2265 E. Hathaway Road
Harbor Springs, MI 49740
Office: (231) 347-8142
Fax: (231) 347-5787
www.emmetcrc.org

02/19/2024

INVITATION TO BID

The Emmet County Road Commission will receive sealed bids until 01:00 p.m., Tuesday, April 2, 2024, at which time they will be publicly opened and read aloud at their offices located at 2265 E. Hathaway Road, Harbor Springs, Michigan 49740, for:

Commercial Flat Roof / Shingled Roof Replacement at Conway Facility

Bids shall be on forms furnished by the Road Commission and shall be submitted in a sealed envelope clearly marked as to its contents. Specifications and bid form can be found online at www.emmetcrc.org or by contacting the Road Commission at (231) 347-8142.

The right is reserved to reject any and or all bids, to waive irregularities in the bid procedure and to award bids in the best interest of the Emmet County Road Commission.

EMMET COUNTY ROAD COMMISSION

Frank Zulski, Jr. – Chairman
Mark W. Hoffman – Vice Chairman
Wade Williams – Member

Emmet County Road Commission

2024 Roof Replacement

Specification & Bidding Documents

Issued February 19, 2024

Bids due on April 2, 2024

REQUEST FOR PROPOSALS (RFP)

Commercial Roof Replacement
(Flat/ Shingled)

The Emmet County Road Commission (ECRC) is requesting proposals from qualified commercial roofing contractors to replace the flat roof and shingled roof on the ECRC Conway garage located at 2265 E Hathaway Rd., Harbor Springs, MI 49740. To be considered for this contract, your business must meet the qualifications and satisfy the requirements set forth in this Request for Proposals.

SCOPE

The ECRC is seeking interested and qualified contractors to submit a proposal to remove/ or replace as needed, the existing roofing and install a mechanically fastened TPO membrane roofing system on the ECRC Conway garage and shingled roof over front office.
All bidders are required to visit the site prior to bidding.

Providers must include all labor, materials, personnel, and equipment needed. Interested parties must demonstrate qualifications, experience, and abilities associated to accomplish and support all aspects of the prescribed scope of work in a cost-effective manner.

INSTRUCTIONS

Proposals will be received until **1:00 pm local time on Tuesday, April 2, 2024,** at the Emmet County Road Commission, 2265 E Hathaway Rd, Harbor Springs, MI 49740 at which time and place the bids will be opened. All submittals shall be in a sealed, clearly marked envelope.
Envelopes shall indicate the name of the bidder and "Proposal for Commercial Flat Roof/ Shingled Roof Replacement".

Submittals shall consist of one (1) clearly marked original and one (1) copy of your response which shall be signed and submitted to the ECRC no later than the time and date specified in this solicitation. Timely submission of the response is the responsibility of the bidder. An electronic PDF version of the entire proposal package must be provided upon request after the submittal deadline.

Bids submitted may not be withdrawn or modified for 60 days following the date on which they are opened by the ECRC.

Questions regarding this Request for Proposals shall be directed to Bob Genson at **bgenson@emmetcrc.org** no later than 72 hours prior to bid opening.

The Emmet County Road Commission reserves the right to reject any or all proposals, to waive irregularities in any proposal, and to accept a proposal which best meets the needs of the ECRC irrespective of the bid price.

GENERAL PROPOSAL REQUIREMENTS

The specifications outlined in this RFP will be made a part of any agreement entered into between the ECRC and the selected individual or firm. All bidders should follow the format specified below. Applicants should base their submittals on the details of this RFP, specifically the detailed information provided in "Services Requested" section, along with any information provided in any addenda that may be issued.

1. Cover Page: The proposal shall include the RFP Title, date of submittal, company name, address, electronic-mail, and telephone numbers. This page should also include the main point of contact.

2. Resumes, Qualifications, and Experience: This section contains an overview of the bidder's background, training, and experience. Provide at least three but not more than five similar projects that you have completed in the last five years.

3. Services Provided: This section contains the information requested as detailed in "Services Requested" section of this RFP.

4. Pricing: The proposal shall include a complete scope of services and all associated costs and an explanation of how fees are calculated. Work performed by authorized subcontractors should be itemized.

