



PROJECT MANUAL

FOR

GPMTD CITYLINK – TRANSIT CENTER ROOF RESTORATION

**407 SW Adams Street
Peoria, IL 61602**

Project No: 0180459.09

March 26, 2021

Owner:

Greater Peoria Mass Transit District (CityLink)
2105 NE Jefferson Ave.
Peoria, IL 61603

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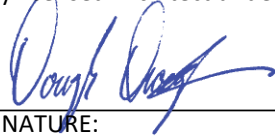
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SECTION 00 0107 - SEALS PAGE

The portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed Architect under the laws of the State of Illinois.

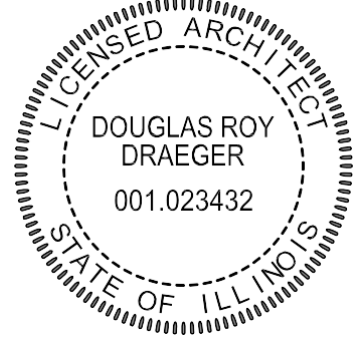


SIGNATURE:

NAME: DOUGLAS ROY DRAEGER

DATE: 03-26-2021

LICENSE EXPIRES: 11-30-2022



SEAL

END OF SECTION 00 0107

SECTION 00 0115 - LIST OF DRAWING SHEETS

GENERAL

G0.1 GENERAL INFORMATION

ARCHITECTURAL

AD2.1 ROOF DEMOLITION PLAN

A2.0 ROOF PLAN

A2.1 ROOF DETAILS

END OF SECTION 00 0115

~~SECTION 00 4101 - BID FORM ATTACHMENT A - OMNIA PARTNERS~~

~~The bidder in response to your invitation to bid, has carefully examined the site of the proposed work and Contract Documents. The bidder hereby proposes to furnish all labor, non-OMNIA Partners materials, supplies and services required, in the manner prescribed therein and to the standards of quality and performance established by the Specifications, within the price stated herein for each of the items or combination of items stipulated.~~

~~This bid proposal is hereby presented to Greater Peoria Mass Transit District for the GPMTD CityLink Transit Center Roof Restoration project including all other work associated, by:~~

~~1.1. OMNIA Partners:~~

~~A. It is the intent of Greater Peoria Mass Transit District ("Agency") to purchase materials for the GPMTD CityLink Transit Center Roof Restoration ("Project") located at 407 SW Adams St., Peoria, Illinois 61602 directly from Garland/DBS, Inc., based upon the Agency's participation in the Omnia Partners™ Government Purchasing Alliance's program for Roofing Supplies and Related Products and Services, as priced by and awarded to Garland/DBS, Inc., resulting from the competitively solicited Sealed Bid # PW1925 issued by the Racine County Board of Commissioners.~~

~~B. As a bidder on the Project, you are required to fill in your order quantities for the following materials as listed below:~~

2-PLY MODIFIED SYSTEM

Product #	Material	Unit	Coverage	Quantity
4376	SBS Modified Mineral Cap- (Mineral Field and Flashing Cap)	1 roll	75 sq.ft.	
4411-80	SBS Modified Base- (Field & Flashing Base)	1 roll	150 sq.ft.	
7336-55	Cold Applied Interply Adhesive	55 gal	2-2.5 gal per square	
7335-5	Cold Applied Interply Adhesive	5 gal	2-2.5 gal per square	
7110-5	Coly Applied Flashing Mastic	5 gal pail	4-5 gal per square	
4840-6	Fiberglass Mesh	1 roll	6" x 150'	
2138-BLK	Caulking	1 tube	1 case (24 tubes)	
1650-5	Concrete Pitch Pan Base Filler	5 gal	36 sq.ft. @ 1/8"/unit	
2143	Pitch Pan Top Filler	2 gal	Appx 6 pitch pans (6" x 6" x 2")	
SSFS24STD	Flat Stock Metal	1 Piece	4'x10'	

PLEASE NOTE:

- A. It is the responsibility of the bidder to obtain any product related information from the Manufacturer representative prior to bid submission.
- B. Material quantities will be cross-referenced to an expected Project take-off to verify accuracy. Any bids that have material quantities substantially below or above the anticipated requirements for the Project will be rejected unless a detailed explanation is provided.
- C. Contractors are responsible for material quantities.

