Kansas City Kansas Community College

Request for Proposal/Bid 25-005	
Field House Roof Replacement	
RFP/Bid Issued:	April 10, 2025
Question/clarification deadline:	April 23, 2025 10:00 AM CST
Proposals/Bids Due:	May 7, 2025 10:00 AM CST
Buyer:	Linda Burgess Purchasing Specialist Kansas City Kansas Community College 7250 State Avenue, Kansas City Kansas 66112 Email: lburgess@kckcc.edu

A mandatory pre-bid meeting/walk through is scheduled for April 16, 2025 at 11:30 AM CST. Please meet in our Facility Services building located at 7140 State Ave., Kansas City, KS 66112.

FORM A
RESPONDENT ACKNOWLEDGEMENT
RFP 25-005

The undersigned certifies that he/she has the authority to bind this company in an agreement to supply the service in accordance with all terms and conditions specified herein. Please type or print the information below.

Respondent is REQUIRED to complete, sign, and return this form with their submittal.

Company Name	Authorized Person (Print)
Address	Signature
City/State/Zip	Title
Phone #	Date
Fax #	Tax ID #
Email Address	

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RFP INFORMATION, INSTRUCTIONS, FORMS

REQUEST FOR PROPOSALS NO. 25-005

PROFILE OF KANSAS CITY, KANSAS COMMUNITY COLLEGE

Kansas City Kansas Community College is a centrally located public 2-year institution in the Kansas City metropolitan area, in northeast Kansas. The College was founded in 1923 and is accredited by the Higher Learning Commission. KCKCC's Main Campus and Technical Education Centers are within the city limits of Kansas City, Kansas, located within Wyandotte County near State Avenue and College Parkway. The College also serves Leavenworth County with a satellite center, Pioneer Career Center.

The stated mission of KCKCC is "Inspire individuals and enrich our community one student at a time."

INSTRUCTIONS FOR SUBMITTING PROPOSALS

SECTION 1: GENERAL INSTRUCTIONS

All submittals must be in accordance with these instructions.

A. Must submit three (3) original paper copies of the submittal response in a sealed envelope, labeled with the project number and project title. A pdf copy of the proposal should be emailed to lburgess@kckcc.edu by the deadline. Paper copies should be mailed or delivered to 7250 State Avenue, Kansas City, Kansas 66112, Attention: Linda Burgess, Purchasing Specialist, Administrative Offices, Upper Jewel.

B. The College reserves the right to waive defects and informalities in submittals, to reject any or all submittals, or to accept any submittals as may be deemed in the best interest of the College, in its sole discretion.

C. Any submittal may be withdrawn at any time prior to the time specified herein for the opening of submittals, but no submittal may be withdrawn for a period of ninety (90) days after the submittal.

D. Any exceptions taken to the terms, conditions, or specifications of the RFP must be clearly noted in the submittal as follows: **Exceptions to RFP 25-005.** If not so noted, then the successful respondent expressly agrees to the terms, conditions, and specifications of the RFP in its entirety and any exception after submittal will be held invalid and/or cause to reject the submittal, in whole or in part, at the sole discretion of the College.

E. Questions and information pertaining to any item of this request may be obtained by submitting a request via email prior to the submittal deadline as noted on Page 1. Except in writing as noted on page 1, no other communication will take place between respondents and employees of the College during the RFP process.

F. Services shall ***not*** be subcontracted or assigned, in whole or in part, without the express written consent of the College. Areas of work that cannot be accomplished by the respondent must be identified in the submittal, including the identification of other firms to be used. However, ultimate responsibility for the goods/services and all obligations relating to the goods/services will remain with the successful respondent.

G. It is the responsibility of each respondent to become familiar with the requirements of this RFP. Lack of knowledge concerning the RFP's requirements will not relieve the respondent of conditions submitted in response to the submittal.

H. If it becomes necessary to revise this RFP in whole or in part, an addendum will be provided to all respondents on record as having received the RFP and posted on the College's website. **It is important to note, however, that it remains the responsibility of the respondent to determine if any addenda have been issued and to obtain those addenda prior to submitting their submittal.**

I. The College will not be liable for any costs that a respondent may incur in the preparation of or presentation of the submittal.

J. In all cases, no verbal communication will override written communication, and only written communications are binding.

K. The College shall not be obligated to return the respondent's submittal once submitted, whether or not the submittal is withdrawn.

SECTION 2: EVALUATION CRITERIA

Evaluation will be in accordance with the College's policies and practices and purchasing policy. The College shall base its selections for professional services required for a project upon, but not limited to, the following criteria:

A. **Approach to the Scope of Services.** The scope of the services offered and the extent to which they meet or exceed the requirements of the College.

B. **Personnel.** Professional credentials and experience of all personnel who will be involved with the project. The specialized experience and technical competence of the respondent with respect to the type of services required.

C. **Capacity to Perform the Work.** The capacity and capability of the respondent to perform the work in question, including specialized services, within the time limitations fixed for the completion of the project. Total resources of the respondent that can be applied to the Project, including project schedule.

D. **Experience.** The past record of performance of the respondent with respect to such factors as control of costs, quality of work, and ability to meet schedules. Previous experience with similar or like services as outlined in this RFP, including references, level of satisfaction of present and former clients with accounts of comparable size and complexity.

E. **Familiarity.** The respondent's proximity to and familiarity with the College and/or higher education. Understanding of the scope and work required as evidenced by the submittal and the ability of the respondent to deliver services as requested.

F. **Fee Proposal.** Selection will be made based upon the most responsible respondent in the sole discretion of the College, including costs. A responsible respondent is a firm who has the capability and experience in all aspects to perform fully the contract requirements and the integrity and reliability which will assure good faith performance.

SECTION 3: PROPOSAL SUBMITTALS

Bid/Proposal Format – the following should be clearly identified in your proposal:

A. Respondent Acknowledgement Sheet – Completed copy of page 2 of this RFP.

B. Company Overview and History - Describe your company, officers, number of employees, and operating policies. State the number of years your organization has been in business and the financial stability of your company (no more than 2 pages).

C. Experience/References – Describe your experience in performing the services requested in this RFP. Indicate if you have previously contracted with KCKCC, and if any contract with KCKCC was terminated or

declared in default by the College due to performance, breach, or other concerns. Provide three (3) references, preferably those that include current and former public higher education clients for similar work.

D. Key Personnel – Identify key personnel who would be assigned to this project to provide the services described in the Scope of Work, highlighting the primary point of contact for the College. Include an organizational chart and resumes as appropriate.

E. Project Approach – Describe in detail the approach to the project. Provide a detailed, task-oriented timeline for the project as it relates to the project requirements.

F. Fee Proposal – Describe how your firm is compensated for services and describe all fees for services on our account. Include itemized costs for all components and features to be delivered. Unless stated, the College shall assume that no other fees will be assessed in connection with the provision of services.

SCOPE OF SERVICES

SECTION 1: INTRODUCTION TO PROJECT

Kansas City Kansas Community College (KCKCC) is requesting bids from qualified vendors with necessary resources and experience to submit bids for Roof Replacement of our Athletic field house as outlined in this RFP. The Athletic field house is located at 7350 State Ave., Kansas City, KS 66112.

SECTION 2: SCOPE OF WORK

SECTION 070150 - PREPARATION FOR REROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Full tear-off of roof areas indicated.

1.2 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.
B. Full Roof Tear-Off: Removal of existing roofing system from deck.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Shop Drawings: Include plans, sections, and details.
C. Temporary Roofing Submittal: Product data and description of temporary roofing system. If temporary roof remains in place, include surface preparation requirements needed to receive permanent roof, and submit a letter from roofing manufacturer, stating acceptance of the temporary roof and that its inclusion does not adversely affect the roofing system's resistance to fire and wind.
D. Roof Assembly Certification Letters: For roof replacement projects and roof overlay projects, submit letters certifying that the roofing systems will achieve specified warranties, that roofing system components are acceptable and will meet performance requirements specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer making roof repairs.
   1. Include certificate that Installer is approved by warrantor of existing roofing system.
B. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, which might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Approved by warrantor of existing roofing system to work on existing roofing.
B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
C. Reroofing Conference: Conduct conference at Project site, Refer to Roofing Section.
    1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; roofing Installer, including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing, including installers of roof deck, roof accessories, and roof-mounted equipment.
    2. Review methods and procedures related to roofing system tear-off and replacement, including, but not limited to, the following:
        a. Reroofing preparation, including roofing system manufacturer's written instructions.
        b. Temporary protection requirements for existing roofing system components that are to remain.
        c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
        d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
        e. Existing roof deck conditions requiring notification of Architect.
        f. Existing roof deck repair procedures and Owner notifications.
        g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
        h. Structural loading limitations of roof deck during reroofing.
        i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
        j. HVAC shutdown and sealing of air intakes.
        k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
        l. Governing regulations and requirements for insurance and certificates if applicable.
        m. Existing conditions that may require notification of Architect before proceeding.

1.6 FIELD CONDITIONS

A. Existing Roofing System:
    1. As indicated in project-specific general notes on drawings.
B. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
    1. Coordinate work activities daily with Owner so Owner can place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
    2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.
C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
E. Conditions existing at time of inspection for bidding are maintained by Owner as far as practical.

1. Contractor is responsible for investigating all existing roofing system conditions prior to reroofing.

F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
   1. Remove only as much roofing in one day as can be made watertight in the same day.

G. Hazardous Materials: Coal Tar pitch roofing is present on existing roof areas and should be removed and disposed of by the Contractor in a manner consistent with all local, state, and federal work safety regulations.

1.7 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during reroofing, by methods and with materials so as not to void existing roofing system warranty. Notify warrantor before proceeding.
   1. Notify warrantor of existing roofing system on completion of reroofing, and obtain documentation verifying that existing roofing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

A. Expanded Polystyrene (EPS) Insulation: ASTM C 578, 1 inch thick.
B. Plywood: DOC PS1, Grade CD Exposure 1, 15/32 inch thick.

2.2 INFILL AND REPLACEMENT MATERIALS

A. Use infill materials matching existing roofing system materials unless otherwise indicated.
1. Infill materials are specified in the following sections as indicated
   a. Section 075216 “Modified Bituminous Membrane Roofing”.
B. Steel deck.
C. Wood blocking, curbs, and nailers.
D. Plywood Parapet Sheathing: Pressure-preservative-treated plywood wall sheathing, 19/32 inch thick.

2.3 AUXILIARY REROOFING MATERIALS

A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing and new roofing system.

PART 3 EXECUTION

3.1 PREPARATION

A. Shut off rooftop utilities and service piping before beginning the Work.
B. Test existing roof drains to verify that they are not blocked or restricted. Immediately notify Architect of any blockages or restrictions.

C. Protect existing roofing system that is not to be reroofed.
    1. Loosely lay 1-inch- minimum thick, expanded polystyrene (EPS) insulation over existing roofing in areas where roof will be accessed, at roof top material storage and drop areas, and along traffic paths over existing roofing to remain. Loosely lay 15/32-inch plywood panels over EPS. Extend EPS past edges of plywood panels a minimum of 1 inch.
    2. Limit traffic and material storage to areas of existing roofing that have been protected.
    3. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
D. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
E. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
F. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
    1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 ROOF TEAR-OFF

A. General: Notify Owner each day of extent of roof tear-off proposed for that day and obtain instructions to proceed.
B. Full Roof Tear-Off: Where indicated, remove existing roofing and other roofing system components down to the deck.
    1. Remove roof insulation and cover board.
    2. Remove wood blocking, curbs, and nailers.
    3. Remove existing roofing membranes and associated perimeter metal edging.
    4. Remove fasteners from deck.

3.3 DECK PREPARATION

A. Inspect deck after tear-off of roofing system.
B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect. Do not proceed with installation until directed by Architect.
C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until deck areas requiring remediation have been quantified by Architect and Architect authorizes direction to proceed in writing.
D. Provide additional deck securement as indicated on Drawings.
E. Perform repairs on steel deck as directed by Architect and as set fo. Deck replacement will be paid for by adjusting the Contract Sum according to unit prices included in the Contract Documents.