5. Certification: The bidder will provide a certification that the statements contained in the proposal are true and correct to the best of their knowledge.

6. Additional Attachments: All other attachments, e.g. required forms, company information, etc. or any additional information to be included with the proposal. Provide any additional information you would like the ECRC to consider and any value-added goods or services that ECRC might be interested in.

This Request for Proposals is not an offer of contract. Receipt of a proposal neither commits the ECRC to award a contract to any party, even if all requirements stated in this proposal are met, nor limits the ECRC's right to negotiate in its best interest. The ECRC reserves the right to contract with a bidder whose proposal is determined to be in its best interests. The ECRC reserves the right to reject any and all offers received. No proposals will be accepted from anyone who is in arrears for prior expenses or fees owed to the ECRC.

Expenses incurred in the preparation of proposals in response to this Request for Proposals are the bidder's responsibility. No work performed by the selected Contractor that is out of the scope as defined by the Contractor's proposal will be reimbursed unless specifically authorized by the ECRC in writing.

All proposals are subject to the Michigan Freedom of Information Act. Once bids are opened, the information contained therein becomes freely accessible by the public.

SERVICES REQUESTED

The ECRC is seeking a qualified contractor to replace the flat roof and shingled roof at the ECRC Conway garage. The ECRC will rely upon the Contractor's expertise and experience to suggest the best roofing solution suited to the building. This Request for Proposals identifies the requirements that are the minimum by the ECRC. Specific details described within this Request for Proposals notwithstanding, it will be the obligation of the selected Contractor to adhere to accepted industry standard methods and practices in completing work.

The proposed services must include, but need not be limited to, the following:

1. Complete turnkey project to remove flat roof and remove shingled roof of ECRC Conway garage located at 2265 E Hathaway Rd, Harbor Springs, MI 49740.
2. The general work to be performed in replacing the roof will be the following:
    a. any necessary safety measures installed.
    b. all electrical disconnections for the careful work around any telemetry or equipment on the roof.
    c. remove the existing EPDM membrane and ½" fiberboard insulation down to the existing Polyisocyanurate insulation where needed to repair any water damage.
    d. remove and replace any wet insulation with new Polyisocyanurate to match the existing thickness at an additional cost per square foot.
    e. install new ½" high density cover board acceptable to roofing manufacturer.
    f. include all curb and penetration flashings as well as all accessories to provide a complete system.
    g. install textured walkway from access hatch to the exhaust fans (per ECRC locations)
    h. all electrical reconnections required for the proper installation of any telemetry or equipment on the roof.
    i. TPO membrane roof system shall be 60 mil mechanically fastened, minimum.
    j. install new 24 ga. Kynar metal edge flashing at all perimeter edges.
    k. removal and proper disposal of project debris and complete site restoration.
3. Contractor shall protect and include all necessary electrical disconnections and reconnections for transmitters, appliances, and other equipment located on the roof.
4. Contractor estimate must provide total cost of project, including draw amounts and dates.
5. Contractor proposal must provide a detailed description of work to be performed.
6. Contractor proposal must provide a detailed description of material(s) to be used.
7. Contractor proposal must provide a detailed description of warranty coverage, including specific manufacturer and installer warranties. (20-year material and workmanship warranty)
8. Contractor is responsible for securing all required permits and inspections.
9. On-site space requirements must be made known for the Contractor and equipment parking.
10. Contractor must work with on-site project coordinator on timelines for project start and end. This includes working with local staff for access inside the building when necessary.

TIME OF WORK AND COMPLETION.

The Contractor shall complete all work by August 30, 2024. Any electrical work activities requiring power disconnection must be completed within 24 hours. The Contractor shall not discontinue work for more than five (5) consecutive calendar days without the prior written approval of the ECRC. The work to be completed pursuant to this Request for Proposals will be scheduled between the hours of 7:00 am and 8:00 pm, Monday through Saturday, unless the Contractor obtains written permission from the ECRC.

MAINTENANCE OF PROJECT SITE

The Contractor shall not work, store, or operate equipment outside designated work areas without the permission of the ECRC.

The Contractor's operations shall not interfere with ECRC operations and/or emergency vehicles.