END OF SECTION 00 4101

SECTION 01 1000 - SUMMARY

PART 1 GENERAL

1.1. GENERAL

- A. **If conflicts exist between the Invitation for Bids (IFB) and Project Manual Sections with the "01" prefix, the IFB shall prevail.**

1.2. PROJECT

- A. Project Name: GPMTD CityLink Transit Center - Roof Restoration
- B. Owner's Name: Greater Peoria Mass Transit District.
- C. Architect's Name: Farnsworth Group, Inc..
- D. The Project consists of the replacement of the existing transit center bus loading canopy roof and work defined in the IFB, the Drawing Set, and Project Manual..

1.3. CONTRACT DESCRIPTION

- A. Contract Type: Single prime contracts based on a Stipulated Sum.
- ~~1. See Section 00 4101 - Bid Form Attachment A - Omnia Partners: for Owner-purchased roofing material.~~

1.4. DESCRIPTION OF RENOVATION WORK

- A. Scope of alterations work is indicated in the Drawing Set and in the Project Manual. A summary of the scope of work includes, but not limited to:
1. Remove ballasted from membrane.
 2. Cut EPDM every 8' on center to prevent vapor drive and mechanically attach existing insulation per manufacturers 90 mph wind up lift guidelines
 3. Install 1/2-inch densdeck prime using approved insulation adhesive per manufacturers 90 mph wind up lift guidelines.
 4. Install SBS modified base sheet set in cold applied adhesive at 2.0-2.5 gallons per square.
 5. Install SBS modified cap sheet set in cold applied adhesive at 2.0-2.5 gallons per square and **heat weld all seams.**
 6. Flashing shall consist of:
 - a. SBS modified base sheet set in cold applied flashing adhesive at 4-5 gallons per square.
 - b. SBS modied mineral cap sheet set in cold applied flashing adhesive at 4-5 gallons per square. All mineral cap sheet flashing seams must be heat welded with the proper bitumen welder.
 - c. Install new clamping drain rings and strainers. Paint clamping ring and strainers with rustoleum fire engine red paint.
 - d. See Section 07 5216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING for all metal and flashing details.

1.5. OWNER OCCUPANCY

- A. Owner intends to continue to occupy all portions of the existing building during the entire construction period.
- B. Schedule the Work to accommodate Owner occupancy.

1.6. CONTRACTOR USE OF SITE AND PREMISES

- A. Arrange use of site and premises to allow:
1. Owner occupancy.
 2. Use of site and premises by the public.

B. Provide access to and from site as required by law and by Owner:

1. Do not obstruct roadways, sidewalks, or other public ways without permit.

C. Existing building spaces may not be used for storage.

1.7. WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner.

B. Maintain public access to the transit center lobby from the half of the bus loading area that is not in the current stage of construction.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 1000

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS**PART 1 GENERAL****1.1. SECTION INCLUDES**

- A. General administrative requirements.
- B. Electronic document submittal service.
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Construction progress schedule.
- F. Submittals for review, information, and project closeout.
- G. Number of copies of submittals.
- H. Requests for Interpretation (RFI) procedures.
- I. Submittal procedures.

1.2. RELATED REQUIREMENTS

- A. Section 01 6000 - Product Requirements: General product requirements.
- B. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.

1.3. GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.1. ELECTRONIC DOCUMENT SUBMITTAL SERVICE**

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
 - 1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field

reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.

2. Contractor and Architect are required to use this service.
3. It is Contractor's responsibility to submit documents in allowable format.
4. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Submittal Service: The selected service is:

1. Newforma Info Exchange: <https://infoexchange.f-w.com/UserWeb/>. This is hosted by Farnsworth Group, Inc.

3.2. PRECONSTRUCTION MEETING

A. Schedule meeting after Notice of Award.

B. Attendance Required:

1. Owner.
2. Contractor.
3. Sub-Contractors.

C. Agenda:

1. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
2. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
3. Coordination.
4. Staging.
5. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.3. SITE MOBILIZATION MEETING

