.

1.4.1.2 Within time specified in PCO after receipt of Proposal Request, the Contractor shall submit a Change Order Proposal (COP), which is a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change. Each COP must give reference to the number and date of the PCO to which it is in response.

- (a) Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
- (b) Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
- (c) Pricing of Changes shall be in accordance with Articles 3.2.9 and 3.2.10 of the Construction Contract.
- (d) If affected, the Contractor's Construction Schedule shall be updated to indicate the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. This updated schedule shall be submitted

with the COP. Use available total float before requesting an extension of the Contract Time. By omission of an updated Schedule as a part of a COP, the Contractor shall and does establish that the Schedule is not affected by the subject change. Any COP that proposes to affect Contract Time may be considered non-responsive if it does not include an updated Schedule

- 1.4.2 All change proposals shall include complete break-out and support documentation, including unit descriptions, unit quantities, unit costs (labor, material, other), burdens and mark-ups. Portions of work that are to be deleted as a part of an overall change description shall be clearly reflected in the break-out; abbreviated descriptions which reflect only the net effects of reduced work scopes combined with increased work scopes will not be accepted. The Designer and Owner shall have full discretion in determining what measure of breakout and support is adequate and acceptable. No extension of Contract Time will be allowed for Construction delays attributable to the failure on the part of the Contractor to provide properly prepared and supported change proposals.
 - 1.4.3 Proposal and change request forms: AIA Document G701 in three copies and submit to the Designer and Owner for signatures.
 - 1.4.4 Do not reflect any Change Order in the Schedule of Values or Application for Payment Continuation without an approved Change Order. The Designer or Owner shall have full discretion in establishing the manner in which Change Orders are added to the Schedule of Values and Continuation Sheets.
- 1.5 Allowance
- 1.5.1 Allowance Adjustment: All charges against an Allowance shall be made in the form of a CO resulting from PCO or RFI, shall be managed as any CO, and shall be invoiced against the Allowance line item in the Application for Payment. At Project completion, any unused balance in each allowance will be returned to the Owner by deductive CO.
 - 1.5.2 Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents. Submit claims within 14 days of receipt of the Change Order authorizing work to proceed. Owner will reject claims submitted later than 14 days after such authorization per Article 5.2.2 of the Contract.
 - 1.5.2.1 Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 - 1.5.2.2 No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.
- 1.6 Change Order Procedures
- 1.6.1 The Designer shall immediately upon receipt review each Proposed Change Order (PCO) for its technical and monetary merits. The Designer will not forward to the Owner any advice or recommendation for any PCO that does not meet all requirements per Article 3.2.4 of the Contract Documents, but shall instead return it to the Contractor with specific instructions as to what must be done in order to rectify the problems with PCO. The Designer will provide written advice to the Owner regarding his opinion of each PCO, which will include a recommendation.
 - 1.6.2 Upon Owner's approval of a Proposed Change Order (PCO), Designer will issue a Change Order

for approval by the Owner.

1.7 Force Account Change Order

1.7.1 Force Account: Force Account work shall be undertaken only after receipt of an Approved Change Order, stating a maximum dollar amount (Stipulated Maximum Sum) beyond which no change work may be undertaken subject to amendment, for funding all costs of the Change Order as prescribed in Article 3.2.7.3 of the Contract.

1.7.2 Documentation: The Contractor shall maintain detailed records on a time and material basis of work required by the Force Account Change Order.

1.7.2.1 After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.8 Tracking, Coordination and Management of Clarifications and Changes

1.8.1 Some clarifications and changes will go through a process whereby they are assigned tracking numbers as more than one of the type documents defined in the articles above and in other Sections of these Specifications (i.e. RFIs, etc.). All documents created which pertain to the same subject shall make clear reference to other previous or concurrent documents on the subject.

1.8.1.1 The Contractor shall establish and maintain current a single Log which tracks these types of documents. The form and content of this log is subject to Designer and Owner approval, and may if sufficient be used to meet other stipulated tracking log requirements.

1.9 Delays and Extensions of Time Due to Weather

1.9.1 Delays caused by weather are non-compensable, and will be processed in accordance with Article 3.3.7.2 of the Contract.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

**SECTION 01 32 13
CONSTRUCTION SCHEDULES**

PART 1 - GENERAL

1.1 Description

1.1.1 To assure adequate planning and execution of the work so as to complete the project within the time period allowed in the Contract and to assist the Designer in evaluating work progress.

1.1.2 "Day" used throughout the Contract shall mean "Consecutive Calendar Days" unless otherwise stated.

1.2 Schedule Adherence

1.2.1 Should any activity not be completed in accordance with the construction project schedule, Owner shall have the right to order the Contractor to expedite completion of work in accordance with Article C-43 of the General Conditions.

1.2.2 Inclement Weather

1.2.2.1 Where the contract includes schedule requirements including, but not limited to, available working hours, available working days, construction durations, substantial completion date(s), and/or final completion date(s), these requirements shall be graphically shown in the construction schedule. The schedule shall be based on assuming normal inclement weather for each calendar month, and no contract time extensions shall be considered until the calendar month has experienced inclement weather beyond this normal consideration. Furthermore, the Contractor bears the burden of proof to show inclement weather beyond normal considerations, which shall include documentation from the National Weather Service (NWS), or approved equal prior to bid, that the reported inclement weather was outside of the specified parameters to perform the work of this specification. All inclement weather documentation shall be submitted in writing within the payment period for each occurrence.

1.2.2.2 Normal Inclement Weather for each calendar month shall be considered:

(a)	<u>Month</u>	<u>Days</u>
(b)	January	6
(c)	February	5
(d)	March	6
(e)	April	5
(f)	May	5
(g)	June	6
(h)	July	6
(i)	August	6
(j)	September	4
(k)	October	3
(l)	November	3
(m)	December	6

1.2.2.3 No consideration or extension shall be allowed for inclement weather days that fall outside any working restrictions.

- 1.2.2.4 Work under this specification shall be adequately staffed to complete the work of this specification given the specified work restrictions with considerations for normal inclement weather.
- 1.2.2.5 No financial compensation shall be made due to inclement weather, and any changes to the contract shall be no-dollar time extensions.
- 1.2.2.6 The contractor is expected to maintain construction in accordance with the approved schedule less any approved inclement weather days outside of normal considerations. Should the contractor fall behind schedule less any approved inclement weather days outside normal consideration, this shall be considered non-compliance with the contract and the Designer may act in accordance with the Contract Documents.

1.3 Schedule

- 1.3.1 Prior to the pre-construction meeting, the Contractor shall submit the construction schedule to the Designer in accordance with Supplementary General Conditions Paragraph D-05. However, one copy of the construction schedule shall be received and approved by the Owner prior to the issuing of the Notice to Proceed.
- 1.3.2 The holidays observed by Georgia state offices are attached to this section, and the contractor should make considerations for these holidays in their schedule. Furthermore, these holidays should also be assumed to be observed by Georgia state offices for any other years included over the project duration.

1.4 Diagrams

- 1.4.1 Graphically show the sequence and interdependence of all activities necessary to complete the work and the order in which such activities are to be accomplished as planned by the Contractor and his project field supervisor in coordination with all subcontractors whose work is shown on the diagram. Activities shown on the diagram shall include, but are not limited to:
 - 1.4.1.1 Submittals and approvals of shop drawings and samples.
 - 1.4.1.2 Project mobilization
 - 1.4.1.3 Demolition/Roof preparation
 - 1.4.1.4 Construction
 - 1.4.1.5 Sheet Metal
 - 1.4.1.6 Miscellaneous work
 - 1.4.1.7 Final Cleanup
 - 1.4.1.8 Final Inspection
 - 1.4.1.9 All activities by the Designer which affects progress, required completion dates, or both, for all and each part of the Work.
- 1.4.2 The detail of information shall be such that duration times of activities shall normally range from 1 to 30 days. The selection and number of activities shall be subject to approval by the Engineer.

PART 2 - PRODUCTS: Not Used.

PART 3 - EXECUTION

- 3.1 Construction Schedule: Prior to the pre-construction meeting, the Contractor shall complete the analysis described in Article 1.4 of this section in preliminary form. Meet with the Designer to review the contents of the proposed schedule and make all revisions agreed upon. Submit in accordance with Paragraph 1.3.1 of this section.
- 3.2 Periodic Reports
 - 3.2.1 Periodic reports shall show the following activities:
 - 3.2.1.1 Activities completed during the reporting period.
 - 3.2.1.2 Percentage of work actually completed and schedule as of the report date.
 - 3.2.1.3 Progress along the critical path in terms of days ahead of or behind schedule dates.
 - 3.2.1.4 If work is behind schedule, a brief report which shows, but is not limited to:
 - (a) A description of problem areas, both current and anticipated.
 - (b) Delaying factors and their impact.
 - (c) An explanation of corrective actions taken or proposed.
 - 3.2.2 Revisions: Contractor shall make only those revisions to the construction schedule as are approved in advance by the Designer.