The Contractor shall protect all abutting property from injury or loss and shall defend and save the ECRC harmless from all such damages, injuries and loss occurring because of his/her work.

The Contractor shall furnish and maintain all passageways, barricades, guard fences, lights, and danger signals, and shall provide watchmen and other facilities as required by local conditions, all at no additional cost to the ECRC.

The Contractor shall assume full responsibility for loss or damage to the work during the entire construction period resulting from conditions and from all other causes whatsoever not directly due to the acts or neglect of the ECRC, including fire, vandalism, and malicious mischief, and shall complete the work in accordance with this request for proposals within the time provided in this Request for Proposals.

CONTRACTOR REQUIREMENTS

The successful bidder will be required to agree to the below requirements, as well as prepare and provide the following:

1. The selected Contractor will be required to assume responsibility for all services offered in the proposal whether or not they possess them within their organization. Further, the ECRC will consider the selected business to be the sole point of contact with regard to all contractual matters, including payment of any and all charges resulting from the contract.
2. The Contractor shall be responsible for operating the site in a manner so as to minimize the risks associated with its being a nuisance during times when construction activities have been suspended and the site is not occupied by the Contractor or its employees or subcontractors.
3. The proposal must include a list of similar roofing projects completed, as well as the name and contact information for that business or individual to use as reference.
4. The Contractor must be able to meet the insurance requirements specified in Appendix A.
5. Contractor, subcontractors and their employees shall be considered independent contractors and shall not be deemed employees of the ECRC for any reason.

SELECTION PROCESS

The ECRC will make its selection based on its review of the proposals submitted. The criteria will include qualifications, experience, fee structure, ability to meet the needs of the ECRC. The Emmet County Road Commission reserves the right to reject any or all the proposals, and to waive informalities in the proposals or the proposal process. The ECRC may interview selected bidder(s). The ECRC further reserves the right to award the contract to other than the lowest bidder if such action is deemed to be in the best interest of the ECRC. The ECRC reserves the right to consider other factors not mentioned here in making its decision. This includes timeliness, cost, quality of materials used, and documented experience pertaining to similar roofing projects.

PRE-BID ACCESS TO ROOF

Pre-bid access will be by appointment only. Prospective bidders are **required** to conduct a site visit prior to bid submittal. Access will be provided during regular business hours (8:00 am to 3:00 pm). Contact Bob Genson at bgenson@emmetcrc.org to arrange a date and time for inspection of roof.

SUBCONTRACTS

Any subcontracted services proposed by the bidder shall be described and information provided as to the nature of the services the subcontractor provides as it relates to this proposal. The bidder shall include the name of the subcontractor, describe prior business relationships with these firms, the experience, and qualifications of said entities, and describe methods the Contractor will employ to manage the subcontractor. The financial and legal relationship between the bidder and the subcontractor must be described in the proposal and approved by the ECRC prior to initiation of a contract. Bidders and their subcontractors must comply with all confidentiality laws and will be responsible for standard insurance requirements, which are part of these specifications.

HOLD HARMLESS

The Contractor shall, to the fullest extent permitted by law, at all times indemnify and save harmless the Emmet County Road Commission from and against any and all claims and demands whatsoever, including costs, litigation expenses, counsel fees and liabilities in connection therewith arising out of injury to or death of any person whomsoever or damage to any property of any kind by whomsoever, to the extent caused in whole or in part, directly or indirectly, by the negligent acts or omissions of the Contractor, any person employed by the Contractor, or anyone for whom the Contractor is liable, while engaged in the work hereunder. This clause shall not be construed to limit, or otherwise impair, other rights or obligations of indemnity which exist in law, or in equity, for the benefit of the ECRC.

CONTRACTOR'S LIABILITY INSURANCE

The Contractor shall provide insurance issued by a company or companies authorized to transact insurance business in the State of Michigan in the amounts and types set forth below, at a minimum, until the Services of the Contract are complete. The Contractor shall submit proof of insurance to the ECRC with the bid. The insurer must provide at least thirty (30) days' written notice of cancellation to the County Road Agency. The Contractor is responsible for verifying that its subconsultants comply with the insurance requirements.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
Minimal Limits: $1,000,000 Each Occurrence Limit $1,000,000 Personal & Advertising Injury Limit $1,000,000 General Aggregate Limit $1,000,000 Products/Completed Operations	The Contractor must have its policy endorsed to add "the County Road Agency, its departments, divisions, agencies, offices, commissions, officers, and employees" as additional insureds.
Automobile Liability Insurance	
Minimal Limits: $1,000,000 combined single limit per accident	
Workers' Compensation Insurance	
Minimal Limits: Coverage according to applicable laws governing work activities.	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	
Minimal Limits: $500,000 Each Accident $500,000 Each Employee by Disease $500,000 Aggregate Disease.	