A. Attendance Required:

1. Contractor.
2. Owner.
3. Contractor's superintendent.
4. Major subcontractors.

B. Agenda:

1. Use of premises by Owner and Contractor.
2. Owner's requirements.

3. Construction facilities and controls provided by Owner.
 4. Temporary utilities provided by Owner.
 5. Security and housekeeping procedures.
 6. Schedules.
 7. Application for payment procedures.
 8. Procedures for testing.
 9. Procedures for maintaining record documents.
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
- 3.4. PROGRESS MEETINGS
- A. Arrange progress meetings at intervals appropriate with the project Work with Architect, prepare agenda with copies for participants, preside at meetings.
- B. Contractor will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
1. Contractor.
 2. Owner.
 3. Contractor's superintendent.
 4. Major subcontractors.
- D. Agenda:
1. Review minutes of previous meetings.
 2. Review of work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems that impede, or will impede, planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Maintenance of progress schedule.
 7. Planned progress during succeeding work period.
 8. Maintenance of quality and work standards.
 9. Effect of proposed changes on progress schedule and coordination.
 10. Other business relating to work.
- E. Contractor will record minutes and distribute copies within two days after meeting to participants, with electronic copies to Architect, Owner, participants, and those affected by decisions made.
- 3.5. CONSTRUCTION PROGRESS SCHEDULE
- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Submit updated schedule with each Application for Payment.

3.6. COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

B. Review drawings prior to submission to Architect.

3.7. REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
2. Prepare using software provided by the Electronic Document Submittal Service.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.

1. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
 - a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.

1. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
2. Annotations: Field dimensions and/or description of conditions which have engendered the request.
3. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.

3.8. SUBMITTAL SCHEDULE

- A. Submit to Architect for review a schedule for submittals in tabular format.
 - 1. Coordinate with Contractor's construction schedule and schedule of values.
 - 2. Format schedule to allow tracking of status of submittals throughout duration of construction.
 - 3. Arrange information to include scheduled date for initial submittal, specification number and title, and submittal category (for review or for information).
 - 4. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

3.9. SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
- B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.10. SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.

3.11. SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
 - 1. Project record documents.
 - 2. Warranties.
 - 3. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.12. NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Extra Copies at Project Closeout: See Section 01 7800.

- C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.

- 1. Retained samples will not be returned to Contractor unless specifically so stated.

3.13. SUBMITTAL PROCEDURES

- A. General Requirements:

- 1. Use a single transmittal for related items.
 - 2. Transmit using approved form.
 - a. Use Contractor's form, subject to prior approval by Architect.
 - 3. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
 - 4. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
 - a. Upload submittals in electronic form to Electronic Document Submittal Service website.
 - 5. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - 6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - 7. Provide space for Contractor and Architect review stamps.
 - 8. When revised for resubmission, identify all changes made since previous submission.
 - 9. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

- B. Product Data Procedures:

- 1. Submit only information required by individual specification sections.
 - 2. Collect required information into a single submittal.
 - 3. Submit concurrently with related shop drawing submittal.

- C. Shop Drawing Procedures:

- 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
 - 2. Use of reproductions of the Contract Documents in digital data form to create shop drawings is only permitted as defined by execution of Electronic Files Transfer to Contractor Agreement.
 - 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

- D. Samples Procedures:

- 1. Transmit related items together as single package.
 - 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.14. SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
 - 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- D. Architect's and consultants' actions on items submitted for review:
 - 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "No Exceptions or No Exceptions Taken", or language with same legal meaning.
 - b. "Furnish as Corrected or Exceptions Noted", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - 2) If specifically noted or requested on the submittal review, resubmit corrected item with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
 - 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - 2) Non-responsive resubmittals may be rejected.
 - b. "Rejected or Not Accepted".
 - 1) Submit item complying with requirements of Contract Documents.
- E. Architect's and consultants' actions on items submitted for information:
 - 1. Items for which no action was taken:
 - a. "Received or Not Reviewed" - to notify the Contractor that the submittal has been received for record only.
 - 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION 01 3000

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Tolerances.
- F. Manufacturers' field services.
- G. Defect Assessment.

1.2. RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittal procedures.
- B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.3. SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
- C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
 - 2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
- D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

- E. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.4. Testing and Inspection Agencies and Services

- A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing and inspection.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1. CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2. TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.3. TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Provide photographic documentation of existing conditions within and adjacent to the work area. Including, but not limited to: **The condition of the existing translucent panels both before and after construction.**
 - 2. Existing roof drains: **Perform a water flow test with a water supply that has sufficient volume to identify if the the roof drain downspouts are clogged both before and after construction.**
 - 3. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 4. Perform specified sampling and testing of products in accordance with specified standards.
 - 5. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 6. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.

7. Perform additional tests and inspections required by Architect.
 8. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- C. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.
- 3.4. MANUFACTURERS' FIELD SERVICES
- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship as applicable, and to initiate instructions when necessary.
 - B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- 3.5. DEFECT ASSESSMENT
- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION 01 4000

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Temporary sanitary facilities.
- B. Waste removal facilities and services.