END OF SECTION

**SECTION 01 32 26
PROGRESS REPORTS**

PART 1 - GENERAL

- 1.1 Description: Contractor shall keep a daily progress report to provide a continuous record of the progress of this Work. The format of the report shall be as directed by the Designer.
- 1.2 Quality Assurance
 - 1.2.1 Reports shall be filled out on a daily basis by the Contractor's job site representative who shall be in a supervisory capacity.
 - 1.2.2 Reports shall be completed by the same individual throughout the duration of the Project wherever possible.

PART 2 – PRODUCTS: Not Used.

PART 3 - EXECUTION

- 3.1 Contractor shall complete one form for each workday.
- 3.2 Forms shall be completed for workdays shortened or cancelled due to weather, material shortages, labor conditions or holidays.
- 3.3 Forms shall be legible with all pertinent items.
- 3.4 Submit copies to the Designer upon request.
- 3.5 Information required in the contractor's daily report shall include the following:
 - 3.5.1 Date
 - 3.5.2 Company Name
 - 3.5.3 Name of Superintendent/Foreman
 - 3.5.4 Number of Workers
 - 3.5.5 Weather Conditions
 - 3.5.6 Location of Work Performed
 - 3.5.7 Materials Installed
 - 3.5.8 Description of Work Performed
 - 3.5.9 Photographs of Unit Price Work (minimum of 4): Contractor required to maintain a function digital camera with a minimum resolution of 12 megapixels. Photographs taken on cell phones shall not be allowed.

- 3.5.10 Photographs of the day's sequence of work (minimum of 8): Contractor required to maintain a functioning digital camera with a minimum resolution of 12 megapixels. Photographs taken on cell phones shall not be allowed.
- 3.5.11 Project Issues/Request for Information
- 3.5.12 Name of Visitors
- 3.5.13 Change Order/Unit Price Work Performed

END OF SECTION

**SECTION 01 33 00
SUBMITTALS****PART 1 - GENERAL**

1.1 Procedures

- 1.1.1 Submit certain items with Bid and within seven (7) calendar days after receipt of signed Contract. It should be noted that certain items are due prior to the pre-construction meeting as listed in Section D, Supplementary General Conditions. The Contractor shall adhere to Owner requirements. The successful Contractor shall submit the required information to the Design Professional in five (5) copies. Electronic copies of the submittals are acceptable.
- 1.1.2 Each transmitted document shall identify the project name and Contractor. Material submittals shall also identify the type and trade name of materials, material manufacturer, intended use and specification number. The successful bidder shall request an electronic copy of the attached "Submittal Checklist" to complete and include with the submittals. See Paragraph 1.7. Deviations from Contract Documents shall be identified.
- 1.1.3 Submittals shall bear the Contractor's stamp and indicate approval and date.
- 1.1.4 After Design Professional's review of materials, revise and resubmit, as required, identifying changes made since previous submittal.
- 1.1.5 Upon approval by Design Professional, submittals will be forwarded to the Georgia Department of Corrections for review and approval.

1.2 Bid Submittals: Refer to Bid Form

1.3 Site Specific Safety Plan: Refer to Section 01 66 00.

1.4 Construction Schedules: Refer to Section 01 32 13 of this Specification

1.5 Shop Drawings, Samples and Product Data: Refer to Section 01 33 23 of this Specification.

1.6 Foreman's Statement: Submit on or before pre-construction conference. See paragraph 3.3 below.

1.7 Emergency phone number of principals, superintendent, foreman, project manager: Submit to Owner and Design Professional at Pre-Construction Conference.

1.8 Pre-Construction Submittals

- 1.8.1 Prior to the start of the project, the following items need to be submitted within seven (7) calendar days after the receipt of signed Contract. It should be noted that certain items are due prior to the pre-construction meeting as listed in Section D-03 Supplementary General Conditions. The contractor shall adhere to Owner requirements. The contractor shall fill out the attached Submittal checklist form, if one, ensuring that all items listed in this section, referenced for submittal in the specification, and/or items to be used on this project are properly submitted. Items submitted must conform to the standards and expectations of that material, detail, and/or procedure expressed in this specification. If not, that item may be rejected for use by the Design Professional.

- 1.8.2 The following literature shall be submitted.

- 1.8.2.1 Contractor's Letter of Good Standing with Manufacturer.
- 1.8.2.2 Manufacturer's Sample 20-year warranty
- 1.8.2.3 Contractor's Sample 5-year warranty
- 1.8.2.4 Manufacturer's Application Instructions
- 1.8.2.5 Contractor's Foreman's Statement
- 1.8.2.6 Contractor's Construction Schedule
- 1.8.2.7 Contractor's Schedule of Values
- 1.8.2.8 Insulation Manufacturer's Letter of Approval of Product Use on Project
- 1.8.2.9 Membrane Manufacturer's Letter of Approval of Product Use on Project
- 1.8.2.10 Georgia-Based Materials and Products Checklist (Attached)

1.8.3 Submit template progress report form.

1.8.4 Submit all materials as outlined in Part 2 of the Specification sections. Group and label material submittals by Specification Section. See attached Submittal Register.

1.8.5 Submit metal flashing color charts.

1.8.6 Submit shop drawings in accordance to Section 01 33 23.

1.9 Close-out Submittals

1.9.1 At the end of the project and prior to final payment, the following documents shall be submitted to the Design Professional:

- 1.9.1.1 Copies of all punch lists prepared by the Design Professional and documentation of completion.
- 1.9.1.2 Contractor's Warranty to Owner.
- 1.9.1.3 Manufacturer's Guarantee
- 1.9.1.4 Contractor's Final Payment Application
- 1.9.1.5 Consent of Surety for Final Payment
- 1.9.1.6 Final Lien Waiver
- 1.9.1.7 Contractor's Affidavit of Payment of Debts and Claims
- 1.9.1.8 Contractor's Affidavit of Release of Liens
- 1.9.1.9 Other forms and affidavits required by Owner
- 1.9.1.10 As-Built Drawings

PART 2 - PRODUCTS

2.1 Membrane and associated membrane flashings are to be manufactured and labeled by the membrane materials manufacturer or, if supplied by a different manufacturer, approved for use by membrane manufacturer in compliance with warranty requirements.

2.2 This project is subject to the Energy Efficiency and Sustainable Construction Act of 2008 ("Energy Act"). Projects subject to the Energy Act require use of not less than 10% of Georgia products.

PART 3 - EXECUTION

3.1 Timing

3.1.1 Make all submittals in accordance with schedules specified herein.

3.1.2 Design Professional will be allowed a minimum of ten (10) calendar days following receipt of submittals

for review.

3.1.3 Delays caused by tardiness in receipt of submittals shall not be an acceptable basis for extension of the Contract completion date.

3.2 Review

3.2.1 The notations "No Exceptions Taken" or "Exceptions as Noted" shall authorize the Contractor to proceed with fabrication, purchase, or both subject to the revisions, if any, required by the Design Professional's review comments.

3.2.2 The Contractor shall make all revisions, as required. If the Contractor considers any revisions to constitute a change in the scope of work, he shall notify the Design Professional under the provisions of the General Conditions.

3.2.3 Only those revisions directed or approved by the Designer shall be shown on the re-submittal.

3.2.4 After a submittal has been approved by the Designer, substitution of materials, equipment and/or procedures shall not be considered unless accompanied by an acceptable explanation for the substitution.

3.3 Foreman's Statement

STATEMENT
Mercer MS Roof Replacement

I, _____ (Name), an employee of _____ (Contractor) hereby state that I have my own personal copy of the project specifications and drawings, have thoroughly read them and have visited the work site.

