HOUSTON COUNTY COMMISSION

REQUEST FOR PROPOSALS
For
HOUSTON CNTY JUVENILE COURT BLD ROOF PROJ 21HHCJ05RF278

(Located at 206 Carl Vinson Pkwy, Warner Robins, GA 31088)

RFP NUMBER 22-06

For all questions about this RFP contact via email:
Mark Baker – Purchasing Agent
PH. - 478-218-4800
EMAIL – mbaker@houstoncountyga.org

RELEASED ON:

October 5, 2021

DUE ON:

November 4, 2021, 2:00 P.M. Local Time

at the Houston County Purchasing Department

2020 Kings Chapel Road, Perry, GA 31069

All bids must be accompanied by a Bid Bond in the amount not less than ten percent (10%) of the Total Base Bid. Performance and Payment Bond, each in the amount of one hundred percent (100%) of the total contract amount, will be required of the successful bidder. Bonds must be written by an acceptable Surety Company licensed to do business in the State of Georgia and listed in the Department of Treasury, Circular 570, latest edition.

A **mandatory** pre-bid conference is scheduled for October 19,2021, at Houston County Public Works Building. 2018 Kings Chapel Road, Perry, Ga 31069.

E-Verify and Bid number must be printed (written) on outside of proposal envelope.

1.0 INTRODUCTION

1.1 Purpose of Procurement

The Houston County Commission (herein after referred to as "Houston County") is seeking proposals from contractors qualified and experienced in roofing projects consisting of miscellaneous repair and/or replacement of existing roof materials.

1.2 Objective

To remediate existing issues with the existing roof and improved the parapet wall treatments.

1.3 Proposal Certification

The Houston County Commission (HCC) certifies that the use of competitive sealed bidding will not be practical or advantageous to the commission in completing the acquisition described in this RFP. Competitive sealed proposals will be submitted in response to this RFP. All proposals submitted pursuant to this request will be made in accordance with the provisions of this RFP.

1.4 Schedule of Events

This Request for Proposals will be governed by the following schedule:

DATES

10/5/2021	Release of RFP
10/19/2021	Prebid meeting & Site Visit
10/21/2021	Deadline for written questions
10/25/2021	Answers to written questions posted on the HCC website (will be posted as they are received)
11/4/2021	Proposals due
11/16/2021	Award (approximate)

1.5 Restrictions on Communications with Staff/Questions

All questions about this RFP must be submitted in the following format:

Company Name

1. Question
2. Citation of relevant section of the RFP, Plans or specifications.

Questions must be directed in writing (email/fax) only to the Issuing Officer: mbaker@houstoncountyga.org

Fax: 478-218-4805

From the issue date of this RFP until a contractor is selected and the selection is announced, Offerors are not allowed to communicate for any reason with any Commission staff except through the Issuing Officer named herein, or during the Offeror's conference, or as provided by existing work agreement(s). The commission reserves the right to reject the proposal of any Offeror violating this provision.

All questions concerning this RFP must be submitted in writing (fax or email may be used) to the Issuing Officer. No questions other than written will be accepted. No response other than written will be binding upon the commission. Questions and answers will be posted to the Houston County Commission website as they are received. Website address is http://www.houstoncountyga.org

1.6 Definition of Terms

Commission – Houston County Commission
Houston County –Houston County Commission
HCC – Houston County Commission
OCGA – Official Code of Georgia Annotated (State Statute)
Offeror – Respondent to this Request for Proposal
RFP – Request for Proposal

1.7 Background

For information on the Houston County Commission, visit http://www.houstoncountyga.org

1.8 Delivery (submission) of Proposals

All proposals must be delivered to the Houston County Purchasing Department, 2020 Kings Chapel Rd., Perry, GA 31069-2828, to the attention of Mark Baker, with the project name, RFP #, Offeror's name, and Federal Work Authorization User Identification Number, clearly written on the outside of the sealed envelope. HCC will not be responsible for any proposals delivered incorrectly or not received by the specified date and time.

Any proposal received after the due date and time will not be evaluated.

1.9 Mandatory Site Visit

All Vendors submitting proposals are required to attend the mandatory site visit. At the site visit, all contractors will meet with county personnel and the roof consultant for this project. Contractors who fail to participate in the mandatory site visit will not be considered for award. The meeting will be held in the purchasing office, 2018 Kings Chapel Rd., Perry, GA. The meeting will begin at 10:00 AM and proceed to, and end at, the job site.

1.10 Non-Performance

Houston County reserves the right to discontinue service of all and any portion of any contract resulting from this bid for reason of unsatisfactory product or service, or any reason determined to be detrimental to the health and welfare of inmates and county personnel and to hold the Contractor in default. Failure to furnish all items per the contract, in a timely manner, as specified, shall constitute unsatisfactory service.

Upon completion of the project and before acceptance and final payment will be made, the successful contractor shall clean and remove from the work site, all surplus and discarded materials, temporary structures, and debris.

1.11 Bonds

Bid Bond: Not less than ten percent (10%) of the total contract amount.
Performance and Payment Bonds: One hundred percent (100%) of the total contract amount.

1.12 Insurance

The selected GC firm shall provide and maintain the following insurance requirements. These insurance requirements will be a part of the contract agreement "**AIA Document A105-2007 Standard Form of Agreement Between Owner and Contractor** in conjunction with **AIA Document A201-2007 General Conditions**".

Upon selection of GC, GC will be notified of the necessity to provide required insurance. Proof of insurance shall be provided within fifteen (15) days of the date of notification to the GC.

1.12.1 The following requirements apply to any and all work under the contract agreement by the GC and Sub-Contractors of any tier:

a. Any and all insurance required shall be maintained during the entire length of the contract agreement, including any extensions thereto, and until all work has been completed to the satisfaction of HCBC. Any and all insurance must be on an occurrence basis.

   GC or its Subcontractors shall not commence any work of any kind under a contract until all insurance requirements contained within the solicitation have been complied with.

b. The HCBC shall be covered as an Additional Insured under any and all insurance required by the contract agreement. Confirmation of this shall appear on all certificates of insurance and on any and all applicable policies.

c. The HCBC shall be given no less than thirty (30) days' notice of cancellation. The HCBC shall be given not less than thirty (30) days prior

written notice of material changes of any insurance required of the GC under this Request for Qualifications and Proposals.

d. Each and every agent shall warrant when signing the certificate of insurance that he is acting as an authorized representative on behalf of the companies affording insurance coverage under the contract agreement referenced herein this Request for Qualifications and Proposals and that he is licensed by the State of Georgia to conduct insurance business in the State of Georgia and that the companies affording insurance coverage are currently licensed by the State of Georgia and are currently in good standing with the Commissioner of Insurance for the State of Georgia.

e. Any and all companies providing insurance required by a contract must meet the minimum financial security requirements as set forth below. The rating for each company must be indicated on the certificate of insurance.

   For all contracts, regardless of risk, companies providing insurance under this contract must have a current:

   i. Best's Rating not less than A; and

   ii. Best's Financial Size Category not less than Class VIII.

f. In the event the GC neglects, refuses, or fails to provide the insurance required by the Contract Documents, or if such insurance is cancelled for any reason, HCBC shall have the right, but not the duty, to procure the same, and the cost thereof shall be deducted from moneys then due or thereafter to become due to the GC or shall have the right to cancel the contract agreement.

1.12.2 Worker's Compensation and Employer's Liability Insurance: The GC shall procure and maintain Worker's Compensation and Employer's Liability Insurance in the following limits. Such insurance is to cover each and every employee who is or may be engaged in work under the contract.

<u>Worker's Compensation Limits</u>:	Statutory
<u>Employer's Liability Limits</u>:	
Bodily Injury by Accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 each employee
Bodily Injury by Disease	$1,000,000 policy limit

GC waives all rights against Owner and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by GC Contractor pursuant to this agreement.

1.12.3 Commercial General and Umbrella Liability Insurance: The GC shall procure and shall maintain commercial general liability (CGL) and if necessary, commercial umbrella insurance with a limit of not less than $1,000,000 each occurrence, $2,000,000 aggregate, as shall protect him and any subcontractor performing work covered by this Contract from claims for damages for bodily injury, including accidental death, as well as from claims for property damages, which may arise from operations under the Contract Agreement, whether such operations are by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them.

a. Comprehensive Form
b. Contractual Insurance
c. Personal Injury
d. Broad Form Property Damage
e. Premises – Operations
f. Completed Operations

This coverage shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under the contract. Policy coverage must be on an occurrence basis.

GC waives all rights against Owner and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement.

Disposition: Certificate(s) of insurance must be sent to Owner with properly executed Contract Documents.

1.12.4. Business Auto and Umbrella Liability Insurance: The GC shall procure and shall maintain business automobile liability, and if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each occurrence, $2,000,000 aggregate.

Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

GC waives all rights against Owner and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the business auto liability or commercial umbrella liability insurance obtained by GC pursuant to this agreement or under any applicable auto physical damage coverage.

Disposition: Certificate(s) of insurance must be sent to Owner with properly executed Contract Documents.

1.12.5. Endorsement of Casualty/Liability Policies: There shall be attached to and made a part of every CASUALTY/LIABILITY INSURANCE POLICY an

endorsement of the insurance company in accordance with the specimen shown in "*Attachment A*".

1.12.6. Builder's Risk Insurance: The GC shall procure and shall maintain in force Builder's Risk Insurance on the entire work. Such insurance shall be written on a completed value form and in an amount equal to the initial contract sum. The insurance shall apply on a replacement cost basis.

The insurance required in this subparagraph shall name as insured the Owner, the GC, and all subcontractors and sub-subcontractors in the work.

The insurance required in this subparagraph shall cover the entire work at the site of the project, including reasonable compensation for architects' services and expenses made necessary by an insured loss. Insured property shall include portions of the work located away from the site but intended for use at the site and shall also cover portions of the work in transit. The policy shall include as insured property scaffolding, false work, and temporary buildings located at the site. The policy shall cover the cost of removing debris, including demolition as may be made legally necessary by the operation of any law, regulation or ordinance.

The insurance required by this subparagraph shall be written to cover all risks of physical loss except those specifically excluded in the policy and shall insure at least against the perils of fire and extended coverage, theft, vandalism, malicious mischief, and collapse.

Any deductible applicable to the insurance purchased in compliance with this subparagraph shall be identified in the contract documents. If any part of a loss is not covered because of the application of a deductible amount, whether identified in the policy or not, such loss shall be paid by the GC.

The insurance required by this subparagraph shall be maintained in effect, unless otherwise provided for in the contract documents, until the earliest of the following dates:

a. the date on which all persons and organizations who are insured under the policy agree that it shall be terminated.

b. the date on which final payment, as provided for in the Contract Agreement, has been made.

c. the date on which the insurable interests in the property of all insured other than the Owner have ceased.

If the Owner is damaged by the failure of the GC to maintain insurance as required in this subparagraph, then the GC shall bear all reasonable costs properly attributable to that failure.

Owner and GC Construction Manager waive all rights against each other and each of their subcontractors, sub-subcontractors, officers, directors, agents and employees, for recovery of damages caused by fire and other perils to the extent covered by builders risk insurance purchased pursuant to the requirements of this subparagraph or any other property insurance applicable to the work.

1.12.7. Hold Harmless Agreement: The GC shall Hold Harmless the HCBC from any and all claims, suits, actions, damages, liability and expenses in connection with loss of life, bodily or personal injury or property damage, including loss of use thereof, directly or indirectly caused by, resulting from, arising out of or occurring in connection with the performance of this contract. The GC's obligation shall not be limited by, or in any way to, any insurance coverage or by any provision in or exclusion of omission from any policy of insurance.

2.0 MANDATORY REQUIREMENTS

This section identifies all mandatory requirements, which must be addressed in the proposal before further consideration will be given. Each response must reference the item number to which it is in reference.

2.0.1 Detailed Description of the proposed roofing system

All portions of the roofing system must be in compliance with the drawings and specifications for the project.

2.0.2 Costs

Provide a Base Costs along with the requested unit pricing shown in appendix A.

Successful bidders must provide a "turn key job." Price offered should include all labor and materials to complete entire project. Price offered should include all shipping and handling charges, F.O.B. destination, delivery, uncrating of products and installation at the site. All pricing shall be in accordance with all applicable city, state, and federal codes.

2.0.3 Timeline

Contractors shall include an estimated timeline of events including tear-off, deliveries, beginning installations, and completion date.

2.0.5 Experience/References

Houston County requires a high level of service and support from the successful vendor. Vendors must have worked in a Law enforcement Detention environment and include examples including photos of work completed on other detention centers, a list of three references from current projects. Each reference must contain the reference's name, address, telephone number, and point of contact. This may be waived if three or

more projects have been completed by the contractor for HCC in the past two years.

2.0.6 Site Management

The successful contractor will be responsible for managing the site and coordinating all construction activities in cooperation with Houston County

2.0.7 Changes/Issues

The successful contractor shall report to the Executive Director of Capital Programs during the execution of this project and shall update and submit to the Director of any proposed changes or issues concerning the original design plan.

2.0.8 Removal of Packaging and Debris

The successful contractor shall keep the work site and surrounding area free from accumulation of waste materials and debris during this project. Once project is complete, all debris and garbage must be removed from the building.

2.0.9 Company Background and Experience

Offeror will describe their background, relevant experience, and qualifications, including, but not limited to the following:

2.0.10 Company Structure

The Offeror will include in the proposal the legal form of their business organization, the state in which incorporated (if a corporation), the types of business ventures in which the organization is involved and the office location that will be the point of contact during the term of any resulting contract.

2.0.11 Experience

The Offeror must include in the technical proposal the number of full consecutive years they have been operating under their current business name.

The Offeror will provide a list of at least three clients for whom similar services, as detailed in this RFP, have been provided during the past three years. The list must include:

- dates of service
- name of contact person
- title of contact person
- phone number of contact person

The Offeror will also disclose any services terminated by the client(s) and the reason(s) for termination.

2.0.12 Business Litigation

The Offeror will disclose any involvement by the organization or any officer or principal in any material business litigation within the last five (5) years. The disclosure will include an explanation, as well as the status and/or disposition.

2.1 PROPOSAL FORMAT

2.1.1 Technical proposal shall include the following:

1. Full name and address of the Contractor.
2. Cost Proposal – Appendix A
3. Proposal Certification – Appendix B
4. Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1) – Appendix C
5. A brief, concise summary of two (2) pages or less of the proposal.
6. Response to each item listed in the Mandatory Requirements Section 2 of this RFP numbered and labeled.
7. A list of requested services from HCC (i.e. removal of equipment if needed, electrical work, including temporary power).

3.0 PROPOSAL SUBMISSION AND EVALUATION

3.1 Process for Submitting Proposals

3.1.1 Preparation of Proposal

Each proposal should be prepared simply and economically, avoiding the use of elaborate promotional materials beyond those sufficient to provide a complete proposal. The Offeror is solely responsible for the cost of responding to this RFP. Reimbursement for cost of preparation of response will not be made.

3.2 Evaluation Process

The evaluation of proposals received on or before the due date and time will be conducted in the following phases.

