AUSTIN Independent School District | Contract and Procurement Services

Request for Competitive Sealed Proposals
20CSP024
Urgent Roof Repairs District Wide

Date	Event
September 24, 2019 **October 1, 2019**	Advertise/Issue Dates
October 3, 2019	Pre-Proposal Conference at **10AM** 4000 S IH 35 Frontage Road, 7th Floor (Room 715), Austin Texas 78704
October 14 2019	Questions and Answers Due by **5:00 PM**
October 18, 2019	Questions and Answers posted on our website
October 24, 2019	**CSP opening / due date at 2:00 pm CST**
December 16, 2019	AISD Board Meeting for review/approval

Deliver Sealed Proposals to:	**Contact Person:**
Austin ISD **Contract and Procurement** **4000 S IH35 Frontage Road, 4th Floor** **Austin, Texas 78704** **PLEASE PLAN TIME TO PARK**	Jennifer Nix Contract and Procurement jennifer.nix@austinisd.org **HUB Coordinator Contact** Melfi Penn Melfi.penn@austinisd.org

- Questions must be submitted via e-mail to the contact person listed above.
  In the e-mail subject line, type: *Questions 20CSP024 Urgent Roof Repairs District Wide*
- Q & A and Addenda will be posted on our website: www.austinisd.org/cp/bids
- Proposals are due no later than 2:00 pm on the date indicated. Your proposals must be delivered by mail or hand delivery in a sealed envelope or carton. Proposals received after the specified time shall not be considered.
- **Please submit the following:**
  - One (1) hard copy marked "original" – include signed "required" forms
  - One (1) digital copy on a flash drive – include signed "required" forms
- FAX, e-mail or other electronic proposals **will not be accepted.**
- Proposals must be plainly marked with **name and address of the Offeror and the CMR number and Title above**.

This solicitation is a request for competitive sealed proposals for construction under Texas Government Code 2260.

SUBMISSION CHECKLIST AND GUIDELINES

Check when Completed	Task to be Completed by Respondent
	Request For Competitive Sealed Proposal Form (information typed in and **signed**)
	Table A – All Projects in Progress
	Table B – All School (K-12 and higher education) projects completed in the past 8 years, beginning with projects for AISD
	Table C – All Non-School projects completed in the past 8 years
	Table D – Personnel
	Proposal Guaranty
	Required HUB Documentation
	Print, sign and date AISD Addendum Cover Sheets
	Hard Copy Submission AISD requires one (1) marked "original"
	Electronic Copy: AISD requires submission of one (1) electronic PDF copy via USB

Order for Submission	Document
1	Cover Sheet
2	Table of Contents
3	Proposal Form
4	Table A – All Projects in Progress
5	Table B – All School (K-12 and higher education) projects completed in the past 8 years, beginning with projects for AISD
6	Table C – All Non-School projects completed in the past 8 years
7	Table D – Personnel
8	Proposal/Bid Bond (can be found at the Austin ISD website under "CSP Front End Documents"- https://www.austinisd.org/cp/forms)
9	Required HUB Documentation
10	Printed and signed AISD Addendum Cover Sheets

AISD Project No. 19-0091-GROUP

PROJECT MANUAL TABLE OF CONTENTS

1. **Project Title: Urgent Roof Repairs at Various AISD Facilities**
2. **Description of work:**

   Work consists of performing various on-call urgent roof repairs, at various campus locations and other AISD Facilities, District-Wide, including but not limited to roofs on portable classrooms, and other low-slope roofs (BUR, modified bitumen, single-ply membrane), and steep slope roofs (metal standing seam and shingles).

3. **Architect/Engineer:**

   Jim Whitten Roof Consultants, LLC + Tejas Design, LLC
   P.O. Box 200925, Austin, TX 78720
   512.250.0999
   www.jimwhitten.com

4. **Consultants:** None
5. **Drawings:** None
   a. **Drawing List:** N/A
   b. **The addenda, if any, are as follows:**
6. **Specifications:** The specifications are as follows:

Division 1 - General Requirements:

Section 011100 Summary of Work

Section 013100 Not Used

Section 013200 Construction Progress Documentation-Urgent Roof Repairs

Section 013300 Not Used

Section 014100 Regulatory Requirements

Section 014200 References

Section 014500 Quality Control

Section 015000 Temporary Facilities and Controls

Section 015113 Temporary Electricity

Section 015123 Temporary Heating, Cooling, and Ventilating

Section 016000 Product Requirements

Section 017329 Cutting and Patching

Divisions 2 through 6– Not Used

Division 7 - Thermal and Moisture Protection:

Section 073100 Asphalt Shingles: Urgent Repair of Portable Classrooms

Section 075113 Built-Up Asphalt Roofing (BUR): Urgent Repairs of BUR

Section 075350 Modified Bituminous Sheet Roofing: Urgent Repairs

Section 075423 Thermoplastic Sheet Roofing (TPO/PVC): Urgent Repairs

Section 076000 Flashing and Sheet Metal: Urgent Repairs

Section 079000 Joint Sealants

Divisions 8 through 23 - Not Used

REQUEST FOR COMPETITIVE SEALED PROPOSALS
INSTRUCTIONS TO OFFERORS
(Chapter 2269, Subchapter D of the Texas Government Code)

Austin Independent School District ("AISD") requests proposals for a Contractor to perform the construction of the Work described below in connection with AISD's Renovations at Project (the "Project"). AISD is interested in receiving proposals from General Contractors with experience in successfully completing projects that are similar in scope, size and complexity to the Work and meeting any specialized requirements set forth below.

1. PROJECT

1.1. Scope of Work. The selected Offeror must furnish all labor, materials and equipment required for the construction of the following improvements (the "Work"):

Work consists of performing various on-call urgent roof repairs, at various campus locations and other AISD Facilities, District-Wide, including but not limited to roofs on portable classrooms, and other low-slope roofs (BUR, modified bitumen, single-ply membrane), and steep slope roofs (metal standing seam and shingles).

To be constructed at the following location ("Project Site"):

At various campus locations and other AISD Facilities District-Wide

1.2. Estimated Project Budget: To be determined

1.3. Minimum Qualifications. Because of the nature of the Work, the selected Offeror must meet the following qualifications and/or must have any licenses or certifications specified below (collectively, the "Minimum Qualifications"):

1. Be currently approved and certified to install specified roof systems that qualify for the primary roof manufacturer's 20-Year Total System No Dollar Limit Guarantee; and use only skilled roofers completely familiar with the products and the manufacturer's current recommended methods of installation.
2. Contractor shall maintain a permanent office for conduct of business.
3. Submit with your Proposal a letter from a minimum of three major roofing materials manufacturers stating that your company has been an approved or certified applicator for a minimum of five (5) years prior to the proposal due date and that your company is approved to install those manufacturers' 20-Year Total System No Dollar Limit Guarantee.
4 Evidence of Offeror's qualification to do business in the State of Texas where the project is located or covenant to obtain such qualification prior to award of the contract.
5 Offeror acknowledges the right of the Owner to request further information pertaining to the qualifications of Offeror and the sole right of the Owner, and the Owner's professional consultants to evaluate the qualifications of Offeror.
6 Submit with Proposal a letter from Offeror's bonding company registered to issue bonds in the State of Texas, stating the ability of the Offeror to obtain a Performance and Payment Bond for the Project.

1.4. Texas Education Code §22.0834 (Criminal History Record Information Review of Certain Contract Employees). For purposes of the Project, those workers who will be

performing Work on the Project Site will be "covered employees" as defined in Section 3.15 of the General Conditions. Thus, Texas Education Code §22.0834 is applicable to such covered employees, and the selected Offeror must comply with the provisions of Section 3.15 of the General Conditions with regard to such covered employees**.** The General Conditions can be found at the Austin ISD website under "CSP Front End Documents"-(https://www.austinisd.org/cp/forms)

2. DRAWINGS, SPECIFICATIONS, CONTRACT DOCUMENTS AND ADDENDA

2.1. The "Contract Documents" for this Request For Competitive Sealed Proposals include, without limitation, AISD's Agreement for Construction Contract ("Agreement for Construction"), AISD's General Conditions of the Contract for Construction ("General Conditions"), and AISD's Notice of Prevailing Wage Rates ("Notice of Prevailing Wage Rates"), collectively referred to in this Request For Competitive Sealed Proposals as the "Contract."

2.2. Copies of Drawings, Specifications, Contract Documents, and Addenda (if any) and other documents related to this Request For Competitive Sealed Proposals, are available at Miller Blueprint at the location indicated in Section 3.3 below for a deposit of $100 per set. If deposit is paid by check, check must be made payable to Austin Independent School District. The deposit will be refunded upon return of all documents in good condition to Miller Blueprint at the location indicated in Section 3.3 below within 14 calendar days after the opening of Proposals. Drawings, Specifications, Contract Documents, and Addenda (if any) can also be downloaded Miller IDS Planroom at www.planroom.millerids.com.

2.3. Printed copies of Drawings, Specifications, Contract Documents, and Addenda (if any) can be requested and picked up at the following location in accordance with Section 2.2 above:

Miller IDS Planroom
1000 East 7th Street
Austin, Texas 78702
Phone: (512) 381-5292
Email: planroom@millerids.com

3. FORMAT FOR PROPOSALS

3.1. Each proposal ("Proposal") submitted by an offeror ("Offeror") must contain the documents listed on the submission checklist on page 2

3.2. Additional forms required within 24 hours of Bid Proposal Deadline to **proconteam@austinisd.org** :

- The completed HUB documents pertaining to this project:

3.3. The Proposal information must be typed on the Proposal Form.

3.4. The Offeror information in Section D of the Proposal Form must be typed on Section D of the Proposal Form or on letter-size ("8½ x 11") paper if additional sheets are used. If preprinted materials, flyers or other information about the Offeror is used, it should be referenced in the submittal and included as labeled attachments.

3.5. The Proposal Form and other forms included in the Proposal should be stapled or bound together in a binder, so that that the pages can be easily opened and laid flat for copying.

4. METHOD OF SELECTING CONTRACTOR

4.1. The bidder/proposer MUST submit required HUB documents. If the bidder/proposer does not meet or exceed all goals, then Good Faith Effort documentation is REQUIRED. A firm MUST be compliant with Austin ISD HUB Program regulations to be considered for contract selection.

4.2. Not later than the 45th day after the date on which Proposals are opened, AISD will evaluate and rank each Proposal submitted in relation to the Selection Criteria set out below. AISD will select the Offeror that, in the opinion of AISD, submits the Proposal that offers the best value for AISD based on the Selection Criteria and the weighted value for each Selection Criteria and on AISD's ranking evaluation. The Offeror that offers the best value may or may not be the Offeror that submits the lowest proposal for the cost of construction.

4.3. The AISD Construction Management Department will make a recommendation to the Board of Trustees as to the selection ranking of the Offerors. The Board of Trustees will select the Offeror that submits the Proposal that offers the best value for AISD and will authorize the negotiation and execution of the contract. If AISD is unable to negotiate a satisfactory contract with the selected Offeror, AISD shall, formally and in writing, end negotiations with that Offeror and proceed to the next Offeror in the order of the selection ranking until a contract is reached or all proposals are rejected. AISD reserves the right to reject any and all proposals. **Consistent with state law and district policy, this RFP does not commit the district to award a contract. The district reserves the right to accept or reject any or all proposals and/or award in whole or in part any proposal if the district determines it is in the best interest of the district to do so.**

5. SELECTION CRITERIA

5.1. Offerors will be evaluated based on the following selection criteria and weighted value for each criterion (collectively, "Selection Criteria"):

Selection Criteria	Weighted Value
Construction Cost as Proposed	**45%**
Relevant Experience and Past Performance	**30%**
Proposed Personnel/Resources	**10%**
Financial Condition	**8%**
Safety Record	**7%**

6. QUESTIONS REGARDING THIS REQUEST FOR COMPETITIVE SEALED PROPOSALS

6.1. Only those responses to inquiries which are made by formal written Addenda shall be binding. Oral and other interpretations or clarifications will be without legal effect, and shall not be binding on AISD. The Offeror must acknowledge receipt of all Addenda in its Proposal. However, each Offeror will be bound by the terms of all Addenda, and its Proposal will be construed to include the information contained in the Addenda, whether or not Offeror has received them or acknowledged receipt.

7. PROPOSAL GUARANTY

7.1. Each Proposal must be accompanied by a Proposal Guaranty in the amount of five percent (5%) of the largest possible total Proposal (i.e. the sum of the Base Proposal and all additive Alternates).

7.2. The Proposal Guaranty shall be in the form of a Proposal/Bid Bond found on the Austin ISD website under "CSP Front End Documents"- (https://www.austinisd.org/cp/forms) and shall be issued by a corporate surety authorized to do business in the State of Texas that is listed on the U.S. Treasury list of approved sureties.

7.3. The Proposal Guaranty will be held until the selected Offeror has signed the Contract and provided the required insurance and payment and performance bonds and Safety Program Manual and Safety Plan as provided in these instructions.

7.4. Should the selected Offeror fail or refuse to sign the Contract and/or provide the required insurance and payment and performance bonds and Safety Program Manual and Safety Plan as provided in these instructions, then the Offeror's Proposal Guaranty will be forfeited to AISD as liquidated damages and not as a penalty.

8. SUBSTITUTION OF MATERIALS

8.1. Offerors may request a substitution of materials or equipment specified in the Contract Documents. However, any such request must be submitted in writing to the Contact Person five days before the Proposal Deadline. If AISD approves the substitution, it will respond by Addendum. A failure to respond will constitute a denial of the request. Sufficient information should accompany the request to enable AISD to promptly render a decision on a proposed substitution of materials or equipment.

9. BOND AND INSURANCE REQUIREMENTS

9.1. Insurance meeting the requirements set out in the General Conditions must be furnished by the selected Offeror within 5 days after the Contract is signed by the Offeror.