3.4 INFILL MATERIALS INSTALLATION

A. Immediately after roof tear-off, and inspection and repair, if needed, of deck, fill in tear-off areas to match existing roofing system construction.
    1. Installation of infill materials is specified in Section 075216 "Modified Bituminous Membrane Roofing."
    2. Installation of wood blocking, curbs, and nailers.
B. Install new roofing patch over roof infill area. If new roofing is installed the same day tear-off is made, roofing patch is not required.

3.5 BASE FLASHING REMOVAL

A. Remove existing base flashings. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.
B. Do not damage metal counterflashing that are to remain. Replace metal counterflashing damaged during removal with counterflashing specified in Section 076200 "Sheet Metal Flashing and Trim."
C. Inspect parapet sheathing, wood blocking, curbs, and nailers for deterioration and damage. If parapet sheathing, wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.
D. Remove existing parapet sheathing and replace with new parapet sheathing. If parapet framing, wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.
E. When directed by Architect, replace parapet framing, wood blocking, curbs, and nailers.

3.6 DISPOSAL

A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
    1. Storage or sale of demolished items or materials on-site is not permitted.
B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION

SECTION 075216 - MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the modified bituminous sheet roofing system (075216.A01) including but not limited to, the following:
   1. Modified bituminous field ply/plies (smooth and granulated) (075216.A01).
   2. Modified bituminous 2-ply base flashing.
   3. Base Sheet (075216.A10).
   4. Vertical Wall Flashing (Modified Bituminous) (075216.A11).
   5. Vertical Wall Flashing (EPDM) (075216.A12).
   6. Roof insulation (075216.A20).
   7. Tapered roof insulation (075216.A21).
   8. Roof insulation cant strips (075216.A22).
   9. Wood Nailer Strips (075216.A23).
   10. Tapered edge strips (075216.A24).
   11. Cover board (075216.A25).
   12. Walkway protection boards (075216.A41).
   13. Liquid flashing (075216.A44).
   14. Remove existing base flashing, sheet metal flashing, and noted wet roof insulation.
   15. Lead flashing at roof drains and plumbing vents.
   16. All accessories and fasteners needed to complete the roofing systems indicated.

1.2 SYSTEM DESCRIPTIONS

A. APP Modified Bitumen Roofing System (Re-Roof on Steel Deck): Roofing system shall consist of base layer of polyisocyanurate insulation, total thickness 1-1/2 inch and shall be mechanically fastened to deck; second layer of insulation shall be 1/8" tapered polyisocyanurate to drains with crickets and set in low-rise foam adhesive; a cover board set in low rise adhesive; one-ply of an APP modified bitumen smooth surfaced membrane with a single reinforcement of fiberglass mat; one ply adhered in cold adhesive and heat welded on all sides and end laps; a surfacing ply (cap sheet) shall be an APP dual reinforced (glass fiber mat and a polyester mat) modified bitumen ply with factory-applied mineral surfacing. Surfacing ply shall be adhered with manufacturer's cold adhesive. Provide all related accessories for a complete and watertight roofing system.
   1. System Properties:
      a. Thickness, 285 mils, minimum, excluding adhesive layers. Field plies (120 mil times two) and cap sheet (180 mil).
   2. Locations:
      a. Kansas City Kansas Community College.

1.3 ACTION SUBMITTALS

A. Product Data: Manufacturer's technical product data, installation instructions and recommendations for each type of roofing product/component required.
   1. Include data and certified test reports substantiating that materials comply with requirements.
   2. Submit Factory Mutual and Underwriter's Laboratory material and systems approvals.

a. For insulation and roof system component fasteners, include copy of FM Approvals RoofNav listing.
3. Submit Underwriter's Laboratory material and systems approvals.
4. Submittals shall be reviewed and accepted by roofing membrane manufacturer's technical representative with a submittal cover letter stating all products for the roof assembly including roofing membrane, base flashing, roof insulation, adhesives and fasteners are acceptable.

B. Shop Drawings: Indicate dimensions, general construction, specific modifications, component connections, details at adjoining construction and roof top accessories, anchorage methods, hardware and installation procedures; plus, the following specific requirements:
1. Indicate base flashing and membrane terminations and, details for perimeter, penetrations, field fabricate curbs and tie-in flashing details.
2. Indicate layout, slopes, and thicknesses for tapered insulation and crickets.
3. Shop drawing shall show sequence of placement of roofing system, set-up locations of equipment and traffic patterns. Installation sequence shall be arranged so traffic across finished roofing system is minimized.
4. Shop drawings shall be reviewed and accepted by roofing membrane manufacturer's technical representative. A shop drawing cover letter shall be submitted by the roofing membrane manufacturer's technical representative stating all products for the roof assembly including roofing membrane, base flashing and roof insulation are acceptable.
a. Shop drawings for Section 076200 "Sheet Metal Flashing and Trim" shall be reviewed concurrently with shop drawings for Section 075216 "Modified Bituminous Membrane Roofing."

C. Samples: Submit two sets of samples indicating manufacturer's full range of standard colors for mineral surfaced cap sheet.

D. Wind Uplift Resistance Submittal: For roofing system indicating compliance with wind uplift performance requirements.

E. Roof Assembly Certification Letters: Manufacturer of primary roof system components shall submit letter certifying that the roofing system will achieve specified warranty, that roofing system components are acceptable and will meet performance requirements specified.

1.4 INFORMATIONAL SUBMITTALS

A. Certifications: Submit written copy of warranty applications.

B. Manufacturer Certificates:
1. Performance Requirement Certificate: Signed by roof membrane manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
a. Submit evidence of complying with performance requirements.
2. Manufacturer's Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

C. Field Test Reports:
1. Concrete internal relative humidity test reports.
2. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide primary roofing products including modified bitumen field and surfacing membranes, base sheet, modified bitumen flashing and bitumen/adhesive, successfully produced by a manufacturer, which has produced that type of product for not less than 5 years. Provide secondary products recommended by primary manufacturer.
   1. Manufacturer shall be UL listed for roofing system identical to that used for this Project.
   2. Manufacturer shall be listed in FM Approvals RoofNav for roofing system identical to that used for this Project.

B. Installer Qualifications: The Roofing Contractor shall perform the work of this Section; and shall be a firm with not less than seven (7) years of successful experience in installation of modified bitumen roofing systems similar to those required for this project. Roofing Contractor shall be licensed by, trained by or otherwise approved in writing by the manufacturer of primary roof materials. The Contractor must be a member of NRCA or one its affiliates.
   1. Roofing Contractor must have successfully completed 2 projects of comparable scale within the past two years using the specified system.
   2. Installer shall have an EMR (Experience Modification Ratio) rating of 0.90 or less.
   3. Installer Certification: Obtain written certification from manufacturer of roofing system certifying that Installer is approved by manufacturer for installation of specified roofing system. Provide copy of certification to Architect prior to award of roofing work.
   4. Installer must be approved by roofing system manufacturer to offer specified manufacturer's warranty.
   5. Installer's Field Supervision: Require Installer to maintain a full-time supervisor/foreman who is on jobsite during times that roofing work is in progress and who is experienced in installation of roofing system similar to the type and scope required for this Project.
   6. All roofing shall be installed by employees of the installer; contract labor is not allowed.

C. Pre-application Roofing Conference: Approximately two weeks prior to scheduled commencement of modified bitumen roofing installation and associated work, the Contractor shall conduct a meeting at Project site with Roofing Contractor, roofing membrane manufacturer's technical representative, Installer of each component of associated work, installer of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work), Architect if requested, roofing system manufacturer's technical representative third party inspection agency representative, and other representatives directly concerned with performance of the work. Contractor to record discussions of conference and decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. Review foreseeable methods and procedures related to roofing work, including but not necessarily limited to the following:
   1. Tour representative areas of roof substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by other trades. Identify and record items to be corrected prior to commencement of work of this Section.
   2. Review roofing systems requirements (drawings, specifications and other contract documents).
   3. Review required submittals (all required submittals shall be completed prior to pre-application roofing conference).
   4. Review and finalize construction schedule related to roofing work and verify availability

of materials, Installer's personnel, equipment and facilities needed to make progress and avoid delays.

5. Review required inspection, testing, certifying and material usage accounting procedures.
6. Review weather and forecasted weather conditions, and procedures for copying with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement.)
7. Review temporary protection requirements for roofing system during and after installation.
8. Review governing regulations and requirements for insurance and certificates.
9. Roofing work will not be allowed to commence until submittals (or other language) phase has been completed.

D. Insurance Certification: Assist the Owner in preparation and submittal of roof installation certification as may be necessary with fire and extended coverage insurance on roofing and associated work.

E. UL Listing: Provide modified bitumen roofing materials which have been tested for application and slopes indicated and are listed by Underwriter's Laboratories, Inc. (UL) for Class A external fire exposure.

1. Provide roof covering materials bearing Classification Marking (UL) on bundle, package, or container indicating that materials have been produced under UL's Classification and Follow-up Service.
2. Provide roof insulation approved in writing by roof system manufacturer as acceptable substrate for this project.
3. Provide roofing system that can be installed to comply with UL 790 requirements specified for resistance to external fire.

F. FM Listing: Provide modified bitumen roofing materials which have been evaluated by Factory Mutual System for wind-uplift, and hail damage and are listed in "Factory Mutual Approved Guide" for Class I construction and FM 1- 90 Windstorm Classification.

1. Provide roof covering materials bearing FM approval marking on bundle, package or container, indicating that materials have been subjected to FM's examination and follow up inspection service.

G. Product/Material Qualifications:

1. Components of the roofing system shall be manufactured or approved by the roofing system manufacturer to comply with guaranty and construction class requirements.
2. Fastener corrosion resistance shall be in accordance with FM Standard 4470.

1.7 FIELD QUALITY CONTROL

A. Field Audits: Roof membrane manufacturer's technical representative shall perform in progress site audits and review completed contractor's quality control forms, prepare and submit reports to roofing contractor and owner's representative. Site audits include first day of construction and a site audit for every two weeks of construction.

B. Quality Control Form:

1. Contractor to complete daily quality control form provided by the roofing membrane manufacturer which is included in the documents. Contractor is to note on provided roof plan areas of daily construction. Completed forms are to be submitted with warranty completion notice.

C. Final Roof Inspection: As a part of the roofing membrane manufacturer's standard warranty, arrange for roof membrane manufacturer's technical representative.

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

D. Roofing system will be considered defective if it does not pass tests and inspections.
    1. Additional testing and inspecting, at Contractor's expense will be performed to determine if replaced or additional work complies with specified requirements.

1.8 PROJECT CONDITIONS

A. Weather Condition Limitation: Proceed with roofing work only when existing and forecasted weather conditions will permit in conjunction with manufacturer's recommendation and guaranty requirements.
B. Project Phasing: All roof insulation, cover board, edge strips, flashing, and field ply(s) shall be installed in a timely manner to allow for all other work by other trades to be completed on the roof prior to application of the surface ply and associated final layer flashing and stripping.
C. Protect roofing system as specified hereinafter.
D. Patching and Reparing Existing Roof:
    1. Report discrepancies to Architect and Owner before disturbing existing conditions that could affect current warranty.
    2. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
    3. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
    4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
    5. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
        a. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.
    6. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during patching and repairing operations, by methods and with materials so as not to void existing warranties. Contractor to confirm materials used will not void existing warranties.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle modified bitumen membrane and roofing system components in accordance with roofing system manufacturer's written instructions. Store and handle components in a manner which will ensure that there is no possibility of significant moisture pickup. Unless protected from weather or other moisture sources do not leave unused membrane on the roof overnight or when roofing work is not in progress. Store modified bitumen sheets and other materials on end on pallets or other raised surface. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of deck.
    1. Cover all materials with breathable tarpaulins. Secure tarpaulins such that weather events cannot displace them after installation.
    2. Remove roofing components from job site that show indications of moisture damage and replace with undamaged materials/components.

B. Where heavy loads are placed up on or transported over decking, or where materials are repeatedly landed, provide temporary planking or plywood to distribute imposed loads.
C. 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, approval or listing agency markings, and directions for storing and mixing with other components.