The above insurance is not, and shall not be construed as, a limitation upon Contractor's obligation to indemnify the ECRC.

QUESTIONS

Any interested party may submit questions regarding this RFP and proposed services in writing to bgenson@emmetcr.org no later than 3:00 pm local time on March 27, 2024. All questions will be answered in writing, via email response to the sender, and posted as an addendum to the RFP.

BID FORM

Commercial Roof Replacement
RFP Issued February 19, 2024

Bids due April 2, 2024

Contractor Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ Cell Phone: _____

Email: _____

Bid Amount (Lump Sum): $_____

Alternates—Please Describe:

Exceptions—Please Describe:

___I have read the Request for Proposals dated February 19, 2024

Authorized Signature: _____ Date: _____

Title: _____

THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Mechanically fastened TPO membrane roofing system.

B. Cover board.

C. Roof insulation.

1.2 REFERENCES

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

1. ASTM D 1079 “Standard Terminology Relating to Roofing and Waterproofing.”
2. Glossary of NRCA’s “The NRCA Roofing and Waterproofing Manual.”
3. Roof Consultants Institute “Glossary of Building Envelope Terms.” S
4. Single Ply Roofing Industry (SPRI)
5. International Building Code (IBC)
6. American Society of Civil Engineers (ASCE-7) Minimum Design Loads for Buildings & Other Structures

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

1.3 DESIGN CRITERIA

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

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

C. Installer shall comply with current code requirements based on authority having jurisdiction.

D. Wind Uplift Performance: Roofing system shall meet the intent of systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7.

1. Field Prime Uplift Pressure: lbf/sq. ft.
2. Field Uplift Pressure: lbf/sq. ft.
3. Perimeter Uplift Pressure: lbf/sq. ft.
4. Corner Uplift Pressure: lbf/sq. ft.

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, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1.4 SUBMITTALS

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

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

1. Base flashings and membrane terminations.
2. Tapered insulation, including slopes.
3. Crickets, saddles, and tapered edge strips, including slopes.
4. Insulation fastening and adhesive patterns.

C. Verification Samples: Provide for each product specified.

D. Installer Certificates: confirmation that installer is approved, authorized, or licensed by manufacturer to install roofing system.

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

F. Guarantees: Provide manufacturer's current guarantee specimen.

G. Prior to roofing system installation, roofing sub-contractor shall provide a copy of the Guarantee Application Confirmation document issued by Johns Manville Roofing Systems indicating that the project has been reviewed for eligibility to receive the specified guarantee and registered.

1.5 QUALITY ASSURANCE

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

A. Manufacturer Qualifications: Qualified domestic U.S. owned and based manufacturer that has UL listing or accredited testing agency listing for roofing system identical to that used for this Project.

B. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 329.

C. Test Reports:

1. Roof drain and leader test or submit plumber's verification.
2. Core cut, if required.
3. Roof deck fastener pullout test, if required.
4. Bonded pull test, if required.

D. Moisture Survey (if required):

1. Submit prior to installation, results of a non-destructive moisture test of roof system completed by approved third party. Utilize one of the approved methods:

a. Infrared Thermography
b. Nuclear Backscatter

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

1.6 DELIVERY, STORAGE, AND HANDLING

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

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

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

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

1.7 PROJECT CONDITIONS

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

1.8 GUARANTEE

A. Provide manufacturer's system guarantee equal to Johns Manville's Peak Advantage No Dollar Limit Roofing System Guarantee.