3.2.1 Administrative Review

The proposals will be reviewed by the Issuing Officer for the following administrative requirements:

1. Submitted by deadline
2. All required documents have been submitted
3. All documents requiring an original signature have been signed and are included

3.2.2 Mandatory Requirements Review

Proposals, which pass the administrative review, will then be reviewed by the Evaluation Team to ensure all requirements identified in Section 2 are addressed satisfactorily.

3.2.3 Proposal Evaluation

Proposals, which pass the Mandatory Requirements Review, will be reviewed by the Evaluation Team for quality and completeness.

The following are the maximum possible points of each category:

Experience: Experience in similar projects	15 Points
Schedule: Proposed Start and Duration of the project.	25 Points
Cost: Fees for providing full scope of work	40 Points
References:	10 Points

3.3 Rejection of Proposals/Cancellation of RFP

The commission reserves the right to reject any or all proposals, to waive any irregularity or informality in a proposal, and to accept or reject any item or combination of items, when to do so would be to the advantage of the commission. It is also within the right of the commission to reject proposals that do not contain all elements and information requested in this document. The commission reserves the right to cancel this RFP at any time. The commission will not be liable for any cost/losses incurred by the Offerors throughout this process.

4.0 TERMS AND CONDITIONS

4.1 RFP Amendments

The commission reserves the right to amend this RFP prior to the proposal due date. All amendments and additional information will be posted promptly to the Houston County Commission Purchasing website, which is located at the following web address: http://www.houstoncountyga.org Offerors are encouraged to check this website frequently.

4.2 Proposal Withdrawal

A submitted proposal may be withdrawn prior to the due date by a written request to the Issuing Officer. A request to withdraw a proposal must be signed by an authorized individual.

4.3 Cost for Preparing Proposals

The cost for developing the proposal is the sole responsibility of the Offeror. The commission will not provide reimbursement for such costs.

4.4 Contract

The Contract, Consensus Docs 200 Standard Agreement and General Conditions between Owner and Constructor (Lump Sum Price), which the commission intends to use with the successful Offeror, is attached to this RFP and identified as Appendix C. Exceptions to the Contract should be identified and submitted with the Offeror's proposal. Proposed exceptions must not conflict with or attempt to preempt mandatory requirements specified in this RFP, Project Specifications or Plans.

Prior to award, the apparent winning Offeror will be required to enter into discussions with the commission to resolve any contractual differences before an award is made. These discussions are to be finalized and all exceptions resolved within one (1) week of notification. Failure to resolve contractual differences will lead to rejection of the Offeror's proposal.

The commission reserves the right to modify the Contract to be consistent with the successful offer and to negotiate with the successful Offeror other modifications, provided that no such modifications affect the evaluation criteria set forth herein, or give the successful Offeror a competitive advantage.

4.5 Conflict of Interest

If an Offeror has any existing client relationship that involves the Houston County Commission, the Offeror must disclose each relationship.

4.6 Compliance with Laws

The Contractor will comply with all State and Federal laws, rules, and regulations.

Appendix A

COST PROPOSAL

RFP #20-30

Houston County Detention Roof Repair Project

Description	Quote in words ***(i.e.: nine thousand, two hundred, fifty)***	Numeric Quote ***(i.e. :$9,250.00)***
BASE COST		$
ALTERNATES / DEDUCTIONS Note: include in the base bid all wet insulation within 12" of the paint marks. Unit costs begin 12" outside the existing marks.		
ALTERNATE ONE: Replace existing wall panels with specified replacement panels in lieu of modifying and reinstalling the existing panels	Total addition	$
ALTERNATE TWO: Restore the existing stucco as specified in the project manual and indicated on the project diagrams.	Total addition	$

Contractor Owner / Officer _____

Title _____

Address _____

City, State Zip _____

Signature of Offeror: _____

Printed Name of Above: _____

(AFFIX CORPORATE SEAL)

The bidder hereby acknowledges receipt of the following addenda:

Addendum No._____Dated_____

Addendum No._____Dated_____

Addendum No._____Dated_____

Appendix B

Must be include with the proposal

PROPOSAL CERTIFICATION

I certify that I have read and understand the terms and conditions herein except as stated below. I further state that I am and/or my company is capable, able to, and will provide the requested products and/or service described herein. I am the owner or agent of the company stated below and am authorized and empowered to contract. By my signature on this RFP, I/we guarantee and certify that all items included in my bid meet or exceed specifications.

I certify that this quotation is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a quotation for the same materials, supplies, equipment, or services and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of State and Federal Law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of the quotation and certify that I am authorized to sign this quotation for the Contractor.

SUBMITTED BY_____ DATE _____

TITLE_____EMAIL: _____

COMPANY NAME_____

ADDRESS_____CITY_____ST_____ZIP_____

TELEPHONE NUMBER_____FAX NUMBER_____

COMPANY WEBSITE _____

SIGNATURE _____

Appendix C

Must be included with this proposal

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of Houston County Commission has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____ _____

Federal Work Authorization User Identification Number Date of Authorization

_____ _____

Name of Contractor Name of Project

_____

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ___, 201__ in _____(city), _____(state).

_____

Signature of Authorized Officer or Agent

_____

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____,201__.

_____

NOTARY PUBLIC

My Commission Expires:

_____

PROJECT MANUAL

HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT

206 CARL VINSON PARKWAY
WARNER ROBINS, GEORGIA 31088

EDIFICE
CONSULTING, INC.
A Georgia Corporation

ISSUE DATE:
OCTOBER 1, 2021

ISSUED FOR CONSTRUCTION

EDIFICE PROJECT:
21HHCJ05RF278

SECTION 00 0110

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END OF SECTION

SECTION 00 0115

LIST OF DIAGRAM SHEETS

KEY PLAN DIAGRAMS

KEY PLAN 1 OVERALL ROOF PLAN

DIAGRAMS

DIAGRAM 1 TYPICAL PARAPET

DIAGRAM 2 TYPICAL ROOF TO WALL

DIAGRAM 3 TYPICAL EAVE WITH GUTTER

DIAGRAM 4 TYPICAL RAKE

DIAGRAM A TYPICAL ROOF ASSEMBLY

DIAGRAM B TYPICAL PIPE PENATRATION

END OF SECTION

SECTION 01 1113

SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract including General and Supplementary Conditions and other Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Work covered by the Contract Documents.
   2. Miscellaneous Provisions.

B. Provide Performance and Payment Bond equal to 100% of total project value.

1.03 BASE BID ROOF WORK SUMMARIES

A. Refer to project Key Plans and Diagrams, as well as remainder of project manual for additional requirements.

B. Remove, alter to fit, and reinstall existing metal wall panels. Replace existing fasteners with new fasteners. Provide new neoprene gaskets at all fastener locations.

C. Remove existing copings and replace with new as indicated.

D. Install new roof system control and expansion joints in locations recommended by new roof membrane system manufacturer. Where recommended, install flat control joints or raised joints oriented parallel to roof surface water flow; do not block roof drainage flow of water.

E. Install new KEE roof membrane system, including infill insulation, overlay insulation, cover board where required by roof membrane manufacturer, and flashings.

1.04 MISCELLANEOUS PROVISIONS

A. Contractor to provide Performance and Payment Bond equal to 100% of project value.
   1. Provide Performance and Payment Bond from a bonding company with a minimum “A” rating. The cost of the Bond will be paid directly by the Contractor. Contractor has to specifically identify bonding company name and agent name by submitting this documentation as specified.

B. Without exception, no product or material used on the Project will contain asbestos. Contractor is responsible for providing Consultant with manufacturer’s written technical data for questionable items. If installed materials are found to contain asbestos, these materials will be removed and replaced with acceptable materials at Contractor’s expense.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2300

ALTERNATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and other Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This section includes administrative and procedural requirements for Alternates.

1.03 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.04 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

1. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Amount to be added to the Base Bid to provide new metal wall panels in lieu of altering and reinstalling existing panels.

1. Description: Provide new metal wall panels as specified in section 07 6200 - Sheet Metal Flashing and Trim.
2. Work for this alternate shall be performed in accordance with the requirements of this project manual and other contract documents.
3. Contractor to determine need for additional work in conjunction with this Alternate and include in the Alternate price.

B. Alternate No. 2: Amount to be added to the Base Bid to rehabilitate existing stucco walls where indicated.

1. Description: Provide new surface applied coating system in accordance with Section 07 1917 - Acrylic Stucco Coating in locations indicated on project diagrams.
2. Work for this alternate shall be performed in accordance with the requirements of this project manual and other contract documents.
3. Contractor to determine need for additional work in conjunction with this Alternate and include in the Alternate price.

3.02 MISCELLANEOUS PROVISIONS

A. Without exception, no product or material used on the Project will contain asbestos. Contractor is responsible for providing Consultant with manufacturer’s written technical data for questionable items. If installed materials are found to contain asbestos, these materials will be removed and replaced with acceptable materials at Contractor’s expense.

B. Prior to Substantial Completion, inspect, test and adjust performance of every material and system of the Project to ensure that overall performance complies with the Project Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and other Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 01 6000 - Product Requirements: For requirements for submitting comparable product submittals for products by listed manufacturers.

1.03 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.04 SUBMITTALS FOR SUBSTITUTIONS

A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use form acceptable to Consultant. Refer to Section 01 2503.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
    b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of Consultants and owners.

h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.

i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.

j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.

m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Consultant's Action: If necessary, Consultant will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Consultant will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

   a. Forms of Acceptance: Change Order, Construction Change Directive, or Consultant's Supplemental Instructions for minor changes in the Work.

   b. Use product specified if Consultant does not issue a decision on use of a proposed substitution within time allocated.

1.05 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.06 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.07 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Consultant will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Consultant will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

b. Substitution request is fully documented and properly submitted.

c. Requested substitution will not adversely affect Contractor's construction schedule.

d. Requested substitution has received necessary approvals of authorities having jurisdiction.

e. Requested substitution is compatible with other portions of the Work.

f. Requested substitution has been coordinated with other portions of the Work.

g. Requested substitution provides specified warranty.

h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Consultant will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Consultant.

1. Conditions: Consultant will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Consultant will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Consultant for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

b. Requested substitution does not require extensive revisions to the Contract Documents.

c. Requested substitution is consistent with the Contract Documents and will produce indicated results.

d. Substitution request is fully documented and properly submitted.

e. Requested substitution will not adversely affect Contractor's construction schedule.

f. Requested substitution has received necessary approvals of authorities having jurisdiction.

g. Requested substitution is compatible with other portions of the Work.

h. Requested substitution has been coordinated with other portions of the Work.

i. Requested substitution provides specified warranty.

j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

C. Design, material, and construction not approved as a substitution shall be considered as non-compliant with the Construction Documents. Installed work, not approved as a substitution, shall be the responsibility of the Contractor for removal. If removal is not possible for Life Safety considerations, Contractor shall refund to Owner the cost of the work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2503

SUBSTITUTION REQUEST FORM

Project:_____ Substitution Request Number:_____

_____ From:_____

To:_____ Date:_____

_____ Consultant Project Number:_____

Specification Section Title: _____

Specification Section #: _____ Page#:_____

Article or Paragraph #: _____

General Description of Product & Application: _____

_____

Proposed Substitution: _____

_____

Reason for Substitution: _____

_____

Manufacturer Name:_____ Website: _____

Manufacturer Contact (for submitted product): _____ Contact Email: _____

☐ Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request. Applicable portions of the data are clearly identified. *Attach additional sheets to provide required substitution request information.*

☐ Attached data includes a description of Contract Documents changes that proposed substitution will require for its use and proper installation.

The Undersigned certifies:

☐ Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

☐ Same warranty will be furnished for proposed substitution as for specified product.

☐ Same maintenance service and source of replacement parts, as applicable, is available.

☐ Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.

☐ Proposed substitution does not affect dimensions and functional clearances.

☐ Payment will be made for changes to building design, including design, detailing, and construction costs caused by the substitution.

☐ **This substitution request form is complete and complies with all requirements of Section 01 2500 – Substitution Procedures. Provide additional requirements as an attachment to this form. Failure to comply with all requirements shall result in rejection of substitution request.**

Submitter Name:: _____(printed name)

Submitter Signature: _____(signature)

Company Name: _____ Telephone:_____

Address:: _____ Company Email:_____

CONSULTANT REVIEW AND ACTION

☐ Substitution Approved: Provide submittals in accordance with Specification Section 01 3300 - Submittal Procedures.

☐ Substitution Approved as Noted: Provide submittals in accordance with Specification Section 01 3300 - Submittal Procedures.

☐ Substitution Rejected: Information provided is incomplete and/or does not comply with Substitution requirements. Use specified materials.

☐ Substitution Rejected: Substitute not acceptable for use on project. Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Consultant Signature: _____

Consultant Printed Name: _____

Type of Supporting Data Attached: ☐ Drawings ☐ Details ☐ Product Data Sheets ☐ Material Samples ☐ Test Data ☐ Test Reports

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and other Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. Coordination Drawings.
   2. Project meetings.
   3. Requests for Interpretation (RFI).

B. Related Sections include the following:
   1. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.03 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.04 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

C. Preparation of Contractor's Construction Schedule.
   1. Preparation of the Schedule of Values.
   2. Delivery and Processing of Submittals.
   3. Progress Meetings.
   4. Pre-installation Conferences.
   5. Project Closeout Activities.

1.05 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

B. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Consultant, Architect, and General Contractor of scheduled meeting dates and times.

C. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

D. Minutes: Record significant discussions and agreements achieved.

1. Distribute the Meeting Minutes to everyone concerned, including Owner and Consultant, within three (3) days of the meeting.

E. Preconstruction Conference: Schedule a Preconstruction Conference before starting construction, at a time convenient to Owner and Consultant, but no more than ten (10) days prior to start commencement of roofing work. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Consultant, Contractor, and relevant subcontractors shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
    a. Tentative construction schedule.
    b. Critical work sequencing and long-lead items.
    c. Designation of key personnel and their duties.
    d. Procedures for processing field decisions and Change Orders.
    e. Procedures for RFI’s.
    f. Procedures for testing and inspecting.
    g. Procedures for processing Applications for Payment.
    h. Use of the premises and existing building.
    i. Work restrictions.
    j. Owner's occupancy requirements.
    k. Responsibility for temporary facilities and controls.
    l. Construction waste management and recycling.
    m. Parking availability.
    n. Work and storage areas.
    o. Equipment deliveries and priorities.
    p. First aid.
    q. Security.
    r. Progress cleaning.
    s. Working hours.

3. Minutes: Record and distribute meeting minutes.
4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

F. Progress Meetings: Contractor is required to be present at any project progress meetings requested by the Owner and/or Consultant.

1. The location, time and agenda for Progress Meetings will be set by the Owner and/or Consultant.
2. Contractor shall have their Project Superintendent and any other personnel or representatives present, as requested by the Consultant.

1.06 REQUESTS FOR INTERPRETATION (RFI)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFI shall originate with Contractor. RFI submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFI in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Consultant.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.

C. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings and other information necessary to fully describe items needing interpretation.

D. Consultant's Action: Consultant will review each RFI, determine action required and return it. Allow seven (7) working days for Consultant's response for each RFI. RFI's received after 2:00 P.M. EDST will be considered as received the following working day.