1.2. RELATED REQUIREMENTS

- A. Section 01 5500 - Vehicular Access and Parking.

1.3. TEMPORARY SANITARY FACILITIES

- A. Use of existing facilities located within the Transit Center is not permitted.**

1.4. BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.5. VEHICULAR ACCESS AND PARKING - See Section 01 5500

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- D. Existing parking areas may not be used for construction parking without prior approval from the Owner.

1.6. WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

1.7. REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 5000

SECTION 01 5500 - VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Parking.
- B. Removal, repair.

1.2. RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: For access to site, work sequence, and occupancy.

PART 3 EXECUTION

2.1. PARKING

- A. Use of existing parking facilities by construction personnel is not permitted.
- B. Arrange for temporary parking areas with Owner to accommodate use of construction personnel.
- C. When site space is not adequate, provide additional off-site parking.

2.2. MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
- B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

2.3. REMOVAL, REPAIR

- A. Repair damage caused by installation.

END OF SECTION 01 5500

SECTION 01 6000 - PRODUCT REQUIREMENTS**PART 1 GENERAL****1.1. SECTION INCLUDES**

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.

1.2. RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Lists of products to be removed from existing building.
- B. Section 01 2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 01 4000 - Quality Requirements: Product quality monitoring.

1.3. REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4. SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS**2.1. EXISTING PRODUCTS**

- A. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
 - 1. See Section 01 1000 and as indicated on the drawings for items required to be salvaged for reuse and relocation.

2.2. NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. See Section 01 4000 - Quality Requirements, for additional source quality control requirements.

2.3. PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

2.4. MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1. OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange and pay for product delivery to site.
 - 2. On delivery, inspect products jointly with Contractor.
 - 3. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 4. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 2. Handle, store, install and finish products.
 - 3. Repair or replace items damaged after receipt.

3.2. TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3. STORAGE AND PROTECTION

- A. Provide protection of stored materials and products against theft, casualty, or deterioration.
- B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.
- C. Store and protect products in accordance with manufacturers' instructions.
- D. Store with seals and labels intact and legible.
- E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- F. For exterior storage of fabricated products, place on sloped supports above ground.

- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Prevent contact with material that may cause corrosion, discoloration, or staining.
- K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- L. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION 01 6000

SECTION 01 7000 - EXECUTION AND CLOSEOUT REQUIREMENTS**PART 1 GENERAL****1.1. SECTION INCLUDES**

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Cleaning and protection.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- G. General requirements for maintenance service.

1.2. RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.3. SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.4. PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.5. COORDINATION

- A. See Section 01 1000 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

- E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.1. PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.1. EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2. PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3. PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.

- E. Record minutes and distribute copies within two days after meeting to participants, with electronic copies to Architect, Owner, participants, and those affected by decisions made.

3.4. LAYING OUT THE WORK

- A. Promptly notify Architect of any discrepancies discovered.

3.5. GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.6. ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 - 2. Remove items indicated on drawings.
 - 3. Relocate items indicated on drawings.
 - 4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
 - 1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Refinish existing surfaces as indicated:

1. on the drawings.
 - H. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
 - I. Comply with all other applicable requirements of this section.
- 3.7. CUTTING AND PATCHING
- A. Whenever possible, execute the work by methods that avoid cutting or patching.
 - B. See Alterations article above for additional requirements.
 - C. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.
 - D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
 - E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
 - F. Restore work with new products in accordance with requirements of Contract Documents.
 - G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - H. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
- 3.8. PROGRESS CLEANING
- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 - B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
 - C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
 - D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
- 3.9. PROTECTION OF INSTALLED WORK
- A. Protect installed work from damage by construction operations.
 - B. Provide special protection where specified in individual specification sections.

- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10. FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11. CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect and Owner.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Owner will occupy all of the building as specified in Section 01 1000.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Accompany Project Coordinator on Contractor's preliminary final inspection.
- I. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- J. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.12. MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION 01 7000

SECTION 01 7800 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Project Record Documents.
- B. Warranties and bonds.

1.2. RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.3. SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Warranties and Bonds:
 - 1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1. PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.

2. Details not on original Contract drawings.
- 3.2. OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES
- A. For Each Product, Applied Material, and Finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.
 - B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
 - C. Additional information as specified in individual product specification sections.
 - D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- 3.3. ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS
- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
 - B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
 - C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
 - D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
 - E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
 - F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
 - G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
 - H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
 - I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
 - J. Arrangement of Contents: Organize each volume in parts as follows:
 1. Project Directory.
 2. Table of Contents, of all volumes, and of this volume.
 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.
 - K. Electronic Copy: Provide an electronic copy of the entire operation and maintenance manual on USB drive in PDF format.