1.10 WARRANTY

A. Installer's Special Project Warrranty: Submit two (2) executed copies of the most current version of the MRCA "Roofing Contractor Materials and Workmanship Warranty", for a period of two (2) years, covering work of this Section including roof membrane, composition flashing, roof insulation, fasteners, walkway pads, and roofing accessories, all stated on face of Warranty, signed and counter signed by Installer (Roofer) and Contractor.
B. Manufacturer's Warranty: Submit executed copy of roofing manufacturer's "Full Systems – No Dollar Limit" material and workmanship warranty. Submission shall include a written a description of specified services as noted below and shall be endorsed by the Manufacturer's Technical Director. Warranty shall be from the existing decking up, including roofing system, and flashing endorsement signed by authorized representative of roofing system manufacture, on form which was published with product literature as of date of contract documents, for the following period of time:
    1. Twenty (20) years after date of substantial completion. This warranty shall include the following:
        a. Membrane roofing, base flashings, roof insulation, fasteners, cover boards, and other components of membrane roofing system.
        b. Flashing system at roofing system penetrations, including but not limited to pitch pans.
    2. Two-year re-inspection of the modified bitumen system.
C. Additional Warranty Services: The following services must be provided by the roofing membrane manufacturer's technical representative:
    1. Roofing submittals shall be reviewed and accepted by roofing membrane manufacturer.
    2. Roofing shop drawings shall be reviewed and accepted by roofing membrane manufacturer.
    3. Pre-installation Conference: Roofing membrane manufacturer's technical representative shall attend the roofing pre-installation conference and document participation.
    4. Project Start up Audit: Roofing membrane manufacturer's technical representative shall conduct and document a project start up audit, typically the first or second day of roof construction.
    5. Interim Audit: Roofing membrane manufacturer's technical representative shall conduct an interim audit, typically one for every two weeks of construction.
    6. Quality Control Form: Contractor to complete daily quality control form provided by the roofing membrane manufacturer which is included in the documents. Contractor is to note on provided roof plan areas of daily construction. Completed forms are to be submitted with warranty completion notice.
    7. Roof Moisture Survey: Roofing membrane manufacturer's technical representative shall conduct a roof moisture survey and provide a written report noting wet areas and procedures used. Contractor shall repair wet areas prior to final acceptance.
D. Existing Warranty: Coordinate work of this Section with Owner. Remove, replace, patch and repair materials and roofing surfaces by methods and with materials so as not to void existing roofing system warranties.
    1. If possible, retain original Installer of existing roofing system to perform work of this Section necessary to accommodate new construction associated with existing roofing system. When it is not possible to engage the original Installer of existing roofing system, engage another recognized and experienced Installer acceptable to roofing system manufacturer so as not to

void existing warranties.

PART 2 PRODUCTS

2.1 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. Wind Uplift Resistance: Design and install roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.
   1. *Roof system design pressures shall be calculated in accordance with FM I-90 standards.*
D. FM Approvals Listing and Performance: Project is not insured by FM Global, however materials and components shall meet FM "approvals" requirements. Provide membrane roofing, base flashings, and component materials that comply with requirements in FM Approvals 4450 and FM Approvals 4470 as part of a membrane roofing system, and that are listed in FM Approvals' "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals markings.
   1. Fire/Windstorm Classification: Class 1A-90.
E. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A, for application and roof slopes indicated; testing by a qualified testing agency.
   1. Identify products with appropriate markings of applicable testing agency.
F. Impact Resistance: Performance testing for impact resistance shall be in accordance with FM 4450, FM 4470 ASTM D3746 or CGSB 37-GP 56M to meet the following impact resistance:
   1. Meet M-VSH (Very Severe Hail), ASTM D3746 or CGSB 37-GP 56M.

2.2 MANUFACTURERS

A. General: Subject to compliance with specified requirements, provide roofing system from one of the manufacturers listed below. Additional manufacturers may be considered when submitted to and accepted by Architect prior to bidding. All manufacturers must meet all specified requirements and provide a Roof Assembly Letter, regardless of inclusion within the list below.
   1. Performance Roofing Systems (APP).
   2. Elevate (formerly Firestone Building Products).
   3. Johns Manville (APP).

2.3 ROOF INSULATION

A. General: If one of the approved roof insulation systems is provided that alters the system thickness from that specified, Contractor is responsible for any additional cost to add additional courses of cut brick or changes in wood blocking, flashing gravel, guards, etc.
   1. Provide preformed roof insulation boards manufactured or approved by roof membrane

manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated, and approved for use in roof assemblies specified.

B. Insulation Products: Acceptable products must be approved by the roofing system manufacturer.
   1. UL approved insulation meeting requirements specified for fire resistance.
   2. FM approved insulation meeting wind uplift resistance requirements specified.
   3. ASCE 7-16 for wind uplift resistance requirements specified.

C. Polyisocyanurate Board Insulation (075423.A20): ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
   1. Provide insulation in at least two layers, with the first layer 1-1/2 inches thick.
   2. Mechanically fastened first layer to deck to meet wind uplift requirements specified. All subsequent layers shall be installed with adhesive to meet wind uplift requirements.
      a. Note: At areas where vapor retarder occurs, adhere first layer of insulation in lieu of mechanically fastening.
   3. Total thickness of insulation shall match existing thickness. Thickness at roof drains shall be 1-1/2 inches, minimum.
   4. First layer of insulation shall provide a minimum aged R-value of 8.6 (for 1-1/2 inch thickness).
   5. Second layer of insulation shall match existing thickness.

D. Tapered Insulation (075216.A21): For use on roof areas and at crickets as designated on drawings.
   1. Tapered polyisocyanurate insulation, complying with ASTM C1289-11, Type II.
      a. Match slope of existing roof at each location.
   2. Tapered insulation shall have the following characteristics:
      a. Manufacturer’s standard sizes
      b. Slopes shall be matching slope of existing roof except at crickets and saddles where slope shall be twice the slope of existing roof.
   3. Minimum thickness of tapered insulation shall not be less than 1/2 inch.
   4. All pieces shall be numbered in correspondence with approved shop drawings.
   5. Miter corners of tapered insulation, lacing-in of corners is prohibited.
   6. Provide tapered insulation boards for crickets, saddles and sumps. At roof drains, provide a minimum 4 feet by 4 feet sump, and elsewhere to promote positive roof drainage.

2.4 INSULATION ACCESSORIES

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

B. Cover Board (075216.A25):
   1. Basis of Design Product: Subject to compliance with requirements, provide one of the following:
      a. National Gypsum; "DEXCell FA Glass Mat Roof Board."
      b. Comparable products from other manufacturer.
   2. Product Characteristics:
      a. Description: Glass-mat gypsum roof board compliant with ASTM C1177.
      b. Thickness: 1/2 inch minimum.

C. Insulation Fasteners (wood and steel deck areas only): Basis-of-Design: Derbigum Perlock standard mechanical fasteners for roofing system which has been tested for the required pull-out strength where applicable and compatible with deck type and roofing products used. Roofing Contractor is responsible for testing that may be required to substantiate required fastening methods or procedures.
   1. Fasteners shall meet requirements of FM 4470 for corrosion resistance.
   2. Fastener Plates for Insulation: Provide 3 inch diameter, galvalume coated steel plates as recommended by roofing system manufacturer.

3. Fastener length shall be adequate to penetrate load bearing surface of steel deck 3/4 inch.

D. Low Rise Foam Adhesive : Manufacturer recommended dual-component low rise urethane adhesive (asbestos free).
   1. VOC Emissions: 245 grams per liter, maximum, per ASTM D 3960-92
   2. Flash Point (COC): 105 degrees F, minimum, per ASTM D 92
   3. Solids Content: 77.5 percent, minimum, by weight per ASTM D 4479
   4. Density: 9.5 pounds/gallon, minimum, at 77 degrees F per ASTM D 70

2.5 MODIFIED BITUMEN ROOFING COMPONENTS

A. General Note :
   1. Total Membrane Thickness shall be defined as the combined thickness of the field ply (base sheet) and surface ply (cap sheet), excluding adhesive layers.
   2. Total Membrane Thickness shall be not less than 280 mils without prior acceptance by Architect, prior to bidding, using the form and guidelines contained in Section 012500 "Substitution Procedures" and Substitution Request Form. The following basis of design thicknesses shall be provided in the absence of written documentation from the Architect.
      a. Field Ply (Base Sheet) Basis of Design Thickness: 120 mils.
      b. Surface Ply (Cap Sheet) Basis of Design Thickness: 165 mils, minimum.
   3. Roof Areas within UL-listed assemblies shall be fabricated and installed per the listed requirements of the UL-listing indicated on the Drawings.
   4. Surface Ply (Cap Sheet) shall be Class A rated per ASTM E 108 and UL 790.

B. Field Ply (Base Sheet) – Provide a smooth-surfaced reinforced modified bituminous membrane from one of the listed manufacturers that will meet the criteria for one of the following standards:
   1. ASTM D6509 – APP modified bituminous membrane with fiberglass reinforcement.

C. Surface Ply (Cap Sheet) – Provide a fire retardant, mineral granule-surfaced, reinforced modified bituminous membrane from one of the listed manufacturers that will meet the criteria for one of the following standards:
   1. Thickness: 165 mils, minimum each ply
   2. Granule Material: Mineral.
   3. Granule Color: Black
   4. ASTM D6223, Grade G – APP modified bituminous membrane with polyester and fiberglass reinforcement.

D. Cold-Applied Adhesive – Provide manufacturer's recommended cold-applied adhesive for field membrane and base flashing applications to be asphalt-based, asbestos-free and VOC compliant, cold-applied adhesive specially formulated for compatibility and use with modified bituminous membrane roofing and flashing. Cold- applied adhesive shall have the following properties:
   1. VOC Emissions: 180 grams per liter, maximum per ASTM D 3960-92.
   2. Flash Point (COC): 110 degrees F, minimum per ASTM D 92.
   3. Solids Content: 80 percent, minimum by weight per ASTM D4479.
   4. Asphalt Content: 50 percent, minimum per ASTM D4479.
   5. Density: 9.0 lb./gallon at 77 degrees F, per ASTM D 70.
   6. Viscosity: 30,000 cps at 77 degrees F, per ASTM D2196.

E. Modified Bitumen Base Flashing (075216.A10): Provide 2-ply base flashing of same field ply and surfacing ply as specified for field of roof, unless otherwise recommended by roofing system manufacturer. For APP membranes, both plies shall be adhered with manufacturer's cold-applied adhesive with heat-welded seams or by heat welding.
   1. Granule Material: Mineral.
   2. Granule Color: Match surfacing ply color.

F. Modified Bitumen Vertical Wall Flashing (075213.A11): Provide 2-ply base flashing of same field ply and same surfacing ply (cap sheet) as specified for field of roof. For APP membranes, both plies shall be adhered with manufacturer's cold-applied adhesive with heat-welded seams or by heat welding.
   1. Granule Material: Mineral.
   2. Granule Color: As selected by Architect from manufacturer's full range.

G. Vertical Sheet Flashing EPDM (075216.A12): Provide an adhered, EPDM membrane complying with ASTM D 4637, Type I, non-reinforced; including all adhesives, sealants and accessories for proper and watertight installation.
   1. Thickness: 60 mils min, nominal.
   2. Exposed Face Color: Black.
   3. Contractor shall use roofing system manufacturer's seam tape required by to achieve specified guaranty/warranty. EPDM membrane shall have seam tape factory-applied when required by roofing system manufacturer.

2.6 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Roof Cant Strips (075216.A22) and Preformed Edge Strips (075216.A24): Asphalt impregnated organic fiber insulation units, factory molded to form 3-1/2" x 3-1/2" x 45 degree cant strips and 1-5/8" x 18" tapered edge strips to receive roofing ply sheet courses and lift edges above main roofing surface.
   1. Wood cant strips and Nailer Strips (075126.A23): Provide wood cant strips, 2" in nominal thickness, where indicated and as required by roofing system manufacturer.
   2. Locations of nailable wood cant strips shall be determined by roofing system manufacturer's written recommendations. For manufacturers without written recommendations, refer to NRCA's Roofing Manual for industry standard practice and minimum requirements.

B. Asphalt Flashing Cement: Manufacturer's recommended asbestos-free cement, complying with ASTM D 4586.

C. Asphalt Primer: Comply with ASTM D 41.

D. Vertical Sheet Flashing EPDM (075216.A12): ASTM D 4637, Type II, uniform, flexible EPDM sheet.
   1. Thickness: 60 mils min, nominal.
   2. Exposed Face Color: Black.
   3. Contractor shall use roofing system manufacturer's seam tape required by to achieve specified guaranty/warranty. EPDM membrane shall have seam tape factory-applied when required by roofing system manufacturer

E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing membrane components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer (these fasteners are used to fasten roofing material to substrate; not to be confused with roof insulation fasteners).