1. The following RFI will be returned without action:
    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Consultant's actions on submittals.
    f. Incomplete RFI's or RFI's with numerous errors.
2. Consultant's action may include a request for additional information, in which case Consultant's time for response will start again.
3. Consultant's action on RFI's that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section "Contract Modification Procedures."
4. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Consultant in writing within ten (10) days of receipt of the RFI response.
5. On receipt of Consultant's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Consultant within seven (7) days if Contractor disagrees with response.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams and general provisions of the Contract, including General and Supplementary Conditions and other Division 00-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes:
   1. Administrative and procedural requirements for submittals.

B. Related requirements:
   1. Refer to specification Section 01 2900 - Payment Procedures, for progress payments required prior to project closeout and Final Payment.
   2. Refer to specification Section 01 7700 - Closeout Procedures, for submittals required at project completion.

1.03 SUBMITTALS, GENERAL

A. Submittals: Includes items indicated in specifications as Shop Drawings, Submittals, Warranty Submittals, and Closeout Submittals. Unless noted otherwise all submittals shall conform to the requirements of this section and as indicated in individual specification sections.
   1. A required submittal is a project requirement, whether or not the required submittal item is otherwise mentioned in the project documents.
   2. Contractor shall provide additional submittal items, including shop drawings, when requested by Owner.
   3. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
   4. Any cost associated with submittals shall be paid by the Contractor.

B. Consultant Review:
   1. Consultant review or corrections refer only to the general arrangement and conformance of the subject of the submittals with the design concept of the project and with the information given in the Contract Documents. Under no conditions should the Contractor consider the review to include the dimensions, quantities, and details of the items nor the approval of an assembly in which the item functions.
   2. Consultant review shall not relieve the Contractor from responsibility for errors or omissions in the submittals.

3. Consultant review of submittals shall not relieve the Contractor of direct responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has directed specific attention to the deviation at the time of submission and the Consultant and/or Owner has provided written approval to the specific deviation.
4. Consultant review of submittals shall not be construed as authorization to change the Contract Sum or Contract Time.
5. Consultant will return submittals received from sources other than Contractor without review.

C. Submittals not required by the Contract Documents will be returned by Consultant without action, unless noted otherwise.

1.04 SUBMITTALS FORMAT

A. Format: Provide all submittals in the following format, unless indicated otherwise.
1. Number of Complete Submittal Sets: One (1), unless indicated otherwise. Provide duplicate items within each submittal set as indicated (i.e. color charts, etc).
2. Provide all submittals on 8.5 by 11 inch paper. Only single sided printing is permitted. Duplex (double sided) submittals will be returned for resubmittal.
3. Use a cover page to separate and clearly identify each submittal. Cover page shall clearly list project name, Owner's project number, Consultant's project number, contractor company name, submittal number, and submittal title. Submittals without cover pages will be rejected, with no further review.
4. Cause all pages of each individual submittal to be connected to each cover page.
5. Product data sheets with multiple product listing shall have the product submitted clearly marked and otherwise identified.
6. Do not staple, fold, spindle, bend, hole-punch, or otherwise physically alter the paper on which the submittal is printed in any way that would slow or jam a high-speed scanner. Properly package submittals to protect them during shipping. Damaged documents will be returned without review.
7. Provide electronic copy of each submittal as internet based download from cloud based provider (i.e. Microsoft One Drive, Dropbox, or similar) or on an external data drive. Electronic files shall be in Adobe PDF format.

B. Order:
1. Organize submittals in the order that each submittal requirement appears in the project manual. Place in ascending order by specification section number.
2. Place Owner required procurement and contracting submittal documents before submittals required in Sections 01-44 of the project manual.
3. Multiple page submittals shall be submitted in sequential page order.

1.05 SUBMITTALS REQUIRED

A. Submittals Prior to Mobilization: Refer to Section 01 3307.

B. Submittals During Work: Refer to Section 01 3309.

1.06 ADDITIONAL SUBMITTAL REQUIREMENTS

A. Provide any additional shop drawings and any other submittal items requested by the Owner, the Owner's Consultant or Owner's Representative.

B. Additional submittal requirements may result from, but are not limited to, the following: Work related to project Unit Prices, Alternates, Owner requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3307

SUBMITTALS, PRIOR TO MOBILIZATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams and general provisions of the Contract, including General and Supplementary Conditions and other Division 00-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes submittals required prior to mobilization for the Work of this Project.

1.03 SUBMITTALS, GENERAL

A. Comply with the requirements of Section 01 3300 - Submittal Procedures.

1.04 DUE DATE AND DELIVERY

A. Due: Minimum five business days prior to project preconstruction meeting.

B. Deliver To: Tonia Lettice, Edifice Consulting, Inc., P.O. Box 1060, Byron, GA. 31008

1.05 SUBMITTALS REQUIREMENTS PRIOR TO MOBILIZATION

A. General Content:
   1. A list of subcontractors that will be utilized on the project.
   2. Proposed project schedule.

B. Technical Content: Provide submittals required in the following individual Division 02-44 specification sections:
   1. 06 1053 - Miscellaneous Rough Carpentry.
   2. 06 1516 - Wood Roof Deck Rehabilitation.
   3. 07 5416 - KEE Thermoplastic Membrane Roofing.
   4. 07 6200 - Sheet Metal Flashing And Trim.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3309

SUBMITTALS, DURING WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams and general provisions of the Contract, including General and Supplementary Conditions and other Division 00-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes submittals required during the Work of this Project.

1.03 SUBMITTALS, GENERAL

A. Comply with the requirements of Section 01 3300 - Submittal Procedures.

1.04 SUBMITTAL REQUIREMENTS DURING WORK

A. Due: Within three (3) business days of all third party site visits.

B. Format and delivery: Electronic Adobe PDF format.

1. Deliver to by email to Chuck Kilgore, Edifice Consulting: chuck@edifice.biz.

C. Content:

1. One (1) copy of any third party field inspection reports.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 4000

QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams and general provisions of the Contract, including General and Supplementary Conditions and other Division 00-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes requirements for quality control on this project.

1.03 QUALITY CONTROL

A. Contractor shall:

1. Be experienced and well versed in:
    a. KEE Membrane Roofing, mechanically attached induction welded metal roof recover systems.
    b. Metal wall panel systems.
    c. Working in government facility environments.
    d. Roofing sheet metal component fabrication and installation.
2. Have operated under the same name, without court order protection from creditors, for no less than seven years.
3. Be approved by the manufacturer issuing the warranty, for the proposed system, two years prior to the bid date, as specified.

B. Roofing manufacturer shall:

1. Be an Associate Member in good standing with National Roofing Contractor's Association (NRCA).
2. Be approved by Owner.

1.04 SUBMITTAL REQUIREMENTS CONSTITUTE QUALITY CONTROL REQUIREMENTS

A. Submittal requirements in this project manual constitute quality control requirements for the project. Anything required as a submittal is understood to be a requirement for the project.

1.05 RANDOM SAMPLING

A. During course of work, owner/owner's representative, may secure samples of materials being used from containers at job site and submit them to an independent laboratory for comparison to specified material.

B. If test results prove that a material is not functionally equal to specified material:

1. Contractor shall pay for all testing.
2. Work will be replaced with material that meets the standard, at the Contractors full expense.

PART 2 - PRODUCTS

2.01 GENERAL

A. Comply with Quality Control, specification, and manufacturer data. Where conflict may exist, more stringent requirements govern.

B. Provide primary products, including each type of roofing, miscellaneous flashing materials, underlayment, and sheet metal components from a single manufacturer, which has produced that type of product successfully for not less than three (3) years. Provide secondary products (mechanical fasteners, lumber, etc.) only as recommended by manufacturer of primary products for use with roofing system specified.

C. All flashing work will comply with SMACNA Standards, at a minimum. Consultant may have additional requirements.

PART 3 - EXECUTION

3.01 SUBMITTALS

A. Meet submittals requirements listed in Section 01 3324 of this project manual.

END OF SECTION

SECTION 01 4200

REFERENCES

PART 1 GENERAL

1.01 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.02 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents. Any date listed shall be superseded by standards in effect as of date of Contract Documents.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.03 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized industry standard name of the entities and as indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States." The abbreviations used in the Contract Documents are subject to change and are believed to be accurate as of the date of the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.02 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. [manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.

C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.

D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:

1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.

E. Basis-of-Design Product Specification Submittal: A submittal complying with project submittal requirements.

F. Substitution: Refer to Section 01 2500 - Substitution Procedures, for definition and limitations on substitutions.

1.03 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

1.05 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Owner or Owner Representative will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
    a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 2500 - Substitution Procedures, for substitutions for convenience.

C. Visual Matching Specification: Where Specifications require the phrase "match existing", provide a product that complies with requirements and matches existing materials as indicated by Owner or Owner Representative. Owner or Owner Representative's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 2500 - Substitution Procedures, for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Owner from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Owner or Owner Representative will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

A. Conditions for Consideration of Comparable Products: Owner or Owner Representative will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Owner or Owner Representative may return requests without action, except to record noncompliance with the following requirements:

1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects, with project names and addresses and names and addresses of Owner or Owner Representatives and owners, if requested.
5. Samples, if requested.

B. Owner or Owner Representative's Action on Comparable Products Submittal: If necessary, Owner or Owner Representative will request additional information or documentation for evaluation.

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and other Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including but not limited to, the following:

1. Inspection procedures.
2. Warranties.
3. Final cleaning.

1.03 PROJECT CLOSEOUT SUBMITTALS

A. Close out Submittals: Two (2) copies of close out submittals of which receipt and acceptance are pre-requisites for final payment shall include, but not necessarily be limited to, the following:

1. Copies of all project landfill receipts from certified county landfill.
2. Evidence of Payments and Release of Liens.
3. Contractor Warranties, refer to project submittal requirements and individual sections.
4. Manufacturer Warranties, refer to project submittal requirements and individual sections.
5. Final Application for Payment.

1.04 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting a Final Inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list and reasons why the Work is not complete.
2. Prepare and submit project record documents, operation and maintenance manuals, and any requested final completion construction drawings.
3. Deliver any requested extra materials and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
4. Terminate and remove temporary facilities from Project site, including mockups, construction tools, and similar elements.

5. Complete all final cleaning requirements, including touchup painting.
6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.05 FINAL INSPECTION

A. Inspection: Submit a written request for a Final Inspection for Substantial Completion. On receipt of request, Consultant will either proceed with inspection or notify Contractor of unfulfilled requirements. Consultant will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Consultant that must be completed or corrected before certificate will be issued.

1.06 WARRANTIES

A. Final payment will not be made to contractor until all specified warranties have been delivered and approved by the Consultant.

1.07 LIST OF INCOMPLETE ITEMS

A. Preparation: Following the Final Inspection the Consultant will prepare a list of incomplete (Punch List) items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

B. Re-Inspection: After completion of Punch List items, submit a written request to the Consultant for re-inspection. Final Application for Payment cannot be issued until all items have been satisfactorily completed.

1.08 FINAL COMPLETION

A. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications and similar documents.

B. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction drawings.

C. Provide a complete set of As-Built drawings, which vary from the original contract documents showing all locations where modifications and alterations where made, deck infill, equipment removed, etc.

1.09 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

A. Contractor shall submit:
   1. Contractor’s Affidavit of Payment of Debts and Claims
   2. Contractor’s Affidavit of Release of Liens.
   3. Consent of Surety to Final Payment.

B. All submittals shall be duly executed before delivery to the Consultant.

1.10 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit final statement of accounting to the Consultant. Statement shall reflect all adjustments, including, but not necessarily limited to, the following:

1. Original Contract Sum.
2. Additions and deductions resulting from:
3. Previous change orders.
4. Cash allowances.
5. Unit Prices.
6. Other adjustments.
7. Deductions for uncorrected work.
8. Penalties and bonuses.
9. Deductions for liquidated damages.
10. Total Contract Sum, as adjusted.
11. Previous payments.
12. Sum remaining due.

B. The Consultant will prepare final change order, rejecting approved adjustment to Contract Sum not previously made by change order.

1.11 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit final application in accord with requirements of General and/or Supplementary Conditions, and all applicable requirements of this project manual.

B. Final payment will not be made to contractor until all specified warranties have been delivered and approved by the Consultant.

1.12 FINAL CERTIFICATE FOR PAYMENT

A. The Consultant will issue final certificate in accord with provisions of General Conditions. Should final completion be materially delayed through no fault of Contractor, the Consultant may issue a Semi-Final Certificate for Payment, in accord with provisions of General Conditions, and other applicable requirements of this project manual.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.01 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

1. Clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter and other foreign substances.
2. Sweep paved areas broom clean. Remove petrochemical spills, stains and other foreign deposits.
3. Remove tools, construction equipment, machinery and surplus material from Project site.
4. Remove discarded fasteners, metal trimmings, and other construction debris from roofs and gutters.
5. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
6. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

C. Comply with safety standards for cleaning. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 02 4119

SELECTIVE ROOF DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building, e.g. existing roof system, sheet and sheet metal flashings, as indicated in the Contract documents.

1.03 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

D. Replace: Remove items of existing construction, dispose of materials off- site, unless otherwise indicated and install new material as indicated.

1.04 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Where noted, historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value (i.e. copper and other valuable metals) to Owner that may be uncovered during demolition remain the property of Owner. When the value or relevance of a particular item is not clear to the Contractor, it is the Contractors responsibility to request clarification from the Owner prior to removal and disposal.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.05 FIELD CONDITIONS

A. Existing site conditions are to be maintained by the Contractor during and through the completion of the project. Contractor shall restore all site conditions including landscaping, grassing, and planting to the pre-installation status upon completion of the work. Contractor shall include the furnishing of all necessary ground protection mats as necessary to protect the existing grounds during all phases of construction.

1. Notify Consultant of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
2. Storage or sale of removed items or materials on-site is not permitted.

B. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

C. Hazardous Materials: It is not expected that asbestos-containing materials will be encountered in the Work. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Consultant and Owner.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review any record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

1. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Consultant.

D. Survey of Existing Conditions: At Owner Representative's request record existing conditions by use of preconstruction photographs or videos.

1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

E. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.02 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.03 DEMOLITION, EXISTING CONDITIONS

A. All existing materials and assemblies described herein are those expected to be encountered during the work of this project based on limited field observation.

1. The Owner, and Owner Representatives cannot verify the materials and configurations listed as “existing” on this project.
2. The Contractor and their representatives are required to verify all existing materials, products, systems, and conditions on this project prior to bid submittal, prior to executing the Contract to perform work, and prior to and during the time work is completed for the Project.

3.04 SELECTIVE DEMOLITION, GENERAL

A. Demolition Guidelines: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Evaluate all projections and penetrations to ensure that each item is secured to the building structure. Any item not considered to be secured to the structure shall be brought to the owner's attention prior to job start, or immediately upon discovery during roofing operations.
2. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
3. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding not hammering, and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
4. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
5. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire- suppression devices during flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, animal-infested, or otherwise dangerous, or unsuitable materials and promptly dispose of off-site.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Consultant, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

C. No materials will be removed or installed under adverse weather conditions. All work shall be scheduled and executed without exposing interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all reasonable risks.