By _____

Date _____

END OF SECTION

SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

- 1.1 Shop Drawings
- 1.1.1 Shop drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor, Subcontractor, manufacturer, supplier or distributor which illustrate some portion of the Work.
- 1.1.2 Submit shop drawings electronically with the following information:
- 1.1.2.1 Designer's Project Number
 - 1.1.2.2 Submittal Date
 - 1.1.2.3 Submittal Number
 - 1.1.2.4 Project Title
 - 1.1.2.5 Name of Contractor, Approval Date and Contractor's approval stamp/signature.
 - 1.1.2.6 Reference to Specification Section, Paragraph and/or Drawing.
 - 1.1.2.7 The location of the work covered by the shop drawing.
 - 1.1.2.8 Any qualification, deviation or departure from Contract.
 - 1.1.2.9 Any additional information required by the Specifications for the particular material being furnished.
- 1.1.3 Each shop drawing shall be numbered. The same numbering system shall be retained through all revisions. Each drawing shall have a clear space for the approval stamps of contractor and Designer.
- 1.1.4 In submitting shop drawings for approval, all associated shop drawings related to a complete assembly shall, where possible, be submitted at the same time so that each may be checked in relation to the entire proposed assembly.
- 1.1.5 Contractor shall prepare composite shop drawings and installation layouts, when required, to depict proposed solutions for tight field conditions. The composite shop drawings and field installation layouts shall be coordinated in the field by the Contractor for proper relationship to the work of other trades involved in the work.
- 1.1.6 With respect to standard manufactured items, Contractor shall submit to Designer manufacturer's illustrated cuts of the items to be furnished showing details, sizes and dimensions and all other pertinent information. Sufficient copies of cuts shall be furnished so that Engineer may maintain a minimum of two copies and return to Contractor the number required for Contractor's use.
- 1.1.7 Show Drawings: Dimensioned shop drawings which shall include details of the installation of the systems and flashing methods for penetrations, edges, parapets, expansion joints, and any other detail necessary to graphically show the extent of the work and how materials will be incorporated into the work. At a minimum, provide a shop drawing for each contract drawing and detail.
- 1.2 Product Data
- 1.2.1 Submit a complete description of the roofing systems listing all components and their respective manufacturer.

- 1.2.2 Submit each manufacturer's technical specifications and installation procedures for each major roofing component required.
- 1.2.3 Minimum required components include fasteners, insulation, roof membrane, flashing and metal flashing material.
- 1.3 Manufacturer's Certificates
 - 1.3.1 Submit separate letters from the membrane manufacturer and the insulation manufacturer stating he has examined the plans, specifications and details for this project and approves the use of his products and systems on this project.
 - 1.3.2 Submit a letter from the membrane manufacturer acknowledging the brand name and type of insulation proposed for use and his approval of the use of this insulation with his products.
 - 1.3.3 Submit a letter from the insulation manufacturer acknowledging the brand name and type of roof membrane being proposed and his approval of the use of the roof membrane and system with his product.
 - 1.3.4 Submit a copy of the licensed membrane applicator agreement.
 - 1.3.5 If any membrane components are not packaged by the membrane manufacturer, submit a letter from the membrane manufacturer clearly identifying the component and acknowledging approval to use this component on this project.
 - 1.3.6 Submit for each bulk shipment of asphalt a manufacturer's certificate clearly stating type of asphalt and compliance with reference standard.
- 1.4 Samples: Submit a 6-inch long sample of each metal shape to be used on this project to Designer for approval. Metal shapes are to be constructed in accordance with approved shop drawings and will be used for establishment of quality standards during installation.

PART 2 – PRODUCTS: Not Used.

PART 3 - EXECUTION

- 3.1 Timing
 - 3.1.1 A minimum of 10 days shall be allowed for review by the Designer following his receipt of the submittals.
 - 3.1.2 If a submittal contains more than 10 shop drawings, Contractor shall indicate which drawings must be returned within 10 days. Engineer shall have an additional 10 days to return the balance of submittals.
 - 3.1.3 Delays caused by tardiness in receipt of submittals shall not be an acceptable basis for extension of the contract completion date.
- 3.2 Review
 - 3.2.1 Review by the Designer shall be directed to the general method of construction and shall not be construed as a complete check nor shall the review relieve the contractor from responsibility for errors and/or omissions which may exist.

- 3.2.2 The notations "No Exceptions" or "Exceptions as Noted" shall authorize Contractor to proceed with fabrication, purchase, or both, subject to the revisions, if any, required by the Designer's review comments.
- 3.2.3 The Contractor shall make all revisions, as required. If the Contractor considers any required revisions to constitute a change, he shall notify the Designer under the provisions specified in the General Conditions.
- 3.2.4 Only those revisions directed or approved by the Designer shall be shown on the re-submittal.
- 3.2.5 After a submittal has been approved by the Designer, substitution of materials or equipment shall not be considered unless accompanied by an acceptable explanation as to the necessity for the substitution.

END OF SECTION

**SECTION 01 45 00
QUALITY CONTROL****PART 1 - GENERAL**

- 1.1 Quality Control – Contractor: Maintain quality control over products, services, site conditions, and workmanship, to produce work of specified quality.
- 1.2 Quality Control – Owner
- 1.2.1 A minimum of 3 seam samples shall be taken across seams per day per welder. Field peel tests shall be performed in accordance with the roofing system manufacturer's requirements by the roofing contractor. At a minimum, a peel test shall be performed each time machines are activated, and this test shall be dated, stored on-site, and readily available for Design Professional's inspection. Samples shall be tack welded to the roof at each test location, but shall be removed before substantial completion, unless otherwise directed by the Owner.
- 1.2.2 Work found in violation of the Specifications, or not in conformance with acceptable roofing practices/standards, shall be subject to rejection including removal and replacement with new materials at Contractor's expense.
- 1.2.3 Failure of Owner or Designer to discover or reject defective work, or work not in accordance with the Contract, shall not be deemed an acceptance thereof, nor a waiver of Owner's rights to Contractor's compliance with the Contract or performance of the work, or any part thereof. No partial or final payment, or partial or entire occupancy, by Owner shall be deemed to be an acceptance with the Contract, nor shall it be deemed a waiver by Owner or any of Owner's rights pursuant to this Contract or otherwise.
- 1.2.4 Owner intends to conduct inspections of the work by in-house personnel and/or the Owner's representative on a full/part-time basis. Such work is in addition to the Design Professional's inspections which may be conducted to verify that work completed is comparable to contractor's monthly application for payment.
- 1.2.5 PVC membrane and base flashings shall be smooth to the substrate, and wrinkles in membrane or base flashings shall be grounds for rejection.
- 1.2.6 The accumulation of debris and foam adhesive beneath new membrane is not acceptable and shall be grounds for rejection.

PART 2 – PRODUCTS: Not Used.

PART 3 – EXECUTION: Not Used.

END OF SECTION

SECTION 01 66 00**STORAGE AND PROTECTION****PART 1 - GENERAL**

1.1 Protection

- 1.1.1 Limit size of work sections to safeguard adjacent materials, structures, etc., and to minimize dust and noise.
- 1.1.2 Protect existing facilities from damage during work. Do not overload existing paving, curbs, sidewalks, etc. with vehicle traffic. Do not overload new or existing construction with demolition debris, equipment, etc.
- 1.1.3 Protect existing facilities from fire as a result of re-roofing and/or HVAC operations. Contractor shall provide suitable and adequate fire extinguishers conveniently located on the roof at staging areas, storage areas and at areas or equipment where an open flame is being used. Competent operators shall be in attendance at all times and shall be properly trained or instructed in fire protection.
- 1.1.4 At each location where an open flame is used, Contractor shall provide a watchman with a suitable fire extinguisher.
- 1.1.5 Plywood, minimum ¾" thick, or other suitable materials shall be used to protect roof areas from damage that may be caused by concentrated equipment loads and foot traffic.
- 1.1.6 Roof traffic shall be confined to work areas. Contractor shall be responsible for leaks that develop in traffic areas during and after project completion.
- 1.1.7 Self-supporting ramps shall be used where expansion joints, area dividers, etc. are to be crossed.
- 1.1.8 Contractor shall protect the new single ply membrane from damage, dirt, debris, foot and equipment traffic etc. during installation. Storage of materials and equipment on the new roof is not acceptable unless the Contractor has taken measures to protect the new roof system from damage, staining, dirt, debris, and crushing. Any new work that incurs damage due to such activities is subject to cleaning, repairs, and/or total replacement at no additional cost to the Owner. Any cleaning that is required shall be performed in accordance with the roofing system manufacturer's written instructions at no additional cost to the Owner.
- 1.1.9 Contractor shall protect interior operations from adverse weather during roofing operations.
- 1.1.10 At the end of each work day, the contractor shall apply nightly temporary tie-ins to ensure that the building is weather tight, and that newly installed materials are free from moisture and debris. Newly install materials coming in contact with moisture and debris is grounds for rejection of materials, and shall constitute the replacement of the materials with like materials at no additional cost to the Owner.
- 1.1.11 The Contractor will be held liable for any damages to the building, building contents, its occupancy, grounds or landscaping resulting from work under the Contract. In the event of damage, Contractor will restore property to a condition equivalent to that at the time the project started.
- 1.1.12 The Contractor shall keep existing drainage facilities and associated leaders/downspouts clear of debris and bitumastic materials during construction. The Contractor will be required to use elastomeric plugs to protect leaders/downspouts during demolition and re-roofing operations.