F. Lead Flashing Sheet (drains): 30" by 30" square, 4 pound per square foot.

G. Lead Flashing Sheet (plumbing vents): 30" by 30" square, 4 pound per square foot.

H. Walkway Protection Boards (075216.A41): Mineral-surfaced bituminous membrane manufactured specifically for hot bituminous application on modified bitumen roofing as a protection course for foot traffic.
   1. Granule Material: Mineral.
   2. Granule Color: As selected by Architect from manufacturer's full range.

I. Liquid-Applied Flashing (075216.A44): Provide a catalyzed acrylic resin specialty flashing system, consisting of liquid-applied, fully reinforced, multi-component acrylic membrane installed over a

prepared and/or primed substrate. Flashing system shall consist of a primer, basecoat and topcoat, combined with a non-woven polyester fleece. Use of specialty liquid flashing system shall be specifically approved in advance by the membrane manufacturer for each application.

1. Subject to compliance with requirements, provide liquid flashing from one of the following as acceptable to manufacturer of primary roofing materials:
    a. Elevate (formerly Firestone Building Products): "UltraFlash", one-part liquid flashing.
    b. Johns Manville (JM); "PermaFlash" liquid flashing.
    c. Performance Roof Systems; "DerbiFlash RS 230" liquid flashing.

J. Set on Accessories: Where small roof accessories are set on modified bitumen roofing membrane, roofing cement, and sealants.

PART 3 EXECUTION

3.1 INSPECTION OF SUBSTRATE

A. Roofing Contractor shall examine substrate surfaces to receive modified bitumen roofing system and associated work and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to the Architect.
B. Examine surfaces for adequate anchorage, foreign materials, moisture and other conditions which would adversely affect roofing application and performance.
C. Examine substrate to ensure roof openings, curbs, pipes sleeves, ducts or vents through roof are solidly set and cant strips and reglets are in place.
D. 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 and curbs are set and braced and that roof drain bodies are securely clamped in place.
    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. Verify that surface plane flatness and fastening of steel roof deck complies with industry standards.
E. Proceed with installation only after unsatisfactory conditions have been corrected.
F. Prepare existing surfaces to receive new roof system.
G. Prepare written documentation of conditions which could be detrimental to completion or performance of specified Work before commencing such Work. Work shall not start until defects have been corrected.
H. Photograph interior and exterior equipment and surrounding areas and after completion of construction which may be misconstrued as damage related to demolition operations. File photographs with owner’s representative.
I. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
C. Complete terminations and base flashings and provide temporary seals to prevent water from

entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

D. Demolition and Preparation (Re-Roof Areas):
   1. Provide temporary barricades and other forms of protection for Owner's personnel and public from injury due to demolition work.
   2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
   3. Remove existing roof system, existing base flashings, and sheet metal flashings. Notify Designer of any deteriorated substrate or other condition which will not allow installing the specified systems. Clear roof drain of any material that could restrict drainage.
   4. Perform demolition in a systematic manner.
   5. Protect against any material or debris dropping into the building or damaging new roof membrane.

3.3 INSTALLATION, GENERAL

A. Cooperate with inspection and test agencies engaged or required to perform services in connection with modified bitumen roofing system installation.
B. Protect other work from spillage of modified bitumen roofing materials, and prevent liquid materials from entering or clogging drains and conductors. Protect lawn areas, building walls and windows and building equipment. Replace/restore other work damaged by installation of roofing system work.
C. Coordinate flow of work, equipment, materials and personnel to eliminate traffic across completed new roofing systems. Provide plywood walkways for the movement of personnel, equipment and materials.
D. Insurance/Code Compliance: Install modified bitumen roofing system and insulations for (and test where required to show) compliance with governing regulations and roofing system performance requirements specified.
E. Cutoffs: At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary tie off one ply of modified bitumen membrane set in cold adhesive; remove at beginning of next day's work.
F. Roof surfaces shall be thoroughly dry before application of roofing.
G. Roofing Manufacturer's Inspection: Inspection of roofing shall be made by a responsible representative of the roofing manufacturer during application and after completion.
H. When application of roofing is begun, total roof system shall be completed before end of day and before wet by elements (with exception of cap sheet). Install water cut-off at completion of each day's work and remove upon resumption of work.
   1. Precautions shall be taken to protect membrane from punctures, refer to Article 2.4 of this Section.

3.4 INSULATION AND COVER BOARD INSTALLATION

A. General: Comply with insulation manufacturer's instructions and recommendation for the handling, installation, and bonding or anchorage of insulation to each different type of substrate. Roof insulation and cover board shall be dry when installed and shall be protected from weather. All materials that become wet shall be removed before the end of the day.
   1. Steel Deck Installation: Secure first layer of insulation to metal deck areas indicated on plans using corrosive resistant mechanical fasteners specifically designed and sized for attachment of specified board type insulation to deck type shown. Run long joints of insulation in continuous

straight line, perpendicular to roof slope with ends joints staggered at least 12" between rows.

a. Secure insulation over entire field area of roofing, including corners and perimeters, at spacing as required by FM for Windstorm Resistance Classification specified and per applicable requirements of FM Loss Prevention Data Sheet 1-28.
    1) Mechanically fasten first layer.
b. Set prefabricated tapered insulation in low-rise foam adhesive and offset joints 12" each way from preceding insulation layer and to provide positive drainage to all exterior gutters and roof drains. Provide saddles at crickets as needed to insure there is no ponded water.
    1) Insulation board gaps shall not exceed 1/4". Where joints exceed 1/4", add baseboard to gap.
    2) No more insulation shall be applied than can be covered with required membrane specification on the same day.

2. Cover boards: Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows and stagger joints a minimum of 6" from preceding insulation layer. Loosely butt cover boards together. Adhere cover boards in low rise foam adhesive over entire field area of roofing, including corners and perimeters, at spacing as required by FM for Windstorm Resistance Classification specified and per applicable requirements of FM Loss Prevention Data Sheet 1-28.
3. Roof cant strips and tapered edge strips shall be provided at junctures of modified bitumen membrane with vertical surface, unless otherwise indicated. Roof cant strips and edge strips must be set in mastic.
4. Wood cant strips shall be mechanically fastened to supporting structure with hot-dip galvanized or stainless steel fasteners.

3.5 ROOFING MEMBRANE INSTALLATION

A. General: Install in strict accordance with roofing manufacturer's written specifications and recommended details to achieve Guaranty specified.

B. Multiple-Ply, Modified Bituminous Membrane: Install 2 plies of modified bituminous membrane, consisting of one
(1) field ply and one (1) surfacing ply, starting at low point of roofing system (for DDL installation, add one additional field ply). Extend field ply to 2" (nominal) above top edge of cant strip and extend surfacing ply 4" (nominal) above top edge of cant strip; terminate in accordance with requirements to manufacturer of primary roofing materials. For DDL, the second field plies shall be heat welded. Set both plies of membrane in asphalt based cold adhesive.
    1. Nail edges of roofing membrane to exterior side of wood blocking at perimeter edges of roof prior to installing metal gravel stops/fascia. Space nails at minimum of 4" on center.
    2. Shingle in direction to shed water.
    3. Accurately align sheets, without stretching, and maintain uniform side and end laps. Stagger end laps a minimum of 18 inches or as required by manufacturer, no header sheets (belly bands) allowed for surface ply. Completely bond and seal laps, leaving no voids.
        a. Repair tears and voids in laps and lapped seams not completely sealed.
    4. Side and end laps shall be heat welded or hot-air welded.
        a. For DDL, side laps shall be a minimum of 4" and end laps shall be a minimum of 6".

C. Vertical Flashing (075216.A10): Install vertical base flashing in accordance with the roofing system manufacturer's written instructions and current published details. Install multiple ply flashing consisting of one ply of APP modified bitumen field ply and one ply of modified bitumen surfacing ply at cant strips, other sloping and vertical surfaces. Flashing shall extend a minimum of 8" above

roof surface and 6" onto roof surface. Install modified bitumen surface ply portion of vertical flashing system after installing surface membrane.

1. Heat weld all seams and laps.
2. Fasten top of base flashing membranes every 8 inches. Three course the top of base flashing and over the fasteners; layer of asphalt mastic, fabric, and second layer of asphalt mastic.

D. Vertical Flashing (EPDM) (075216.A11): Fully adhere EPDM vertical wall flashing in accordance with the roofing system manufacturer's written instructions and current published details.

E. Horizontal Flashing (metal edge): Install modified bitumen surfacing ply using specified adhesive (no heat welding permitted). Install 12 inches of stripping ply prior to fastening metal edge. Install surfacing membrane over primed metal flanges. Surfacing membrane shall serve as strip in ply for horizontal details if approved by roofing system manufacturer.

3.6 MISCELLANEOUS INSTALLATION REQUIREMENTS

A. Set on Accessories: Where small roof accessories are set on modified bitumen roofing membrane, prime top surface of metal flange, set metal flange in a bed of manufacturer's recommended roofing cement and seal penetration of membrane. The metal flanges that are required to be fastened with a patter of 3" on-center (O.C.) Staggered using angular or ring shank nails. Use surfacing ply as strip in membrane.

B. Install liquid flashing and fleece reinforcement for roof penetrations according to roofing system manufacture's written instructions.

C. Roof Drains: Install drain sump using tapered edge strip. Set 48-inch by-48-inch square lead flashing in bed of roofing-manufacturer-approved asphaltic adhesive on completed roofing membrane. Prime surface of lead flashing. Cover lead flashing with roofing membrane cap-sheet stripping and extend a minimum of 4 inches beyond edge of metal flashing onto field of roofing membrane. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring. Install stripping according to roofing system manufacturer's written instructions.

D. Lead Flashing Sheet (plumbing vents): Set 30 by 30 inch square lead flashing in a bed of roofing manufacturer approved asphaltic adhesive on completed membrane. Prime surface of lead flashing. Cover lead flange with roofing membrane cap sheet and extend 4 inches beyond edge of lead flashing onto field of roof membrane. Bend top of lead flashing down into the penetration a minimum of two inches.

E. Roof Pipe Supports: Beneath pipe supports, provide a sacrificial piece of field membrane (cap sheet) permanently adhered to field membrane.

F. Walkway Strips: Install walkway cap sheet strips over roofing membrane using same application method as used for roofing membrane cap sheet.

1. Install walkway products according to manufacturer's written instructions.
    a. Install flexible walkways at the following locations:
        1) Perimeter of each rooftop unit.
        2) Between each rooftop unit location, creating a continuous path connecting rooftop unit locations.
        3) Between each roof hatch and each rooftop unit location or path connecting rooftop unit locations.
        4) Top and bottom of each roof access ladder.
        5) Between each roof access ladder and each rooftop unit location or path connecting rooftop unit locations.
        6) Locations indicated on Drawings.
        7) As required by roof membrane manufacturer's warranty requirements.
    b. Provide 6-inch clearance between adjoining pads.

c. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.7 PROTECTION OF ROOFING

A. Upon completion of roofing work (including associated work), Installer shall advise Contractor of recommended procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at a time when remaining construction work will in no way affect or endanger roofing (at Contractor's option), Installer shall make a final inspection of roofing and prepare a written report (to Contractor with copy to Owner) describing nature and extent of deterioration or damage found in the work.
   1. Plan work so traffic over new roofing system is kept to a minimum. Where traffic must continue over new roofing system, provide protection for the finished roof.

B. Installer shall repair or replace (as required) deteriorated or defective work found at time of final inspection. Installer shall be engaged by Contractor to repair damages to roofing which occurred subsequent to roofing installation and prior to final inspection. Repair or replace the roofing and associated work to a condition free of damage and deterioration at time of substantial completion.

C. Existing items, structures or areas damaged during course of construction work shall be restored/repaired to a condition equal or better than it was prior to commencement of work.

3.8 CLEANING

A. As work progresses and prior to completion of roofing membrane installation, clean off cold-applied adhesive, asphalt and other asphalt-based mastic spills to prevent discoloration of roofing membrane as recommended by roofing system manufacturer.