D. All existing materials torn-off shall be immediately removed from the site to a dumping area authorized to receive such debris.

E. Any unusual or concealed conditions discovered during the course of the work that may adversely affect the performance of the new roof system must be immediately reported to the Consultant.

F. Any substrate to receive new materials shall be thoroughly dry. Existing wet materials must be removed prior to the application of the new membrane system. Should surface moisture occur on work area substrates, the contractor shall provide adequate equipment to dry the substrate.

3.05 DISPOSAL OF DEMOLISHED OR DAMAGED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in a certified, EPA-approved landfill. Follow any stated Owner specific disposal requirements.

1. Collect and place demolished materials in containers.
2. Do not allow demolished materials to accumulate on-site.
3. Storage or sale of demolished items or materials on-site will not be permitted.
4. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces.
5. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished, or damaged materials.

C. Disposal: Transport demolished, or damaged materials off Owner's property and legally dispose of them.

D. New materials that are wet or damaged and unacceptable for installation on the project must be disposed of in accordance with the requirements of this project.

3.06 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 06 1053

MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Wood blocking, including plywood and nailers.
   2. Exterior roof and wall sheathing.

1.03 DEFINITIONS

A. Lumber grading agencies, and the abbreviations used to reference them, include the following:
   1. NLGA: National Lumber Grades Authority.
   2. SPIB: The Southern Pine Inspection Bureau.
   3. WCLIB: West Coast Lumber Inspection Bureau.

B. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.

C. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal actual) size in least dimension.
   1. Blocking.
   2. Nailers.

D. Exposed Framing: Framing not concealed by other construction.

E. OSB: Oriented strand board.

F. S4S: Surfaced four sides.

1.04 SUBMITTALS

A. Product data for the following materials:
   1. Plywood Sheathing.
   2. Securement products including fasteners and adhesives.

B. Shop drawings as follows:
   1. Plan drawings indicating locations where sheathing to be used. Minimum drawing scale is 1/16 inch equals one foot.
   2. Drawings showing sections and details of specific assembly using sheathing to be installed. Minimum drawing scale is 3/4 inch equals one foot.

3. Include complete assembly to be installed over exterior plywood sheathing. Reference the project specification section(s) containing materials and systems to be installed over sheathing.
4. Indicate coordination with requirements of other systems including written statement from other system manufacturer that proposed plywood sheathing is acceptable for use as a substrate for proposed system.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

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

C. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 - PRODUCTS

2.01 GENERAL

A. Design intent is to match existing where existing materials are to be replaced with new.

B. Comply with applicable project code requirements. Coordinate with requirements of system or material to be installed over plywood sheathing.

2.02 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory marks each piece of lumber with grade stamp of grading agency.
2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. All wood used in conjunction with roof system shall be pressure treated S4S.

C. Products shall contain no urea formaldehyde

2.03 LUMBER FRAMING

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.

2. Nailers.
3. Includes typical nominal lumber sizes including but not limited to 2x4, 2x6, 2x8, 2x10, 2x12, 4x4.

B. For concealed boards, provide pressure treated lumber of the following species and grades:
1. Mixed southern pine, No. 2 grade; SPIB.
2. Hem-fir or hem-fir (north), Construction or 2 Common grade; NLGA, WCLIB, or WWPA.

C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.04 EXTERIOR WALL SHEATHING

A. OSB Wall Sheathing: Oriented strand board wood structural panel; PS 2.
1. Grade: Structural 1 Sheathing.
2. Bond Classification: Exposure 1.
3. Performance Category: 5/8 PERF CAT.
4. Span Rating: 40/20.
5. Edges: Square.
6. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.
7. Provide fastening guide on top panel surface with separate markings indicating fastener spacing for 16 inches and 24 inches on center, respectively.
8. Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

B. Plywood Wall Sheathing: Plywood, PS 1, Grade C-C, Exterior Exposure 1.

2.05 EXTERIOR ROOF SHEATHING

A. OSB Roof Sheathing: Oriented strand board wood structural panel; PS 2.
1. Grade: Structural 1 Sheathing.
2. Bond Classification: Exposure 1.
3. Performance Category: 5/8 PERF CAT.
4. Span Rating: 40/20.
5. Edges: Square.
6. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.
7. Provide fastening guide on top panel surface with separate markings indicating fastener spacing for 16 inches and 24 inches on center, respectively.
8. Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

B. Plywood Roof Sheathing: PS 2 type, rated Structural I Sheathing.
   1. Bond Classification: Exterior.
   2. Span Rating: 60.
   3. Performance Category: 3/4 PERF CAT.

2.06 ROOF BASE FLASHING SHEATHING

A. Wall Sheathing: Plywood, PS 1, Grade C-C, Exterior Exposure 1, fire rated.

B. Comply with applicable code structural requirements. Coordinate with requirements of system or material to be installed over plywood sheathing.

2.07 ACCESSORIES

A. Provide nails, bolts, nuts, washers, screws, expansion bolts, clips, fasteners and similar accessories necessary for complete installation of rough carpentry items.

B. Fasteners and Anchors:
   1. Metal and Finish: Stainless steel. Comply with ASTM B633
   2. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete.
   3. Nails, Brads, and Staples: ASTM F1667.
   4. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to code officials, based on ICC-ES AC70.
   5. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to code officials, based on ICC-ES report appropriate for substrate.
   6. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

C. Self Adhered Membrane Barrier for Dissimilar Materials:
   1. For separation of treated wood products and structural steel, steel, aluminum, or other materials which cause corrosive action.
   2. Self-adhesive, polyethylene film-backed barrier with release sheet.
   3. Thickness: 40 mils minimum.
   4. Acceptable Products:
      a. Mid-States “Quick-Stick” HT.
      b. W R Grace "Ice & Water Shield HT.
      c. Henry “Blueskin PE 200 HT”.
      d. Carlisle Coatings and Waterproofing, Inc., "WIP 300HT".

D. Prefabricated supports and connectors:
   1. Acceptable manufacturers:
      a. Cleveland Steel Specialty Co.
      b. Harlan Metal Products, Inc.
      c. USP Lumber connectors.

d. Simpson Strong-Tie Co.

2. Prefabricated supports and connectors shall comply with ASTM D1761, as applicable for specific application.
3. Material: Minimum 18 gage steel.
4. Nails shall be annular ring type and of sizes recommended by prefabricated connector manufacturer's product data.
5. Finish: Finish of supports and connectors shall be compatible with fasteners and with each other.
   a. Finish for use with non-pressure treated wood products shall be G90 hot-dip galvanized.
   b. Finish for use with pressure-treated wood products shall be G185 hot-dip galvanized or Type 316L stainless steel.

E. Adhesive:
1. Provide adhesive designed for adhering rough carpentry items to concrete or masonry.
2. Product shall comply with ASTM D3498 and be approved for proposed application by adhesive manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Proceed with installation only after unsatisfactory conditions have been corrected. Installation of materials of this section indicates acceptance of substrates and conditions.

3.02 INSTALLATION, GENERAL

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Provide blocking and framing as indicated and as required to support facing materials, equipment, sheet metal flashings, and specialty items, and trim.

C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

D. Use stainless steel screw of appropriate type, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

F. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Applicable requirements of ICC's International Building Code (IBC).
2. ICC-ES evaluation report for fastener.

3.03 INSTALLATION OF WOOD BLOCKING AND NAILERS

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

C. At roof and other exterior cladding locations, blocking and nailer installation shall comply with the requirements of ANSI SPRI/ES-1 and applicable codes.

3.04 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.05 TOLERANCES

A. Framing Members: 1/8 inch from true position, maximum.

B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

C. Variation from Plumb: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

END OF SECTION

SECTION 07 1917

ACRYLIC STUCCO COATING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This specification describes the coating of existing cement plaster (stucco) substrates with an elastomeric, crack bridging, anti-carbonation, protective coating.

1.03 SUBMITTALS

A. Manufacturer installation instructions.

B. Manufacturer color charts, three copies of each.

C. Manufacturer Product Data sheets.

D. Maintenance Data: Provide manufacturer recommended maintenance data for installed system.

1.04 QUALITY ASSURANCE

A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance independently audited on a regular basis.

B. Contractor qualifications: Contractor shall be qualified in the field of stucco repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.

1.05 DELIVERY, STORAGE, AND HANDLING

A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.

B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.

C. Condition the specified product as recommended by the manufacturer.

1.06 JOB CONDITIONS

A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 45ºF (7ºC) and rising.

B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302.

B. Products, Vertical Stucco Substrates:

1. Sikagard 550W Elastocolor, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
2. Sikagard Elastic Base Coat (Smooth & Textured), as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
3. Sikagard 552W Primer or SikaLatex R, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
4. Sikaflex 15LM or Sikaflex 2CNS EZ Mix, Sikahyflex 150 LM as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
5. Other products recommended by primary system manufacturer for use on this project.

2.02 MATERIALS

A. Elastomeric Acrylic Coating.

1. Product shall be 100% Acrylic Emulsion with the following properties.
    a. Water vapor permeable
    b. Can bridge dynamically moving cracks
    c. Crack bridging properties maintained at low temperatures
    d. The material shall be resistant to dirt pick-up and mildew.
    e. UV cured
    f. Anti-carbonation coating

B. Surface / Crack Filler Sealer.

1. Product shall be single or 2-component premium grade sealant
    a. The sealant shall be one or two component non-sag, gun grade, polyurethane-based material.

b. Any primers, as required, recommended by the manufacturer of the specified product, approved by engineer.

c. Backer rod or bond breaker tape, as approved by engineer.

C. Adhesion Promoter / Surface Conditioner.

1. Solids content 12.5 - 20 % by volume
2. Recoat time 4 - 24 hours.

2.03 PERFORMANCE CRITERIA

A. Properties of Elastomeric UV Cured acrylic coating, (Sikagard 570)

1. Pot life indefinite.

2.	Waiting time and cure rates	45F	68F	85F
3.	Sikagard 570	24 hrs	12 hrs	6 hrs
4.	Rain Resistant (75% R.H.)	24 hrs	4 hrs	2 hrs

5. Solids content: 62% by weight, 55% by volume
6. Tensile Properties (ASTM D-412)
   a. Tensile strength: 250 psi
   b. Elongation to break: 675%
7. Moisture Vapor Permeability (ASTM E-96): 14.5 perms
8. Resistance to wind driven rain (TT-C-555B): No passing of water through coating.
9. Weathering (ASTM G-23): 10,000 hrs - Excellent, no chalking or cracking.
10. Application, one coat, 100 sq ft / gal 16 mils wft, 8 mils dft.
11. Colors: Field / Factory Tinting. Custom color-matching. Color as selected by Owner from manufacturer full range. Intent is to match existing.

PART 3 - EXECUTION

3.01 GENERAL

A. Perform all work in accordance with manufacturer recommendations and requirements.

3.02 SURFACE PREPARATION

A. Substrate must be clean, sound, dry and free of surface contaminants. Remove dust, laitance, grease, oils curing compounds, form release agents and all foreign particles by mechanical means. Substrate shall be in accordance with ICRI guidelines No. 03732 for coatings and fall within CSP1 to CSP3.

B. Stucco Substrates:

1. Clean surface as stated above.
2. Repair with material approved by manufacturer
3. Prime with coatings primer, if necessary.

3.03 MIXING AND APPLICATION

A. Mixing: Stir materials to ensure uniformity using a low speed (400 - 600 rpm) drill and paddle. To minimize color any color variation, blend two batches of material, (boxing).

B. Crack detail: Recommended application temperature 40F - 100F.

1. Small defects and cracks (non structural): Small cracks that measure from 1/32" - to 1/8" are to be repaired by applying Sikaflex 15LM, or 2CNS EZ Mix, Sikahyflex 150 LM or Sikagard Knife Grade Surface Fillers generously over the center of the crack. Feather material to zero over a two-inch wide area.

2. Larger defects or cracks (non structural): Large cracks that exceed 1/8", route to ¼ in wide by ¼ in deep. Blow out cut with oil free compressed air. Fill slot with Sikaflex 15LM, Sikahyflex 150 LM or 2CNS EZ mix. Allow 72 hours-minimum cure for Sikaflex 2CNS and 7 days for Sikaflex 15LM and one hour for Sikahyflex 150 LM before coating. Mock-up would be suggested.

C. Penetrations and Existing Holes

1. All penetrations such as air conditioner openings, vents and electrical conduits are to be sealed with Sikaflex 15LM, Sikahyflex 150 LM or 2CNS EZ

D. Caulk all areas that can permit water intrusion, where dissimilar substrates join, where two walls abut, at column and wall intersections and critical flashing, etc.

E. Coating Application: Apply by brush, roller, or spray over entire area moving in one direction. Each coat should be applied at a rate of of 100 sq. ft. per gallon. The roughness of the surface will vary the application rate. 16 mils wft, 8 mils dft. per coat. Allow a minimum of 2 hours-prior to re-coating.

1. Stucco Coating Application: A minimum of three coats of Sikagard 550 are required.

F. When applying the coating, never stop the application until the entire surface has been coated. Always stop application at the edge, corner, or joint. Never let a previously coated film dry; always coat into a wet film. Always apply the coating at a 45 degree angle at an edge, corner, or joint.

G. If substrate has been previously coated and presents a "chalky" condition, apply 1 coat of SikaLatex R or SikaGard 552 Primer, primer/surface conditioner by brush, roller, or spray at a rate not to exceed 300 sq ft per gallon. Testing should be done to determine bond to exiting coating.

H. Adhere to all limitations and cautions for the elastomeric acrylic coating in the manufacturers printed literature.

3.04 CLEANING

A. The uncured elastomeric acrylic coating can be cleaned from tools with water. The cured elastomeric acrylic coating can only be removed mechanically.

B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

END OF SECTION

SECTION 07 5416

KEE THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams and general provisions of the Contract including General and Supplementary Conditions and other Division 00-48 Specification Sections apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. New Ketone Ethylene Ester (KEE) membrane roof system.
2. Miscellaneous system accessories and components.

1.03 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.

C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.04 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. Roofing System Assembly: Provide a roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to current applicable State of Georgia accepted ASCE 7, as specified.

D. Wind, Fire and Hail Resistance:

1. FMG Listing: Provide a complete system including roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
    a. Fire/Windstorm Classification: Class 1A-90.
    b. Hail Resistance: SH.
2. Miami Dade NOA: Alternately, a complete system NOA approval may be provided in lieu of FM approval.
    a. Windstorm Classification: -45 psf
3. If any variation exists between the specified approval requirements, and the manufacturers proposed assembly, the manufacturer must provide detailed summary of differences for review and approval.
4. For recover projects, provide statement from membrane manufacturer clarifying applicability of referenced wind uplift approval to the specific project recover conditions.

E. 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, and/or FMG. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: ASTM E108/UL 790 Class A fire resistance for application and roof slopes indicated.

F. Impact Resistance: Roof coverings installed on low-slope roofs (roof slope <2:12) shall resist impact damage based on the results of tests conducted in accordance with ASTM D 3746, ASTM D 4272, or the “Resistance to Foot Traffic Test “ FM 4470.