9.2. If the Contract amount is over $25,000, the selected Offeror must provide payment bond, and if the Contract amount is over $100,000, the selected Offeror must provide a performance bond each in the amount of 100% of the Contract Price within 5 days after the Contract is signed by the Offeror. Bonds must be provided by a Treasury-listed corporate Surety authorized to do business in the State of Texas.

9.3. The Offeror's attention is directed to Subsection 10.4 of the General Conditions which expressly sets out the Worker's Compensation Insurance requirements for the Project. The Contractor and each subcontractor must maintain Worker's Compensation Insurance coverage as required in Subsection 10.4 and the Contractor is required to provide a certificate of coverage for each subcontractor prior to that subcontractor beginning Work on the Project Site, showing that coverage is being provided for all of its employees for the duration of the Work. Subsection 10.4 is incorporated herein for all purposes.

10. SAFETY PROGRAM MANUAL AND PROJECT SAFETY PLAN REQUIREMENTS

10.1. The selected Offeror must submit its Safety Program Manual in accordance with the requirements set out in the General Conditions not later than 5 days after the Offeror signs the Contract.

10.2. The selected Offeror must submit a Safety Plan for the Project meeting the requirements set out in the General Conditions not later than 5 days after the Offeror signs the Contract.

11. PREVAILING WAGE RATES

11.1. The Contractor and each Subcontractor who performs work under the Contract must pay, at a minimum, the applicable prevailing wage rates to a worker employed by it in the performance of the Work. The prevailing wage rates applicable to the Project, which shall be in effect for the duration of the Contract, are set forth in the Notice of Prevailing Wage Rates.

12. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

12.1. Each Offeror is required to visit the Project Site and to fully acquaint itself with the conditions and limitations as they exist at the Project Site, including the effect that weather conditions may have on the Project Site. Each Offeror shall also fully acquaint itself with the existing and anticipated sources and supplies of labor and materials, and shall also thoroughly examine the Contract Documents. Failure of the Offeror to visit the Project Site and acquaint itself with the conditions of the Work and the Contract Documents shall in no way relieve the Offeror from any obligations with respect to its Proposal.

13. PUBLIC INFORMATION

13.1. AISD considers all information, documentation and other materials requested to be submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under the Texas Public Information Act (Tex. Gov't Code, Chapter 552.001, *et seq*.) after a contract is awarded.

13.2. Offerors are hereby notified that AISD strictly adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of public information.

14. DEADLINE FOR SIGNING CONTRACT AND AISD'S RIGHTS IF DELAY

14.1. The timely completion of this Project is essential. AISD has the right to consider negotiations with the selected Offeror for the Contract incomplete until and unless the Contract is signed and the bonds, insurance, Safety Program Manual and Safety Plan are submitted in accordance with the following deadlines. In order to avoid unnecessary delays in the Project, **the selected Offeror must:**

1. Sign the Contract no later than 10 days after the selected Offeror has been notified that it is the successful Offeror, and
2. Provide its Safety Program Manual and the Safety Plan for the Project and provide all required bonds within 5 days after the selected Offeror signs the Contract.
3. Provide Certificate of Insurance before Work commences on the Project.

14.2. If the selected Offeror fails to meet one or more of these deadlines, then in addition to any and all other rights and remedies to which AISD is entitled, AISD shall have the right to:

1. Terminate its negotiations with the selected Offeror and begin negotiations with the next ranked Offeror; or
2. Proceed with the Contract with selected Offeror, but treat each day beyond the 10-day deadline in which the Contract is unsigned by the Offeror, and/or each day beyond the 5 day deadline in which one or more of the required documents has not been submitted, as a day of unexcused delay under the Contract.

15. WAIVER OF CLAIMS

15.1. **EACH OFFEROR BY SUBMISSION OF A PROPOSAL TO THIS REQUEST FOR COMPETITIVE SEALED PROPOSALS WAIVES ANY CLAIMS IT HAS OR MAY HAVE AGAINST THE ARCHITECT, ITS CONSULTING ENGINEERS, OR ANY OTHER CONSULTANTS, AND THEIR RESPECTIVE EMPLOYEES, OFFICERS, MEMBERS, DIRECTORS AND PARTNERS, AND AISD, ITS EMPLOYEES, OFFICERS, AGENTS, REPRESENTATIVES, AND THE MEMBERS OF AUSTIN INDEPENDENT SCHOOL DISTRICT'S GOVERNING BODY, CONNECTED WITH OR ARISING OUT OF THIS REQUEST FOR COMPETITIVE SEALED PROPOSALS, INCLUDING, THE ADMINISTRATION OF THE REQUEST FOR COMPETITIVE SEALED PROPOSALS, THE PROPOSAL EVALUATIONS, AND THE SELECTION OF THE OFFEROR. SUBMISSION OF A PROPOSAL INDICATES OFFEROR'S ACCEPTANCE OF THE EVALUATION TECHNIQUE AND OFFEROR'S RECOGNITION THAT SOME SUBJECTIVE JUDGMENTS MUST BE MADE BY AISD DURING THE SELECTION PROCESS. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, EACH OFFEROR ACKNOWLEDGES THAT AISD SHALL DOCUMENT THE BASIS OF ITS SELECTION AND SHALL MAKE THE EVALUATIONS PUBLIC NOT LATER THAN THE 7TH DAY AFTER THE DATE THE CONTRACT IS AWARDED, AND EACH OFFEROR WAIVES ANY CLAIM IT HAS OR MAY HAVE AGAINST THE ABOVE-NAMED PERSONS, DUE TO INFORMATION CONTAINED IN SUCH EVALUATIONS.**

16. CONFLICT OF INTEREST QUESTIONNAIRE

16.1. Offeror is advised to determine if it is required under Chapter 176 of the Texas Local Government Code to file a completed conflict of interest questionnaire with AISD. If Offeror is required by law to complete the questionnaire, the Conflict of Interest Questionnaire (Form CIQ) should be completed and submitted online at: **https://www.austinisd.org/cp/ciq-online**

17. DISCLOSURE OF INTERESTED PARTIES

17.1. In 2015, the Texas Legislature adopted House Bill 1295, which added section 2252.908 of the Texas Government Code. The law states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity or state agency at the time the business entity submits the signed contract to the governmental entity or state agency. The disclosure requirement applies to a contract entered into on or after January 1, 2016.

17.2. After the AISD Board of Trustees selects the Offeror, the successful Offeror will be required to complete an electronic Form 1295 ("Form 1295") on the Texas Ethics Commission website (**https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm**) and submit the completed and executed Form 1295, including the certification of filing, to AISD prior to

entering into a contract with AISD in accordance with this statute. Additional information is available on the Texas Ethics Commission website at **www.ethics.state.tx.us**. Submission of a response to this Request For Competitive Sealed Proposals indicates Offeror's acceptance and intended compliance with these requirements.

18. FEEDBACK TO SUBCONTRACTORS/SUPPLIERS

18.1. If requested by a subcontractor or material supplier who submitted a bid or proposal to Offeror in connection with this procurement but who is not listed as a proposed subcontractor or supplier on Offeror's completed Disclosure Statement, Offeror shall provide feedback to such subcontractor or supplier as to how its bid/proposal compared with the other bids/proposals received by Offeror for the same services or materials (e.g., bid was highest bid received, bid fell in the middle of bids received, etc.).

19. SOLICITATION OF "COMPONENT" BIDS AND PROPOSALS FROM SUBCONTRACTORS

19.1. In order to promote and encourage the involvement of small, local firms and firms owned or operated by minorities or women, Offeror must solicit and consider bids/proposals from subcontractors covering only certain components of the scope of the Work for which particular bids/proposals are solicited, in addition to soliciting and considering bids/proposals from subcontractors for complete scopes of the Work.

20. RESTRICTED CONTACT PERIOD

20.1. The restricted contact period shall begin upon the date of issuance of a solicitation and shall end upon execution of the awarded contract by all parties.

In an effort to demonstrate its commitment to ethical procurement and contracting standards, and to improve accountability and public confidence, all District purchases of goods and services through competitive methods as provided in CH(LEGAL) and CV(LEGAL) shall be subject to a restricted contact period. Except as provided in this policy communication between a vendor and vendor's representative, and a Board member, the Superintendent, assistant superintendent, chief, officer, executive director, principal, department head, director, manager, project manager, or any other District representative who has influence on or is participating in the evaluation or selection process is prohibited.

Please review the full board policies available here.

21. RETENTION OF PROPOSAL DOCUMENTATION

21.1. All proposal materials and supporting documentation that are submitted in response to this proposal becomes the permanent property of AISD.

PROPOSAL FORM

To: The Board of Trustees
Austin Independent School District
1111 West Sixth Street
Austin, Texas 78703

Re: AISD CSP No.: **20CSP024**

From: _____
(Full legal name of firm, including DBA, if applicable)

Project Number: 19-0091-GROUP

Project Title: URGENT ROOF REPAIRS DISTRICT WIDE

The undersigned offeror ("Offeror") submits this Proposal for the performance of the Work of construction, alteration or repair (the "Work") described as follows:

> **Work consists of performing various on-call urgent roof repairs, at various campus locations and other AISD Facilities, District-Wide, including but not limited to roofs on portable classrooms, and other low-slope roofs (BUR, modified bitumen, single-ply membrane), and steep slope roofs (metal standing seam and shingles).**

The undersigned Offeror has carefully examined and considered the Project Site and relevant conditions and circumstances for the Work, information and requirements set out in the Request For Competitive Sealed Proposals, the Drawings and Specifications, and the requirements of the proposed Contract Documents, including the Agreement for Construction, the General Conditions and the Notice of Prevailing Wage Rates, in making this Proposal. Capitalized terms used but not otherwise defined in this Proposal Form shall have the same meanings as designated in the Request For Competitive Sealed Proposals.

Bidders may submit bids on one or both work of construction, alteration or repair work for:

a. Low Slope Repairs

b. Portable Repairs or Replacement

The proposed unit prices include labor, tools, overhead, profit, taxes, insurance, fees, transportation and all associated miscellaneous costs related to the Unit Price Item. The minimum Work Order Charge will be one hour. The maximum Work Order Charge will be 8 hours. Material cost will be billed at Actual Invoice Cost (AIC) plus the AISD Allowable Mark-up of 20 % of AIC.

A. Pricing Schedule (Express in words and numbers.)

Unit Price No. 1 – Two Man Roofing Repair Crew
Two Man Roofing Repair Crew, per hour

_____ ($_____)

Unit Price No. 2 – Roof Replacement of Typical Portable Classroom
Lump sum price to install 22 sq. shingles

_____ ($_____)

Unit Price No. 3 – Roofing Materials/Supplies Markup
Percentage mark-up for roofing materials and supplies

_____ (_____%)

Unit Price No. 4 – Construction Equipment Markup
Percentage mark-up for construction equipment (prior approval required per project)

_____ (_____%)

*If applicable, indicate the amount of HAZMAT Abatement included in the Base Proposal.

_____

_____

($_____)

A.1 Substantial Completion Date

All of the Work must be substantially completed no later than one year from Contract Start Date, with Owner option for one year renewal

A.2 Liquidated Damages

AISD shall have the right under the Contract to assess liquidated damages for each and every calendar day beyond the Substantial Completion Date set out in the Contract that the Work fails to be substantially complete in the following amount per day: **$**250.00

B. Enclosed Documents

The following are enclosed with this completed Proposal:

B.1 Proposal Guaranty

A Proposal Guaranty in the amount of 5% of the maximum total proposed Contract Amount (i.e. the sum of the Base Proposal and all additive Alternates) in the form of either a cashier's check payable to Austin Independent School District or a Proposal Bond on the required Proposal/Bid Bond Form.

B.2 Other Documents Due

The following are enclosed with this Proposal and **due NO MORE than 24 hours after** the Proposal regarding the Work:

The required HUB documents requested for the project

C. Offeror Representations and Certifications

C.1 By signing and submitting this Proposal, the undersigned Offeror and person signing on its behalf certifies and represents to the Austin Independent School District as follows:

C.1.1 Offeror has not offered, conferred or agreed to confer any pecuniary benefit, as defined by Tex. Penal Code, Chapter 36, or any other thing of value, as consideration for the receipt of information or any special treatment or advantage relating to this Proposal;

C.1.2 Offeror has not offered, conferred or agreed to confer any pecuniary benefit or other thing of value as consideration for the recipient's decision, opinion, recommendation, vote or other exercise of discretion concerning this Proposal;

C.1.3 Offeror has not violated any state, federal or local law, regulation or ordinance relating to bribery, improper influence, collusion or the like, and Offeror will not in the future offer, confer, or agree to confer any pecuniary benefit or other thing of value to any officer, Trustee, agent or employee of the Austin Independent School District in return for the person's having exercised official discretion, power or duty with respect to this Proposal;

C.1.4 Offeror has not now and will not in the future offer, confer or agree to confer a pecuniary benefit or other thing of value to any officer, Trustee, agent or employee of the Austin Independent School District in connection with information regarding this Proposal, the submission of this Proposal, the award of this Proposal, or the performance, delivery or sale pursuant to this Proposal;

C.1.5 Offeror has neither coerced nor attempted to influence the exercise of discretion by any officer, Trustee, agent or employee of the Austin Independent School District concerning this Proposal on the basis of any consideration not authorized by law; and

C.1.6 Offeror has not received any information not available to other offerors so as to give the undersigned a preferential advantage with respect to this Proposal.

C.2 All information contained in this Proposal, including the information provided in Section D below is, to the best of the undersigned's knowledge and belief, true, complete and accurate.