B. Clean off footprints tracked onto roofing membrane surface as recommended by roofing system manufacturer.

C. For general cleaning prior to Substantial Completion, power wash as recommended by roofing system manufacturer. Clean all roof areas prior to turning Project over to Owner.

D. Remove all debris and extra materials from roof surface and the project site.

E. Contractor shall be responsible for the cost of roofing system cleanup and, damage to any property and equipment as a result of a leak during roof system installation. If the cleanup is not performed or contracted for immediately, the District (Owner) will perform or contract the cleanup at the Contractor’s expense.

END OF SECTION

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Formed Products:
      a. Formed roof drainage sheet metal fabrications.
      b. Formed low-slope roof sheet metal fabrications.
      c. Formed wall sheet metal fabrications.
      d. Formed equipment support flashings.
      e. Premanufactured pitch pockets.
      f. Roof drains.
      g. Pre-manufactured bellows-type expansion joint.
B. Related Sections:
   1. Section 075216 "Modified Bituminous Membrane Roofing" for installing sheet metal flashing and trim integral with roofing.

1.2 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 leakproof, secure and non-corrosive installation.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct Conference at Project Site.
   1. Meet with Owner, Owner's Roofing Consultant, Architect, Installer, roofer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, metal wall panels, aluminum storefront and curtain wall, and roof-mounted equipment.
   2. Review construction schedule. Verify availability of materials, Installer's personnel, equipment and facilities needed to make progress and avoid delays.
   3. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs and condition of other construction that affects sheet metal flashing and trim.
   4. Review requirements for insurance and certificates, if applicable.
   5. Review sheet metal flashing observation and repair procedures – post flashing installation.
   6. Review methods and procedures related to sheet metal flashing and trim.
   7. Review special roof details, roof drainage, roof penetrations, equipment curbs and condition of other construction that will affect sheet metal flashing.
   8. Review sequencing of sheet metal flashing installation with other related trades to coordinate installation.
   9. Document proceedings, including corrective measures and actions required, and furnish copy of records to each participant.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.
B. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work. Include the following:
    1. Identification of material, thickness, weight, and finish for each item and location in Project.
    2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
    3. Details for joining, supporting, and securing sheet metal flashing and trim, including layout of fasteners, cleats, clips, and other attachments. Include pattern of seams.
    4. Details of termination points and assemblies, including fixed points.
    5. Details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashing as applicable.
    6. Details of special conditions and of connections to adjoining work.
    7. Detail formed flashing and trim at a scale of not less than 3 inches per 12 inches.
    8. Include details of roof-penetration flashing.
    9. Include details of expansion joints and expansion-joint covers – show direction of expansion and contraction joints from fixed points.
    10. Shop drawings for Section 076200 “Sheet Metal Flashing and Trim” shall be reviewed concurrently with shop drawings for the following sections:
        a. Section 075216 “Modified Bituminous Membrane Roofing”
C. Samples for Verification: For each type of exposed finish required, prepared on 6 inch square samples of actual metal to be used in the work.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified fabricator.
B. Maintenance Data: For sheet metal flashing, trim, and accessories to include in maintenance manuals.
C. Warranty: Sample of special warranty.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs 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. For copings and roof edge flashings that are SPRI ES-1 compliant, shop shall be SPRI ES-1 certified and listed as able to fabricate required details as tested and approved.
B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual", Sixth Edition, unless more stringent requirements are specified or shown on Drawings.

1.7 DELIVERY, STORAGE, AND HANDLING

A. 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.

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

1.8 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which 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 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      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

2.1 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 in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
   1. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested in accordance with ANSI/SPRI/FM 4435/ES-1 and capable of resisting the following design pressure:
      a. Design Pressure: As indicated on Drawings.
   2. Sheet metal flashings shall be installed in accordance with ANSI/SPRI/FM 4435/ES-1 “Wind Design Standard for Edge Systems used with Low Slope Roofing Systems” as applicable for locations and configurations indicated on Drawings.

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. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.

D. Fabricate and install roof edge flashing capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49.

E. 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, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a

strippable, temporary protective film before shipping.

1. Contractor shall use gauges or thicknesses specified or as prescribed in the referenced standards for specific girths, whichever is greater.

B. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304, dead soft, fully annealed.
   1. Finish: 2B
   2. Surface: Smooth, flat.

C. Metallic-Coated Steel Sheet: Restricted flatness steel sheet, metallic coated by the hot-dip process and pre- painted by the coil-coating process to comply with ASTM A 755/A 755M.
   1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation; structural quality.
   2. Surface: Smooth, flat.
   3. Exposed Coil-Coated Finish:
      a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
   4. Colors: As selected by Architect from manufacturer's full range. Refer to Exterior Finish Legend for color matching requirements for sheet metal flashing and trim installed adjacent to metal wall panels, storefront and curtain wall.
   5. Concealed Finish: Pretreat with 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.

2.3 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet (076200.A01): Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer and compatible with self-adhering air barrier transition membrane.
   1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F.
   2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F.
   3. Products: Subject to compliance with requirements, provide one of the following:
      a. Carlisle Coatings & Waterproofing Inc.; CCW WIP 300HT.
      b. Grace Construction Products, a unit of W. R. Grace & Co.; Ultra.
      c. Henry Company; Blueskin PE200 HT.

B. Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.

C. Flexible Membrane Closure (076200.A04): EPDM Sheet membrane; at roof expansion joints provide non- reinforced flexible, black EPDM synthetic rubber sheet flashing of 45 to 60 mils thickness. EPDM sheet shall have a tensile strength of not less than 1200 psi, a tear resistance of at least 20 lbs per inch and an ultimate elongation of at least 250 percent. Provide with seam and splice tape, adhesives and all other accessories required for proper and watertight installation.

2.4 MISCELLANEOUS MATERIALS

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

B. Fasteners: Wood screws, annular threaded nails, 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.
   1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
      a. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
   2. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
   3. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.

C. Termination Bars: Provide stainless steel or aluminum bars; 1/8" thick with a 1" face and 8'-0" length. Bars shall be predrilled at 8" centers starting 4" in from each end. Sealant shall be MasterSeal NP150 by BASF.
   1. Provide at building expansion joint bellows and other locations as necessary for proper watertight installation.

D. Solder:
   1. For Stainless Steel: ASTM B 32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.

E. Sealant Tape (076200.A02): Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape 1/2 inch wide and 1/8 inch thick.

F. Elastomeric Sealant (076200.A03): ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

G. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

H. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

I. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

J. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the 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 without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
   4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed 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 as indicated and within 1/8-inch () offset

of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.
D. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
    1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
    2. Use lapped expansion joints only where indicated on Drawings.
E. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
F. Cleats (076200.A36): Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" and by FMG Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.
    1. Cleats for coping, gravel stop edges and fascia caps shall be fabricated from not less than 0.040 inch thick (20 gauge) galvanized steel and shall be continuous 10 foot lengths with ¼ inch gap between sections.
G. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
H. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters (076200.A05): Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch-long sections. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard but with thickness not less than twice the gutter thickness. Fabricate expansion joints, expansion- joint covers, and gutter accessories from same metal as gutters.
    1. Gutter Profile and sizes: As indicated on drawings according to cited sheet metal standard.
    2. Expansion Joints: Butt type with cover plate.
    3. Accessories: Wire-ball downspout strainer and Valley baffles.
    4. Gutters with Girth up to 15 Inches: Fabricate from the following materials:
        a. Coil-Coated Galvanized Steel: 0.022 inch thick.
    5. Gutters with Girth 16 to 20 Inches: Fabricate from the following materials:
        a. Coil-Coated Galvanized Steel: 0.028 inch thick.
B. Downspouts (076200.A07): Fabricate rectangular 4 x 6 inch downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
    1. Fabricate downspouts similar to SMACNA (Sixth Edition), Figure 1-32B.
    2. Fabricated Hanger Style: SMACNA figure designation 1-35I.
        a. Hangers shall be spaced evenly not greater than 10 feet on center between eave and finished grade.
    3. Fabricate from the following materials:
        a. Coil-Coated Galvanized Steel: 0.034 inch thick.
C. Parapet Scuppers (076200.A08): Fabricate scuppers of dimensions required with closure flange trim to exterior, 4-inch- wide wall flanges to interior, and base extending 4 inches beyond cant or tapered strip into field of roof. Fabricate from the following materials:
    1. Fabricate scupper similar to SMACNA (Sixth Edition), Figures 1-26A, 1-26B and 1-27A.
    2. Coil-Coated Galvanized Steel: 0.034 inch thick.

D. Conductor Heads (076200.A09): Fabricate conductor heads to configurations and sizes indicated, similar to those shown in SMACNA (Sixth Edition), Figures 1-25F, 1-26A and 1-27A. Fabricate leading edge of scupper into conductor head similar to Figure 1-28, Section A-A with locked drip edge.
   1. Fabricate from the following materials:
      a. Coil-Coated Galvanized Steel: 0.034 inch thick.
E. Splash Pans (076200.A10): Fabricate from the following materials:
   1. Galvanized Steel: 0.034 inch thick.
   2. Fabricate similar to SMACNA (Sixth Edition), Figure 1-36. Fabricate with 2 to 3 corrugations.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

A. Roof Edge Flashing (Gravel Stop 076200.A11) and Fascia (076200.A12): Fabricate in minimum 96-inch- long, but not exceeding 12-foot- long sections. Furnish with 6 inch wide cover plates. Shop fabricate interior and exterior corners.
   1. Joint Style: Butted with expansion space and 12-inch-wide, concealed backup plate.
   2. Fabricate edging similar to SMACNA (Sixth Edition), Figures 2-1B and 2-5C.
   3. Fabricate fascia similar to SMACNA (Sixth Edition), Figures 2-7A and 2-7B.
      a. Coil-Coated Galvanized Steel: 0.034 inch thick.
B. Copings and Caps (076200.A13): Fabricate in minimum 96-inch- long, but not exceeding 10-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight.
   1. Coping Profile: Similar to SMACNA figures designation 3-1A, 3-4A and 3-8D.
   2. Cap Profile: Similar to SMACNA figure designation 4-5C, with 4inch high flange.
   3. Joint Style:
      a. At coping: Similar to SMACNA, Figure 3-1, Detail 2, with drive cleat over top and “J1” 3-inch lap joint on vertical faces.
      b. At caps: Similar to SMACNA, Table 3-1, joint “J2” with butt and backup plate.
   4. Fabricate from the following materials:
      a. Coil-Coated Galvanized Steel: 0.034 inch thick.
C. Roof-to- Roof Expansion-Joint Cover (076200.A14): Fabricate from the following materials:
   1. Coil-Coated Galvanized Steel: 0.034 inch thick.
   2. Fabricate roof-to-roof expansion joint similar to SMACNA (Sixthh Edition), Figure 5-5A.
   3. Where expansion joint occurs beneath metal wall panels, vertical legs of receiver shall be 4 inches tall and extend up behind rigid insulation.
D. Roof to Wall Transition Expansion-Joint Cover (076200.A15): Fabricate from the following materials:
   1. Coil-Coated Galvanized Steel: 0.034 inch thick.
   2. Fabricate roof-to-wall expansion joint similar to SMACNA (Sixth Edition), Figures 5-1 and 5-6B.
   3. Where expansion joint occurs beneath metal wall panels, vertical legs of receiver shall be 4 inches tall and extend up behind weather resistive barrier/air barrier transition flashing.
E. Counterflashing (076200.A18): Fabricate from the following materials:
   1. Coil Coated Galvanized Steel: 0.034 inch thick.
   2. Fabricate similar to SMACNA (Sixth Edition), Figure 4-4D, spring action and two piece (with receiver).
   3. Where indicated, fabricate counterflashing with integral reglet flange similar to SMACNA (Sixth Edition), Figure 4-4B.
F. Flashing Receivers (076200.A19): Fabricate from the following materials:

1. Stainless Steel: 0.019 inch thick.
2. Where receivers are indicated to project through exterior wythe, horizontal leg of receiver shall be 3 to 3-1/2 inches long.
3. Where receivers are cut-in to masonry joint or partially embedded in masonry joint, fabricate similar to SMACNA (Sixth Edition), Figure 4-4C.
4. Where receivers are mechanically fastened to vertical surface, vertical leg of receiver shall be at least 4 inches tall, similar to SMACNA, Figure 4-5C with receiver formed similar to Figure 4-4D.