1. Approved single-source special guarantee includes roofing membrane, base flashings, roofing membrane accessories, fasteners, adhesives, cover board, walkway products, manufacturer’s edge metal products, and other single-source components of roofing system marketed by the manufacturer.
2. Guarantee Period: 20 years from date of Substantial Completion.
3. Contractor is required to list “Emmet County Road Commission” as the Specifier/Consultant of record in the appropriate fields (“Specifier Account”) when applying for the manufacturer’s warranty.

B. Installer's Guarantee: Submit roofing Installer's guarantee, including all components of roofing system for the following guarantee period:

1. Guarantee Period: two years from date of Substantial Completion.

C. Existing Guarantees: Guarantees on existing building elements should not be affected by scope of work.

1. Installer is responsible for coordinating with building owner's representative to verify compliance.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE - TPO

A. Fabric-Reinforced Thermoplastic Polyolefin Sheet: ASTM D 6878, uniform, flexible sheet formed from a thermoplastic polyolefin, internally fabric or scrim reinforced. Basis of design: JM TPO

1. Membrane Thickness: 60 mils (1.52 mm), nominal
2. Exposed Face Color: white

2.2 AUXILIARY ROOFING MATERIALS – SINGLE PLY

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

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer's internally reinforced or scrim reinforced. Basis of design: JM TPO 60 mil

C. Flashing Adhesive: Manufacturer's standard solvent based bonding adhesive for base flashings. Basis of design: JM Membrane Bonding Adhesive (TPO&EPDM).

1. Serviceable Installation Ambient Air Temperature: 25°F and rising.

D. Liquid Applied Flashing: Manufacturer's single ply liquid and fabric reinforced flashing system created with a fleece polyester scrim and a two-component polyurethane-based liquid applied flashing material, consisting of a liquid resin and a curing agent. Basis of design: JM SP Liquid Flashing Resin and JM SP Liquid Flashing Scrim

E. Liquid Applied Flashing Primer: Manufacturer's single ply liquid flashing primer. Basis of design: JM SP Liquid Flashing TPO and PVC Primer, JM SP Liquid Flashing Concrete Primer, or JM SP Liquid Flashing Metal and Wood Primer

F. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, with anchors. Basis of design: JM Termination Systems

G. Fasteners: Factory-coated steel fasteners and metal plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. Basis of design: High Load Fasteners and Plates.

H. Miscellaneous Accessories: Provide all accessories to meet the roofing manufacturer's guarantee requirements.

2.3 WALKWAYS AND SAFETY STRIPS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer. Basis of design: JM TPO Walkpad

B. Safety Strips: Manufacturer's minimum 65 mils total thickness, comprise of 30 mil yellow non-reinforced TPO membrane laminated to 35 mil white cured seaming tape. Basis of design: JM Single Ply Safety Strip

1. Exposed Face Color: Yellow

2.4 COVER BOARD

A. Gypsum Board: ASTM C 1177, coated glass-mat facer, water-resistant gypsum substrate for mechanically attached roof applications, 1/2 inch (13 mm) thick. Basis of design: Dens Deck Roof Board

2.5 ROOF INSULATION

A. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), Basis of design: ENRGY 3

2.6 TAPERED INSULATION

A. Tapered Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), Basis of design: Tapered ENRGY 3

1. provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated.

2.7 INSULATION ACCESSORIES

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

B. Provide saddles, crickets, tapered edge strips, and other insulations shapes where indicated for sloping to drain. Fabricate to slopes indicated. Basis of design: Tapered Fesco Edge Strips.

C. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and furnished by roofing system manufacturer. Basis of design: All Purpose Fasteners and UltraFast Plate

2.8 EDGE METAL COMPONENTS

A. Shop-Fabricated Edge Metal: Custom-fabricated edge metal meeting the criterion of ANSI/SPRI ES-1. Must be approved by manufacturer technical representative. Minimum requirements:

1. Steel: 24 gauge, TPO coated fastened 6 inches on center.
2. Aluminum: 0.05 inch thick, fastened 6 inches on center.

B. Roof Edge Drainage Systems: Gutter Systems: Manufactured in section lengths not exceeding 12 feet with 0.100-inch mill aluminum internal Gutter Hangers, 24 inches on center, and 2-inch-wide formed external wind straps 6’-0” on center.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. General:

a. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
b. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

2. Steel Decks:

a. Verify that decking is visibly dry and free of moisture.
b. Verify that the decking is smooth and free of large cracks, holes, or sharp changes in elevation of the surface.
c. When applicable perform pull test with the specific fastener being used on the project to confirm the fastener resistance meets the requirements for that particular system.