- 1.1.13 Prior to the start of re-roofing operations, the Contractor has the option to water test all drain leaders and lines for clogs prior the start of work. All findings shall be immediately reported to the Owner/Engineer in writing for direction prior to proceedings.
- 1.1.13.1. Failure to perform this option, and proceeding with work shall serve as the acceptance of the existing drain leaders and lines to be functioning at one-hundred percent (100%) capacity prior to the start of re-roofing operations.
- 1.1.13.2. Furthermore, with this acceptance, the Contractor shall be responsible to ensure that drain leaders and lines are functioning at one-hundred (100%) capacity prior to the Final Payment at no additional cost to the Owner.
- 1.1.14 Prior to the start of re-roofing operations, the Contractor shall provide Mercer Middle School personnel with plastic bags/tarps which will be used by school personnel to protect televisions, computers, and other associated equipment during the period of time that re-roofing operations are occurring. Bags/tarps shall be provided a minimum of one week prior to the start of re-roofing operations. Costs for providing such materials shall included in the Base Bid.

Note: Contractor will still be required to provide any other additional protection to interior items as may be deemed necessary to comply with the requirements of the Contract Documents.

1.2 Material Protection

- 1.2.1 Products shall be transported by methods which avoid damage. Damaged material shall be subject to rejection by the Engineer.
- 1.2.2 Store materials off of the ground covered with tarps. Factory-applied wrappings are not acceptable.
- 1.2.3 Wet materials shall be removed from the project site.
- 1.2.4 Materials that are temperature sensitive are to be stored in strict accord with manufacturer's written instructions.

1.3 Storage

- 1.3.1 Contractor shall be responsible for proper storage of equipment, materials and devices furnished by himself and/or his subcontractors and suppliers.
- 1.3.2 To the maximum extent possible, the Contractor shall not store combustible or flammable materials inside the facility.
- 1.3.3 All storage areas are subject to approval by the Owner or his authorized representative.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

**SECTION 01 78 36
WARRANTIES****PART 1 - GENERAL**

- 1.1 Upon completion of the work and prior to the final payment, the Contractor shall submit the required contractor's warranty and/or manufacturer's guarantee, as required by this Section.
- 1.2 Submit all items required by this Section as part of project record documents, Section 01 78 39.
- 1.3 Warranties and Bonds
- 1.3.1 General Contractor: Comply with the Project Manual concerning warranties and bonds. The work covered under this Contract shall remain free from any water penetration and physical defects caused by defective workmanship or materials for a period of one (1) year from the date of material completion by the Owner. Warranty shall be executed to the Contractor's company letterhead and signed by an authorized agent.
- 1.3.2 Roofing Contractor: Comply with the Project Manual concerning warranties and bonds. The work covered under this Contract shall remain free from any water penetration and physical defects caused by defective workmanship or materials for a period of five (5) year from the date of material completion by the Owner. Warranty shall be executed to the Roofing Contractor's company letterhead and signed by an authorized agent.
- 1.3.3 Prior to final payment, Contractor shall submit one original and three copies of the roofing system manufacturer's twenty year, No Dollar Limit Guarantee, with flashing endorsement, to the Owner.
- 1.3.4 The roofing system manufacturer shall include in the warranty all materials approved for use by the roofing system manufacturer regardless of whether the manufacturer manufactures the product. Warranties excluding a material approved for use are not be permitted.
- 1.3.5 Metal Finish Warranty: Prior to final payment, the contractor shall furnish one original and three copies of the metal flashing manufacturer's 20 year finish warranty for factory applied finishes for the warranty period. Metal Finish Warranty Period shall be a minimum twenty-years (20).
- 1.3.6 Emergency repairs to defects and leaks shall be performed within 24 hours of receiving notice from Owner. As soon as weather permits, permanent repairs and restoration of affected areas shall be accomplished in a manner in conformance with the original Contract requirements. This work shall be done without additional cost to the Owner, except if it is determined that such leaks and effects were caused by abuse, lightning, hurricane, tornado, hail storm, or other unusual phenomena.
- 1.3.7 The warranties shall also state that the Owner has the right, at any time during the five-year Contractor's warranty period to make emergency repairs to protect the contents of the building or the building itself from damage due to leaking. The cost of emergency repairs made during the five year period of the warranty shall be borne by the Contractor and action by the Owner shall not invalidate the warranty.
- 1.3.8 Starting dates of all warranties shall be the date of the material completion.

END OF SECTION

(Print Warranty Body on Contractor’s Company Letterhead)

WARRANTY

1. Known all men by these presents, that we, *Contractor shall insert company name here* (Contractor), having installed insulation, roofing, flashings, and sheet metal work, and having accomplished certain other work on Mercer Middle School, located at 201 Rommel Ave, Savannah, GA 31408 under Contract between SCCPSS and (Contractor) warrant to SCCPSS with respect to said work that for a period of five years from date of final acceptance of said work by SCCPSS, the roofing including insulation, roofing membrane, flashings, and sheet metal work, shall be absolutely watertight and free from all leaks, provided however that the following are excluded from this warranty:
 - a. Defects or failure resulting from abuse by the Owner.
 - b. Defects in design involving failure of the structure, load-bearing walls, and/or foundations.
 - c. Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, and/or civil commotion.
2. We agree that should any leaks occur in the roofing, we will promptly remedy said leaks in a manner to restore the roof to a watertight condition by methods compatible to the system and acceptable under industry standards and/or general practice.
3. We further agree that for a period of five years from date of final acceptance referred to above, we will make repairs at no expense to the Owner, to any defects which may develop in the work including, but not limited to, blisters, wrinkles, ridges, splits, warped insulation, and loose flashings, in a manner compatible to the system and acceptable under industry standards and general practice.
4. We also agree that the Owner has the right, at any time during the five-year warranty period, to make emergency repairs to protect the contents of the building or the building itself from damage due to leaking. The cost of emergency repairs made during the five years of the warranty period shall be borne by the Contractor and action by the Owner shall not invalidate the warranty.

IN WITNESS WHEREOF, we have caused this instrument to be duly executed, this __day of _____, 20_____.

_____ by _____
 Contractor President

Notary Public

**SECTION 01 78 39
PROJECT RECORD DOCUMENTS**

PART 1 - GENERAL

- 1.1 Description
 - 1.1.1 To maintain an accurate record of the project throughout its duration. Items to be noted include, but are not necessarily limited to:
 - 1.1.1.1 Contract Documents
 - 1.1.1.2 Addendum
 - 1.1.1.3 Change Orders
 - 1.1.1.4 Field Orders and Instructions.
 - 1.1.1.5 Construction Schedule.
 - 1.1.1.6 Shop Drawings
 - 1.1.1.7 Product Samples
 - 1.1.1.8 Progress Reports
- 1.2 Quality Assurance
 - 1.2.1 The Contractor shall delegate responsibility for maintenance of the record documents to one person on the Contractor's staff as approved by the Designer.
 - 1.2.2 All entries shall be made within 24 hours after receipt of information.
- 1.3 Submittals: The Contractor shall submit the final record documents to the Designer for approval prior to submitting a request for final payment. Submit two copies of "as-built" documents to Designer with letter of transmittal indicating date, project title, Contractor's name and address, list of documents, and signature of Contractor.
- 1.4 Product Handling: The Contractor shall take all necessary precautions to protect the record documents from deterioration loss and damage until completion of the work and transfer of the recorded data to the final record documents.

PART 2 – PRODUCTS: Not Used.

PART 3 – EXECUTION: Not Used.

END OF SECTION

DIVISION 2
EXISTING CONDITIONS

**SECTION 02 41 13
SELECTIVE DEMOLITION AND PREPARATIONS**

PART 1 - GENERAL

- 1.1 Work Included: Selective demolition and preparations for the roof replacement project, as specified herein.
- 1.2 Related Work Specified Elsewhere
 - 1.2.1 Storage and Protection - Section 01 66 00
 - 1.2.2 Miscellaneous Rough Carpentry - Section 06 10 53
- 1.3 Protection: Refer to Section 01 66 00.