C.3 OFFEROR WAIVES ANY CLAIM IT HAS OR MAY HAVE AGAINST THE ARCHITECT, ITS CONSULTING ENGINEERS, OR ANY OTHER CONSULTANTS, AND THEIR RESPECTIVE EMPLOYEES, OFFICERS, MEMBERS, DIRECTORS AND PARTNERS, AND AISD, ITS EMPLOYEES, OFFICERS, AGENTS, REPRESENTATIVES, AND THE MEMBERS OF AISD'S GOVERNING BODY, CONNECTED WITH OR ARISING OUT OF THIS REQUEST FOR COMPETITIVE SEALED PROPOSALS, INCLUDING, THE ADMINISTRATION OF THE REQUEST FOR COMPETITIVE SEALED PROPOSALS, THE PROPOSAL EVALUATIONS, AND THE SELECTION OF THE OFFEROR. SUBMISSION OF A PROPOSAL INDICATES OFFEROR'S ACCEPTANCE OF THE EVALUATION TECHNIQUE AND OFFEROR'S RECOGNITION THAT SOME SUBJECTIVE JUDGMENTS MUST BE MADE BY AISD DURING THE SELECTION PROCESS. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, OFFEROR ACKNOWLEDGES THAT AISD SHALL DOCUMENT THE BASIS OF ITS SELECTION AND SHALL MAKE THE EVALUATIONS PUBLIC NOT LATER THAN THE 7TH DAY AFTER THE DATE THE CONTRACT IS AWARDED, AND OFFEROR WAIVES ANY CLAIM IT HAS OR MAY HAVE AGAINST THE ABOVE-NAMED PERSONS, DUE TO INFORMATION CONTAINED IN SUCH EVALUATIONS.

C.4 Offeror has received the following Addenda to the Request For Competitive Sealed Proposals, but agrees and understands that it will be responsible for performing the Work in accordance with all terms and conditions in all Addenda issued in connection with the Request For Competitive Sealed Proposals, and that its Proposal will be construed to include all requirements of all such Addenda, whether or not identified here:

Addenda No.(s) and dates:

_____

_____

Offeror must print, date and sign all addenda cover sheets and attached them to their bid package.

C.5 Offeror (or its subcontractors/suppliers, as applicable) meets all of the Minimum Qualifications specified in Section 1.3 of the Request For Competitive Sealed Proposals.

C.6 The subcontractors/suppliers listed on the completed Disclosure Statement meet all of the qualifications for the Project set forth in AISD's Project Manual/Specifications.

C.7 If requested by a subcontractor or material supplier who submitted a bid/proposal to Offeror in connection with the Work but who is not listed as a proposed subcontractor or supplier on Offeror's completed Disclosure Statement, Offeror will provide feedback to such subcontractor or supplier as to how its bid/proposal compared with the other bids/proposals received by

Offeror for the same services or materials in connection with the Work (e.g., bid was highest bid received, bid fell in the middle of bids received, etc.).

C.8 To promote and encourage the involvement of small, local firms and firms owned or operated by minorities or women, Offeror will solicit and consider bids/proposals from subcontractors covering only certain components of the scope of the Work for which particular bids/proposals are solicited, in addition to soliciting and considering bids/proposals from subcontractors for complete scopes of the Work.

D. Offeror Information

All of the following information must be provided by Offeror. Use additional sheets if necessary. If additional sheets are used, clearly indicate the question number to which you are responding. Responses must be typed or printed neatly. Illegible responses will not be considered. The Offeror is also sometimes hereinafter referred to below as the "organization" or the "company."

D.1 General Information

D.1.1 Name of Offeror:_____

D.1.2 Name of Project:_____
_____

D.1.3 Address of office from which Offeror will conduct the Work:
_____

D.1.4 Offeror's Contact Person for this Work:
Name: _____
Address: _____ Phone:_____

D.1.5 Offeror's Home Office Address:
_____

D.1.6 Does any relationship exist between the Offeror, its officers, principals, or employees and any of AISD's officers, or Trustees? ☐ YES ☐ NO
If yes, please explain. _____

D.1.7 Principal Business:
☐ General Construction ☐ Mechanical/Electrical/Plumbing
☐ Roofing ☐ Interior Finish-out
☐ Other (Please specify)_____

D.1.8 Licensing/Certifications for Prime Contractors:
List trade categories in which your organization is legally qualified to do business in Austin, Texas, and indicate registration or license numbers, as applicable.

If a Technology, Fire Alarm, Security or Roofing specialty contractor, please provide a list of each manufacturer with which your organization is authorized/certified to supply, service and install their products. Submit letters and certificates from the manufacturers, on manufacturers' letterheads, regarding the authorization to supply, service and install their products and, in addition, provide copies of certifications for the various personnel involved in the Project.

D.1.9 Minimum Qualifications:
To the extent not otherwise described in Section 1.8 above, describe your organization's compliance with all Minimum Qualifications set forth in Section

1.3 of the Request For Competitive Sealed Proposals and include all necessary attachments evidencing same.

D.1.10 Work to be Performed on this Project by Offeror's Own Forces:
List the general categories of work that your organization intends to perform on this Project using its own forces.

_____
_____
_____
_____

D.2 Organization

D.2.1 How many years has your organization been in business as a contractor? _____

D.2.2 How many years has your organization been in business under its present business name? _____

D.2.3 Under what other or former names has your organization operated?
Name:_____ Years: _____
Name:_____ Years: _____

D.2.4 If your organization is a corporation, answer the following:
Date of incorporation: _____
State of incorporation: _____
President's name: _____

D.2.5 If your organization is a limited liability company, answer the following:
Date of organization: _____
State of organization: _____
President's, Manager's or Managing Member's name: _____

D.2.6 If your organization is a partnership, answer the following:
Date of organization: _____
Type of Partnership: _____
Name(s) of general partner(s): _____

D.2.7 If your organization is individually owned, answer the following:
Date of organization: _____
Name of owner: _____

D.2.8 For all business entities other than publicly held corporations, provide the following:

Award to Nonresident Bidders

Is your business organized under the laws of the State of Texas?
☐ YES ☐ NO
What is the location of your principal place of business?
_____

Proposals from nonresident contractors shall be evaluated according to Tex. Gov. Code § 2252.002.

D.2.9 Is your company currently for sale or involved in any transaction to expand or to become acquired by another business entity? If yes, please explain the impact both in organizational and directional terms. _____

D.3 Relevant Experience

D.3.1 **On the attached Table A,** list all projects your company has in progress and provide all additional information requested.

D.3.2 **On the attached Table B,** list all school projects that your company has completed in the past eight (8) years, beginning with AISD schools, and provide all additional information requested. As used herein, "school" means K-12 and higher education.

D.3.3 **On the attached Table C,** list all non-school projects your company has completed in the past eight (8) years and provide all additional information requested.

D.3.4 Describe the way in which your company develops and maintains project schedules. How often do you update schedules? **Limit your response to one page.**

D.4 Past Performance

D.4.1 Claims and Suits. (If the answer to any of the questions below is yes, please attach details not to exceed one page for each of the following questions.)

Has your organization ever failed to complete any work awarded to it? (If yes, attach details.)

☐ YES ☐ NO

D.4.2 Are there any judgments, claims, arbitration proceedings or suits (past, pending or outstanding) against your organization or its officers arising out of or in connection with your company's performance under a contract for construction management and/or construction services? (If yes, attach details, including a description of how such suits or claims were resolved, if applicable.)

☐ YES ☐ NO

D.4.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years? (If yes, attach details.)

☐ YES ☐ NO

D.4.4 Has your organization been assessed liquidated damages on a project in the last eight (8) years? (If yes, attach details.)

☐ YES ☐ NO

D.4.5 Within the last five years, has any officer or principal of your organization ever been an officer or principal of **another** organization when it failed to complete a construction contract? (If yes, attach details.)

☐ YES ☐ NO

D.4.6 Trade References. Provide the following information for three trade references:

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

D.5 Personnel

D.5.1 **On the attached Table D,** list the names of the key individuals [Project Manager, Construction Superintendent, Assistant Superintendent (if applicable), and Field Engineer(s)] of your organization which are proposed to be assigned to this Project and provide the additional information requested on Table D. For each key individual listed on Table D, provide a resume (not to exceed 2 pages) which includes the key individual's construction experience and a description of his/her qualifications and experience relative to the Project.

D.6 Financial

Bank References - Provide the following information for three Bank references:

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

D.6.1 Surety:

D.6.1.1 Name of your organization's bonding company:

_____

D.6.1.2 Name, address and phone number of agent:

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

D.6.2 Financial Statement. All statements submitted will be used exclusively by AISD in the evaluation of the award of the contract on the underlying project. Statements will be kept confidential to the extent permitted by law.

D.6.2.1 Attach an audited or reviewed financial statement, including an independent auditor's report, balance sheet, income statement, and the related notes to the financial statement. Financial statements that are more than one-year old are not acceptable.

D.6.2.2 Name and address of firm preparing attached financial statement, and date thereof:

Company name: _____
Contact person:_____
Address :_____ Telephone: _____

D.6.3 If financial statements for an affiliate of the organization are also attached, will such organization act as guarantor of the contract for construction?

☐ YES ☐ NO

State whether your company is currently in default on any loan agreement or financing agreement with any bank, financial institution, or other entity? (If yes, specify date(s), details, circumstances, and prospects for resolution.)

D.6.4 State whether your company is currently contemplating or has pending a petition in bankruptcy for debt relief, or whether a creditor has threatened to file an involuntary petition against Offeror.

D.7 Safety Record

D.7.1 Please provide the following information in connection with your organization's safety record:

7.1.1 Your organization's OSHA (Occupational Safety and Health Administration) 300 Logs for the last three completed Calendar (3) years.

- OSHA log must be completed signed and dated. If no accidents, record "0" in appropriate column totals.

7.1.2 Loss run from your organization's insurance carrier or insurance agent covering your organization's workers' compensation insurance coverage. (Loss run is also referred to as "statement of claims" or SOC.) A loss analysis/loss summary may be submitted as long as it contains individual claims descriptions.

- Loss run must be provided by your organization's insurance carrier or insurance agent. Insurance carrier's company name or insurance agent (agency) must be clearly legible on documents provided.
- Names of claimants on loss run may be redacted/blackout.
- If there have been no losses, provide copy from your firm's insurance carrier stating no losses.
- Loss run/Loss Analysis/Loss Summary must be from the most recently completed policy year.
- This report must be produced and printed 60 calendar days or less before the bid due date.

7.1.3 Loss ratio from your organization's insurance carrier or insurance agent covering your organization's workers' compensation insurance coverage.

- Loss ratio must be provided by your organization's insurance carrier or insurance agent. Insurance carrier's company name or insurance agent (agency) must be clearly legible on documents provided.
- Time period corresponding to loss ratio must be provided for the most recent completed policy year.
- Typed or handwritten information concerning loss ratio prepared by your firm WILL NOT be accepted.
- Experience rating documents WILL NOT be accepted for this Paragraph 7.1.3.11
- If your Loss Run/Loss Analysis/Loss Summary for the most completed policy period indicates no losses, then a separate document showing 0 % loss ratio will not be required.

- This report must be produced and printed 60 calendar days or less before the bid due date.

7.1.4 Your organization's current experience modifier from your organization's workers' compensation insurance premiums provided by your organization's insurance carrier, insurance agent or rating agency.

- Experience modifier must be provided by your organization's insurance carrier, insurance agent or rating agency. Insurance carrier's company name or insurance agent (agency) must be clearly legible on documents provided.
- Experience modifier must clearly indicate time period/year covered.
- Hand-written experience modifiers WILL NOT be accepted.
- Experience rating documents indicating a calculated experience modifier will be accepted provided there is a final calculated experience modifier with applicable year indicated.
- This report must be produced and printed 60 calendar days or less before the bid due date.

Executed as of this _____ day of _____, 20_____.

Offeror: _____
(Full legal name of firm, including DBA, if applicable)

Address: _____

_____

City, State, Zip Code:_____

By: _____

Name:_____

Title:_____

Date:_____

Telephone: _____

Email:_____

Table A - All Projects in Progress

	Project Name	Owner	Owner's Contact Person and Phone Number	Architect	Architect's Contact Person and Phone Number	Contract Amount	Percent Complete	Scheduled Completion Date
1								
2								
3								
4								
5								
6								

Total Value of All Projects in Progress: $_____

Table B - All School (K-12 and higher education) projects completed in the past 8 years, beginning with projects for AISD

	Project Name	Owner	Owner's Contact Person and Phone Number	Architect	Architect's Contact Person and Phone Number	Original Contract Amount	Total Change Order Amount	Final Contract Amount	Date of Completion	% of work completed with Own Forces	Liquidated Damages (Yes or No)
1											
2											
3											
4											
5											

Total Value of All School Projects Completed in the Past 8 Years: $_____

Table C - All Non-School projects completed in the past 8 years

	Project Name	**Owner**	**Owner's Contact Person and Phone Number**	**Architect**	**Architect's Contact Person and Phone Number**	**Original Contract Amount**	**Total Change Order Amount**	**Final Contract Amount**	**Date of Completion**	**% of work completed with Own Forces**	**Liquidated Damages (Yes or No)**
1											
2											
3											
4											
5											
6											

Total Value of All Non-School Projects Completed in the Past 8 Years: $_____

Table D – Personnel

Key Individuals	**Number of years with this Company**	**Commitment for duration of the Project (Yes or No)**
Project Manager (Name):		
Construction Superintendent (Name):		
Assistant Superintendent (Name):		
Field Engineer (Name):		

Number of school projects this team of key individuals has completed together:

_____

Number of non-school projects this team of key individuals has completed together:

_____

List below the names of all school and non-school projects that at least two of the key individuals listed above have worked on together:

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.
11.	12.
13.	14.
15.	16.

SECTION 011000

SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work consists of performing various on-call urgent repairs, at various campus locations and other AISD Facilities, District-Wide, including but not limited to roofs on portable classrooms, and other low-slope roofs (BUR, Modified Bitumen, Flexible Sheet Membrane), and steep slope roofs (metal standing seam and shingles).

1.02 STORAGE

A. Limited storage area will be provided by Owner where available. Supply temporary storage required for storage of equipment and materials for duration of Project. Utilize only areas designated by Owner for storage.

1.03 BUILDING OCCUPANCY

A. Owner will occupy premises during periods of construction for the conduct of his normal operations. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

B. Pre-determine and obtain approval, in advance from Owner, for vertical and horizontal transportation of labor and construction materials onto and out of buildings.