G. Agency Approvals:

1. All products used shall bear Factory Mutual Global (FMG) and Underwriters Laboratories (UL) approval.
2. Designated seal of approval shall be clearly visible on all product packing.
3. System and components shall comply with applicable state International Building Code (IBC) requirements including ANSI-SPRI/ES-1.

1.05 SUBMITTALS

A. Product Data: Provide manufacturer product data sheets indicating material characteristics, performance criteria, and limitations.

1. KEE membrane.
2. KEE flashing membrane.
3. Cold fluid applied flashing membrane.
4. System fastening and securement items.
5. Sealants.

B. Shop Drawings: Provide KEE roof membrane system shop drawing package including all drawings and details depicted in Base Bid project diagrams. Any additional cost required to produce shop drawing package shall be paid by the Contractor.

1. Shop drawings must be project specific, manufacturer standard details are not acceptable.
2. Contractor provided shop drawing plans and details to be reviewed and approved by KEE system manufacturer for specified project KEE roof system warranty.
3. Each shop drawing detail must include signed and dated acceptance by KEE system manufacturer technical department representative.

C. Manufacturer Installation Instructions:

1. Include manufacturer's written instructions for evaluating, preparing, and treating each substrate; technical data; and tested physical and performance properties of products.
2. Include precautions, limitations, and recommended backing materials and tools.

D. Manufacturer Certification Letter:

1. A letter from the proposed roof system manufacturer stating that the contractor is an approved applicator of the proposed roof system, and capable of providing the specified manufacturers warranty for that system.

E. Warranties: Complying with specified warranty requirements. Each example must be a preprinted representative sample of the issuing company’s warranty for the system specified.

1. Sample Installer Warranty: Provide example of installing contractor's Warranty proposed for use on this project.
2. Manufacturer Special Warranty: Provide example of Manufacturer Special Warranty.

F. Color Charts: Provide three copies if each.

1. Manufacturer standard KEE membrane color charts.
2. Manufacturer standard KEE system sealant color charts.

1.06 CLOSEOUT SUBMITTALS

A. Maintenance Data: For materials and accessories including roof membrane system manufacturer maintenance requirements.

B. Executed Installer Warranty: Submit installer warranty executed in Owner's name.

C. Executed Manufacturer Warranty: Submit manufacturer warranty executed in Owner's name.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that has been an approved applicator/installer in good standing for the past two consecutive years prior to project bid date. Installer must have been in business under the same name for at least five (5) consecutive years. Contractor shall be approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's twenty (20) year warranty.

1. Installer's Field Supervision: Installer is required to maintain a full-time supervisor / foreman, with supervision-only responsibilities, on job site during times that sheet membrane roofing work is in progress. The individual shall be experienced in installation of roofing systems similar to type and scope required for this Project.

B. Manufacturer Qualifications: A qualified manufacturer that has UL listing and FMG approval for membrane roofing system identical to that used for this Project. Manufacturer shall have a minimum ten (10) years of successful manufacture of membrane using the same membrane formulation.

1. Obtain components for roofing system from or approved by roofing system manufacturer Provide primary products, including each type of roofing sheet, flashings, and vapor barrier (where used), produced by a single manufacturer. Provide secondary products only as recommended and approved by the manufacturer of primary products for use with roofing system specified.

2. Manufacturer’s Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design and extent to those specified for this Project. Manufacturer’s Sales Representative will not be accepted as a Technical Representative. When material and labor, no dollar limit warranties are specified, provide the following:

a. Present at job startup.

b. Perform manufacturer final inspection for warranty release and execution.

C. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer. Provide primary products, including each type of roofing sheet, flashings, and vapor barrier (if any), produced by a single manufacturer. Provide secondary products only as recommenced by the manufacturer of primary products for use with roofing system specified.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, 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. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturers written instructions for handling, storing, and protecting during installation.

D. Store and handle roofing roll goods and rigid boards in a manner, which will ensure that there is no possibility of significant moisture pick-up.

E. All material must be protected from the weather by protective tarps. Manufacturer’s plastic covers are not acceptable means of protection.

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

1.09 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

B. At the end of each days work temporary cut-offs and tie-ins shall be made weathertight, no exceptions.

C. At the end of the days work all materials stored materials are to be recovered, tied and weighted down.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with specified roof system requirements, provide products by the following:

1. KEE Membrane Roofing:
    a. Basis of Design: FiberTite (Seaman Corporation), Inc.
    b. Ecology Roof Systems, Inc.
    c. Tremco Roof Systems, Inc.

B. Source Limitations: Obtain components for roofing system from roof membrane system manufacturer.

C. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Products: Subject to compliance with requirements, provide one of the products specified.
2. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.02 MATERIAL PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

D. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.03 KEE ROOF MEMBRANE, STANDARD

A. Fabric-Reinforced KEE Sheet: ASTM D 6754 internally reinforced with 5.0-oz per square yard polyester fabric internal reinforcement, uniform and flexible KEE sheet.

1. Field Membrane Thickness: 36 mils, nominal.
2. Flashing Membrane Thickness: 36 mils, nominal.
3. Thickness over Scrim: .0145 inches, nominal.
4. Exposed Face Color: White.

2.04 ADHESIVES AND CLEANERS

A. All products shall be provided by the roof membrane manufacturer for use in the specified roof system.

B. KEE Bonding Adhesive: A high-strength, solvent borne, one sided contact adhesive used for bonding specified membrane to various surfaces. The adhesive is applied to the substrate only at membrane system manufacturers recommended coverage rate for specified warranty and performance requirements.

C. KEE Water Cut-Off Mastic: Used as mastic to prevent moisture migration at membrane terminations, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).

D. General Purpose KEE System Sealant: A 100% solids, solvent free, one-part, polyether sealant that provides a weather tight seal to a variety of building substrates. Can be used as a termination bar sealant or for use in counterflashing, coping/parapet, and scupper details.

E. One-Part Pourable Sealer: A one-part, moisture curing, elastomeric polyether sealant used to fill Molded Sealant Pockets. Packaged in four 1/2 gallon pouches per plastic bucket. One pouch will fill one Molded Sealant Pocket.

F. Foil Grip Aluminum Tape: A general-purpose pressure-sensitive sealant used as a bond break at joints in KEE Coated Metal. Packaged in rolls 2" wide by 100' long.

G. KEE Membrane Cleaner: Used to prepare membrane that has been exposed to the elements for approximately 7 days prior to heat welding or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).

H. Insulation Adhesive: Membrane manufacturers own two component insulating urethane adhesive used to attach insulation. Packaging formats include 50 and 15 gallon drums as well as Dual Cartridges and 5 gallon Bag in a Box packaging.

2.05 AUXILIARY MATERIALS AND ACCESSORIES

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing system. Items used from the section must be acceptable to the system manufacturer for use in conjunction with their roof system, and not effect specified warranty coverage.

B. Fastener Requirements: Factory-coated steel fasteners and metal plates, batten bars and termination bars meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing system components to substrate, tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer. Tested to meet or exceed specified wind uplift requirements.

1. Fasteners subject to compliance with specified roof system performance requirements.
2. Base Flashing Nails: Galvanized Simplex large head nails 15/16-inch minimum diameter. Ringed shank.
3. Steel Deck Insulation Fasteners and Plates:
    a. Extra Heavy Duty fastener by SFS, OMG, TRUFAST or fasteners provided by roof system manufacturer. Size as required by manufacturer to meet specified roof system performance and warranty requirements.
    b. Provide 3-inch diameter, galvanized steel plates approved by the fastener for specified wind uplift requirements.

C. Induction Welded System Items: Fasteners and plates as recommended by roof system manufacturer to meet specified performance and warranty requirements.

D. Nailers and Blocking: Specified in Section 06 100 - Rough Carpentry.

E. Termination Bar: Prefabricated 1” wide and .098” thick extruded aluminum bar pre-punched 6” on center; incorporates a sealant ledge to support lap sealant and provide increased stability for membrane terminations.

F. Term Bar Nail-Ins: A min. 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.

G. Condensation Drain Line Supports: Provide drain line support at HVAC equipment condensation drain lines, spaced as required for stability and as recommended by support manufacturer.

1. Manufacturers: Erico Inc. or Miro Industries.
2. Pipe supports must be roller equipped.
3. Equip with pipe strap as required by applicable governing authority.

H. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer such as pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.06 ROOF SYSTEM SHEET METAL COMPONENTS

A. Metal Counterflashings and Trim:

1. Refer to Section 07 6200 - Sheet Metal Flashing And Trim.

2.07 COLD FLUID APPLIED PENETRATION FLASHING MEMBRANE

A. Fully reinforced, cold fluid applied flashing membrane for use on KEE roof systems and for inclusion into the specified project warranty.

1. Product: Membrane provided by or approved for use with the specified warranty by the primary membrane manufacturer, subject to compliance with this specification.
2. A rapid-curing, proprietary formulation of polymethyl-methacrylate (PMMA) liquid flashing resin. Fully reinforced with reinforcing fabric to form a flexible and monolithic, UV and color stable, odor and solvent free, Low VOC, highly reflective and utilize a fire-rated resin designed for roofing applications. Reinforced membrane designed for use in flashing and detail applications.
3. Membrane Thickness: 80 mils minimum (finished)

B. Approved Products: Use membrane products approved by KEE membrane manufacturer. Provide all products and materials needed for a complete, watertight, fully warrantable installation.

2.08 INSULATION, POLYISOCYANURATE INFILL AND OVERLAY

A. Infill Insulation:

1. Flat Polyisocyanurate Rigid Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
    a. Designed for use in single ply KEE roof systems as existing metal roof system flute filler.
    b. Acceptable for use in new roof system to meet specified performance and warranty requirements.
    c. Provide products manufactured by, or acceptable to, the primary roof membrane system manufacturer.
    d. Thickness: As indicated, minimum 1.5 inches.

B. Overlay Insulation

1. Flat and Tapered Polyisocyanurate Rigid Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces
    a. Designed for use in single ply KEE roof systems.
    b. Acceptable for use in new roof system to meet specified performance and warranty requirements.

c. Provide products manufactured by, or acceptable to, the primary roof membrane system manufacturer.

d. Thickness: Tapered varies. Minimum 1.5 inches at flat insulation.

C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes to provide positive slope for drainage. Fabricate to slopes indicated.

2.09 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.

B. Insulation Adhesive: Roof insulation and cover board adhesive provided by primary roof membrane manufacturer.

1. Low rise urethane foam adhesive for full or partial coverage application as required to meet project wind uplift and warranty requirements.

PART 3 - EXECUTION

3.01 ROOFING, GENERAL

A. Refer to applicable requirements for demolition and removal of the existing materials.

B. No roofing materials will be removed or installed under adverse weather conditions. All work shall be scheduled and executed without exposing interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all reasonable risks.

C. Only as much existing roofing shall be removed and new roofing installed as can be made weathertight each day. This includes all flashing work.

D. Any unusual or concealed conditions discovered during the course of the work that may adversely affect the performance of the new roof system must be immediately reported to the Consultant. All work shall be halted until the Consultant has responded with a solution to the problem.

E. Any substrate to receive new insulation, membrane or flashing shall be thoroughly dry. Existing wet materials must be removed prior to the application of the new membrane system. Should surface moisture occur on the decking, the contractor shall provide adequate equipment to dry the substrate.

F. Temporary waterstops shall be installed at the end of each work day and if inclement weather conditions dictate during the course of day's work. These temporary waterstops shall be removed at the start of the next work day and disposed of properly. No temporary waterstops shall be made so as to obstruct water flow on the completed system. Polyethylene is not considered a temporary covering.

3.02 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place, set and braced.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and nailers match thicknesses of insulation.
3. Proceed with installation only after unsatisfactory conditions have been corrected. Installation of materials of this section indicates acceptance of substrates and conditions.

3.03 PREPARATION

A. Clean and prepare substrate according to manufacturers written recommendations. Provide clean, dust-free, and dry substrate for roofing application.

B. Mask off adjoining surfaces not receiving roofing to prevent spillage from affecting other construction.

C. Protect deck penetrations to prevent spillage and migration of roofing fluids.

D. Remove grease, oil, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.

E. Remove fins, ridges, and other projections and fill honeycomb, aggregate pockets, and other voids.

3.04 WOOD NAILERS

A. Treated wood nailers shall be installed as indicated on project drawings. Refer to applicable specification section for rough carpentry.

B. The thickness of the nailer shall be such that the top of the nailer is flush with the surface to which the membrane is to be applied.

C. Where existing nailers are not reused, install new continuous pressure treated nailers at all locations where new roof system edge metal shall be installed such as at parapets and gravel stops/drip edges.

3.05 METAL EAVE PLATES

A. For use where indicated on project drawings.

B. Refer to Section 07 6200 - Sheet Metal Flashing and Trim.

3.06 FASTENER INSTALLATION

A. General:

1. All roof system components shall be securely attached in accordance with specified wind resistance and applicable code requirements.
2. Provide fasteners that are accepted by the manufacturer of the roof membrane system and compatible with adjacent components (i.e. non-corrosive to adjacent materials).
3. Fasteners shall be installed in accordance with specified wind resistance and applicable code requirements.
4. Fasteners and associated assemblies shall be installed to avoid abrasion to the membrane.

B. The fastener manufacturer's recommendations shall be followed for:

1. Fastener suitability for specific applications
2. Proper drill bit for drilling correct hole size diameter and depth.
3. Minimum depth of embedment into substrate to achieve required resistance to pull out.
4. Fastener length to provide proper fastening into substrate.
5. Installation tools.

C. Fasteners that are improperly installed shall be removed or corrected. Improper application may be characterized as:

1. Overdriven: Fastener is driven to the point that it is causing the stress distribution surface to become concave (or deformed in the case of batten strips) excessive driving may cause failure by disengaging the fastener threads from the deck).
2. Under-driven: Fastener head is not properly seated on the stress distribution surface.
3. Snapped: Fastener breaks under the driving load.
4. Bent: Fastener is bent to the point that it adversely affects the installation.
5. Not engaged: Fastener is improperly located or is of insufficient length.

3.07 INSULATION INSTALLATION, METAL ROOF RECOVER

A. General: Comply with insulation manufacturer's instructions and recommendations for the handling installation, and bonding or anchorage of insulation to substrate. Install one or more layers of insulation under area of roofing to achieve specified R-value.

1. Install insulation board with long joints in continuous straight lines. Tightly butt substrate boards together.
2. Install infill and overlay insulation in accordance with manufacturer recommendations and requirements required to achieve specified wind uplift and wind speed warranty requirements.

B. Existing Metal Roof Areas:

1. All layers of insulation shall be mechanically fastened using specified insulation screws and plates in the fastening pattern required to achieve specified wind uplift and wind speed warranty requirements.
    a. Provide perimeter and corner fastening enhancements/increases as required to meet the specified wind uplift and wind speed warranty requirements.
2. The base layer and subsequent layers of polyisocyanurate insulation may be mechanically fastened together (at the same time) in the fastening pattern required to achieve specified wind uplift and wind speed warranty requirements.
    a. System manufacturer must provide specific data meeting the specified wind uplift requirements for this installation method.
    b. Provide perimeter and corner fastening enhancements/increases as required to meet the specified wind uplift and wind speed warranty requirements.

C. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/16-inch with insulation.

D. Provide tapered insulation edges that taper to zero inches where tapered insulation boards transition to flat insulation boards.

3.08 FULLY ADHERED ROOFING INSTALLATION

A. Fully adhere KEE roof membrane system over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before adhering.

B. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Mechanically fasten or adhere roofing securely at terminations, penetrations, and perimeter of roofing.

D. Apply roofing with side laps shingled with slope of roof deck where possible.

E. Membrane Attachment: Adhere KEE membrane in full coverage application of specified KEE membrane bonding adhesive.

F. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.

G. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.

H. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.

I. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

3.09 KEE MEMBRANE INDUCTION WELDED INSTALLATION, GENERAL

A. Installer shall comply with membrane manufacturer installation instructions for induction welded system.

B. Installer shall begin the installation in the presence of membrane manufacturer technical representative.

C. Utilize manufacturer recommended self drilling hardened fasteners for attaching to roof system and specially designed induction weld plates.

D. Coordinate installation of insulation with induction welded system fasteners and stress plates.

E. Induction Welding:

1. Calibrate the induction welding tool by making test welds with the KEE membrane and the induction weld stress plates. Make test welds using variable settings on the welder and then perform peel tests to examine the continuity of the weld to the plate.
2. The lowest energy setting that creates the most comprehensive and continuous bond is the preferred setting.
3. All membrane shall be clean and dry prior to induction welding.
4. Immediately place the cooling magnet directly centered over the welded membrane/plate assembly upon completion of the induction welding process.
5. Repeat the welding and magnet cooling process for each and every induction weld plate in the installation assembly.

3.10 KEE MEMBRANE HEAT WELDED SEAM INSTALLATION, GENERAL

A. Heat weld the KEE membrane using an automatic heat 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 immediately after the welder causes the membrane step off to ensure a continuous hot air welded seam.

B. All splice intersections shall be overlaid with pre-fabricated T Joint Covers.

C. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).

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

3.11 BASE FLASHING INSTALLATION

A. Ensure substrates are installed prepared in accordance with manufacturer requirements. Provide flashing cover boards where indicated.

B. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.

C. All base flashings shall be adhered in full coverage application of KEE membrane bonding adhesive, no exceptions.

D. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.

E. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

F. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

G. Terminate and seal top of sheet flashings and mechanically anchor to substrate with termination bars.

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

3.12 ROOF MEMBRANE SYSTEM CONTROL AND EXPANSION JOINTS

A. Provide roof membrane system control and expansion joints as recommended by primary roof membrane system manufacturer. Do not exceed maximum recommended roof areas.

B. Install parallel to roof slope. Do not block flow of water to roof drainage points.

3.13 FLASHINGS, PREFABRICATED BOOTS

A. For use where indicated. Install in accordance with project diagrams and roofing system manufacturer's written instructions.

3.14 COLD FLUID APPLIED FLASHING MEMBRANE INSTALLATION

A. For use where indicated.

B. Refer to membrane manufacturer installation requirements for warranted installations.

C. All membrane substrate surfaces must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of the primer and membrane. This requires careful preparation of existing horizontal and vertical substrates; cracks are filled, expansion joints are prepared, flashings are removed or modified, and termination points are determined.

D. Prime substrates as required by manufacturer.

E. Mix resin and install membrane in wet resin, fleece, wet resin sequence. Fully saturate fleece with wet resin.

F. No additional surfacing is required.

G. Inspect cured membrane installation for un-adhered locations and dry, unsaturated fleece.

H. Remove and replace defective areas as required by membrane manufacturer.

3.15 WATER CUT-OFF

A. At the end of the day's work, and when precipitation is eminent, a water cut-off shall be constructed at all open edges. Cut-off must be able to withstand extended periods of wet weather. The water cut-off shall be completely removed prior to resuming the installation of the roofing system.

3.16 FIELD QUALITY CONTROL

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

B. Test Cuts: Test specimens may be removed to evaluate problems observed during quality-assurance inspections of roofing membrane as follows:

1. Approximate quantities of components within roofing membrane will be determined according to ASTM D 3617.
2. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Consultant. Notify Consultant 48 hours in advance of date and time of inspection.

1. Notify Consultant or Owner 48 hours in advance of date and time of inspection.

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

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

3.17 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to the Consultant and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Project diagrams, key plans, and general provisions of the Contract, including General and Supplementary Conditions and Division 01-48 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes formed sheet metal roof component fabrications.

1.03 COORDINATION

A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leak-proof, secure, and noncorrosive installation.

1.04 DEFINITIONS

A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.05 SUBMITTALS, SHEET METAL

A. Product Data: For each of the following
   1. Underlayment materials.
   2. Each type of sheet metal.
   3. Sheet metal painted finishes.
   4. Sealants within sheet metal fabrications.

B. Shop Drawings: For sheet metal flashing and trim including, but not limited to, the following.
   1. Plans, elevations, and sections. Minimum scale for elevations shall be 1-1/2 inch equals one foot. Minimum scale for sections and details shall be 3 inches equals one foot.
   2. Details for profiles, shapes, seams, and dimensions.
   3. Details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
   4. Details of termination points and assemblies.
   5. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
   6. Details of special conditions.

7. Details of connections to adjoining work.
8. Distinguish between shop- and field-assembled Work.
9. Identification of material, thickness, weight, and finish for each item and location used.

C. Qualification Data: For fabricator.
1. Provide written evidence of metal fabrication shop compliance with ANSI-SPRI ES-1 shop certification as required to provide ANSI-SPRI wind rated sheet metal fabrications. Provide copy of most recent shop certification along with a copy of current ANSI-SPRI ES-1 shop certification requirements.

D. Warranties: Complying with specified warranty requirements. Each example must be a preprinted representative sample of the issuing company's warranty for the system specified.
1. Sample Finish Warranty: Provide example of Finish Warranty proposed for use on this project.
2. Sample Installer Warranty: Provide example of installing contractor's Warranty proposed for use on this project.
3. Manufacturer Special Warranty: Provide example of Manufacturer Special Warranty.

E. Color Charts: Submit three manufacturer color charts for initial color selection.

1.06 SUBMITTALS, METAL WALL PANEL SYSTEM

A. Manufacturer's application manuals for all materials

B. Product Data: A list of products for the system including manufacturer product data sheets for each product.

C. Shop Drawings: To be prepared by metal wall panel system manufacturer including Delegated-Design services.
1. Delegated-Design Services Statement: Submit a statement signed and sealed by the responsible engineer indicating that the proposed products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
2. Provide metal wall panel flashing shop detail drawings. Indicate gage and finish of materials. Indicate fastener type, finish and spacing. Indicate locations of field applied sealant. Indicate location size and gauge of all back up supports.
3. Details plan indicating fastener and clip spacing pattern where panels are to be attached.
4. Indicate location and extent of self adhered air and water barrier underlayment. Show transitions to adjacent materials.

D. Warranties: Complying with specified warranty requirements. Each example must be a preprinted representative sample of the issuing company's warranty for the system specified.
1. Sample Finish Warranty: Provide example of Finish Warranty proposed for use on this project.
2. Sample Installer Warranty: Provide example of installing contractor's Warranty proposed for use on this project.

3. Manufacturer Special Finish Warranty: Provide example of Manufacturer Special Finish Warranty.

E. Certification:

1. Submit panel manufacturer's certification that fasteners, clips, backup plates, closures, panels and finishes meet specification requirements, wind uplift requirements.
2. Submit panel manufacturer’s certification that installer meets requirements to install system and is qualified to obtain any required manufacturer warranties.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For materials and accessories.

B. Executed Installer Warranty: Submit installer warranty executed in Owner's name.

C. Executed Manufacturer Warranty: Submit manufacturer warranty executed in Owner's name.

1.08 QUALITY ASSURANCE

A. Fabricator Qualifications: Employ skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

C. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.10 WARRANTY

A. Installer Special Warranty: Installers special warranty covering defects resulting from materials and workmanship for the Work of this section.

1. Defects include failure of the system to prevent water from entering the structure below or behind, and failure of materials to perform in the intended use.
2. Warranty Period: Two (2) years from date of Substantial Completion.

B. Special Painted Metal Finish Warranty: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.

b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.

c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. System and components shall comply with applicable state International Building Code (IBC) requirements including ANSI-SPRI/ES-1.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.02 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

2.03 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

B. Fasteners: Wood screws, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
2. Fasteners for Zinc-Coated (Galvanized) Aluminum-Zinc Alloy-Coated Steel Sheet: Series 300 stainless.
3. Fasteners for attachment of wood nailers and blocking: Series 300 Stainless steel screws.

C. Urethane Elastomeric Sealant: Masterseal NP-1 or Sikaflex 1A.

D. Butyl Sealant: Solvent-based; ASTM C1311; single component, nonsag; not expected to withstand continuous water immersion or traffic.
1. Not for exposed or paintable applications.
2. Manufacturers:
    a. Sherwin-Williams Company; Storm Blaster All Season Sealant: www.sherwin-williams.com
    b. White Lightning, Inc.; Storm Blaster All Season Sealant: www.wlcaulk.com
    c. Tremco Butyl Sealant by Tremco, Inc. www.tremcosealants.com
    d. Pecora BC-158. www.pecora.com

E. Butyl Sealant Tape: Isobutylene-Isoprene Copolymer tape designed to adhered to all types of masonry, steel, aluminum, glass, wood and other common building materials. Meets requirements of ASTM C-1311 (+/- 7.5% joint movement).
1. Refer to Project Diagrams and Specifications for use.
2. 2-inch wide and 1/8-inch thick.
3. Not for exposed applications.
4. Basis of Design is SikaLastomer 65 manufactured by Sika Corporation.

2.04 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
2. Obtain field measurements for accurate fit before shop fabrication.
3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4-inch in 20-feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Use lapped expansion joint unless otherwise shown.

D. Sealant Joints: Where movable, non expansion-type joints are required; form metal to provide for proper installation of elastomeric sealant as specified.

E. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use, rivet joints where necessary for strength.

F. Do not use graphite pencils to mark metal surfaces.

2.05 ROOF SHEET METAL FABRICATIONS, GENERAL

A. General: Any clarifications will be in accordance with National Roofing Contractors Association (NRCA) standards.

B. Roof System Edge Metal Cleats (Typical in All Locations):

1. Fabricate from the following materials:

a. Provide cleat in metal type and gauge required for specified ANSI/SPRI ES-1 wind uplift test requirements.

b. Ensure protection from corrosive action caused by contact of dissimilar metals.

2.06 AT KEE ROOFS

A. Vent Stack-Penetration Flashing:

1. Pre-manufactured boot; refer to KEE membrane system specifications.

2. At large pipe penetrations not suitable for pre-manufactured pipe boot, provide fluid applied flashing as specified.

B. Counter-flashing:

1. Fabricate from the following materials:

a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

C. Trim Flashing/Skirt Flashing:

1. Fabricate from the following materials:

a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

D. Metal Copings:
   1. Fabricate from the following materials:
      a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

E. Miscellaneous Sheet Metal Fabrications:
   1. Fabricate from the following materials:
      a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

F. Flashing Receivers:
   1. Fabricate from the following materials:
      a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

G. Roof Edge Fascia at Gutters:
   1. Roof Edge Fascia and Cleat: Standard KEE coated metal to match KEE membrane system, provided by KEE roof membrane system manufacturer.

H. Gravel Stop/Drip Edge Fascia:
   1. Fabricate from the following materials in locations indicated:
      a. Standard TPO coated metal to match TPO membrane system, provided by TPO roof membrane system manufacturer.
      b. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

I. Gutters:
   1. Fabricate from the following materials:
      a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

J. Downspouts: For use only where accepted by Alternate.
   1. Fabricate from the following materials:
      a. 24 ga. Galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

K. Eave Plate:
   1. Fabricate from the following materials:
      a. 18 ga. Galvanized steel.
      b. Finish at Concealed Locations: Manufacturer standard Galvalume finish.

2.07 METAL WALL PANEL SYSTEM

A. Configuration: As indicated on Drawings.

B. Provide pre-engineered, concealed fastener, flush profile metal wall panel system with trim, flashings, closures, fasteners, and accessories needed for a complete weathertight assembly.

1. Basis of Design: Pac-Clad Flush Wall Panels by Petersen.

a. https://www.pac-clad.com/products/wall-panels/flushreveal-wall-panels/

2. Fabricate from 24 ga. galvanized steel with factory Kynar finish in color selected by Owner from manufacturer standard colors.

3. 11 inch on-center vertical joint spacing.

C. Performance Requirements:

1. Delegated-Design: Engage a qualified professional engineer, licensed in the State in which the Project is located to design metal wall panels and soffit system to meet the project requirements.

2. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:

a. Wind Loads: As indicated on Drawings and as required by applicable codes.

b. Other Design Loads: As indicated on Drawings and as required by applicable codes.

c. Deflection Limits: For wind loads, no greater than 1/180 of the span.

3. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

a. Temperature Change (Range): 120 deg F (67 deg C), ambient and 180 deg F (100 deg C), material surfaces.

4. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

5. Surface Burning Ratings: Comply with ASTM E84; testing by a qualified testing agency.

a. Flame Spread less than 25, smoke developed less than 450 per ASTM E84.

D. Pre-Finished, Factory-Painted Finish:

1. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).
2. Exposed Surfaces: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, and having minimum total dry film thickness (DFT) of 1.2 mils, 0.0012 inch (0.030 mm).
    a. Coats: Minimum two coat finish.
    b. Finish Type: Kynar 500 or Hylar 5000; fully flourosurfactant free.

E. Miscellaneous Materials:

1. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
2. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items as applicable. Match material and finish of metal panels unless otherwise indicated.
    a. Corners: Provide factory fabricated, seamless, 90-degree mitered corners.
    b. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
    c. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
    a. For miscellaneous sheet metal items not provided by specified primary product manufacturer, refer to the requirements of Section 07 6200.
4. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
5. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
    a. Coordinate with the requirements of 07 9200 - Joint Sealants.
    b. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.

c. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.

d. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

F. Self-Adhering, High-Temperature SBS Underlayment: Self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.

1. For use where indicated on Diagrams.
2. For use as a separator between dissimilar metals.
3. For use as an air and water barrier underlayment behind exterior metal wall panel cladding systems.
4. Thermal Stability: Stable after testing at 240 deg F; ASTM D1970.
5. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D1970.
6. Acceptable products; subject to compliance with specified requirements:
   a. Carlisle Coatings and Waterproofing, Inc., WIP 300HT.
   b. GCP Applied Technologies, Grace Ice & Water Shield HT (High-Temperature).
   c. Polyguard Products, Inc., Polyguard Deck Guard HT.
   d. Mid-States Quick-Stick HT.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.

1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. Proceed with installation only after unsatisfactory conditions have been corrected. Installation of materials of this section indicates acceptance of substrates and conditions.

3.02 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of welds, and sealant.