PART 2 - PRODUCTS

- 2.1 Roof Panel Primer: Kem Kromik as manufactured by Sherwin Williams or approved equal.
- 2.2 Side Lap Screws: ASTM A240, 410 stainless steel, self-drilling minimum #10 stainless steel screw with a nominal head diameter of 0.415 inches and stainless-steel bonded neoprene washers. Screws shall be one size larger than the existing.
- 2.3 Panel Fastener: ASTM A240, 410 stainless steel, self-drilling screws. Screw shall be one size larger than the existing and a minimum #12 stainless steel screw with a nominal head diameter of 0.430. Screw shall have a stainless-steel bonded neoprene washer.

PART 3 - EXECUTION

- 3.1 Demolition
 - 3.1.1 Refer to **Section 01 11 00 Summary of Work.**
 - 3.1.2 The Designer and Contractor shall document the actual quantities removed for materials bid on a unit price basis.
 - 3.1.3 All existing flashings can be totally removed, as shown on drawings
 - 3.1.4 Remove only as much material as can be made watertight each day.
 - 3.1.5 Demolition shall be performed by personnel familiar with the replacement of materials being used.
 - 3.1.6 Demolition adjacent to areas to remain shall be performed in a neat manner with straight lines to facilitate tie-ins of replacement materials.
 - 3.1.7 Excessive demolition, as determined by the Owner's representative, shall be replaced with equal materials at the Contractor's expense in accordance with the General Conditions of the Contract.
 - 3.1.8 No demolition shall be performed if the chance of precipitation is 40% or more as reported by the nearest office of the National Weather Service.

3.2 Preparations

- 3.2.1 Prior to the installation of any new roofing, flashings, metal flashings, any other miscellaneous items, the Contractor shall clean surfaces of all dust, dirt, and other foreign materials.
- 3.2.2 Inspect the roof carefully. If, in Contractor's opinion, there are roof areas that require repair prior to over build, notify the Designer. Do not proceed with any repairs or replacement until directed by the Designer.
- 3.2.3 Notify architect of any abandoned vent pipes, or equipment.
- 3.2.4 Prior to the installation of any new roofing materials, extend all existing soil pipe vents through the roof to a minimum height of 8 inches (or as required by local plumbing codes) above the finished roof surface. Modifications shall be performed as follows: Furnish a piece of PVC piping that will fit snugly into the existing soil pipe vent and shall extend into the pipe a minimum of 12 inches. Provide a second PVC pipe that fits snugly around the smaller PVC pipe and shall provide a minimum 8" height above the finished roof surface. The smaller pipe height shall match the outer pipe. Cement the two PVC pipes together with an approved pipe solvent/glue. Insert the extension into the existing soil pipe vent.
- 3.2.5 **(Unit Price No. 1)** Where wood blocking or curbs are damaged or deteriorated, remove existing wood blocking to a point 6 inches beyond the damage and/or deterioration and repair and/or replace with new wood blocking to match existing. Secure new wood blocking to the substrate using specified fasteners that penetrate the substrate a minimum of 1 inch at spacings not to exceed 12 inches on-center, staggered pattern.
- 3.2.6 **(Unit Price No. 2)** Where metal roofing is rusted, provide "deck priming" rust inhibitive paint.
- 3.2.7 **(Unit Price No. 3)** Deck screws per manufacturer's standard decking screw.
- 3.2.8 **(Unit Price No. 4)** Deck screws per manufacturer's standard side lap screw.

END OF SECTION

SECTION 02 82 33
REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 – GENERAL

- 1.1 Summary: Work includes the development of an asbestos abatement removal plan and the removal of the wall panel assembly at the gymnasium clerestory known to contain asbestos materials.
- 1.2 Related Work:
 - 1.2.1 Section 02 41 13 - Selected Demolition and Preparations
 - 1.2.2 General Conditions
 - 1.2.3 Supplementary Conditions
 - 1.2.4 Division 0
- 1.3 Submittals: Contractor shall submit documentation that he is qualified and licensed to perform this type of work as part of the Bid submittal.
- 1.4 Quality Assurance:
 - 1.4.1 Contractor and employees involved in the removal of ACM on this project shall have current training certificates for the proper removal of such materials. Each employee's medical monitoring program shall be current in order to work on this project. Contractor shall provide copies of employee certificates to the Designer prior to the start of this phase of the work.
 - 1.4.2 Contractor shall comply with current testing and monitoring protocols. Three copies of these protocols shall be provided to the Designer prior to the start of ACM removals for review.
 - 1.4.3 Contractor shall comply with the current requirements for handling and disposal of ACM. Disposal certificates from the receiving landfill shall be provided to the Owner at the time of project closeout.
- 1.5 Environmental Conditions: Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.
- 1.6 Asbestos Abatement Plan Preparation:
 - 1.6.1 Contractor shall submit an asbestos abatement plan which describes the procedures that the Contractor shall use during this project. This plan shall include, at a minimum, the following:
 - 1.6.1.1 Table of Contents
 - 1.6.1.2 Equipment to be used on this project
 - 1.6.1.3 Written description of procedures for cutting, dust control, packaging, transporting, and disposal of ACM.
 - 1.6.1.4 Written description of procedures for air monitoring, sample testing, project safety, and site access controls that will be in place during abatement activities.
 - 1.6.1.5 Documentation that workers are medically qualified for this type of work and that medical

documentation is current in accordance with the regulations.

1.6.1.6 Training certificates for all workers on this project that show they meet the current requirements to perform the specified work.

1.6.1.7 A copy of the applicable regulations used in the development of the work plan.

PART 2 – PRODUCTS: Not Used.

PART 3 - EXECUTION

3.1 Preparation:

3.1.1 All roof-mounted mechanical equipment shall be shut down during abatement.

3.1.2 Seal off all air intake ports, discharge ports, independent fans, etc. with tape and polyethylene film.

3.1.3 Install fully enclosed chutes or make other arrangements for the removal of ACM from the roof areas that comply with current regulations.

3.2 Removals:

3.2.1 Contractor shall remove ACM in accordance with the approved work plan. Any deviations from this plan shall be submitted to the Designer for review prior to proceeding.

3.2.2 Air monitoring during the work shall be performed in accordance with current regulations and the approved work plan. All field records and test results associated with the monitoring program shall be submitted at the end of the project to the Owner.

NOTE: Any costs associated with required air monitoring on this project shall be included in the Base Bid.

3.2.3 Abatement activities shall be coordinated with the roofing work so that the roof assembly will be watertight at the end of each work day.

3.2.4 At a minimum, the contractor shall wet and double-bag all ACM prior to placing materials in a dumpster double-lined with minimum 6 mil sheathing.

END OF SECTION

DIVISION 6
WOOD, PLASTICS, AND COMPOSITES

SECTION 06 10 53
MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

- 1.1 Work Included: Installation of blocking and/or curbs, as specified herein.
- 1.2 Related Work
 - 1.2.1 Selective Demolition and Preparations – Section 02 41 13
 - 1.2.2 Polyvinyl Chloride (PVC) Roofing – Section 07 54 19
 - 1.2.3 Flashing and Sheet Metal – Section 07 60 00
- 1.3 Submittals: In accordance with Section 01 33 00 of this Specification.
- 1.4 Environmental Conditions: Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.
- 1.5 Warranty: In accordance with Section 01 78 36 of this Specification.

PART 2 - PRODUCTS

- 2.1 Non-structural wood blocking: Maximum 2” nominal thickness, widths as specified. Shop pressure-treated for above ground contact. Do not use oil-based preservatives.
- 2.2 CD-X Exterior Grade Plywood. Maximums 1” thickness unless otherwise specified. Three-ply minimum.
- 2.3 Wood Fiber Tapered Edge Strips: Wood fiberboard, ASTM C208-95, Grade 2.
- 2.4 Screws: #12 double-coated galvanized steel screws or stainless steel self-tapping wood screws that shall be able to resist any galvanic action that may be able to develop between the nail and the pressure treatment. The use of a lesser quality screw will not be approved. Screws shall be of sufficient length to penetrate a minimum of 1-1/2 inches into the substrate.
- 2.5 Nails: For securing new lumber to new lumber or new plywood/OSB to new lumber, double-coated galvanized steel or stainless-steel ring shank nails to penetrate a minimum of 1-1/2 inches into the substrate but not smaller than 8d nails. Use 16d nails where material being secured is 1½ to 2 inches thick.
- 2.6 Masonry Anchor:
 - 2.6.1 Masonry Anchor, minimum 1-1/4 inch into substrate, as manufactured by OMG Roofing Products
 - 2.6.2 Tapcon ¼” x minimum 1-1/4” in the substrate, as manufactured by Buildex.
 - 2.6.3 Roofing Spike, minimum 1-1/4 inch into substrate, as manufactured by Powers Fasteners.
 - 2.6.4 Approved equal prior to bid.