1.04 WORKING HOURS AND SCHEDULE

A. Submit work schedule to Owner. Working hours shall generally between the hours of 7:00 A.M. and 6:00 P.M., Monday through Friday, except holidays.

B. Obtain approval from Owner prior to altering Work schedule.

C. Obtain approval from Owner prior to performing weekend or after hours work.

1.05 UNUSUAL INCLEMENT WEATHER POLICY

A. Under a Calendar Day Contract, Contractor may be granted an extension of time because of unusual inclement weather, including but not limited to unusual rainfall events, which are beyond the normal rainfall recorded and expected for Austin, Texas. However, the Contractor will not be granted an extension of time for "normal rainfall", as described below.

B. "Unusual Inclement Weather" is defined as a rain event or other weather related event which occurs at the site and is of sufficient magnitude to prevent CONTRACTOR from performing units of Work critical to maintaining the Progress Schedule.

C. Baseline Rain Day Determination. "Normal rainfall" compiled by the State climatologist, based on U.S. Weather Bureau Records for Austin, Texas, is considered a part of the Calendar

Day Contract, and is not a justification for an extension of time. Listed below are the number of days in each month for which no compensatory days for rainfall events ("Rain Days") in such months may be claimed:

January	8 days	July	5 days
February	8 days	August	5 days
March	7 days	September	7 days
April	7 days	October	7 days
May	9 days	November	7 days
June	6 days	December	7 days

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION – URGENT ROOF REPAIRS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Individual Roof Repair Reports with digital photographs.

B. Related Sections include the following:
   1. Division 01 Section "Submittal Procedures" for submitting schedules and reports.

1.03 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling,

1.04 SUBMITTALS

A. Submittals Schedule: Submit schedule via e-mail in PDF format. Arrange the

B. Individual Roof Repair Reports: Submit electronic copy to AISD Project Manager of all previous day's roof repairs completed by 10:00 AM the following work day; submit in PDF format. Incorporate into each PDF of each Individual Roof Repair at least 8 date-stamped digital photographs taken on that repair. Include before and after photographs. Do not send photos separately. Sample format provided at end of this section.

PART 2 - PRODUCTS

2.01 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2.02 REPORTS

A. Individual Roof Repair Reports: Prepare individual roof repair reports recording the following information for all repairs:

1. Date repair performed.
2. Start time and end time for performing repair.
3. High and low temperatures and general weather conditions.
4. Name of School Campus or District Facility
5. Name or description of roof area.
6. Description of complaint/request for repair.
7. Description of repair performed.
8. Names of personnel performing repair.
9. Materials used for repairs.
10. Include a minimum of eight digital, date-stamped color photographs representative of the repair work performed on the date of the report. Include before and after photographs.

2.03 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION
NOT USED

CONTRACTOR'S INDIVIDUAL ROOF REPAIR REPORT

REPAIR INFORMATION		
Campus/Facility Name:		Date:
Repair Location:		Repair Start/Stop Time:
Repair Personnel:		Weather:

REPAIR DESCRIPTION
Describe complaint/request for repair; and describe repair performed:

SCOPE COMPLETED		
Work Area:		Squares:
Tear Off (SQ):		Base Sheet (SQ):
Insulation Layers (No. and SQ):		Coverboard (SQ):
Base Ply (SQ):		Cap Sheet (SQ):
Membrane Flashing (LF):		Metal Flashings, Gutters, Downspouts (LF):
Other (Indicate units):		Other (Indicate Units):
Comments:		
Delays, Stoppages?		
Accidents, Emergencies?		
MEP Systems Disconnected/Reconnected?		
CHANGES		
VARIANCE ITEMS		

DAILY REPORT PROGRESS PHOTOGRAPHS

END OF SECTION

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Make submittals required by the Contract Documents in a timely manner and at approximate times in the execution of the Work to allow for sufficient and prompt review by Roof Consultant. Revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 WORK INCLUDED

A. Submit electronic copy of the submittals required in the Contract Documents. Submit separate sets entitled "Pre- Job Submittals" and "Post-Job Submittals".

B. Update submittals to Roof Consultant as necessary to account for all new materials used on the Project.

C. Submit electronic copy of "Post-Job Submittals" to the Roof Consultant for review, following the final completion of the Work. Requests for final payment will not be approved until the Post-Job Submittal package has been reviewed by Roof Consultant.

D. Identify individual submittals by name and include a table of contents in each submittal package.

1.03 QUALITY ASSURANCE

A. Carefully review and coordinate all aspects of each item being submitted.

B. Verify that each item and its appropriate submittal conform in all respects with the specified requirements.

C. Certify, by affixing signature of Contractor's authorized representative to the corner of each submittal package, that this coordination has taken place.

1.04 PRE-JOB SUBMITTALS

A. Submit product data for all materials. Product data and information shall indicate each product incorporated into the project does not contain asbestiform minerals on any kind.

B. Submit manufacturer's installation instructions and two 12-inch by 12-inch samples of each component of the roof coating.

C. Submit a detailed outline of the methods and means to be followed during the work. Once accepted by Owner, this outline may only be changed with the written approval of Owner.

D. Any building permits as required by the City of Austin for the construction or demolition work required during the progress of the Work. If no permits are required submit notarized letter stating such.

E. Insurance certificate issued to Owner by Contractor's insurance carrier listing all coverages as specified in the General Conditions and naming Austin Independent School District and JIM WHITTEN ROOF CONSULTANTS, LLC + TEJAS DESIGN, LLC as Additional Insureds.

F. Pre-damage survey: submit pre-damage survey of all pre-existing damage to building, site, hardscape and landscaping within and adjacent to repair scope of work. Submit digital video or photographs depicting location and extent of all pre-existing damage.

1.05 POST-JOB SUBMITTALS

A. Items included in Section 017000.

B. Affidavit of Release of Liens.

C. Certificate of Completion.

PART 2 - PRODUCTS

2.01 SAMPLES

A. Submit full range of manufacturer's standard colors, textures, and patterns for Owner's selection. Submit samples for selection of finishes within ten days after date of Contract.

B. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

C. Include identification on each sample, giving full information.

D. Submit full range of colors of pre-finished metal for Owner's approval.

2.02 MANUFACTURER'S LITERATURE

A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

2.03 SHOP DRAWINGS

A. Submit graphically accurate details and drawings of special conditions indicated in other sections of the Contract Documents. Identify materials, scale, and preparer (firm and personnel).

PART 3 - EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS

A. Number consecutively and clearly identify all submittals. Show identification on at least the first page of each submittal, and elsewhere as necessary for positive identification of the submittal.

B. Accompany each submittal package with a letter of transmittal showing all information required for identification and checking.

3.02 TIMING OF SUBMITTALS

A. Make submittals far enough in advance of scheduled dates of commencement, execution or installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

B. Accept responsibility for delays resulting from incomplete submittal packages.

3.03 ROOF CONSULTANT'S REVIEW

A. Partial submittals may be rejected for non-compliance with the Contract Documents.

B. Review by Roof Consultant does not relieve Contractor from responsibility for errors, which may exist in the submitted data.

C. Make revisions when required by Roof Consultant and resubmit for review.

END OF SECTION

SECTION 014100

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 GOVERNING CODES

A. Perform the work in accordance with the following applicable codes:

1. International Building Code, current edition as amended and enforced by City of Austin.
2. Uniform Plumbing Code, current edition as amended and enforced by City of Austin.
3. Uniform Mechanical Code, current edition as amended and enforced by City of Austin.
4. International Electric Code, current edition as amended and enforced by City of Austin.
5. International Fire Protection Code, current edition as amended and enforced by City of Austin.
6. International Energy Conservation Code, current edition as amended and enforced by City of Austin.

B. Code references within the Drawings and Specifications shall be utilized for this project unless in conflict with minimum current standards set forth by governing municipal, state, federal or other authorities having jurisdiction over this project.

C. Materials shall meet fire and wind uplift criteria as indicated in the most current available publications of the following authorities and classifications:

1. Underwriters Laboratories, Inc. (UL): Class A Fire Hazard Classification.
2. Underwriters Laboratories, Inc. (UL): ANSI/UL 1897, "Uplift Tests for Roof Covering Systems".

D. Obtain all necessary permits and arrange for any inspections or review required by the governing authorities.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, dry, undamaged, with seals and labels intact.

B. Store all roof system materials in enclosed trailers or storage containers. When the roof is to be stocked, store materials off the ground or on roof deck on pallets. Store rolled materials on end. Unprotected, moist or otherwise damaged materials or materials with evidence of moisture damage such as staining shall be conspicuously marked for permanent removal from the job. Store emulsions at temperatures above 40 degrees Fahrenheit. Handle rolled goods with care to prevent damage to edges or ends.

C. Materials will be checked for general conformance to specifications. Materials found that are not approved or do not meet required standards shall be marked as rejected and permanently removed from the jobsite.

D. Use care in transporting materials across the roof surface. Repair existing roof and re-roofed areas where workmen have damaged the roof system. Do not transport materials over re-roofed area unless protected by plywood.

E. Scatter material stored on the roof surface over the roof deck to avoid damage to the structural roof system. High concentrated loads will not be permitted on the roof. It is the Contractor's responsibility to ensure that the roof is not overloaded with stored materials.

F. Overnight rooftop storage of roof system materials is prohibited. Only those materials required for immediate installation will be permitted on the roof.

G. If rooftop hoisting equipment is used, it shall be properly assembled and maintained. Only employees of the Contractor that are thoroughly familiar with hoisting equipment shall operate such equipment. All such equipment shall be erected and supported so that it will not damage the existing structural deck, the walls or new roofing. Repair to pre-damaged condition any deck, walls, walks, or other existing surfaces that are damaged as a result of Contractor's Work.

H. Furnish plywood walkways and take any other precautions required to prevent tracking from existing roof areas into new work areas. Weigh down plywood walkways to ensure that they are not lifted or moved by wind.

I. No use of building interiors will be allowed.

1.03 ENVIRONMENTAL REQUIREMENTS

A. Do not perform repairs during inclement weather or when heavy rain, hail, or snow fall is impending or expected within 24 hours of application.

B. Do not perform roof repairs when surfaces are damp or frozen.

C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

D. Make a reasonable effort to prevent fumes, odors, and smoke from entering the interior spaces.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 014200

REFERENCES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date.

1.02 SCHEDULE OF REFERENCES

AA Aluminum Association
818 Connecticut Avenue, N.W.
Washington, DC 20006

ANSI American National Standards Institute
1430 Broadway
New York, NY 10018

APA American Plywood Association
P.O. Box 11700
Tacoma, Washington 98411

ARMA Asphalt Roofing Manufacturers Association
1156 15th Street N.W. Suite 900
Washington, DC 20005

ASHRAE American Society of Heating, Refrigerating and Air Conditioning Engineers
1791 Tullie Circle, N.W.
Atlanta, GA 30329

ASTM American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

AWPA American Wood-Preservers' Association
7735 Old Georgetown Road
Bethesda, MD 20014

CDA Copper Development Associates

FM Factory Mutual System (FM Global)

1151 Boston-Providence Turnpike
Norwood, MA 02062

EPA — Environmental Protection Agency
401 M. St. S.W.
Washington, DC 20460

FS — Federal Specifications
General Services Administration
Specifications and Consumer Information
Distribution Section (WFSIS)
Washington Navy Yard, Bldg. 197
Washington, DC 20407

NRCA — National Roofing
Contractors Association
10255 W. Higgins Road, Suite 600
Rosemont, IL 60018

NEMA — National Electrical Manufacturers Association
2101 L. St. N. W.
Washington, DC 20037

NFPA — National Fire Protection Association
Battery March Park
Quincy, MA 02269

NFPA — National Forest Products Association
1619 Massachusetts Avenue, N.W.
Washington, DC 20036

OSHA — Occupational Safety and Health Administration
200 Constitution Avenue
Washington, DC 20210

SDI — Steel Deck Institute
Box 3812
St. Louis, MO 63122

SFPA — Southern Forest Products Association
P.O. Box 52468
New Orleans, La 70152

SMACNA — Sheet Metal and Air Conditioning Contractors'
National Association
8224 Old Court House Road
Vienna, VA 22180

SPRI	Single Ply Roofing Institute 77 Rumford Avenue, Suite 3B Waltham, MA 02453
UL	Underwriters' Laboratories, Inc. 333 Kingston Road Northbrook, IL 60062

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 014500

QUALITY CONTROL

PART 1 - GENERAL

1.01 CONTRACTOR

A. Be currently approved and certified by the manufacturer of the roof repair materials to be used. Use only skilled roofers completely familiar with the products and manufacturer's current recommended methods of installation.

B. Contractor shall maintain a permanent office for the conduct of its business.

C. Provide a letter from a minimum of three roof manufacturers stating that your company has been an approved or certified applicator for a minimum of five (5) years prior to the Bid Date and that your company is approved to install those manufacturer's twenty year no dollar limit (NDL) total system guarantee.

D. Provide primary products, including each type of roofing sheet and insulation produced by a single manufacturer, both of which have produced these types of products successfully for not less than five years, and provide secondary products that are acceptable to manufacturers of primary products. Specified insulation products that are not manufactured by, but are acceptable to the primary membrane manufacturer, may be used.

E. Provide Air Quality Measures

1. Outdoor Air - Take measures to prevent fumes from adhesives and other materials from entering the building.
2. Temporary seal off of air intake facilities near the work area to prevent smoke, fumes, or odor from entering the interior spaces.
3. Remove temporary seals of air intakes as soon as possible.

PART 2 - PRODUCTS

Not Used.

PART 3- EXECUTION

Not Used.

END OF SECTION

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 UTILITIES

A. Provide power and water as necessary to complete the Work. Utilities will be provided and paid for by Owner.

1.02 TEMPORARY ELECTRICITY

A. Connect to existing power service at locations approved by Owner's representative. Power consumption shall not disrupt Owner's need for continuous service.