G. Roof-Penetration Flashing (076200.A20): Fabricate from the following materials:
1. Coil-Coated Galvanized Steel: 0.034 inch thick.

2.8 WALL SHEET METAL FABRICATIONS

A. Opening Flashings in Frame Construction: Fabricate head, sill, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high, end dams. Fabricate from the following materials:
1. Coil-Coated Galvanized Steel: 0.034 inch thick.

2.9 MISCELLANEOUS SHEET METAL FABRICATIONS

A. Equipment Support Flashing (076200.A33): Fabricate from the following materials:
1. Galvanized Steel: 0.034 inch thick.

B. Pre-Finished Miscellaneous Metal Flashing and Trim (076200.A35): Fabricated from the following materials:
1. Coil-Coated Galvanized Steel: 0.034 inch thick.
2. Stainless Steel: 0.031 inch thick.
3. At metal wall panels, fabricate to configurations indicated, with vertical leg not less than 4 inches tall to extend up and behind rigid insulation. Fabricate ends of flashing with end dams not less than 2 inches tall, and extending out to face of wall panel.
4. At pan flashing for windows, storefront and curtain wall; fabricate to configurations indicated, with horizontal leg to extend 2 inches beneath window, storefront or curtain wall sill as occurs.
5. Fabricate trim to configurations indicated.
6. Fabricate pre-finished miscellaneous metal flashing in lengths of 8 to 10 feet. Overlap adjoining pieces 4 inches and seal joint watertight.

C. Premanufactured Pitch Pockets: A pre-fabricated interlocking pitch pocket system filled with fast setting, solvent free, multi-use waterproof sealer. Prefabricated pockets connect with tongue and groove joints and are composed of high strength, flexible elastomer. Pieces join together to create pockets of varying sizes.
1. Basis-of-Design product: “Lockin’ Pocket Interlocking Pitch Pocket System” by Weather-Tite.
2. Product Characteristics:
   a. Pocket and Sealer Color: Black.
   b. Height: 4 inches above field of roof.
   c. Warranty: Not less than 2 years.
3. Prepare Substrates and install pitch pockets in accordance with manufacturer’s printed instructions to accommodate substrates involved.

2.10 PRE-MANUFACTURED BELLOWS-TYPE EXPANSION JOINT (076200.A15)

A. Basis-of-Design Product: Subject to compliance with requirements, provide Johns Manville; "Expand-O-Flash" expansion joint cover or comparable product from another manufacturer, acceptable to roofing system manufacturer, meeting specified requirements submitted to and accepted by Architect prior to bidding.
B. Product Description:
    1. General: Expansion joint shall be a flexible, weather-proof exterior cover for exterior applications. Cover shall be a combination of flexible rubber membrane, supported by closed cell foam to form a flexible bellows, with two metal flanges.
    2. Style: CF/EJ, as indicated.
    3. Bellows Width: 4 to 12 inches. Provide in width to suit expansion joint width.
    4. Membrane cover shall be EPDM (Type E), white in color and not less than 0.060 inch thick.
    5. Expansion joint cover shall incorporate closed cell support foam, varying in thickness from 0.375 to 0.75 inches thick to suit expansion joint width.
    6. Length: Provide in longest lengths possible.
    7. Flange shall be 0.32 inch thick aluminum with Kynar finish. Color selected by Architect.
C. Accessories:
    1. Tubular Compressible Fillers: Pre-molded, neoprene, butyl, EPDM or silicone tubing complying with ASTM D1056, non-absorbent to water and gas, capable of remaining resilient at temperatures down to 26 deg. F. Provide products with low compression set and of shapes and sizes as follows:
        a. Outside diameter shall be 1/4 inch greater than expansion joint opening width.
            1) Basis of Design Product: Subject to compliance with requirements, provide "Insul-Tube" by Namoco K-Flex.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions 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.
    3. Verify that air or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. General: Install underlayment as indicated on Drawings.
B. Self-Adhering High Temperature Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Apply primer if required by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-

1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

C. Flexible Membrane Closure EPDM Underlayment: Install EPDM underlayment wrinkle free and continuously sealed between sheets and all laps for watertight installation at roof expansion joints to form a bellows. Install an additional sheet over the top of coping, wall caps, and expansion joint bellows securely attached to wall substrate and adhered to over top of blocking/curb and turned down 1-1/2 inches.
   1. Where indicated at expansion joints in vertical walls behind cavity insulation and foam-board air barrier, provide flexible membrane closure bellows. Secure to both substrates and seal edges and laps in accordance with membrane manufacturer's written recommendations.

D. Apply slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

3.3 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, solder, welding rods, 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 and levels indicated. Provide uniform, neat seams with minimum exposure of solder, 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. Space cleats not more than 12 inches apart. Anchor individual cleats with two fasteners and bend tabs over fasteners.. At continuous cleats, interlock bottom edge of roof edge flashing with continuous cleat. Anchor continuous cleat to substrate at 2 inches in from each end and then at not greater than 12-inch centers. Bend tabs over fasteners.
   4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
   5. Install sealant tape where indicated.
   6. All lap joints in pre-finished miscellaneous metal flashing shall be sealed watertight.
   7. Torch cutting of sheet metal flashing and trim is not permitted.
   8. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
   1. Coat back side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
   2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of EDPM underlayment and cover with a slip sheet or install a course of polyethylene sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.
   1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
   2. Use lapped expansion joints only where indicated on Drawings.

D. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches

for nails and not less than 3/4 inch for wood screws.

E. Seal joints as shown and as required for watertight construction.
   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, 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.
   2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except reduce pre-tinning where pre-tinned surface would show in completed Work.
   1. Do not solder metallic-coated steel sheet.
   2. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
   3. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

G. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inch in direction of water flow. Provide EPDM bellows and EPDM cap flashing beneath expansion joint cover as specified.

3.4 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Hanging Gutters: Join sections with joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchor them in position. Provide end closures and seal watertight with sealant. Slope to downspouts.
   1. Fasten gutter spacers to front and back of gutter.
   2. Anchor and loosely lock back edge of gutter to continuous cleat.
   3. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches apart.
   4. Anchor gutter with gutter brackets spaced not more than 36 inches apart to roof deck, unless otherwise indicated, and loosely lock to front gutter bead.
   5. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet apart. Install expansion-joint caps.

C. Downspouts: Join sections with 1-1/2-inch telescoping joints.
   1. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c. in between.
   2. Provide elbows at base of downspout to direct water away from building.
   3. Connect downspouts to underground drainage system indicated.

D. Splash Pans: Install where downspouts discharge on low-slope roofs. Set on slip sheet strip cut from extra cap sheet.

E. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge

strips, and under roofing membrane.

1. Anchor scupper closure trim flange to exterior wall and seal with elastomeric sealant to scupper.
2. Loosely lock front edge of scupper with adjacent flashing.

F. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch below scupper or gutter discharge.

3.5 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.

1. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at 2 inches in from each end and then at not greater than 12-inch centers.

C. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.

1. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 2 inches in from each end and then at not greater than 12-inch centers.
2. Anchor interior leg of coping with screw fasteners and washers at 16 inch centers.

D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.

E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with sealant. Secure in a waterproof manner.

F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

G. Pourable Sealer Pocket Installation: Prepare substrates and install pockets in strict accordance with pocket manufacturer’s written instructions to accommodate substrates involved.

3.6 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

B. Through-Wall Flashing: Installation of through-wall flashing.

C. Opening Flashings in Frame Construction: Install continuous head, sill, and similar flashings to extend 4 inches beyond wall openings.

3.7 MISCELLANEOUS FLASHING INSTALLATION

A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support

member.

B. Pre-Finished Miscellaneous Metal Flashing: Coordinate installation of flashing with adjoining construction and air barrier coating. Seal lap joints watertight.

3.8 PRE-MANUFACTURED BELLOW-TYPE EXPANSION JOINT INSTALLATION

A. Install tubular fill at top of expansion joint opening to provide a tight fit. Filler shall extend slightly above top of expansion joint to support bellow-type expansion joint. Install filler continuously, tighty butting sections together.
B. Install bellows-type expansion joint cover in strict accordance with cover manufacturer written instruction to provide a weather-tight installation. Securely fasten flanges to adjacent construction.

3.9 ERECTION 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 as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
B. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

3.10 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
B. Clean and neutralize flux materials. Clean off excess solder.
C. Clean off excess sealants.
D. 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 installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.
E. 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

SECTION 079200 - JOINT SEALANTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Silicone joint sealants.
   2. Urethane joint sealants.
   3. Latex joint sealants.
   4. Polyurea joint sealants.
   5. Hybrid silicone sealants.
   6. Polyether Sealants.

B. Related Sections:
   1. Section 076200 "Sheet Metal Flashing and Trim".

1.2 PRECONSTRUCTION TESTING

A. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
   1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
   2. Conduct field tests for each application indicated below:
      a. Each kind of sealant and joint substrate in exterior walls.
      b. Sealant around perimeter of exterior windows/storefront.
   3. Notify Architect seven days in advance of dates and times when test joints will be erected.
   4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
      a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
         1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
   6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.
B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
C. Joint-Sealant Schedule: Include the following information:
   1. Joint-sealant application, joint location, and designation.
   2. Joint-sealant manufacturer and product name.
   3. Joint-sealant formulation.

4. Joint-sealant color.

D. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.
B. Preconstruction Field-Adhesion Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
C. Field-Adhesion Test Reports: For each sealant application tested.
D. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.
D. Preinstallation Conference: Conduct conference at Project site.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
   1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
   2. When joint substrates are wet.
   3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
   4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.
B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.
C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
   1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
   2. Disintegration of joint substrates from natural causes exceeding design specifications.

3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
B. VOC Content: Sealants and sealant primers shall comply with the following:
   1. Architectural sealants shall have a VOC content of 250 g/L or less.
   2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
   3. Sealants and sealant primers for porous substrates shall have a VOC content of 775 g/L or less.
C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
D. Stain-Test-Response Characteristics: Where sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
F. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.
G. Keynote Designations: Refer to schedule at end of this Section for types and applicable substrates.
   1. Sealant: (079200.A01).
   2. Sealant with backer rod: (079200.A02).
   3. Tape Sealant (079200.A05).

2.2 SILICONE JOINT SEALANTS

A. Single-Component, Non-Staining, Non-sag, Ultra Low Modulus, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50 minimum, for Use NT.
   1. Products:
      a. Tremco Incorporated; Spectrem 1.
      b. Sika; Sikasil WS 290 FPS.
      c. Dow; Dowsil 756 SMS Building Sealant.
      d. Pecora; 890NST.
B. Single-Component, Non-Staining, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50 minimum, for Use NT.
   1. Products:
      a. Tremco Incorporated; Spectrem 2.
      b. Sika; Sikasil WS-295 FPS.
      c. Dow; Dowsil 756 SMS Building Sealant.
      d. Pecora; 890NST.
C. Single-Component, Non-sag, Traffic-Grade, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T.
   1. Products:

a. Dow; Dowsil 790 Silicone Building Sealant.
b. Sika; Sikasil 728 NS.
c. Pecora Corporation; 311 NS.

D. Mildew-Resistant, Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25 minimum, for Use NT.
1. Products:
a. Tremco Incorporated; Spectrem 2.
b. Sika; Sikasil GP.

2.3 URETHANE JOINT SEALANTS

A. Multicomponent, Non-sag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25 minimum, for Use NT.
1. Products:
a. Sika; Master Seal NP 2.
b. Tremco Dymonic 100.
c. Sika Products; Sikaflex; 2c NS EZ Mix.
d. Pecora Corporation; Dynatrol II.

B. Multicomponent, Non-sag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25 minimum, for Use T.
1. Products:
a. Sika; Master Seal NP 2.
b. Tremco Dymonic 100.
c. Sika Products; Sikaflex; 2c NS EZ Mix.
d. Pecora Corporation; Dynatrol II.

C. Multicomponent, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type M, Grade P, Class 25 minimum, for Use T.
1. Products:
a. Sika; Master Seal SL 2.
b. Sika; Sikaflex; 2c SL.
c. Pecora Corporation; Dynatrol II SG.