PART 3 - EXECUTION

3.1 General

3.1.1 Furnish and install new wood blocking:

- 3.1.1.1 Wood Blocking Installation: Install the minimum number of layers to satisfy the total thickness requirements shown on Drawings or specified herein. Locate two fasteners approximately 2-inches from the end of each board.
- 3.1.1.2 Eave: Furnish and install new 6-inch wide wood blocking over the metal roofing between battens to match the height of the roof insulation adjacent to the eave. Secure the first layer of wood blocking using specified screws of length to engage substrate. Secure additional layers of new wood blocking using specified nails. Refer to Drawings.

END OF SECTION

DIVISION 7
THERMAL AND MOISTURE PROTECTION

**SECTION 07 22 16
ROOF BOARD INSULATION****PART 1 - GENERAL**

- 1.1 Work Included: Installation of new roof insulation, as specified herein.
- 1.2 Related Work
 - 1.2.1 Summary of Work – Section 01 11 00
 - 1.2.2 Selective Demolitions and Preparations – Section 02 41 13.
 - 1.2.3 Mechanically-Attached PVC Roofing – Section 07 54 19.
- 1.3 Submittals: Refer to Section 01 33 00 of this Specification.
- 1.4 Environmental Conditions: Materials installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.
- 1.5 Warranty: Refer to Section 01 78 36 of this Specification.

PART 2 - PRODUCTS

- 2.1 Polyisocyanurate Roof Insulation: Flat and tapered, as specified, ASTM C1289, Type II, Class I. Board size shall not exceed 4' x 8' for mechanically attached insulation. Board size of tapered insulation shall not exceed 4' x 4'. The Long-Term Thermal Resistance shall be a minimum of 5.6 per inch. Insulation compressive strength shall be minimum 20 psi. Insulation density shall be 2 pcf minimum. Thermal insulating factor as specified; however, thicknesses of each layer of insulation shall not exceed 2 inches.
- 2.2 Fasteners & Plates:
 - 2.2.1 Protection board shall be Hi – density polyisocyanurate board ½". Board to meet: R-Value 2.5 · ASTM C 1289 Type II, Class 4, Grade 1 (109 psi max) · UL Classified 790 · UL Class A · ASTM E108 · FM Approved. Board to be run perpendicular to the existing seams of roofing
 - 2.2.2 #12 Insulation Fastener: Minimum 0.235" thread diameter. Steel screw roof insulation fastener for steel decking: As approved by the roofing materials manufacturer and FM I-60 requirements. Fasteners must pass a minimum of 15 cycles in the Kesternich SFW 2.0s DIN 50018 test with less than 15% red rust.
 - 2.2.3 Insulation Fastener Plate: 3" ribbed, Galvalume coated steel plate. As approved by the roofing materials manufacturer and FM I-60 requirements.

PART 3 - EXECUTION

- 3.1 Coordination and Inspection
 - 3.1.1 The substrate shall be clean, smooth, dry, and free of debris and all foreign matter prior to receiving insulation and cover board. Application of new materials shall constitute approval of the substrate by the

Contractor.

3.1.2 The contractor bears the responsibility to locate any conduits that are in the decking flutes prior to the start of the work. The contractor shall to be full extent possible, not engage these conduits with screws, fasteners, etc. Should power be loss due to penetrate a conduit, the Contractor bears the responsibility to locate and repair the conduit and/or enclosed wiring to the original condition so as to restore power to the Owner. Cost associated with these repairs shall be borne by the Contractor at no additional cost to the Owner.

3.1.2.1 Repairs to conduit, wiring, electrical equipment, and accessories under this paragraph shall be performed by an electrical contractor licensed to perform such work in the state of Georgia with a minimum of 5 years experience in this type of work.

3.2 General Installation: Roof Insulation

3.2.1 Apply insulation with end joints staggered approximately one-half the length of the units.

3.2.2 Offset insulation joints from the preceding layer a minimum of six (6) inches.

3.2.3 Fit insulation units snugly to each other and to all vertical surfaces.

3.2.4 Mechanical Attachment: Secure each board to the metal deck using plates and fasteners in accordance with the manufacturer's requirements to resist the uplift pressures and/or ratings shown on drawings for each zone and the approved RoofNav assembly number. However, there shall be a minimum of 1 fastener/plates per 5.33 square feet for each zone. Partial units less than 4 square feet shall be secured with a minimum of 2 fasteners/plates.

3.2.5 Replace damaged units as required to provide a smooth surface and uniform insulation thickness.

3.3 Installation – Roof Area:

3.3.1 Apply one layer of continuous isocyanurate insulation to the roof panel pans to match the height of the panel ribs and loose lay over the substrate. Bevel the ends of the panels to fit snugly to all vertical surfaces.

3.3.2 Apply one continuous layer of 2-inch-thick isocyanurate insulation to the first layer of insulation and secure by mechanical attachment.

3.3.3 Apply cover board perpendicular to ribs over completed insulation and secure by mechanical attachment.

END OF SECTION

**SECTION 07 42 13
PRE-FINISHED NON-INSULATED METAL WALL PANELS**

PART 1 - GENERAL

- 1.1. Summary
 - 1.1.1. Installation of a new non-insulated metal wall panels at Gymnasium.
 - 1.1.2. Installation of roof accessories including flashings.
- 1.2. Related Work Specified Elsewhere
 - 1.2.1. Miscellaneous Rough Carpentry – 06 10 53
 - 1.2.2. Selective Demolition and Preparations - Section 07 01 50
 - 1.2.3. Roof Board Insulation – Section 07 22 16
 - 1.2.4. Flashing and Sheet Metal – Section 07 60 00
- 1.3. Protection
 - Refer to Section 01 60 00 of this Specification.
- 1.4. Submittals
 - 1.4.1. Refer to Section 01 33 00 of this Specification.
- 1.5. Warranty
 - 1.5.1. Refer to Section 01 78 36 of this Specification.

PART 2 – PRODUCTS

- 2.1. Approved Metal Wall Panel Manufacturer
 - 2.1.1. 12” flush wall panel as manufactured by Pac-Clad, or equal.
 - 2.1.2. Approved equal prior to bid.
 - 2.1.3. Finish of walls panels and soffits to be selected by Owner from standard color chart.
 - 2.1.4. Finish: Kynar 500-based finish: Shall be factory applied, oven-finish. Finish and primer shall be applied in strict accordance with the formulator's specifications and shall meet the performance criteria of AAMA 605.2-90 specification. Finish coat thickness shall be a minimum of 0.90 mil. Primer coat thickness shall be a minimum of 0.3 mil. Color to match the existing color currently used.
 - 2.1.5. Trim/Flashings: Pre-manufactured with a baked on Kynar 500 finish as specified above. Trim/Flashing material to match the panel materials and color. Install in accordance with manufacture recommendations.

-
- 2.1.6 Fasteners: As specified by the approved metal wall panel manufacturer + concealed
 - 2.1.7 Hat Channels: Minimum 22 ga. galvanized steel with a 7/8" depth, as required by metal wall panel manufacturer for attachment of metal wall panels to metal studs.
 - 2.1.8 Masonry Fastener:
 - 2.1.8.1 Masonry Anchor, minimum 1-1/4 inch into substrate, as manufactured by OMG Roofing Products
 - 2.1.8.2 Tapcon 1/4" x minimum 1-1/4" in the substrate, as manufactured by Buildex.
 - 2.1.8.3 Roofing Spike, minimum 1-1/4 inch into substrate, as manufactured by Powers Fasteners.
 - 2.1.8.4 approved equal prior to bid
 - 2.1.8.5 Plastic mushroom head anchors will not be accepted.