B. Provide temporary electric feeder from existing building electrical service at location as directed by Owner.

C. Exercise measures to conserve energy.

D. Provide power outlets for construction operations, with branch wiring and distribution boxes located at each roof area. Provide flexible power cords as required. All such devices shall be GFCI.

E. Provide main service disconnect and over-current protection at convenient location.

F. Permanent convenience receptacles may not be utilized during construction.

1.03 TEMPORARY WATER SERVICE

A. Contractor is responsible for connecting to existing water source for construction operations, at location as directed by Owner.

B. Exercise measures to conserve water.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain enclosed portable self-contained units or temporary water closets and urinals, secluded from public view, in location approved by Owner. Keep units locked at all times. Provide access to Contractor’s employees only.

B. Existing facilities shall not be used.

C. Maintain daily in clean and sanitary condition.

1.05 TEMPORARY FIRE PROTECTION

A. Maintain a minimum of two, 30-pound fire extinguishers at each area where repair work is in progress at all times. One fire extinguisher shall be kept with stored flammable materials and one on the roof surface at each repair work area.

1.06 BARRIERS

A. Provide barriers around trees and plants that are within thirty feet of the building. Protect lawns and landscape. Replace trees, plants, lawns and landscaped areas that are damaged by Contractor.

B. Protect vehicular traffic and pedestrians from damage or injury, as applicable, which may arise out of the Work.

C. Protect buildings, equipment, sidewalks, etc. Contractor is responsible for cleaning or repairing any surfaces which are marked or otherwise damaged as a result of the Work to the satisfaction of Owner to the extent that it is returned to its original condition.

D. Provide ground and parking lot protection to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

1.07 STORMWATER CONTROL

A. Contractor shall ensure that stormwater drains properly from the roof during repair work. The building shall be kept watertight throughout the construction process.

B. Protect site storage areas from ponding or running water. Provide water barriers as required to protect products from drainage.

1.08 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification Sections.

B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits or openings.

D. Prohibit traffic or storage upon new roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from roofing material manufacturer.

1.09 PARKING

A. Arrange for temporary parking areas to accommodate repair personnel as approved by Owner. Parking will be allowed in staging areas only and no parking will be allowed for employees' personal vehicles.

1.10 CLEANING

A. Maintain repair work areas free of waste materials, debris, and rubbish. Maintain repair work areas in a clean and orderly fashion at all times repair work is in progress,

B. Remove debris and rubbish from closed or remote spaces prior to enclosing the space.

C. Remove waste materials, debris, and rubbish from repair work area immediately upon completion of the work and legally dispose of off-site.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary equipment, facilities and materials, prior to leaving repair work area..

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during repair work to original condition. Restore permanent facilities used during repair work to specified condition.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 015113

TEMPORARY ELECTRICITY

PART 1 - GENERAL

1.01 DESCRIPTION

A. Installation of temporary power, disconnects, reconnects and other incidental electrical work necessary to perform urgent roof repair work.

PART 2 - PRODUCTS

2.01 MATERIALS AND WORKMANSHIP

A. All materials and equipment required shall be:

1. Approved by Underwriters Laboratories and so labeled.

2. For wire and cable, marked as required by Article 310-1- National Electrical Code.

3. Installed by mechanics skilled in their trades, working under the direct supervision of competent experience foremen or superintendents.

4. Installed in compliance with all applicable Occupational Safety and Health Administration and City of Austin electrical codes.

B. Prior to conducting any electrical work, perform a complete survey of all roof top electrical lines and service with the Owner's representative to verify the functional condition of the electrical service. Document the survey in writing, signed by the Owner's representative and the Contractor. Provide a copy to the Roof Consultant.

2.02 TIMELY PLACEMENT OF MATERIALS AND EQUIPMENT

A. Install items specified in Paragraph 2.01 of this Section at the proper time during progress of construction. Coordinate work operations with other trades as necessary.

PART 3 - EXECUTION

3.01 GENERAL

A. Provide temporary electrical power as required to perform urgent roof repair work.

B. Remove all temporary electrical items at completion of urgent roof repair work and correct any damage to property.

C. At the end of the urgent roof repair work, any non-functional electrical service (not noted on the pre-damage survey list) will be the responsibility of the Contractor to restore to functional working order.

END OF SECTION

SECTION 015123

TEMPORARY HEATING, COOLING, AND VENTILATING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Installation of temporary mechanical work, disconnects, reconnects, and other incidental mechanical and plumbing work, not specified herein but necessary for the successful execution of urgent roof repair w

PART 2 - PRODUCTS

2.01 MATERIAL AND WORKMANSHIP

A. All materials and equipment required shall be:

1. Installed by mechanics skilled in their trades, working under the direct supervision of competent experienced foremen or superintendents.
2. Installed in compliance with all applicable Occupational Safety and Health Administration Rules and Regulations.
3. Installed in compliance with all applicable City of Austin, Heating, Ventilating, Air Conditioning, and Plumbing Codes.

B. Prior to conducting any mechanical work, perform a complete survey of all roof top mechanical equipment with the Owner's representative to verify the functional condition of the equipment. Document the survey in writing, signed by the Owner's representative and the Contractor. Provide a copy to the Roof Consultant.

2.02 TIMELY PLACEMENT OF MATERIALS AND EQUIPMENT

A. Install items specified in Paragraph 2.01 of this Section at the proper time during progress of construction. Coordinate work operations with other trades as necessary.

PART 3 - EXECUTION

3.01 GENERAL

A. Install temporary mechanical work as required to perform urgent roof repair work.

B. Remove temporary mechanical work at completion of urgent roof repair work and correct any damage to property.

C. At the end of the urgent roof repair work, any non-functional mechanical equipment (not noted on the pre-damage survey list) will be the responsibility of the Contractor to restore to functional working order.

END OF SECTION

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 PRODUCTS

A. Products include materials, equipment, and systems.

B. Comply with Specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.

D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

E. All products incorporated into the project shall be asbestos free.

1.02 TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, products are undamaged, and shelf-life will not expire before installation.

1.03 PRODUCTS LIST

A. Within five business days after date established in Notice to Proceed, submit complete list of major products for use, with name of manufacturer, trade name, and model number of each product.

1.04 SUBSTITUTIONS

A. Substitution requests must be submitted a minimum of seven (7) calendar days prior to Bid date, in accordance with Instructions to Offerors. After Bid date, substitutions will be considered only when a product becomes unavailable due to no fault of Contractor.

B. Document each request with complete data substantiating compliance of proposed substitutions with Contract Documents.

C. Request constitutes a representation that Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
   2. Will provide the same warranty for substitution as for specified product.

3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects.
4. Waives claims for additional costs, which may subsequently become apparent.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 017329

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Related Sections include the following:
1. Divisions 2 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.03 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.04 SUBMITTALS

A. Cutting and Patching: Submit cutting and patching procedures at least 3 business days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

7. Architect's/Roof Consultant's Approval: Obtain approval of cutting and patching before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.05 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.
9. Operating systems of special construction in Division 13 Sections.
10. Security alarm system.
11. Fire alarm system.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
1. Water, moisture, or vapor barriers.
2. Exterior curtain-wall construction.
3. Equipment supports.
4. Piping, ductwork, vessels, and equipment.
5. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.06 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [minimize] [prevent] interruption to occupied areas.

3.03 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
5. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 073100
ASPHALT SHINGLES: URGENT REPAIR FOR PORTABLE CLASSROOMS

PART I

1.1 SECTION INCLUDES

A. Repair of existing roofing.

B. Asphalt roofing shingles.

C. Leak barrier and moisture shedding roof deck protection.

D. Underlayment.

E. Metal flashing associated with shingle roofing.

1.2 REFERENCES

A. AC438-1011-R1 - New Acceptance Criteria for Alternative Asphalt Roofing Shingles

B. American Society of Civil Engineers (ASCE): ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. Asphalt Roofing Manufacturers Association (ARMA).

D. ASTM International (ASTM):

1. ASTM D 3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
2. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
3. ASTM D 3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
4. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
5. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

E. National Roofing Contractors Association (NRCA).

F. Sheet Metal and Air Conditioning Contractors National Association, 1nc. (SMACNA) - Architectural Sheet Metal Manual.

G. Underwriters Laboratory (UL)
1. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
2. UL 997 - Wind Resistance of Prepared Roof Covering Materials.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide all primary roofing products, including shingles, underlayment, leak barrier, and ventilation, by a single manufacturer.
B. Installer Qualifications: Installer must be approved by manufacturer for installation of all roofing products to be installed under this section.

1.5 REGULATORY REQUIREMENTS

A. Provide a roofing system achieving an Underwriters Laboratories (UL) Class A fire classification.
B. Install all roofing products in accordance with all federal, state and local building codes.
C. All work shall be performed in a manner consistent with current OSHA guidelines.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.
B. Store products in a covered, ventilated area, at temperature not more than 110 degrees F (43 degrees C); do not store near steam pipes, radiators, or in sunlight.
C. Store bundles on flat surface to maximum height recommended by manufacturer; store rolls on end.
D. Store and dispose of solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 WEATHER CONDITIONS

A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with roofing shingle manufacturer's recommendations.

1.8 WARRANTY

A. Provide Contractors statutory standard one-year materials and labor limited warranty.

PART 2 PRODUCTS

2.1 SHINGLES

A. Match Existing

2.2 UNDERLAYMENT

A. Synthetic Underlayment: UV-resistant polypropylene, polyolefin, or polyethylene polymer fabric with surface coatings or treatments to improve traction underfoot

and abrasion resistance; evaluated and documented to be suitable for use as a roof underlayment under applicable codes by a testing and inspecting agency acceptable to authorities having jurisdiction

2.3 NAILS

A. Nails: Standard round wire, zinc-coated steel or aluminum; 10 to 12 gauge, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) to 7/16 inch (11mm) in diameter. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through plywood or oriented strand board by at least 1/8 inch (3.18mm).

2.4 METAL FLASHING

A. Galvanized Steel: 24 gauge hot-dip galvanized steel sheet, complying with ASTM A 653/A 653M, G90/Z275.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until roof deck has been properly prepared.

B. If roof deck preparation is the responsibility of another installer, notify Architect or building owner of unsatisfactory preparation before proceeding.

3.2 REMOVAL OF EXISTING ROOFING

A. Remove all existing roofing down to the roof deck.

B. Verify that deck is dry, sound, clean and smooth, free of depressions, waves and projections.

C. Cover with sheet metal all holes over 1-inch (25 mm) diameter, cracks over 1/2 inch (12 mm) in width, loose knots and excessively resinous areas.

D. Replace damaged deck with new materials.

E. Clean deck surfaces thoroughly prior to installation of eaves protection membrane and underlayment.

3.3 PREPARATION OF SUBSTRATE

A. Clean deck surfaces thoroughly prior to installation of leak barrier and roof deck protection.

B. At areas to receive leak barrier, fill knot holes and cracks with latex filler.\

3.4 INSTALLATION OF UNDERLAYMENT

A. Install using methods recommended by manufacturer in accordance with local building code. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.

B. Eaves:

1. Place eave edge metal flashing tight with fascia boards; lap joints 2 inches (50 mm) and seal with plastic cement; nail at top of flange.
2. On roofs with slope between 2:12 and 4:12, and on all roofs in the north, install leak barrier up the slope from eave edge to 36 inches from the edge or at least 24 inches (610 mm) beyond the interior face of the warm exterior wall, whichever is greater; lap ends 6 inches (150 mm) and bond.

C. Hips and Ridges:

1. Install leak barrier along entire lengths. If ridge vents are to be installed, position the leak barrier so that the ridge slots will not be covered.

D. Roof Deck:

1. Install one layer of roof deck protection over entire area not protected by eave or valley membrane; run sheets horizontally lapped so water sheds; nail in place.
2. On roofs sloped at more than 4 in 12, lap horizontal edges at least 2 inches (50 mm) and at least 2 inches (50 mm) over eave protection membrane.
3. On roofs sloped between 2 in 12 and 4 in 12, lap horizontal edges at least 19 inches (480 mm) and at least 19 inches (485 mm) over eave protection membrane.
4. Lap ends at least 4 inches (100 mm); stagger end laps of each layer at least 36 inches (915 mm).
5. Lap roof deck protection over valley protection at least 6 inches (152 mm).

E. Penetrations:

1. At vent pipes, install a 24 inch (610 mm) square piece of leak barrier lapping over roof deck protection; seal tightly to pipe.
2. At rake edges, install metal edge flashing over leak barrier and roof deck protection; set tight to rake boards; lap joints at least 2 inches (50 mm) and seal with plastic cement; secure with nails.
3. At hips and ridges, install leak barrier along entire lengths. If ridge vents are to be installed, position the leak barrier so that the ridge slots are not covered.

3.5 INSTALLATION OF SHINGLES

A. Install in accordance with manufacturer's instructions and requirements of local building code.

1. Avoid breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4 degrees C).
2. Handle carefully in hot weather to avoid damaging shingle edges.
3. Secure with 4 to 6 nails per shingle; use number of nails required by manufacturer or by code, whichever is greater. Nails must be long enough to penetrate through plywood or OSB, or 3/4 inch (19 mm) into dimensional lumber.

B. Install hip and ridge shingles as required by the manufacturer. At ridges, install hip and ridge shingles over ridge or ridge vent material.

C. Make valleys using "open valley" technique:

1. Snap diverging chalk lines on metal flashing, starting at 3 inches (75 mm) each side of top of valley, spreading at 1/8 inch per foot (9 mm per meter) to eave.
2. Run shingles to chalk line.
3. Trim last shingle in each course to match chalk line; do not trim shingles to less than 12 inches (305 mm) width.
4. Apply 2 inches (50 mm) wide strip of plastic cement under ends of shingles, sealing to metal flashing.

F. All penetrations are to be flashed according to ARMA and NRCA application instructions and construction details.

3.6 PROTECTION

A. Stage work progress so that traffic is minimized over completed roofing.

B. Protect installed products until completion of project

END OF SECTION

SECTION 075113

BUILT-UP ROOFING (BUR): URGENT REPAIRS

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Built-up roofing system repairs.