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Products: Subject to compliance with requirements, provide one of the following:
a. BASF Building Systems; Sonolac.
b. May National Associates, Inc.; Bondaflex Sil-A 700.
c. Pecora Corporation; AC-20+.
d. Tremco Incorporated; Tremflex 834.

2.5 POLYUREA SEALANTS

A. Polyurea Sealant: Semi-rigid, self-leveling, 2-part type. Shore D hardness of 85 when tested in accordance with ASTM D 2240. Tensile strength of 1160 pounds per square inch when tested in accordance with ASTM D 412.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Curecrete Distribution Company, Inc.; Ashford Crete-Fill.
b. L&M Construction Chemical, Inc. Joint Tite 750.

c. Adhesives Technologies Corp.; Crackbond JF311.

2.6 HYBRID SILICONE SEALANTS FOR RESINOUS WALL TREATMENTS

A. Basis of Design: Subject to compliance with requirements, provide one of products listed below or a comparable product, with the following product characteristics, submitted to and accepted by Architect.
   1. Products:
      a. Sika; MasterSeal NP 100.
   2. Product Characteristics:
      a. Classification: ASTM C920, Type S, Grade NS, Class 50, Use T.
      b. Movement Capacity: +/- 50 percent.
      c. Shore A Hardness: 17 to 23 per ASTM C 661.
      d. Tensile Strength: 160-200 psi per ASTM D 412.
      e. Tear Strength 22 lbs. per inch per ASTM 1004.
      f. Color: As selected by Architect from manufacturer's full range of custom options.

2.7 POLYETHER SEALANTS

A. Structural Adhesive/Sealant: ASTM C 920, Type S, Grade NS, Class 35, Use T, NT, M, A, G and O.
   1. Basis of Design: M-1 Structural Adhesive/Sealant as manufactured by Chem Link.
   2. Product Charachteristics:
      a. Tensile Properties (ASTM D-412) at 21 days: Tensile Stress: 370-psi minimum. Elongation at Break: 525%.
      b. Shear Strength (ASTM D-1002): 390 psi.
      c. Shore A Hardness (ASTM D-2240) at 21 days: 45.
      d. Adhesion in Peel (TT-S-00230C, ASTM C 794).
      e. Service Range: -40 degree to 200-degree F (-40 degree to 93 degree C).

B. Siding - Window - Door - Roof Sealant: ASTM C 920, Type S, Grade NS, Class 35, Use T1, NT, M, A, G and O.
   1. Basis of Design: DuraLink 35 Sealant as manufactured by Chem Link.
   2. Product Characteristics:
      a. Performance Requirements:
         1) Initial Cure (ASTM D-679): 45 minutes
      b. Properties (ASTM D-412) at 21 days: Tensile Stress - 250-psi minimum. Elongation at Break - 750%. Modulus of 100%: 43 psi (0.30 MPa).
      c. Shore A Hardness (ASTM D-2240) at 21 days: 20 +/-3
      d. Service Range: -40 degree to 200-degree F (-40 degree to 93 degree C).

C. Siding - Window - Door - Roof Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use T1, NT, M, A, G and O.
   1. Basis of Design: DuraLink 50 Sealant as manufactured by Chem Link.
      a. Product Characteristics:
         1) Performance Requirements:
            (a) Initial Cure (ASTM D-679): 45 minutes
         2) Properties (ASTM D-412) at 21 days: Tensile Stress - 250-psi minimum. Elongation at Break - 750%. Modulus of 100%: 43 psi (0.30 MPa).
         3) Shore A Hardness (ASTM D-2240) at 21 days: 20 +/-3
         4) Service Range: -40 degree to 200-degree F (-40 degree to 93 degree C).

2.8 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
B. Backer Rod (079200.A02): 3/4 inch closed cell compressible backup material; highly flexible and waterproofing material. (It is inserted into a joint to control sealant depth and to prevent 3 sided adhesion).
    1. Joint width to depth ratio should be 2 to 1 with a minimum depth of 1/4” or a maximum depth of 1/2”.
    2. For best results, diameter of the backer rod should be 1/8” larger than the width of the joint.
C. Cylindrical Sealant Backings (079200.A04): ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
D. Bond-Breaker Tape (079200.A05): Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.9 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way and formulated to promote optimum adhesion of sealants to joint substrates.
C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint- sealant manufacturer's written instructions and the following requirements:
    1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
    2. Clean, porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing

optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    a. Concrete.
    b. Masonry.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    a. Metal.
    b. Glass.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
    1. Do not leave gaps between ends of sealant backings.
    2. Do not stretch, twist, puncture, or tear sealant backings.
    3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
    4. As sealant work progresses, install tube weeps at 24 inches on center along base of metal wall panels and where indicated.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
    1. Place sealants so they directly contact and fully wet joint substrates.
    2. Completely fill recesses in each joint configuration.
    3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
    1. Remove excess sealant from surfaces adjacent to joints.
    2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
    3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Extent of Testing: Test completed and cured sealant joints as follows:
      a. Perform one test for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
   2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C1193 or Method A, Tail Procedure, in ASTM C1521.
      a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   3. Inspect tested joints and report on the following:
      a. Whether sealants filled joint cavities and are free of voids.
      b. Whether sealant dimensions and configurations comply with specified requirements.
      c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
   4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
   5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE (079200.A01)

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.

1. Joint Locations:
    a. Isolation and contraction joints in cast-in-place concrete slabs.
    b. Joints between different materials listed above.
2. Urethane Joint Sealant: Multicomponent, pourable/non-sag, traffic grade, Class 25.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior horizontal joints between precast structural concrete.
1. Joint Locations:
    a. Joints at flanges between precast structural concrete units at roof.
    b. Joints between precast structural concrete units at roof and abutting vertical walls/structure.
2. Urethane Joint Sealant: Multicomponent, nonsag, traffic grade, Class 25.
3. Joint-Sealant Color: Grey.

C. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
    a. Construction joints in cast-in-place concrete.
    b. Control and expansion joints in unit masonry.
    c. Joints above finished grade between plant-precast concrete units, unless otherwise indicated.
        1) Joints below grade shall be urethane.
    d. Joints in formed metal wall panels.
    e. Joints within and at perimeter of storefront and curtain wall assemblies.
    f. Control and expansion joints.
    g. Joints between different materials listed above.
    h. Perimeter joints between materials listed above and frames of doors, windows and louvers.
    i. Control and expansion joints in ceilings and other overhead surfaces.
2. Silicone Joint Sealant: Single component, non-staining, non-sag, neutral curing, Class 50.
3. Polyether Joint Sealant: 100% solids one-component, gun grade, polyether-base material. The sealant shall cure under the influence of atmospheric moisture to form an elastomeric joint material.
4. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
    a. Isolation joints in cast-in-place concrete slabs.
    b. Other joints as indicated, except for expansion and control joints.
2. Urethane Joint Sealant: Multicomponent, non-sag, traffic grade, Class 25.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
    a. Expansion joints in tile and resinous flooring.
2. Silicone Joint Sealant: Single component, non-sag, traffic grade, neutral curing, Class 100/50.
3. Joint Sealant Color: As selected by Architect from manufacturer's full range of colors.

F. Joint-Sealant Application: Interior control/contraction joints in horizontal traffic surfaces.
1. Joint Locations:
    a. Control/contraction joints in concrete slabs indicated to receive sealed finish, polished concrete finish, resinous flooring and joints in slabs on grade extending to building exterior, seal watertight.
2. Polyurea Joint Sealant: Polyurea, multi component, self-leveling, traffic grade.
3. Joint Sealant Color: As selected by Architect from manufacturer's full range of colors.

G. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:

a. Control and expansion joints on exposed interior surfaces of exterior walls.
b. Perimeter joints of exterior openings where indicated.
c. Vertical joints on exposed surfaces of interior unit masonry and concrete.

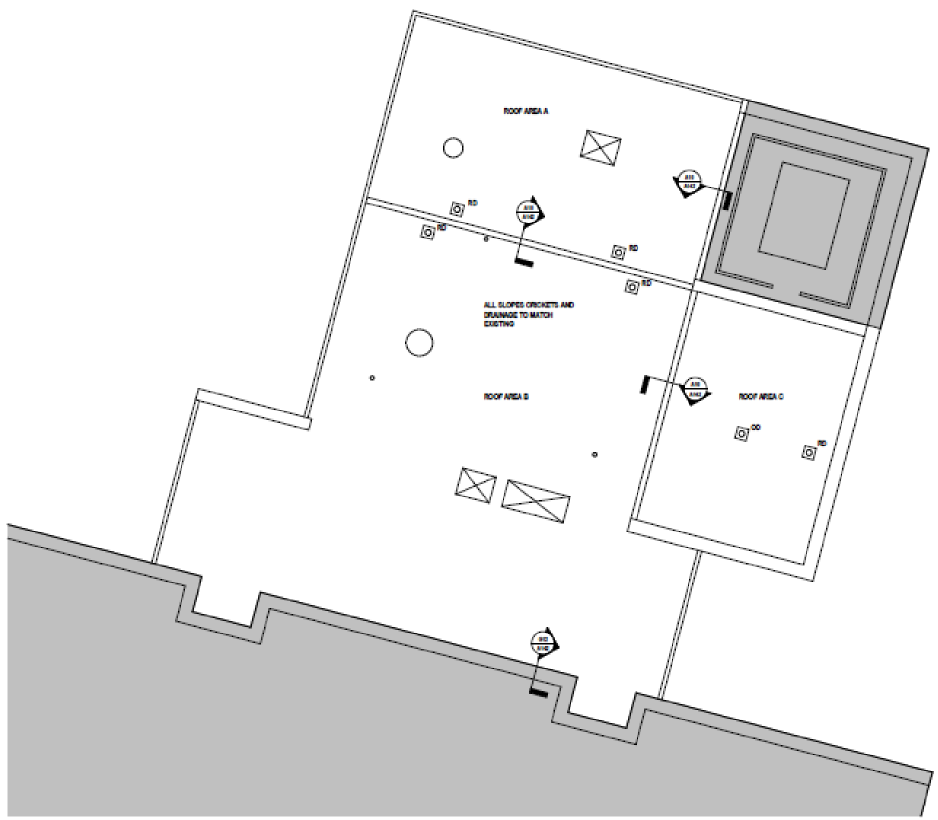
2. Joint Sealant: Urethane, multicomponent, non-sag, Class 25, paintable.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

H. Joint Sealant Application: Interior joints in vertical surfaces.
1. Joint Locations:
a. Vertical joints in exposed surfaces of gypsum drywall partitions.
b. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
2. Joint Sealant: Acrylic based, paintable.
3. Joint Sealant Color: As selected by Architect from manufacturer's full range of colors.
4. Polyether Joint Sealant: 100% solids one-component, gun grade, polyether-base material. The sealant shall cure under the influence of atmospheric moisture to form an elastomeric joint material.

I. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Sealant Location:
a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
b. Tile control and expansion joints where indicated.
2. Joint Sealant: Single component, non-sag, mildew resistant, acid curing, Silicone.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

J. Joint-Sealant Application: Interior control/contraction joints in vertical surfaces (Resinous Wall treatments)
1. Joint Locations:
a. Control and expansion joints in CMU, cement board, or gypsum board indicated to receive resinous wall treatment.
2. Joint Sealant: Hybrid Silicone, single component, non-sag, Class 50, traffic grade.
3. Joint Sealant Color: As selected by Architect from manufacturer's full range of custom colors.

END OF SECTION



A1 | Scale: 1/4" = 1'-0" | ROOF PLAN

GENERAL PROJECT SCOPE

EXISTING ROOF SYSTEMS:

FIELD VERIFY ROOF AREAS AND EXISTING ROOFING SYSTEMS.

SCOPE OF WORK:

ROOF AREAS A, B, C :
REMOVE ROOF SYSTEM TO METAL DECK.

NEW ROOF SYSTEMS:
ROOF AREA A, B, C SBS SUBSTRATE BOARD, POLYISOCYANURATE INSULATION TO MATCH EXISTING THICKNESS, TAPER ETC., (INSTALL IN TWO LAYERS WITH STAGGERED JOINTS WHEN POSSIBLE) 1/2" COVERBOARD, MOD BIT BASE AND CAP PLIES.