PART 3 - EXECUTION

3.1 Underlayment Installation

- 3.1.1 Prior to the installation of any new items, the Contractor shall clean surfaces of all dust, dirt, and other foreign materials.
- 3.1.2 Prior to installation of new wall panels, install R20 insulation between the metal studs in accordance with manufacturer recommended practices.
- 3.1.3 Prior to installing metal wall panels, the Contractor shall furnish and install new continuous hat channels at attached to the metal studs, after removal of the EIFS.
 - 3.1.3.1 Install hat channel rows at spacings not to exceed 12 inches on center.
 - 3.1.3.2 Leave a 1/4" inch gap between sections of hat channels.
 - 3.1.3.3 Attach the top and bottom of the hat channel to the substrate using appropriate fasteners at spacings not to exceed 16 inches on center. Fasteners shall penetrate the framing a minimum of 1 inch.

3.2 Metal Wall Panel Installation

- 3.2.1 Install metal wall panels in accordance with the manufacturer's written instructions and/or approved shop drawings. Refer to Drawing Nos. A-501.
- 3.2.2 In addition to fastening panels to hat channels, metal wall panels shall also be "back-stitched" at side laps using appropriate screw type fasteners at spacings not to exceed 12 inches on-center.
- 3.2.3 At the top of the walls, panels shall finish flush with the underside of the soffit. Panels shall have sheet metal J-closures that are formed from 22 ga. galvalume with Kynar 500 finish or approved equal. J-closures shall be fastened to the substrate using appropriate screw-type fasteners at spacing not to exceed 12 inches on-center.
- 3.2.4 The bottom of the panels shall be neatly cut and shall extend down to 4" below the bottom of the sill. Vented Base trim provided by the metal panel manufacturer shall be installed at the bottom of the metal panels. Trim shall be riveted to panels at spacing not to exceed 18" on-center. Rivet finish shall match the color of the panels. Refer to Drawing No. A-302.

- 3.2.5 Only install metal wall panels at walls above roof level, as shown on applicable drawings. Where metal wall panels transition adjacent wall, furnish and install new Z-shaped closures formed from 24 ga. galvalume with Kynar 500 finish, or approved equal prior to bid, that shall extend with manufacturers standard closure and sealant details. Set both flanges of the closures in minimum 1" thick continuous butyl tape prior to fastening, and secure to the substrate using appropriate fasteners at spacings not to exceed 12 inches on center. Apply sealant to match the color of the closure to seal the vertical seams of the flashing with the substrates.
- 3.2.6 At building wall, provide protection board over the existing roof during all activities related to the wall repairs. Any damage to existing roof shall be the contractor's responsibility to repair to new condition.

Note: Shop drawings of this detail shall be submitted to the architect for review and approval. Prior to submission to the architect, such drawings shall be reviewed and approved by the wall system manufacturer.

END OF SECTION

SECTION 07 54 19
POLYVINYL CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

- 1.1 Work Included: Installation of a mechanically attached PVC roof membrane, as specified herein.
- 1.2 Related Work
 - 1.2.1 Summary of Work – Section 01 11 00
 - 1.2.2 Quality Control – Section 01 45 00
 - 1.2.3 Selective Demolition and Preparations – 02 41 13
 - 1.2.4 Roof Board Insulation - Section 07 22 16
 - 1.2.5 Flashing and Sheet Metal – Section 07 60 00
- 1.3 Submittals: In accordance with Section 01 33 00 of this Specification
- 1.4 Environmental Conditions: Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.
- 1.5 Warranty: In accordance with Section 01 78 36 of this Specification.

PART 2 - PRODUCTS

- 2.1 Polyvinyl Chloride Roofing Materials
 - 2.1.1 Polyvinyl Chloride Membrane. Maximum sheet width of 6 feet at all locations as shown on drawings. ASTM D4434, Type III with polyester reinforcement. Nominal 60 mil overall thickness with minimum 23 mil polymer thickness above the scrim. A minimum tearing strength of 45 pounds as tested in accordance with ASTM D751, procedure B. A minimum static puncture resistance of 33 pounds as tested in accordance with ASTM D5602. As manufactured by:
 - 2.1.1.1 Sika Sarnafil
 - 2.1.1.2 GAF
 - 2.1.1.3 Johns Manville
 - 2.1.1.4 Carlisle Syntec
 - 2.1.2 Membrane color selected by Owner from standard color chart.
 - 2.1.3 Battens, to match membrane in color. Battens to be heat welded 24" apart + perpendicular to the eave
 - 2.1.4 PVC General Purpose Sealant (color to match). As manufactured by the approved roofing system manufacturer.
 - 2.1.5 PVC T-Joint Covers. As manufactured by the approved roofing system manufacturer.

- 2.1.6 Membrane Cleaner: As manufactured by the approved roofing system manufacturer. For use in removing foreign debris from the membrane prior to welding.
- 2.1.7 Polyurethane Caulk: As manufactured and/or approved by the roofing system manufacturer. To be applied at those locations identified by the manufacturer.
- 2.2 Membrane Welding Machines: As approved by the roofing system manufacturer. Contractor shall provide written documentation that operators have received the roofing system manufacturer's required training to operate equipment. Welders shall be maintained in good working order and shall be operated and maintained in accordance with the welding machine manufacturer's written instructions.
- 2.3 Decorative battens: Manufacturer standard, shall be hot air welded as approved by the roofing system manufacturer, to the new membrane, parallel, straight, and free of gaps, or defects.
- 2.4 Roofing Nails: With minimum 1" head, such as Simplex nails or approved equal.
- 2.5 Pipe boots: shall be manufacturer standard, matching in color and hot air welded to membrane.
- 2.6 Fasteners
 - 2.6.1 Purlin Membrane Fastener: Minimum 0.230" thread diameter. Steel screw roof fastener for attachment to minimum 16 ga. roof purlins: As approved by the approved roofing materials manufacturer. Carbon steel with corrosion-resistant coating.
 - 2.6.2 Membrane Fastener: Minimum #15 steel screw roof fastener for steel decking: As approved by the approved roofing materials manufacturer. Minimum pull-out in new Grade C, 22-gauge decking is 595 lbs. Fasteners must pass a minimum of 15 cycles in the Kesternich SFW 2.0s DIN 50018 test with less than 15% red rust.
 - 2.6.3 Seam Plate: As required by the membrane manufacturer to attached membrane to the existing purlins and metal panels. Minimum 2-3/8" grooved, galvalume steel plate. As approved by the roofing materials manufacturer to attach thermoplastic membrane. Minimum pull through resistance of 700 pounds from the center hole.

PART 3 - EXECUTION

- 3.1 Inspection
 - 3.1.1 The substrate shall be clean, smooth, dry, free of debris and all foreign matter prior to installation of the roof membrane. Application of new materials shall constitute approval of the substrate by the Roofing Contractor.
 - 3.1.2 Insulation joints with gaps greater than 1/4" shall be filled with roof insulation in order to provide a smooth surface.
- 3.2 Roof Membrane Installation
 - 3.2.1 Unroll the membrane sheets and allow them to relax in accordance with the roofing system manufacturer's recommendations and ambient temperature at the time of this phase of the work.
 - 3.2.2 Remove any damaged or creased membrane sections, and discard.

-
- 3.2.3 All membrane surfaces to be welded shall be clean and dry. No adhesive shall be present within the lap areas.
- 3.2.4 Lap membrane sheets a minimum of 5" unless otherwise specified by the roofing system manufacturer.
- 3.2.5 Furnish and install sheets as shown on drawings. Install sheets so that sheets will extend down the face of exterior walls as specified elsewhere. Refer to Drawings.
- 3.2.6 Sheets shall be installed to ensure that side lap fasteners engage the top flat surface of the purlin a minimum of 1", unless otherwise specified by the roofing system manufacturer. Attachment of the fasteners to the roof panels at side laps is not acceptable.
- 3.2.7 At the field of the roofing, secure the side laps with the roofing system manufacturer's approved purlin fasteners and plates at spacings approved by the manufacturer to resist the uplift loads shown on drawings. However, at a minimum, space fasteners a maximum of 12" on-center in the lap area in a line centered approximately 3" from the edge of the sheet.
- 3.2.8 At the corner and perimeter of the roofing, secure the side laps with the roofing system manufacturer's approved purlin fasteners and plates at spacings approved by the manufacturer to resist the uplift loads shown on drawings. However, at a minimum, space fasteners a maximum of 6" on-center in the lap area in a line centered approximately 3" from the edge of the sheet.
- 3.2.9 Secure the end laps with the roofing system manufacturer's approved membrane fasteners and plates at spacings to match the side laps in the lap area in a line centered approximately 3" from the edge of the sheet, unless otherwise specified by the roofing system manufacturer.
- 3.2.10 Lap sheets so that water runs parallel to the lap.
- 3.2.11 It may be necessary to trim sheets to accomplish this work.
- 3.2.12 At the eaves, the membrane shall be fully adhered over the wood blocking using the roofing system manufacturer approved solvent-based adhesive. The membrane shall extend down the outside of the wood blocking a distance that drawings and maintains existing wall cladding exposure; however, membrane shall extend down past the wood blocking a minimum of 1 inch.
- 3.2.13 Hot air weld all perimeter and field sheet seams using either a machine or hand-held hot air welder approved by the roofing system manufacturer. A copy of the operating instructions shall be provided to the Engineer prior to the start of the project.
- 3.2.14 Monitor the temperature of the hot air welder so as to minimize the amount of smoke that should develop and to ensure that the material from the bottom of the sheet begins to soften and flow from the seam. Handheld welders shall insure that membrane welding is immediately followed by a hand roller to press the heated membrane surfaces together with slow, even movements.
- 3.2.15 All seams shall be manually probed using a blunt rounded instrument daily. Any fishmouths or other seam defects where the seam is not fully adhered shall be repaired in accordance with the roofing system manufacturer's instructions.
- 3.2.16 Seams shall be tested in accordance with the roofing system manufacturer's instructions and evaluated for seam integrity. Seams that fail this test shall be subject to additional test cuts, as directed by the Engineer and/or roofing system manufacturer, in order to further quantify the extend of the deficient condition. Repairs to deficient seams and/or test cut locations shall be performed by the Contractor at no additional