1.2 RELATED SECTIONS

A. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.

1.3 REFERENCES

A. Roofing Terminology: Refer to the following publications for definitions of roofing related terms in this Section:

1. ASTM D 1079 “Terminology Relating to Roofing and Waterproofing.”
2. Glossary of NRCA's "The NRCA Roofing and Waterproofing Manual."
3. Roof Consultants Institute “Glossary of Roofing Terms.”

B. Sheet Metal Terminology and Techniques: SMACNA Architectural Sheet Metal Manual.

C. Hot Roofing Asphalt: Roofing asphalt heated to its equiviscous temperature (EVT), the temperature at which its viscosity is 125 centipoise for mop-applied roofing asphalt and 75 centipoise for mechanical spreader-applied roofing asphalt, within a range of plus or minus 25 deg F (14 deg C), measured at the mop cart or mechanical spreader immediately before application.

1.4 DESIGN CRITERIA

A. General: Installed roofing membrane system shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system

manufacturer based on testing and field experience.

C. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE-7

D. FMG Listing: Roofing membrane, base flashings, and component materials shall comply with requirements in FMG 4450 and FMG 4470 as part of a roofing system and that are listed in FMG's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.

E. EPA Energy Star:

1. Roofing membrane that achieves an initial reflectance of greater than 0.65 and a three-year aged reflectance of greater than 0.50.

1.5 SUBMITTALS

A. Product Data: Manufacturer's data sheets for each product to be provided.

B. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:

1. Base flashings, cants, and membrane terminations.
2. Crickets, saddles, and tapered edge strips, including slopes.

C. Verification Samples: Provide for each product specified.

D. Maintenance Data: Refer to Johns Manville's latest published documents on www.specJM.com.

E. Guarantees: Special guarantees specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive the specified manufacturer's guarantee.

B. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

C. Test Reports:

1. Roof drain and leader test or submit plumber's verification.
2. Core cut (if requested).
3. Roof deck fastener pullout test.

D. Source Limitations: Obtain all components from the single source roofing system manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing manufacturer issuing the guarantee.

E. Provide evidence of CERTA training for any installer of torch-applied modified bitumen membrane. Copies of certifications are required prior to award and must be maintained on the jobsite for inspection at any time.

F. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL[, FMG,] or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A for application and roof slopes indicated.
2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.

1.9 GUARANTEE

A. Installer’s Guarantee: Submit roofing Installer's guarantee, signed by Installer, covering Work of this Section, including all components of roofing system for the following warranty period:

1. Guarantee Period: One Year from date of repair work completion.

PART 2- PRODUCTS

2.1 ROOFING MEMBRANE PLIES

A. Glass-Fiber Base-Ply Sheet: ASTM D 2178, asphalt-impregnated, glass-fiber felt.

2.2 ROOFING MEMBRANE CAP SHEET

A. Cap Sheet: ASTM D 3909, asphalt-impregnated and -coated, glass-fiber cap sheet, with white**,** coarse mineral-granule top surfacing and fine mineral surfacing on bottom surface.

2.3 FLASHING MATERIALS

A. Backer Sheet: ASTM D 2178, Type asphalt-impregnated, glass-fiber felt. Select backer sheet, required for two-ply modified flashings behind exposed flashing sheet. Retain below if coated backer sheet to be mechanically fastened over wood sheathed parapet.

B. Backer Sheet: ASTM D 4601, Type II, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides. Choose a granule surfaced flashing sheet below.

C. Flashing Sheet: [ASTM D 6164, Grade G, Type II, polyester-reinforced] [ASTM D 6163, Grade G, Type I, glass-fiber-reinforced] [ASTM D 6221, Grade G, Type I, composite polyester- and glass-fiber-reinforced] [ASTM D 6298, embossed aluminum foil surfaced, glass-fiber-reinforced], SBS-modified asphalt sheet; granular surfaced; suitable for application method specified.

D. Flashing Sheet: Roofing system manufacturer's asphalt-impregnated and -coated composite sheet; smooth surfaced and reinforced with a composite polyester and glass-fiber core.

2.4 AUXILIARY ROOFING MEMBRANE MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with built-up roofing.

B. Roofing Asphalt: ASTM D 312, Retain paragraph below if asphalt roofing cement is used to adhere flashings or integral metal sheet flashings.

C. Asphalt Primer: ASTM D 41.

D. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.

E. Cold-Applied Adhesive: Roofing system manufacturer's asphalt-based, two-component, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with membrane applications.

F. Cold-Applied Adhesive: Roofing system manufacturer's specially formulated one-part, elastomeric cold application adhesive.

G. Cold-Applied Flashing Adhesive: Roofing system manufacturer's asphalt-based, two-component, asbestos-free, trowel-grade, cold-applied adhesive specially formulated for compatibility and use with flashing applications.

H. Mastic Sealant.

I. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing membrane components to substrate, tested by manufacturer for required pullout strength, and provided by the roofing system manufacturer.

J. Roofing Granules: Ceramic-coated roofing granules matching specified cap sheet, provided by roofing system manufacturer.

K. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

2.5 WALKWAYS

A. Walkway Pads: Mineral-granule-surfaced, reinforced modified asphalt composition, slip-resisting pads, manufactured as a traffic pad for foot traffic provided by roofing system manufacturer, with a pad size of 32 inch x 32 inch.

2.6 BASE-SHEET MATERIALS

A. Base Sheet: ASTM D 4601, Type II nonperforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.

B. Base Sheet: ASTM D 4897, Type II, venting, nonperforated, heavyweight, asphalt-impregnated and -coated, glass-fiber base sheet with coarse granular surfacing or embossed venting channels on bottom surface.

2.7 SHEATHING PAPER

A. Sheathing Paper: Red-rosin type, minimum 3 lb./100 sq. ft. (0.16 kg/sq. m).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions for compliance with requirements affecting performance of roofing system.

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
2. Blocking, curbs, and nailers are required at edges of roof penetrations, area dividers, and terminations.
3. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean and remove from substrate sharp projections, dust, debris, moisture, and other substances detrimental to roofing installation in accordance with roofing system manufacturer's written instructions.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 RE-ROOF PREPARATION

A. Remove all roofing membrane, surfacing, coverboards, insulation, fasteners, asphalt, pitch, adhesives, etc.

1. Remove an area no larger than can be re-roofed in one day.

B. Tear out all base flashings, counterflashings, pitch pans, pipe flashings, vents and like components necessary for application of new membrane.

C. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations.

1. Install decking to match existing as directed by Owner's Representative.

D. Raise (disconnect by licensed craftsmen, if necessary) all HVAC units and other equipment supported by curbs to conform with the following:

1. Modify curbs as required to provide a minimum 8" base flashing height measured from the surface of the new membrane to the top of the flashing membrane.
2. Nail top of flashing and install new metal counterflashing prior to re-installation of unit.
3. Perimeter nailers must be elevated to match elevation of new roof insulation.

E. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 SHEATHING PAPER INSTALLATION

A. Loosely lay sheathing paper in a single layer over all wood deck areas, side and end lapping each sheet a minimum of 2 inches and 6 inches, respectively.

1. Seal side and end laps.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.5 BASE-SHEET INSTALLATION

A. Install one lapped base sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.

1. Enhance fastening rate in perimeter and corner zones according to code or manufacturer, whichever is more stringent.

B. Comply with roofing system manufacturer's written instructions for installing roof insulation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.8 ROOFING MEMBRANE INSTALLATION, GENERAL

A. Install roofing system specification in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.

B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

C. Where roof slope exceeds 1/2 inch per 12 inches (1:24, contact the membrane manufacturer for installation instructions regarding installation direction and backnailing

D. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.

E. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.

1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt with joints and edges sealed.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.

3. Remove and discard temporary seals before beginning work on adjoining roofing.

F. Asphalt Heating: Heat roofing asphalt and apply within plus or minus 25 deg F (14 deg C) of equiviscous temperature unless otherwise required by roofing system manufacturer. Do not raise roofing asphalt temperature above equiviscous temperature range more than one hour before time of application. Do not exceed roofing asphalt manufacturer's recommended temperature limits during roofing asphalt heating. Do not heat roofing asphalt within 25 deg F (14 deg C) of flash point. Discard roofing asphalt maintained at a temperature exceeding finished blowing temperature for more than 4 hours.

G. Substrate-Joint Penetrations: Prevent roofing asphalt from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

H. Proceed with installation only after unsatisfactory conditions have been corrected.

3.9 ROOFING MEMBRANE INSTALLATION

A. Install three ply sheets starting at low point of roofing system. Align ply sheets without stretching. Shingle side laps of ply sheets uniformly to achieve required number of plies throughout thickness of roofing membrane. Shingle in direction to shed water. Extend ply sheets over and terminate beyond cants.

1. Install each ply sheet in a solid mopping of hot roofing asphalt applied at rate required by roofing system manufacturer, to form a uniform membrane without ply sheets touching.
2. Install cap sheet in a cold fluid-applied adhesive according to roofing system manufacturer's instruction.

B. Cap Sheet: Install lapped granulated cap sheet starting at low point of roofing system. Offset laps from laps of preceding ply sheets and align cap sheet without stretching. Lap in direction to shed water. Extend cap sheet over and terminate beyond cants.

1. Install cap sheet in a solid mopping of hot roofing asphalt applied at rate required by roofing system manufacturer.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.10 FLASHING AND STRIPPING INSTALLATION

A. Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:

1. Prime substrates with asphalt primer if required by roofing system manufacturer.
2. Backer Sheet Application: Mechanically fasten backer sheet to walls or parapets. Adhere backer sheet over roofing membrane at cants in a solid mopping of hot roofing asphalt.
3. Backer Sheet Application: Install backer sheet and adhere to substrate in a solid mopping of hot roofing asphalt.
4. Backer Sheet Application: Install backer sheet and adhere to substrate in approved adhesive applied at rate required by roofing system manufacturer.
5. Flashing Sheet Application: Adhere flashing sheet to substrate in a solid mopping of hot roofing asphalt applied at EVT. Apply hot roofing asphalt to back of flashing sheet if recommended by roofing system manufacturer.
6. Flashing Sheet Application: Adhere flashing sheet to substrate in approved adhesive applied at rate required by roofing system manufacturer.

7. Flashing Sheet Application: Adhere flashing sheet to substrate in approved asphalt roofing cement; apply cement at rate required by roofing system manufacturer.
8. Flashing Sheet Application: Torch apply flashing sheet to substrate as required by roofing system manufacturer.

B. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing membrane and 4 inches onto field of roofing membrane.

C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing at a rate of 8" OC max.

1. Seal top termination of base flashing with a strip of glass-fiber fabric set in cold applied flashing adhesive.

D. Roof Drains: Set 4 lb lead flashing sheet in a bed of MBR Flashing Cement on completed roofing membrane. Cover metal flashing with roofing membrane cap-sheet stripping and extend a minimum of 4 inches (100 mm) beyond edge of metal flashing onto field of roofing membrane. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring.

E. Roof Drains: Flash drain. Clamp roofing membrane, flashing, and stripping into roof-drain clamping ring.

1. Install stripping according to roofing system manufacturer's written instructions.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.11 WALKWAY INSTALLATION

A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size according to walkway pad manufacturer's written instructions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.12 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.

B. Final Roof Inspection: Arrange for roofing system manufacturer to inspect roofing installation on completion and submit report to Architect.

C. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.13 PROTECTION AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period.

B. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

SECTION 075350
MODIFIED BITUMINOUS SHEET ROOFING: URGENT REPAIRS

PART 1 – GENERAL

1.01 WORK INCLUDED

A Modified bitumen sheet roofing. For those Projects or Repair/Maintenance Work requiring installation or replacement of conventional two-ply modified membrane assembly.

B Install new roofing system, two-ply modified membrane assembly .as herein specified and where shown on the Drawings.

1.02 RELATED WORK

A. Section 076000 - Flashing and Sheet Metal

1.03 SYSTEM DESCRIPTION

A. Perform all demolition execution and cleaning necessary to safely remove and dispose of existing roof system and install new roof system along with associated flashing.

B. Modified Membrane roofing system; rigid insulation board, smooth surface modified bitumen interply and granule surfaced modified bitumen top ply.

C. Comply with membrane manufacturer’s requirements for direction of plies and back nailing.

1.04 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with a minimum of five years documented experience.

B. Roofing Contractor: Company specializing in applying bituminous roofing with a minimum of ten years documented experience, and approved for a minimum of five years by the roofing materials manufacturer to install the manufacturer’s Ten Year No Dollar Limit (NDL) Guarantee.

C. Work of this Section to conform to NRCA Manual of Roof Maintenance and Roof repair, NRCA Roofing and Waterproofing Manual Fifth Edition and manufacturer's latest published instructions.

1.05 WARRANTY

A. Provide Contractors statutory standard limited warranty.

B. The Contractor shall be responsible for repairing any defect attributable to Contractor’s method or manner of installation of the roof membrane at Contractor’s sole cost and

expense.

1.06 AIR QUALITY MEASURES

A. Outdoor Air – all asphalt kettles shall be filtered with an approved integral fume/smoke reduction system manufactured by Reeves Equipment Company, San Antonio, Texas (210) 695-3567.
B. Temporary seal air intake facilities near the work area.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Tamko

B. Performance Roof Systems

C. G.A.F.

D. Johns Manville

E. Soprema

F. Siplast

G. CertainTeed

H. Polyglass

I. Or Pre-Bid Approved Equal

2.02 SHEET MATERIALS

A. Membrane Materials:

1. Base Sheet - Asphalt impregnated glass fiber base sheet, ASTM D 4601 Type II..

2. Asphalt Ply Felt - Asphalt impregnated glass fiber felt ASTM 2178, Type IV, Fed. Spec. No. SS-R-620B, Type III.

3. Top Ply – ASTM D 6223. An APP modified asphalt, granule surfaced sheet, with a glass fiber mat and polyester reinforcing scrim. Minimum installed weight shall be 100 pounds per 100 square feet, minimum thickness shall be 4.5 millimeters (180 mil.).