INSTALL NEW PRESSURE TREATED WOOD BLOCKING. REFER TO SPECIFICATIONS FOR RESTRICTIONS ON TREATMENT. CONTRACTOR TO CONFIRM FASTENER COMPATIBILITY WITH TREATED LUMBER.

INSTALL 24GA PRE FINISHED EXPANSION FROM ROOF TO BUILDING AND ROOF TO ROOF AS REQUIRED. SERRODGE COLOR MILL FINISH

INSTALL NEW 24GA PRE FINISHED EDGE FLASHING AND CLEAT WITH WEATHERTIGHT FASTENERS. PROFILE TO MATCH EXISTING. SERRODGE COLOR MILL FINISH

REMOVE AND REPLACE ALL PITCH PANS WITH PRE FABRICATED STAINLESS STEEL PITCH PANS AND SEALANT.

INSTALL NEW 24 GA PRE FINISHED CONE JACKS ON THE EXHAUST STACKS.

INSTALL NEW TREATED BLOCKING, 24 GA PRE FINISHED COUNTERFLASHING AND SEALANT AT EXISTING PRECAST CONCRETE. SERRODGE COLOR MILL FINISH

THE ROOF SYSTEMS WILL CARRY THE MANUFACTURER'S 20 YEAR WARRANTY.

RAISE ALL VENTS TO BE MIN. 12" ABOVE FINISHED ROOF AND PROVIDE NEW LEAD FLASHING.

INSTALL NEW PRE FINISHED COUNTER FLASHING, PERIMETER FLASHING, COPINGS, INCLUDING CONTINUOUS CLEATS, AND FASTENERS. PROFILE TO MATCH EXISTING. COLOR TO BE MILL FINISH.

REMOVE AND REPLACE ALL ROOF DRAIN SUMPS WITH NEW 4X4' LEAD LINED SUMPS.

REMOVE AND REPLACE ALL EXISTING ROOF DRAINS WITH NEW ZURN MODEL Z125 OR EQUAL. FIELD VERIFY OUTLET SIZE AND CONNECTION. PROVIDE ALL SUMP RECEIVERS, CLAMPING RINGS, DOMES ETC. FOR COMPLETE REPLACEMENT. ADD 2" COLLAR AT OVERFLOW DRAINS.

LIQUID FLASH ALL LOW FLASHING HEIGHTS AS REQUIRED BY MANUFACTURER.

REPIPE ALL CONDENSATE DRAINS WITH NEW COPPER LINES TO NEAREST DRAIN.

ROOF HATCH LEGEND

(grey hatch)	NO WORK, EXISTING TO REMAIN

GENERAL DEMOLITION NOTES

AT ALL AREAS SCHEDULED FOR NEW ROOFING SYSTEM, REMOVE EXISTING ROOF SYSTEM DOWN TO EXISTING CONCRETE OR METAL DECKING. INSPECT FOR DAMAGE AND REPORT SAME TO OWNER AND ARCHITECT.

REMOVAL OF EXISTING ROOFING SYSTEMS SHALL INCLUDE MATERIALS AT VERTICAL WALL SURFACES AND PENETRATIONS. REMOVAL TO BE DOWN TO SUBSTRATE MATERIALS.

AT REMOVAL OF EXISTING ROOFING MATERIALS, REMOVE AND REPLACE ALL EXISTING FLASHING, WOOD BLOCKING ETC. NOT SPECIFICALLY CALLED TO BE PROTECTED, REUSED OR MAINTAINED ON THIS SHEET.

DEMOLITION PLANS ARE INTENDED TO DEPICT A SCOPE AND SCHEMATIC LOCATION OF DEMOLITION WORK. ACTUAL DEMOLITION SHALL BE ACCOMPLISHED IN COORDINATION WITH NEW CONSTRUCTION WORK.

THE CONTRACTOR SHALL LOCATE AND IDENTIFY ALL ELECTRICAL, MECHANICAL, PLUMBING AND UTILITY LINES WITHIN WORK AREAS AND PROTECT THE SAME AS REQUIRED TO MAINTAIN IN GOOD OPERATING CONDITION. LOCATE ANY UNUSED ROOF PENETRATIONS AND ABANDON TO SOURCE PRIOR TO RE ROOF.

UNLESS NOTED OTHERWISE, ALL ITEMS NOTED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE PROJECT SITE.

WHERE ITEMS ARE SHOWN TO BE REMOVED, CARE SHALL BE TAKEN TO PROTECT ADJACENT ITEMS SCHEDULED TO REMAIN.

FIELD VERIFICATION OF ALL EXISTING CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL NOTES

DO NOT SCALE THESE DRAWINGS. FIELD VERIFY ALL CONDITIONS, DIMENSIONS AND QUANTITIES. DIMENSIONS INDICATED ON THE PLANS ARE FOR REFERENCE ONLY AND SHOULD BE CONSIDERED APPROXIMATE.

THE CONTRACTOR SHALL VISIT THE ROOF AREA(S) PRIOR TO BID DATE AND FIELD VERIFY ALL CRITERIA.

UTILIZE INTERNAL DRAINS. REMOVE ALL EXISTING DRAIN ASSEMBLIES AND REPLACE WITH NEW. REINSULATE PIPING INSIDE BUILDING.

CONTRACTOR ACCESS TO THE ROOF AREA(S) SHALL BE COORDINATED WITH UNIVERSITY OFFICIALS.

ALL ADJACENT BUILDING / ROOF AREAS SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC AND DAMAGE DURING CONSTRUCTION.

ALL WORK SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING ROOF CONSTRUCTION AT ALL AREAS TO BE REMOVED AND REPLACED.

STAGING AREA SHALL BE COORDINATED WITH KCKCC PERSONNEL TO STAGE ALL CONSTRUCTION VEHICLES, MATERIALS, DUMPSTERS, CRANES ETC. REGRADE AND RESEED ALL DAMAGED GRASS AREAS AND CARE SHALL BE TAKEN TO NOT DAMAGE EXISTING ASPHALT PARKING LOTS, DRIVES OR EXISTING CONCRETE. CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGES TO EXISTING SITE.

PROVIDE CRICKETS AT ALL REQUIRED LOCATIONS TO PROVIDE POSITIVE DRAINAGE TO NEAREST DRAIN.

ALL FLASHING / SHEET METAL DETAILS SHALL CONFORM TO THE RECOMMENDED PROCEDURES AS OUTLINED BY THE SMACNA MANUAL, LATEST EDITION.

THROUGH DURATION OF WORK, DO NOT OBSTRUCT ROOF DRAINS.

ALL NEW PREFINISHED METAL TO MATCH EXISTING.

CONTRACTOR TO WASH AND CLEAN JOISTS

DOCUMENTS PROVIDED FOR BID GUIDANCE ONLY. MODIFICATION OF THE PROVIDED STANDARD DETAILS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONDITIONS SHOWN ON THESE DRAWINGS MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. CONTRACTOR TO VERIFY.

hollis + miller architects
we design the future

KCKCC Field House Roof Replacement
KCKCC
7250 State Ave
Kansas City, KS 66112

Construction Documents

REVISIONS:

#	Description	Date

JOB NO: 22200.00
DRAWN BY: PT
CHECKED BY: JD
DATE: 03.28.2025

A141

ROOF PLAN

ROOF A

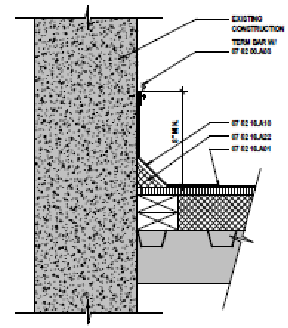
ROOF B / C

ROOF B

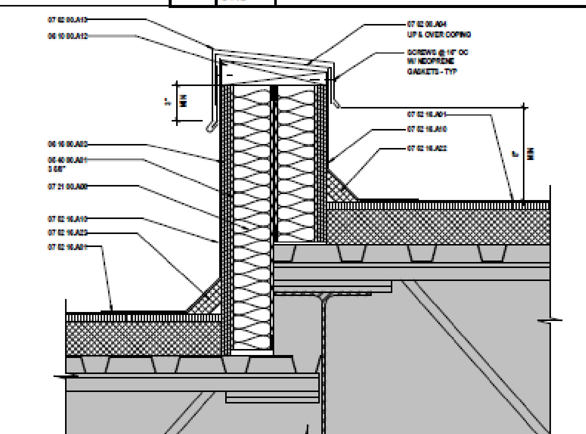
ROOF C

ROOF C

A1 Scale 1 1/2" = 1'-0" Existing Roof Reference Photos



G12 Scale 3" = 1'-0" Roof Detail @ Wall



A10 Scale 3" = 1'-0" Roof Height Transition

SHEET KEYNOTE LEGEND

06 40 00.A01	COLD-FORMED METAL FRAMING
06 10 00.A12	PRESERVATIVE TREATED WOOD BLOCKING/NAILERS
06 16 00.A02	FIRE-RETARDANT TREATED PLYWOOD
07 21 00.A06	UNFACED GLASS FIBER BLANKET INSULATION
07 52 16.A01	MODIFIED BITUMINOUS ROOFING SYSTEM
07 52 16.A10	BASE FLASHING
07 52 16.A22	INSULATION CANT STRIPS
07 62 00.A03	SEALANT
07 62 00.A04	FLEXIBLE MEMBRANE CLOSURE
07 62 00.A13	COPING

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A142

ROOF DETAILS

GENERAL CONTRACT TERMS AND CONDITIONS

SECTION 1: GENERAL TERMS

A. Governing Law. A standard contract document will be negotiated once the successful respondent(s) has been selected. Per state statute, Form DA-146a is required and the State of Kansas will be the governing law.

B. Independent Contractor. The respondent is now and shall remain a separate and independent entity from the College.

C. Submittal. The submittal received from the successful respondent, along with the RFP, will be incorporated into the Agreement between the College and the respondent, and all provisions therein shall be provided by the respondent in accordance with the requirements of the submittal, unless superseded by the terms and conditions of the Agreement, RFP, or any subsequent amendment. **No contract award shall exist until an agreement is approved by the College and executed by both parties.**

D. Term. The agreement shall include the project schedule and acceptance of the final product. The initial term of the agreement shall be one (1) year with four (4) renewable years. The contract will automatically renew unless the College provides notice at least thirty (30) days prior to the expiration of the annual renewal period.

E. Insurance. While performing the services, the respondent will maintain minimum insurance coverage specified herein. The College will be listed as an additional insured in respect to general liability, automobile liability, and umbrella/excess insurance. However, the addition of the College as an additional insured shall not in any way nullify coverage for claims or actions the College may have against the respondent. The respondent will provide the College certificates evidencing the required coverage prior to commencing services.

Type of Coverage	**Limits of Liability**
Workers' Compensation	Statutory
Employers' Liability	$500,000
Comprehensive General Liability	$1,000,000 per occurrence, $2,000,000 aggregate
Automobile Liability	$1,000,000 per occurrence, $2,000,000 aggregate
Umbrella	$2,000,000
Professional Liability	$1,000,000 per claim

F. Equal Employment Opportunity Clause.

Respondent hereby agrees to the following provisions:

1. No Discrimination

   The respondent will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin, or any other classification protected by law. The respondent will ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin or any other classification protected by law.

2. Posting Non-Discrimination Notices

   The respondent agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

   The respondent will, in all solicitations or advertisements for employees placed by or on behalf of the respondent, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin, or any other

classification protected by law.

3. No Retaliation
   The respondent will not discharge, or in any other manner discriminate against, any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant, or for filing a complaint of discrimination. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the respondent's legal duty to furnish information.
4. Noncompliance
   In the event of the respondent's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the respondent may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
5. Subcontractors
   The respondent will include the nondiscrimination provisions herein in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor.
6. Secretary of Labor Compliance
   The respondent agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of respondent and subcontractors with the equal employment opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

G. Debarred Contractors. The respondent further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, government contracts and federally assisted construction contracts pursuant to the Executive Order, and will carry out such sanctions and penalties for violation of the equal employment opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the respondent agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the respondent under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such respondent; and refer the case to the Department of Justice for appropriate legal proceedings.

H. Smoke and Tobacco-Free College. The respondent agrees to abide by the Smoke and Tobacco-Free College policy for all employees and subcontractors while at College locations.

Sales Tax Exemption. The College is exempt from sales tax and it should be excluded from all proposals.