3. Ensure general rigidity and proper slope for drainage.
4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units more than 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

B. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner's Representative and shall be corrected prior to installation of roofing system.

3.2 PREPARATION

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

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

C. If applicable, prime surface of deck at a rate recommended by roofing manufacturer and allow primer to dry.

D. Proceed with each step of installation only after unsatisfactory conditions have been corrected.

3.3 RE-COVER PREPARATION

A. Prepare existing roof according to roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer, and requirements in this Section.

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

C. Remove Existing membrane per manufacturer's written instructions.

D. Remove coverboard down to the existing insulation. Remove and replace wet, deteriorated or damaged roof insulation and decking as identified in moisture survey.

E. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations. Install decking to match existing as directed by Owner's Representative.

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

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

G. Immediately remove all debris from roof surface. The demolished roof system may not be stored on the roof surface.

3.4 INSULATION INSTALLATION

A. Coordinate installation of roof system components so insulation and cover board are not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system manufacturer's written instructions for installation of roof insulation and cover board.

C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install insulation boards with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6 mm) with like material.

E. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

F. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.

G. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

H. Loose Laid Insulation: Loose lay all layers of insulation with staggered joints.

3.5 COVER BOARD INSTALLATION

A. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer's written instructions for installing roof cover board.

C. Install cover board with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6 mm) with cover board.

1. Cut and fit cover board within 1/4 inch (6 mm) of nailers, projections, and penetrations.

D. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.

1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

E. Mechanically Fastened Cover Board: Install cover board and secure to deck using mechanical fasteners designed and sized for fastening specified cover board to deck type.

1. Fasten to resist uplift pressure at corners, perimeter, and field of roof.

3.6 ROOFING MEMBRANE INSTALLATION, GENERAL

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

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

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

1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation.
2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.7 MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing in accordance with roofing system manufacturer's written instructions.

1. Unroll roofing membrane and allow it to relax before installing.
2. Install sheet in accordance with roofing system manufacturer’s written instructions.

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

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

D. Always install membrane laps perpendicular to the steel deck flutes. “Picture Frame” installation method is not permitted.

E. Apply roofing membrane with side laps shingled with roof slope, where possible.

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

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.

    a. Remove and repair any unsatisfactory sections before proceeding with work.

3. Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.

G. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

H. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.

I. Install roofing membrane and auxiliary materials to tie into existing roofing.

3.8 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates per membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Apply single ply liquid applied flashing system per manufacturer’s written instructions.

D. Flash penetrations and field-formed inside and outside corners per manufacturer’s installation instructions.

E. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.

F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.9 EDGE METAL INSTALLATION

A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Provide edge details as indicated on the Drawings. Install in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

C. Join individual sections in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

3.10 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Heat weld and adhere walkway products to substrate according to roofing system manufacturer's written instructions.

B. Roof-Paver Walkways: Install walkway roof pavers with applicable slip sheet per manufacturer's written instructions in locations indicated, to form walkways.

3.11 FIELD QUALITY CONTROL

A. Final Roof Inspection: Arrange for roofing system manufacturer's technical representative to inspect roofing installation on completion and submit report to Architect.

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

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

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

3.12 PROTECTION AND CLEANING

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

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

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

PART 4 SHINGLE ROOF SCOPE

A. Remove all shingles to the structural deck.

B. Remove ridge cap, drip edge, flashing, and exhaust caps.

C. Replace any deteriorated decking as necessary at additional square foot cost.

D. Install ice & water shield 9’ up from eave edges.

E. Install synthetic underlayment over the balance of the roof deck.

F. Install new ridge cap, drip edge, flashing, and exhaust caps.

G. Install GAF Timberline HDZ shingles.

H. Provide GAF Silver Pledge Warranty

1. 40-year/20-year non prorated labor and material warranty.
2. 10-year workmanship warranty.
3. Unlimited wind warranty.
4. 25-year algae warranty.

I. Remove and properly dispose of all debris generated by this scope of work.