4. Glass Fabric - Asphalt coated woven glass fiber membrane, ASTM D1668.

B. Flashing

1. ASTM D 6223. An APP modified asphalt, granule surfaced sheet, with a glass fiber mat and polyester reinforcing scrim. Minimum installed weight shall be 100 pounds per 100 square feet, minimum thickness shall be 4.5 millimeters (180 mil.

2. Interply – ASTM D 6509. Glass fiber reinforcing mat coated with APP modified asphalt on both sides, smooth surface. Minimum installed weight shall be 45 pounds per 100 square feet..

2.03 BITUMINOUS MATERIALS

A. Asphalt Bitumen: ASTM D 312, Type III.

B. Asphalt Primer: ASTM D 41, as approved by membrane manufacturer.

C. Asphalt Roof Cement: ASTM D 4586, non-asbestos, as approved by membrane manufacturer.

D. Modified Adhesive: SBS modified asphalt adhesive as approved by membrane manufacturer.

E. Aluminum Coating: Asphalt based, reflective (non-fibrated) aluminum coating

2.04 CANTS, TAPERED INSULATION, EDGE STRIPS

A. Fiber cants and tapered edge strips: ASTM C 728; asphalt impregnated fiberboard, pre-formed to a 45 degree angle with nominal 3-1/2 inch horizontal and vertical lengths, as acceptable to the primary membrane manufacturer.

B. Wood Cants: Specified in Section 06100, Rough Carpentry.

C. Tapered Insulation/Crickets: ASTM C 728 thermal insulation board composed of expanded perlite, blended with binders and fibers.

2.05 FASTENERS

A. General:

1. Exposed fasteners shall be hex head stainless steel self-tapping screws with stainless steel jacketed neoprene washers.

2. Fasteners shall be compatible with all materials with which they come in contact so that dielectric corrosion does not occur.

3. A Factory Mutual approved fastener to secure flashings and counter flashings to curbs and other materials.

4. Corrosion resistance: Pass FM 4470 Corrosion Test.

5. Wind Uplift: FM Class IA-90 wind uplift rating.

6. Plates: Pass FM 4470 Corrosion Test.

7. For wood components: ring shank or annular thread fasteners with minimum one-inch diameter disk or head, sufficient length to penetrate substrate approximately one-inch.

B. Insulation Fasteners: As specified in Section 07220.

2.06 ACCESSORIES

A. Pitch Pocket Sealer: One part, moisture curing, pour grade, polyurethane sealant; meeting ASTM C-920-87, Type S and Federal Specification TT-S-00230-C.

B. Protection Pad and Walk Treads: Cut section of membrane top ply material or product approved by membrane manufacturer, at locations designated by Owner.

C. Flexible Membrane for Expansion Joints: Uncured EPDM membrane .045" thickness to support batt insulation.

D. Flexible Vapor Retarder - "Ice and Water Shield" as manufactured by W.R. Grace and Company, or approved equivalent.

E. Pipestand for structural pipe- Metal, roller or suspension type, such as Portable Pipe Hangers, Inc., or approved equivalent.

F. Wood Support Blocks: Nominal 4 inch by 4 inch womanized as shown on details.

G. Sealant: One component gun-grade polyurethane sealant, ASTM C-920-87, Federal Specification TT-S-00230-C.

H. Mineral Granules: Ceramic granules as recommended by primary roofing membrane manufacturer, color to match surface color of top ply.

I. Plumbing Vent Flashing: Two and one-half pound (2-1/2) lead pre-formed vent flashings with a 4- inch flange.

PART 3 - EXECUTION

3.01 REMOVAL

A. Proceed with removal in a controlled manner allowing only that portion of roofing to be removed which can be made watertight by the end of the working day.

B. Remove all felts, asphalt, and flashings and clean exposed surfaces to receive the new membrane or substrate. Felts and flashings to be removed in accordance with Section 02070 of these specifications.

C. Inspect deck and notify the Roof Consultant of deteriorated or non-functional areas.

3.02 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work and the required rigid insulation board has been installed in accordance with Section 07220.

B. Beginning of installation means installer accepts existing surfaces.

C. Verify under deck conditions are clear for fastener installation.

3.03 MEMBRANE APPLICATION

A. Membrane system installation to be performed in accordance with the manufacturer's latest published recommendations unless modified by these specifications.

B. Verify that the deck substrate is clean and dry. Prime surface if required by membrane manufacturer.

C. Application of Plies: Over the mechanically fastened base sheet, (or other applicable substrate) embed two Type IV glass fiber felts, starting at the low point, laying plies at a right angle to the slope of the deck, into a uniform mopping of hot asphalt lapping sides and ends a minimum of 3 inches. Apply asphalt in a uniform manner so that 100% adhesion is achieved between plies.

D. Perform light rolling following application to aid adhesion.

E. Application of Granule Surfaced Top Ply: Offset side laps and end laps from those of the felt plies. Embed top ply to the first ply, starting at the low point, laying plies at a right angle heat welding to the top face of the interply sheets, lapping sides minimum of 3 inches and end laps a minimum of 6 inches. Stagger laps between plies. Heat granule surface at top surface end laps to aid adhesion.

1. Perform light rolling promptly to eliminate air pockets and wrinkles creases and fishmouths, and to insure proper adhesion.

2. Install water cutoffs at the end of the day's operation. Remove prior to resuming additional work. Seal perimeters into watertight condition.

3. Prevent foot or vehicle traffic from crossing newly laid plies until bitumen cools to below softening point.

4. Extend plies up cant strips as shown in details. Lap end joints at least 3 inches.

5. Install plies continuously in one direction from the field of the roof to the top of the cant.

6. Broadcast mineral granules over all bitumen overruns to ensure a monolithic surface color.

3.04 BASE FLASHING APPLICATION

A. Base flashing installation is to be performed in accordance with the manufacturer's recommendations unless modified by these specifications.

B. Flashing application. After field sheet of the top ply has been applied to the top of the cant, install the sheet flashing as recommended by membrane manufacturer to the clean, primed vertical substrate, cant and roof level. Lap each adjacent sheet side lap three inches and extend the flashing sheet down the cant a minimum of six inches onto the roof surface. Mechanically fasten sheet flashing eight inches on-center to vertical surface. At special torch-welded flashings, install the sheet flashing in accordance with the primary membrane manufacturer's published recommendations and details.

C. Metal Edge or Flange Application: Prime metal edge or flange completely and allow to dry prior to installation. After base ply field sheet has been applied, install metal edge or flange according to Section 07600. Strip flange with nine inch wide strips of first modified ply. Apply top ply and terminate at the rise in the metal edge. Apply sealant to all modified edge flashing-to-metal flange details.

D. Install “targets” or “bow ties” at curb corners if required by membrane manufacturer.

E. Pipe Sleeves: After field sheet of base ply has been applied, install pipe sleeves according to Section 07600. Strip in flanges with nine inch wide strips of first ply. Install field sheet of top ply terminating at the flange/throat juncture.

F. Sealant: All top ply edges exposed at gravel stops, waste stacks, vent stacks, etc., shall be caulked with a smooth continuous bead of neoprene-based sealant.

3.05 FIELD QUALITY CONTROL

A. Roof Consultant will observe the Work to determine if the Contractor’s work is in conformance with the Contract Documents. Provide access to Owner and Roof Consultant throughout all phases of the Work.

B. Correct defects and irregularities.

C. Contractor’s full-time Superintendent shall complete the Contractor’s Daily Quality Control Record each day and submit copies for Roof Consultant’s review each week.

3.06 CLEANING

A. Remove bituminous markings from finished surfaces.

B. Clean and paint all existing exposed metal with two coats of aluminum coating.

In areas where finished surfaces are soiled by bitumen or any other source of soiling caused by work of these Specifications, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.

C. Repair or replace defaced or disfigured caused by work of these Specifications.

3.07 PROTECTION

A. Expedite installation to ensure that work started in any particular areas on any day will result in a fully completed and protected roof system on that day. Water cutoff flashing, sealing, and lap jointing must be completed on a daily basis.

B. Provide necessary protective measures for inclement weather and to ensure the normal function of the building during the repair operations. Coordinate parking spaces adjacent to the Work area to ensure that vehicles and people are protected.

C. Protect all roof penetrations (vents, drains, pipes, etc.) from entry of foreign matter such as debris during reroofing operations.

END OF SECTION

SECTION 075423
THERMOPLASTIC (TPO/PVC) MEMBRANE ROOFING: URGENT REPAIRS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Urgent repair of reinforced TPO/PVC roof membrane and flashings.

1.02 RELATED WORK

A. Section 076000 – Flashing and Sheet Metal

1.03 EXTENT OF WORK

A. Provide all labor, material, tools, equipment, and supervision necessary to complete repairs of the existing roof system, including flashings and insulation in accordance with the manufacturer's most current specifications and details.

B. Contractor shall be fully knowledgeable of all AISD requirements and shall be fully aware of all existing job site conditions that will affect their work prior to commencing with the Work.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.

B. No overnight rooftop storage will be permitted.

C. Store all rolled goods and curable materials in lockable weather tight storage containers.

D. Store curable materials (adhesives and sealants) between 60 degrees F and 80 degrees F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60 degrees F minimum temperature before using.

E. Store materials containing solvents in dry, well-ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.

F. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.05 WORK SEQUENCE

A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections of the membrane system.

B. Do not disrupt activities in occupied spaces.

1.06 EXISTING CONDITIONS

A. If discrepancies are discovered between the existing conditions and those typically required for a TPO repair, immediately notify Owner and Consultant by phone and solicit the manufacturer's approval prior to commencing with the Work. Necessary steps shall be taken to make the building watertight until the discrepancies are resolved.

1.07 JOB SITE PROTECTION

A. Do not overload any portion of the building, either by use of or placement of equipment, temporary storage of debris, or storage of materials.

B. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.

C. Take precautions to prevent drains from clogging during the roofing application. Remove debris at the completion of each day's work and clean drains.

1.08 WORKMANSHIP

A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.

B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the Owner's and Roof Consultant’s satisfaction.

1.09 QUALITY ASSURANCE

A. Unless otherwise noted in this specification, the Contractor must strictly comply with the manufacturer's current specifications and details.

B. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified.

C. Provide at least one thoroughly trained and experienced, non-working, English speaking superintendent on the job at all times that the repair is in progress.

D. There shall be no deviations made from this specification. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the Roof Consultant's consideration.

1.10 JOB CONDITIONS, CAUTIONS, AND WARNINGS

A. Material Safety Data Sheets (MSDS) must be on location at all times during the transportation, storage and application of materials.

B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.

C. When loading materials onto the roof, take care not to overload the roof structure. Coordinate with Owner and do not overload or damage the building structure.

D. Proceed with roofing work only when weather conditions are following the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.

E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.

F. Provide protection for all roof areas exposed to traffic during construction. Protection shall consist of ¾" insulation board underneath 5/8" plywood. Do not allow plywood to contact new roof membrane. Weigh down protection materials sufficiently to ensure that they do not become airborne.

G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.

H. New roofing and flashings shall be complete and weather tight at the end of the workday. Temporary flashings shall be made weather tight until permanent flashing is installed.

I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

PART 2 - PRODUCTS

2.01 GENERAL

A. All components of the specified roofing system shall be products of approved manufacturers or accepted by manufacturers as compatible.

B. All products (including insulation, fasteners, fastening plates and edgings) must be manufactured and supplied by the roofing system manufacturer and covered by the warranty. Any products required by the Project not manufactured by the roofing system manufacturer shall be approved for use, in writing, by the roofing systems manufacturer.

2.02 MEMBRANE

A. Match existing TPO/PVC roof membrane to be repaired.

B. Approved Manufacturers:
1. Carlisle-Syntec Inc.
2. Firestone Building Products, Co.
3. GAF
4. Johns-Manville
5. Sika Sarnafil
6. Versico
7. Pre-Bid Approved Equivalent

2.03 ADHESIVES AND CLEANERS

A. All products shall be furnished by the pre-bid approved manufacturer and specifically formulated for the intended purpose.

a. Bonding Adhesive.
b. Edge Sealant: Cut Edge Sealant.
c. Sealer: Water Cut-Off Mastic and Sealant.
d. Corners – Pre-molded TPO Inside and Outside Corners.
e. Cleaner: Weathered Membrane Cleaner.
f. Walk tread: Manufacturers Standard Walk Tread.

2.04 FASTENERS AND PLATES

A. **Membrane Fasteners:** An oversized diameter (.315") non-corrosive steel threaded fastener used in conjunction with heavy-duty adhesive coated bond surface plates for membrane induction welded attachment system securement into steel deck as required.

B. **Term Bar Nail-Ins**: A 1-1/4" long expansion anchor with a zinc plated steel drive pin used for fastening the Termination Bar or Seam Fastening Plates to concrete, brick, or block walls.

2.05 METAL EDGING AND MEMBRANE TERMINATIONS

A. **Termination Bar**: A 1-inch wide and .098-inch-thick extruded aluminum bar pre-punched 6 inches on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

B. **Expansion Joints**: Roof-to roof manufacturers pre-fabricated TPO expansion joints, 60 mil, correct bellows width to match existing expansion joint construction.

2.06 PROTECTION PADS

A. Protection pads shall be obtained from roof membrane manufacturer, with non-slip tread and color to contrast with roof membrane. Base Bids include 10 l.f. of tread for each roof top HVAC unit. Any additional tread will be installed on the Unit Price basis.

2.07 ROOF ACCESSORIES

A. **Abandoned HVAC Curb Caps:** Install wolmanized 2 X supports and ¾" exterior plywood over existing curb opening, sloped to drain; install specified insulation and ½" DensDek Prime board, and fully adhere TPO membrane cover and flashings.

PART 3 - EXECUTION

3.01 GENERAL

A. Inspect the deck and verify its preparation to provide an acceptable surface for the installation of the membrane system.

B. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.

C. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 MEMBRANE PLACEMENT AND ATTACHMENT

A. Unroll and position membrane without stretching. Allow membrane to relax 15 minutes if temperature is above 55 degrees Fahrenheit, allow to relax 30 minutes is temperature is below 55 degrees Fahrenheit. Provide and secure both perimeter and field membrane sheets in accordance with the manufacturer's most current specifications and details.

B. Position membrane over the acceptable substrate and mechanically attach with induction welded attachment system in accordance with the manufacturers latest published installation instructions.

C. Position adjoining sheets to allow a minimum overlap of 2 inches.

D. Hot air-weld all membrane sheet laps in accordance with the manufacturer's hot air welding procedures.

E. Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and complete the procedures as stated previously, in accordance with the manufacturer's specifications.

3.03 MEMBRANE SPLICING/HOT AIR WELDING PROCEDURES

A. Hot air-weld the membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller prior to membrane seam cooling. Hot air-weld non-reinforced flashing over splice intersection.

B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes). Include name of person performing daily probing and evidence that probing was performed in Contractor’s Daily Report.

C. Perform a minimum of two (2) lap seam tear tests each day that TPO/PVC membrane is being installed. Provide dated test results to Roof Consultant.

D. Repair all seam deficiencies the same day they are discovered.

E. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete.

F. All perimeter edge flashings shall be heat welded to TPO/PVC coated metal.

3.04 FLASHING

A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using reinforced membrane. Non-reinforced membrane can be used for flashing pipe penetrations, scuppers, as well as inside and outside corners when the use of pre-fabricated accessories is not feasible. Coordinate with Roof Consultant and submit an RFI for approval of all field fabricated flashings and accessories that have not been previously approved, prior to installation.

3.05 PROTECTION PADS

A. Install the minimum quantity of walkways indicated in the Drawings. Locate walkways at all traffic concentration points (such as ladder access, HVAC units, rooftop hatch) and all locations as required by the membrane manufacturer, Owner and Consultant.

B. Cut walkway rolls into protection pads with a minimum length of 36 inches.

C. Hot air weld walkway pads to the membrane in accordance with the manufacturer's specifications, providing a minimum clearance of 2” between pads to allow drainage.

D. Install protection pads under all pipe supports.

3.06 DAILY SEAL

A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.

B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.07 CLEAN UP

A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

B. Contractor shall repair all areas of roof membrane that are damaged during the Work in accordance with the manufacturer requirements. These repairs shall be at the Contractor’s expense. Extent of repairs shall be determined by Roof Consultant.

END OF SECTION

SECTION 076000

FLASHING AND SHEET METAL: URGENT REPAIRS

PART I - GENERAL

1.01 WORK INCLUDED

A. Install flashing and sheet metal as indicated on Drawings and in these specifications as required for a complete and proper installation. The following items are included:

1. Curb Flashing.
2. Counter flashing.
3. Counter flashing and termination bars, roof mounted mechanical equipment, vent stacks, and other terminations.
4. Edge metal, gutters, downspouts, coping, thru-wall scuppers and fascia metal.
5. OSHA approved caged wall ladders on those roofs that do not have wall ladder roof access

1.02 RELATED WORK

A. Section 075423 – THERMOPLASTIC (TPO/PVC) MEMBRANE ROOFING: URGENT REPAIRS

1.03 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 013300.

B. Describe material profile, jointing pattern, jointing details, fastening methods, and installation details.

C. Submit samples under provisions of Section 013300.

D. Provide full sized sample of metal flashing and post supports illustrating typical seam, external corner, internal corner, material, and finish.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with latest edition of SMACNA and NRCA standard details and requirements.

1.05 QUALIFICATIONS

A. Company specializing in sheet metal flashing work with a minimum of 10 years documented experience.

1.06 STORAGE AND HANDLING

A. Stack pre-formed materials to prevent twisting, bending, or abrasion, and to provide ventilation.

B. Prevent contact with materials during storage that may cause discoloration, staining, or damage. "White rust" is considered damage and is cause for rejection.

C. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label.

1.07 WARRANTY

A. Sheet Metal work and accessories to be included in Two-Year Contractor's Warranty.

B. Provide pre-finished metal manufacturer's twenty-year coating guarantee.

C. Provide pre-finished metal manufacturer's twenty-year galvanized steel guarantee.

PART 2 - PRODUCTS

2.01 SHEET METALS

A. Steel:
1. 22 gauge galvanized steel.
2. 24 gauge galvanized steel, finish per the requirements below, and as specified in the Drawings (strictest requirement applies):
   a. TPO/PVC coated metal, at all perimeter edge flashings.
   b. Kynar 500, at all exposed locations visible from ground level.
   c. Uncoated galvanized steel: at equipment counterflashings where not visible from ground level.

2.02 SHEET METAL COMPONENTS

A. Counterflashing: 24 gauge galvanized steel.

B. Edge flashing, Expansion Joint Covers, Coping, Gutters: Pre-finished 24-gauge galvanized steel and TPO coated metal (where required for heat welding).

C. Coping; 24 gauge galvanized steel, Kynar 500, match color of existing coping on front parapet wall (NIC); Insert counter flashing under the inside vertical flange of the front coping to flash the termination bar for the top of the TPO wall flashing membrane.

D. Two-piece fascia extension is required whenever fascia vertical height exceeds 8 inches.

E. Downspout Hangers: Minimum 1/8-inch by 1-inch galvanized steel.

F. Cover Plates, End Caps and Miscellaneous Sheet Metal: Same materials, gauge and profile as edge metal or expansion joint material.

G. Cleats: 22 gauge galvanized steel.

H. Tubular Penetration Sleeves and Rain Hoods: Minimum 24 gauge galvanized steel.

I. Splash Block: Pre-cast concrete at ground level, where downspout discharges on surfaces other than asphalt or concrete only.

J. Pipe Supports and Protection Pads: Pipe supports as shown on the Drawings, adequate to support the size of pipe with TPO membrane protection pads.

2.03 ACCESSORIES

A. Solder: ANSI/ASTM B 32 50/50 type.

B. Elastomeric Membrane: 30 mil-thick PVC vinyl water barrier.

C. Ice and Water Shield: as manufactured by W. R. Grace and Company, or approved equivalent.

D. Clamping Collar: Stainless steel of size necessary to fit over vent or pipe circumference, as applicable.

E. Self-Sealing Moisture Barrier Sheet: Heat resistant, self –adhering moisture barrier.

F. Rust-Go: For application to cut edges of existing metal to prevent corrosion.

2.04 SEALANT

A. Type I: Application exposures to sunlight, ASTM C-920-87, Federal Specification TT-S-00230-C one component gun-grade polyurethane sealant suitable for continuous immersion and resistant to asphalt products.

B. Type II: Applications not exposed to sunlight; butyl rubber based.

C. Hot vent sealant: one component neutral moisture curing silicone sealant.

2.05 SCHEDULE OF FASTENERS

A. Exposed fasteners: Shall be non-ferrous stainless steel with stainless steel bonded EPDM washers.

B. Fasteners shall be compatible to all materials to which they come in contact.

C. Cleat, Counter-flashing, and Surface Fastened Components.

1. Wood Substrate: No. 10 non-ferrous stainless steel wood screws with stainless steel bonded neoprene washers of length necessary to penetrate wood substrate one inch.
2. Metal Substrate: Minimum No. 10 non-ferrous stainless steel sheet metal screws or as necessary to suit application with stainless steel bonded neoprene washers.

D. Blind Pop-Rivets: Non-ferrous Stainless steel.

2.06 FABRICATION

A. Form sections to match existing profiles, true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate continuous cleats and starter strips of same material as sheet, inter-lockable with sheet.

C. Form pieces in longest practical lengths.

D. Hem exposed edges of metal 1/2-inch; miter and seam corners.

E. Form materials with cover plate seam.

F. Fasten and seal metal joints.

G. Fabricate corners from one piece with minimum 18-inch and maximum 36-inch long legs; fasten for rigidity, seal with sealant.

H. Fabricate vertical faces with bottom edge formed outward 1/2-inch and hemmed to form drip.

I. Form edge metal/fascia as existing profiles as specified herein and as shown on Drawings.

J. Form sections square, true, and accurate in size, in maximum possible lengths and free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints

K. Enlarge holes for fastening counter flashing, coping, and pressure bars as necessary to allow for thermal expansion and contraction. Cover exposed holes with appropriate washers.

L. All fabrication and installation of sheet metal shall be in accordance with the latest published SMACNA and NRCA guidelines and recognized roofing and sheet metal industry standards.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, and cant strips in place, and nailing strips located.

B. Verify membrane termination and base flashings are in place, sealed, and secure.

C. Beginning of installation means acceptance of existing conditions.

3.02 PREPARATION

A. Field measure site conditions prior to fabricating work.

B. Apply bituminous protective backing on surfaces in contact with dissimilar materials.

C. Tie-ins or contact with dissimilar metals: Install separation layer of elastomeric membrane between metal surfaces.

3.03 INSTALLATION - GENERAL

A. Provide flashings of materials indicated on Drawings at all junctures of the roof with perimeters, curbs, mechanical, electrical equipment, etc., that a completely watertight installation is achieved.

B. Fabricate and install sheet metal work with lines, arises and angles sharp and true, and plane surfaces free from warps and buckles. Bead or return all exposed edges. Tin metal for full area of contact on soldered seams and joints. Do soldering slowly with well heated coppers, thoroughly heating seams and completely filling them with solder.
C. Submit details not covered in Drawings for approval by Owner or Roof Consultant.

D. Install starter and edge strips, and cleats before starting installation.

E. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations approved by Roof Consultant.

F. Lock and seal all joints.

G. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

H. Fasten sheet metal with approved fasteners at a minimum of 12 inches on centers unless otherwise specified in these Specifications or the Drawings.

I. Modification of Metal Equipment Screens: Trim bottom of metal equipment screen panels to accommodate height of new insulation board. Coat cute edges with Rust-Go to prevent corrosion.

3.04 METAL EDGE FLASHING INSTALLATION

A. Install TPO coated metal plate on top of prefinished edge flashing over roof membrane.

B. Apply sealant, Type I, under cover plates at all joints prior to installation.

C. Fasten horizontal flange in a staggered pattern on three-inch centers through both TPO coated and prefinished metal.

D. Heat weld TPO edge flashing to TPO coated metal as specified in membrane roofing sections and install sealant along both exposed edges.

3.05 TWO-PIECE COUNTERFLASHING INSTALLATION

A. Secure counterflashing receiver over base flashing to substrate with appropriate fasteners. Secure counterflashing to receiver with stainless steel screws with bonded neoprene washers spaced 12-inches on centers.

B. Pop-rivet and solder all seams.

3.06 CLEAT INSTALLATION

A. Install cleats for edge/coping flashing with appropriate fasteners on six inches (6”) on centers.

END OF SECTION

SECTION 079000

JOINT SEALANTS: URGENT REPAIRS

PART I - GENERAL

1.01 DESCRIPTION OF WORK

A. Miscellaneous sealant work related to new roof system and flashing installation.

1.02 GENERAL PERFORMANCE

A. Joint sealers are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging for each application. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

1.03 SUBMITTALS

A. Submit manufacturer's product specifications, handling/installation/curing instructions, and performance tested data sheets for each product required.

1.04 JOB CONDITIONS

A. Do not proceed with installation of sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Single component moisture cured urethane sealant suitable for exterior applications meeting the following criteria: ASTM C 920, Type S, Grade NS, Class 25, Use T, NT, M, A, G and O.

1. Master Seal NP-1
2. Approved equivalent.

B. Primer: Master Seal P173 or approved equivalent. Primer is required on all surfaces to receive sealant.

C. Provide polyethylene bond breaker tape or other plastic tape as recommended by sealant manufacturer, to be applied to sealant-contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape where applicable.

D. Provide compressible backer rod stock of polyethylene foam, polyurethane foam polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended by sealant manufacturer for back-up of and compatibility with sealant. Where used with hot-applied sealant, provide heat-resistant type that will not be deteriorated by sealant application temperature as indicated.

PART 3 - EXECUTION

3.01 INSPECTION

A. Installer must examine substrates, (joint surfaces) and conditions under which joint sealer work is to be performed, and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.02 JOINT PREPARATION

A. Clean joint surfaces immediately before installation of gaskets, sealants or caulking compounds. Remove all dirt, all old sealants, insecure coatings, moisture and other substrates that could interfere with seal of gasket or bond of sealant or caulking compound. Etch joint bonding surfaces as recommended by sealant manufacturer. Roughen vitreous and glazed joint surfaces as recommended by sealant manufacturer.

B. Prime all surfaces to receive sealant, regardless of whether sealant manufacturer requires primer or not. Confine primer to areas of sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.03 INSTALLATION

A. Comply with manufacturer's printed instruction except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

B. Set joint filler units at depth or position in joint as indicated to coordinate with other work, including installation of bond breaker, backer rod, and sealant. Do not leave voids or gaps between ends of joint filler units.

C. Install sealant backer rod for liquid-applied sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for application indicated.

D. Install bond breaker tape where required by manufacturer's recommendations to ensure that liquid-applied sealants will perform as intended.

E. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with

complete "wetting" of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.

F. Install liquid-applied sealant to depths as shown or, if not shown, as recommended by sealant manufacturer but within the following general limitations, measured at center (thin) section of beads; (not applicable to sealants in lapped joints):

1. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
2. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in range of 75% to 125% of joint width.

G. Do not allow sealants or compounds to overflow from confines of joints, or to spill onto adjoining work, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

3.04 CURE AND PROTECTION

A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Cure and protect sealants in a manner that will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants that are damaged or deteriorated during construction period.

3.05 TESTING

A. Contractor shall notify A/E when joint sealants have cured sufficiently to allow A/E to perform a minimum of three (3) pull tests, at locations selected by A/E.

B. In the event that pull test results are not satisfactory, Contractor shall remove and replace failed sealants as directed by A/E, at no additional cost to Owner.

END OF SECTION