cost to the Owner.

- 3.2.17 Seal the edges of the membrane where the reinforcing fabric is cut with the roofing system manufacturer's approved seam sealant. Such work shall be done daily.
- 3.2.18 Furnish and install the roofing system manufacturer's patches at all required locations such as intersection field seams, corners, and vertical transitions at base flashings. Apply the manufacturer's approved seam caulk, as required, at locations specified by the roofing system manufacturer. Ensure manufacturer standard welding and fastening procedures are met when sealing new membrane to the existing.
- 3.2.19 Furnish and install the roofing system manufacturer's standard pipe boots matching in color to the roof membrane. Seal top of boot to pipe and provide standard clamping ring. Hot air weld bottom of boot to the membrane, flat and sealed, free of bird's-mouths or gaps.
- 3.2.20 Furnish and install the roofing system manufacturer's decorative battens, at spacing shown on drawings. Hot air weld battens to membrane. Install battens parallel with each other and perpendicular to roof edges.
- 3.2.21 Prior to final inspection, the surface of the membrane shall be cleaned of all debris, dust, and foreign material. This may require the use of water, detergents, and other cleaning agents approved by the roofing system manufacturer. Contractor will be responsible for providing the necessary items to perform this task. Do not use any abrasive pads that can score the polymer.

END OF SECTION

**SECTION 07 60 00
FLASHING AND SHEET METAL**

PART 1 - GENERAL

- 1.1 Work Included: Includes the fabrication and installation of sheet metal and related accessories associated with roofing membranes, providing physical protection to membrane, base flashings and membrane terminations, as specified herein.
- 1.2 Related Work
- 1.2.1 Summary of Work – Section 01 11 00
- 1.2.2 Rough Carpentry - Section 06 10 53
- 1.2.3 Mechanically Attached PVC Roofing – Section 07 54 19
- 1.3 Submittals: In accordance with Section 01 33 00 of this Specification
- 1.4 Environmental Conditions: Material installation shall proceed only when weather conditions are in compliance with the applicable manufacturer's recommendations for installation and no precipitation is imminent. Materials installed during adverse weather conditions shall be subject to removal and replacement with new materials at no additional cost to Owner.
- 1.5 Warranty: In accordance with Section 01 78 36 of this Specification.

PART 2 - PRODUCTS

- 2.1 Galvanized Steel: Copper structural quality galvanized steel Coating Class G-90, ASTM A653.
- 2.2 Kynar 500-based finish: Shall be factory applied, oven-finish. Finish and primer shall be applied in strict accordance with the formulator's specifications and shall meet the performance criteria of AAMA 605.2-90 specification. Finish coat thickness shall be a minimum of 1.0 mil. Primer coat thickness shall be a minimum of 0.3 mil. Color to match the existing color to be selected by owner.
- 2.3 MINIMUM ACCEPTABLE METAL WEIGHTS (All metal to be finished with Kynar 500 coating, or approved equal prior to bid unless otherwise specified).
- | | |
|---------------------|-----------------------------------|
| Drip Edge Flashing: | 24 ga. galvalume steel (PVC-clad) |
| Flascia: | 24 ga. galvalume steel |
| Cleat: | 22 ga. galvalume steel |
- 2.4 All new metal shall be ES-1 compliant.

PART 3 - EXECUTION

- 3.1 General Installation Requirements
- 3.1.1 Inspect all surfaces to which metal is to be applied. Do not install metal unless surfaces are even, sound, clean, dry and free from defects which might affect the application.

-
- 3.1.2 Follow recommendations of the Sheet Metal and Air Conditioning Contractors National Association Architectural Sheet Metal Manual (7th Edition) for fabricating in-shop and on-site, and for installation, unless otherwise specified herein.
 - 3.1.3 Follow published instructions of the product manufacturer for installation of extruded or proprietary metal products, unless otherwise specified herein.
 - 3.1.4 Use nails, screws, bolts, cleats or other fasteners of the same material or of material chemically compatible with the contacted metal.
 - 3.1.5 Fabricate cleats to be a minimum of one gauge heavier than fascia metal.
 - 3.1.6 Do not place dissimilar metals in direct contact or in positions where water sheds across both metals.
 - 3.1.7 Install metal to be water and weather tight with lines, arises and angles sharp and true and with paint surfaces free of waves and buckles.
 - 3.1.8 Install shop-formed metal flashings in 10 foot lengths maximum with a minimum number of pieces in each straight run.
 - 3.1.9 Shop form all metal shapes, which are to be formed of prefinished metal, with protective plastic film in place. Do not remove plastic film until just prior to (or, if possible, after) installation.
 - 3.1.10 At all corners, shop form corner pieces of fascia and drip edge flashing from a single section of metal with minimum 36 inch legs on either side of the corner.
 - 3.1.11 Apply a continuous bead of caulk between any lapped metal sections, with the exception of counter flashing lapped joints. The application of caulk after metal components have been lapped is unacceptable and will be grounds for rejection.
- 3.2 Drip Edge Flashing
- 3.2.1 Prior to installing drip edge fascia, ensure that membrane extends to roof membrane of lower roof. At edges without lower roof provide edge per drawings and manufacturer standard. Membrane shall maintain the existing wall exposure.
 - 3.2.2 At rakes and high eaves, the vertical flange shall extend a minimum of 2 inches above the horizontal flange.
 - 3.2.3 Use maximum 10 foot lengths and a minimum number of pieces in each straight run.
 - 3.2.4 Flashing shall engage a continuous 22 ga. galvanized steel cleat that shall be secured to the substrate with appropriate fasteners at spacings not to exceed 6 inches on center and approximately 1 inch from the top edge of the cleat.
 - 3.2.5 Provide a continuous cleat at all flashing connections.
 - 3.2.6 Set flashing in a continuous bead of sealant on top of the membrane. Lap section a minimum of 3 inches and set in two continuous beads of sealant. First, apply roofing system manufacturer aluminum tape over the joint. Then, apply unsupported membrane strip over the lapped sections that extend a minimum of 2 inches past the tape on both sides and fully welded to both metal sections.

- 3.2.7 Nail through horizontal flange near center. Space nails 3 inches on-center staggered pattern. Do not nail in lapped sections.
- 3.2.8 Strip in the flange with membrane per manufacturer's written instructions by fully welding the membrane to the metal flashing.
- 3.2.9 Drip edge flashing shall not exceed 8 inches in length. Furnish and install fascia extensions at locations where drip edge flashing would be required to exceed 8 inches to match position of existing flashing.
- 3.2.10 Fascia extension shall be formed from same material as fascia and shall engage a 22 ga. galvanized steel cleat. The cleat shall be secured to the substrate using appropriate fasteners at spacings not to exceed 6 inches on-center. Lap fascia extension pieces a minimum of 3 inches and set in a bead of sealant. Fasten the top edge flashing fascia extension to the substrate using appropriate fasteners at spacings not to exceed 12 inches on-center. Offset extension laps from flashing joints a minimum of 12 inches.
- 3.2.11 Apply membrane manufacturers approved sealant along the edge of the membrane.

END OF SECTION