2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Install continuous cleats spaced not more than 1-inch apart. Anchor each cleat with fasteners through the vertical leg face at 12-inches on center.
4. Install exposed sheet metal flashing and trim without excessive oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Cut sheet metal with snips to provide clean edge cuts. Do not grind or abrade metal for cuts.
7. Do not use graphite pencils to mark metal surfaces.

B. Dissimilar Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
   1. Provide underlayment/separation sheet to protect metal from corrosion/galvanic action due to miscellaneous rough carpentry products.

C. Bed flanges in approved sealant where required for waterproof performance.

D. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10-feet with no joints allowed within 24-inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges not less than 1-inch deep, filled with elastomeric sealant concealed within the joints.

E. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/2-inches for wood screws

F. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

G. Seal joints as required for watertight assembly.
   1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1-inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
   2. Prepare joints and apply sealants to comply with requirements in Section 07 9200 - Joint Sealants.

3.03 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, NRCA's "Roofing and Waterproofing Manual" and "SMACNA's Manual." Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Sheet Metal Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard and applicable code including ANSI SPRI ES-1.

1. Inter-lock exterior bottom edge of coping with continuous cleat anchored to substrate at 12-inch centers.
2. Anchor interior leg of coping with washers and screw fasteners at 16-inches on-center.

C. Counter-flashing: Coordinate installation of counter-flashing with installation of base flashing. Insert counter-flashing in reglets or receivers and fit tightly to base flashing. Extend counter-flashing 4-inches over base flashing. Lap counter-flashing joints minimum of 4-inches. Secure in waterproof manner by means of snap-in installation and sealant or lead wedges and sealant; interlocking folded seam or blind rivets and sealant as indicated.

3.04 INSTALLATION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4-inch in 20-feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.05 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during installation.

D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

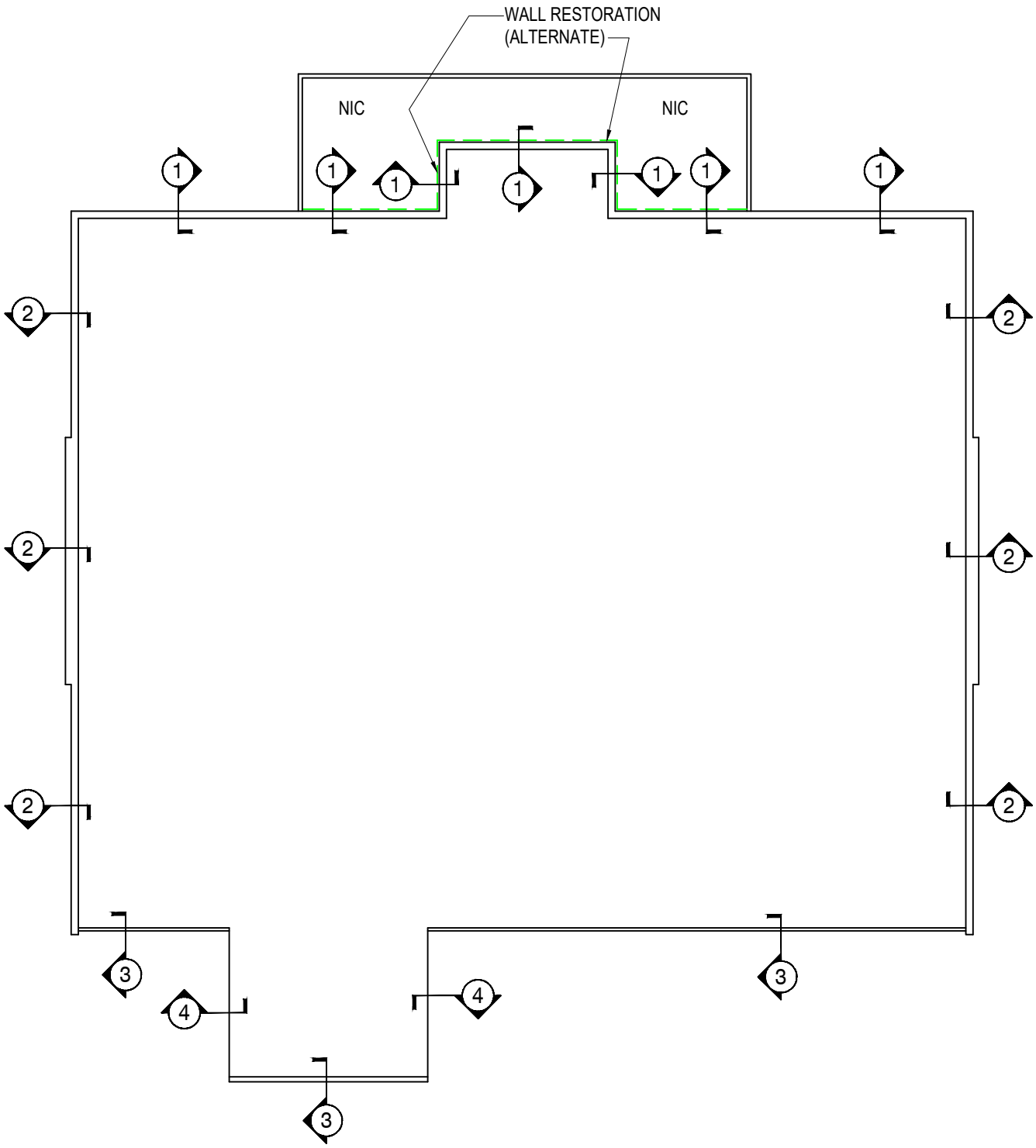
END OF SECTION

EDIFICE
CONSULTING, INC.
A Georgia Corporation

PROJECT DIAGRAMS

HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT

WARNER ROBINS, GEORGIA

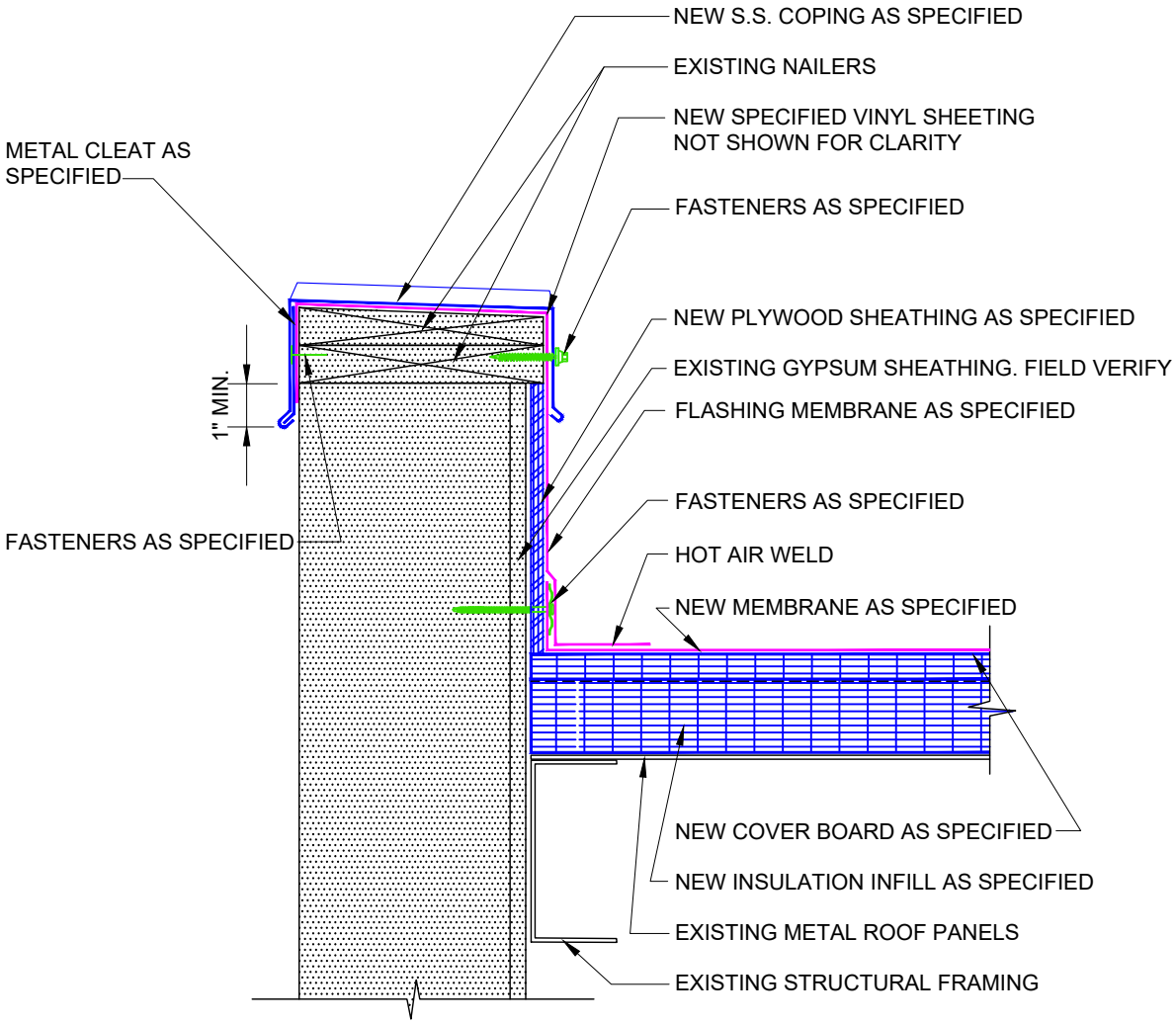


HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
KEY PLAN 1 **OVERALL ROOF PLAN**	SCALE: NOT TO SCALE

EDIFICE CONSULTING, INC.
A Georgia Corporation

KEY PLANS	DIAGRAMS
-1-	-6-

NOTE: SPACE SHOWN BETWEEN MATERIALS IS FOR GRAPHIC CLARITY ONLY. ENSURE THAT ALL MATERIALS ARE TIGHTLY ABUTTED, UNLESS NOTED OTHERWISE.

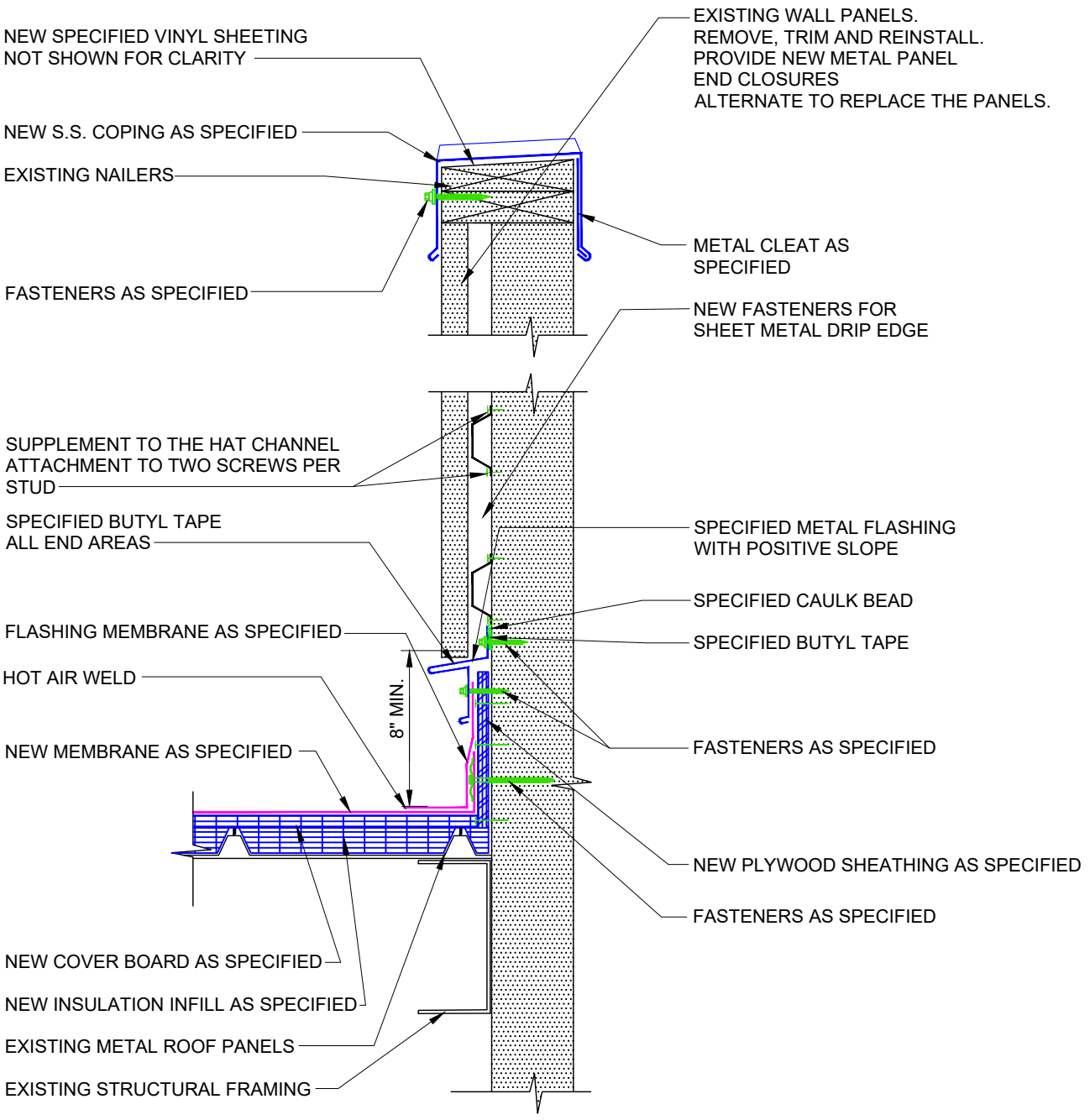


HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
DIAGRAM 1 **TYPICAL PARAPET**	SCALE: NOT TO SCALE

EDIFICE CONSULTING, INC.
A Georgia Corporation

KEY PLANS	DIAGRAMS
-1-	-6-

NOTE: SPACE SHOWN BETWEEN MATERIALS IS FOR GRAPHIC CLARITY ONLY. ENSURE THAT ALL MATERIALS ARE TIGHTLY ABUTTED, UNLESS NOTED OTHERWISE.



HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
DIAGRAM 2 **TYPICAL ROOF TO WALL**	SCALE: NOT TO SCALE

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KEY PLANS	DIAGRAMS
-1-	-6-

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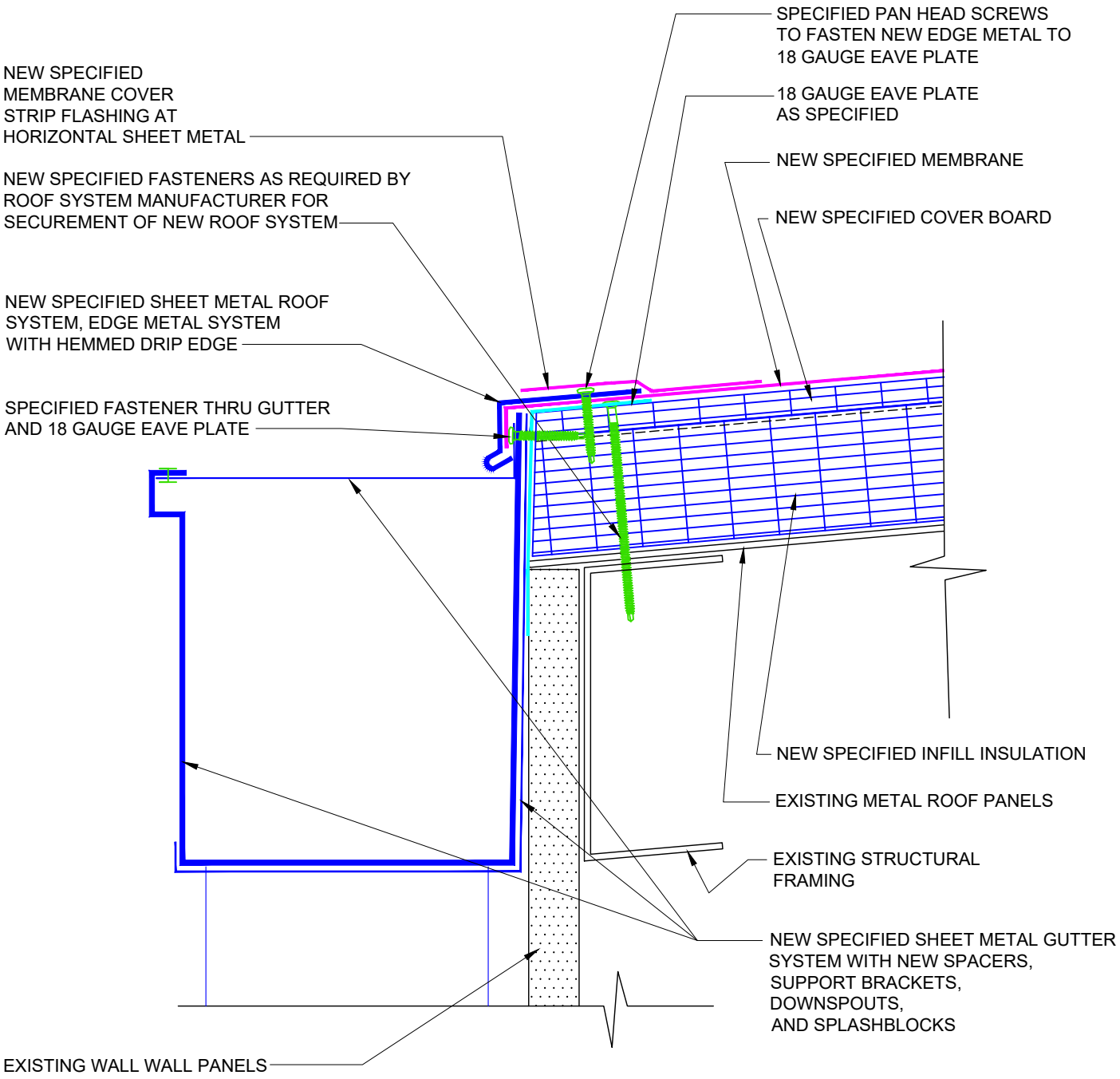

HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
DIAGRAM 3 **TYPICAL EAVE WITH GUTTER**	DATE: 10/01/21
	SCALE: NOT TO SCALE

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KEY PLANS	DIAGRAMS
-1-	-6-

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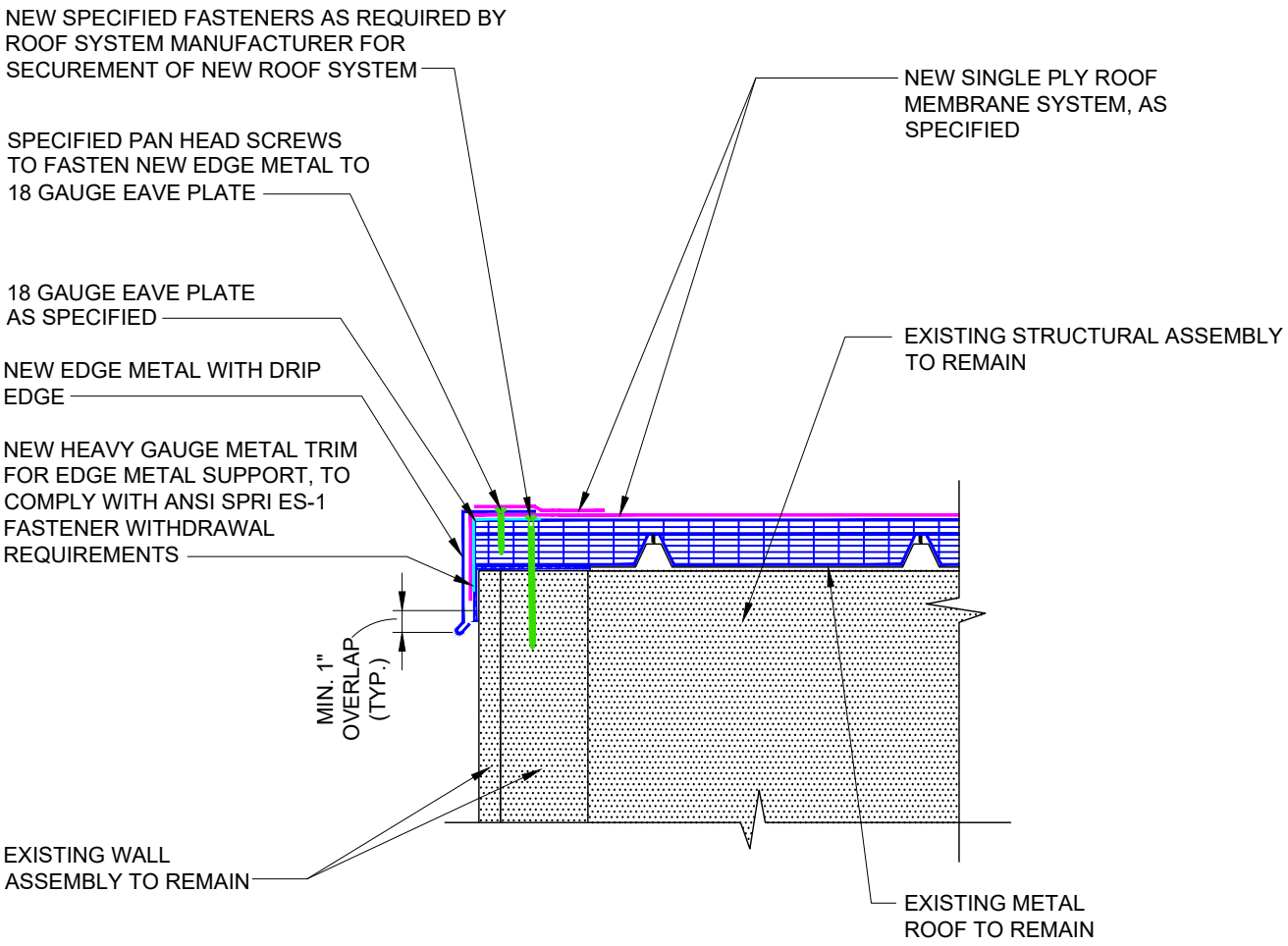

HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT WARNER ROBINS, GEORGIA	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
DIAGRAM 4 TYPICAL RAKE	SCALE: NOT TO SCALE

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KEY PLANS	DIAGRAMS
-1-	-6-

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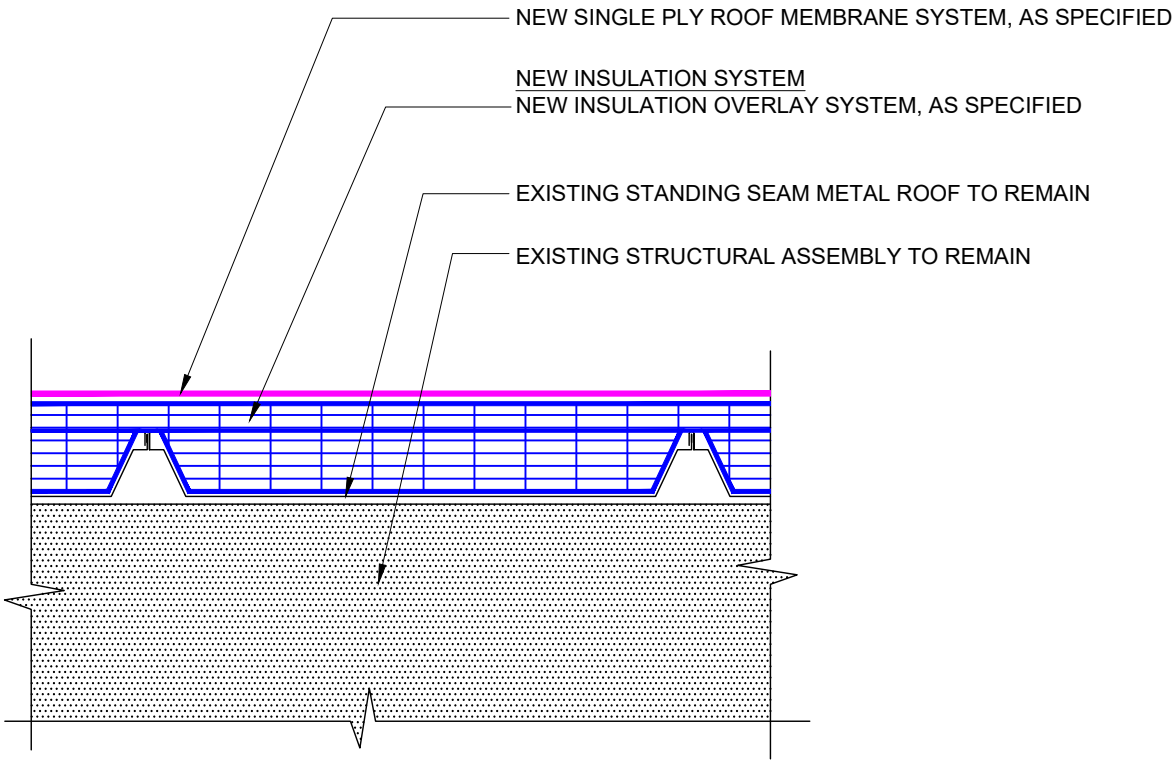

HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
DIAGRAM A **TYPICAL ROOF SYSTEM ASSEMBLY**	SCALE: NOT TO SCALE

EDIFICE CONSULTING, INC.
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KEY PLANS	DIAGRAMS
-1-	-6-

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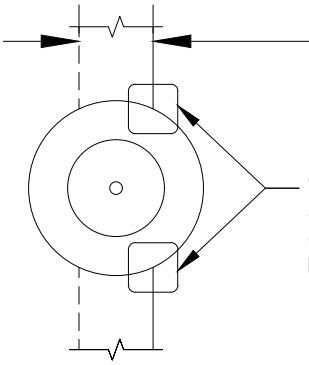
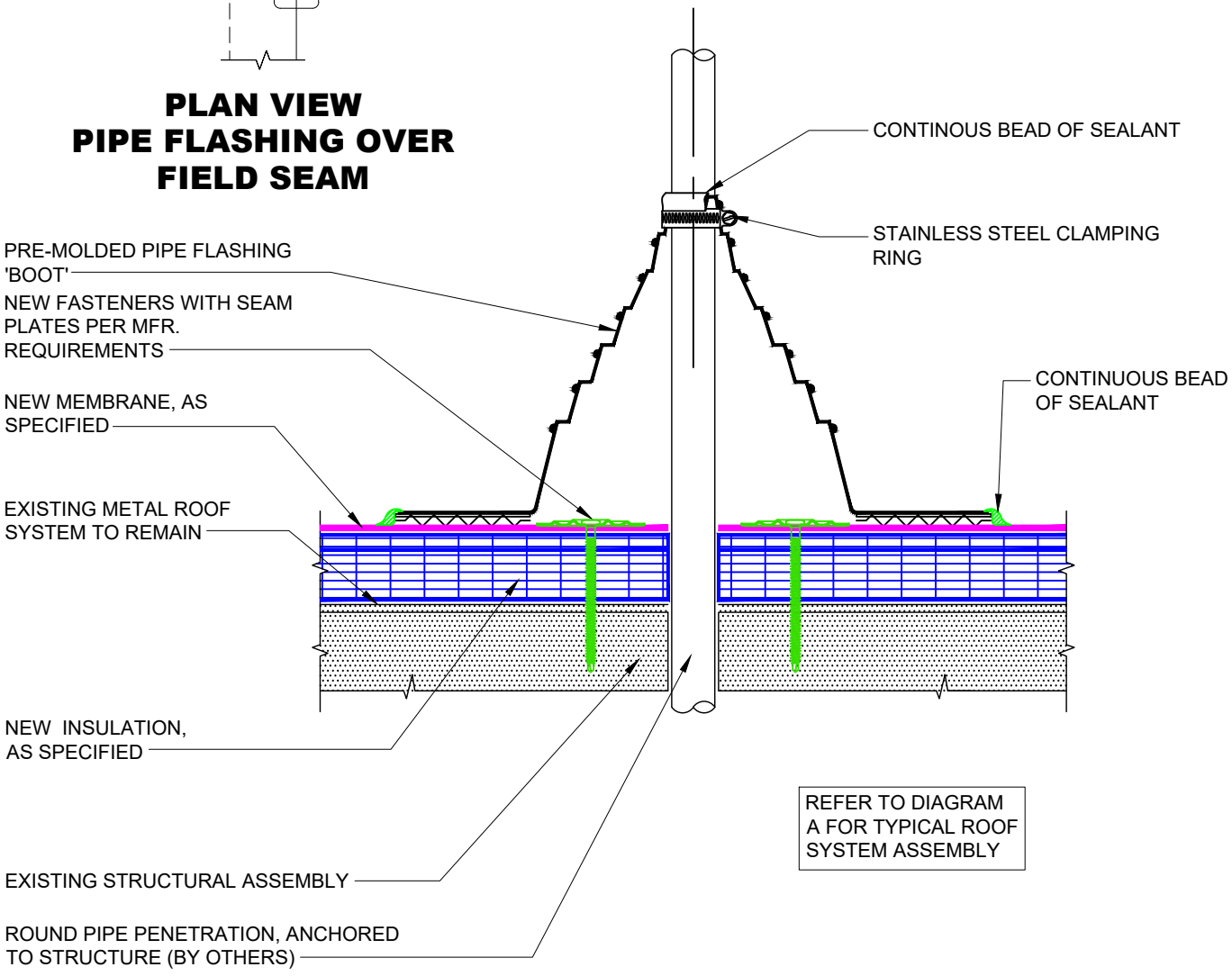


PLAN VIEW
PIPE FLASHING OVER
FIELD SEAM



HOUSTON COUNTY JUVENILE COURT BUILDING ROOF PROJECT **WARNER ROBINS, GEORGIA**	PROJECT #: 21HHCJ05RF278
	DATE: 10/01/21
DIAGRAM B **TYPICAL PIPE PENETRATION**	SCALE: NOT TO SCALE

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KEY PLANS	DIAGRAMS
-1-	-6-