3.4. WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION 01 7800

SECTION 06 1000 - ROUGH CARPENTRY**PART 1 GENERAL****1.1. SECTION INCLUDES**

- A. Roofing nailers.

1.2. RELATED REQUIREMENTS**1.3. REFERENCE STANDARDS**

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- B. PS 20 - American Softwood Lumber Standard; 2020.

PART 2 PRODUCTS**2.1. GENERAL REQUIREMENTS**

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2. DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.3. ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

PART 3 EXECUTION**3.1. INSTALLATION - GENERAL**

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.2. ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.3. FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.4. CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
 - 1. Comply with applicable regulations.

2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 06 1000

SECTION 07 5216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING**PART 1 GENERAL****1.1. RELATED DOCUMENTS**

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

1.2. SUMMARY**A. Section Includes:**

1. Two ply modified bitumen membrane roofing.
2. Roof Insulation.
3. Cover Board
4. Flashing System
5. Walkway pads

B. Related Requirements:

1. Section 061000 "Rough Carpentry"
2. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3. 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. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- C. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- D. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- E. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- F. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- G. ASTM D 2824 Standard Specification for Aluminum-Pigmented Asphalt Roof Coating.
- H. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- I. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- J. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- K. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- L. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- M. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- N. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- O. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- P. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- Q. UL - Fire Resistance Directory.
- R. Perform work in accordance with all federal, state and local codes.

- S. Exterior Fire Test Exposure: Roof system shall achieve a UL rating for roof slopes indicated on the Drawings as follows:

1. Underwriters Laboratory Class A Rating

1.4. PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Greater Peoria Mass Transit District, 407 SW Adams St., Peoria, Illinois 61602

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

- B. Preinstallation Roofing Conference: Conduct conference at Greater Peoria Mass Transit District, 407 SW Adams St., Peoria, Illinois 61602

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5. SUBMITTALS

- A. Submit under provisions of Section 01 3000 - Administrative Requirements.

- B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.
 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
 - D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins. Report shall be signed and sealed by a Professional Engineer registered in the State of the Project who has provided roof system attachment analysis for not less than 5 consecutive years.
 - E. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio-based materials.
 - F. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
 - G. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
 - H. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
 - I. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Underwriters Laboratories (UL) or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
 - J. Litigation and settlements: provide a notarized statement from a corporate officer of the manufacturer stating roofing system manufacturer has not settled litigation or paid fines to a public agency in excess of \$20 million dollars.
 - K. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6. QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor **or an approved equal.**
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7. DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.8. FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9. WARRANTY

- A. SPECIAL WARRANTY: Upon completion of the work, provide the Manufacturer's written and signed Edge-To-Edge NDL System Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installer, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition including roofing membrane, base flashings and Garland Metal Components **or a Metal Component of equal quality from its original installation.**
 - 1. Warranty Period:
 - a. 30 years from date of acceptance.
 - B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
 - 1. Warranty Period:
 - a. 5 years from date of acceptance.

PART 2 PRODUCTS

2.1. MANUFACTURERS

- A. Basis-of-Design Product: The roof system specified in this section is based upon the Garland Company, Inc. Subject to compliance with requirements **however GPMTD will accept a styrene-butadiene-styrene (SBS) modified bituminous membrane roofing system of equal design.**

~~B. The Greater Peoria Mass Transit District is using the Omnia Partners Government Purchasing Alliance program for Roofing Supplies and Related Products and Services, as priced by and awarded to Garland/DBS, Inc., resulting from the competitively solicited Sealed Bid # PW1925 issued by the Racine County. The roofing installer is responsible for supplying the right quantity of these roofing materials to complete the GPMTD CityLink Transit Center Roof Restoration Project as detailed in this specification and is responsible for obtaining any additional materials that required to properly install the specified roofing systems at no additional charge to the Owner. All materials needed to~~

~~complete this project that are not listed on the OMNIA Partners Government Purchasing List of~~

~~Materials attachment provided in this specification, but that are required in this specification, must be supplied by the roofing installer and meet stated performance specification listed in this document.~~

C. Substitutions: See Section 01 6000 – Product Requirements

2.2. 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. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:
 - 1. See Attached
- D. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- E. Energy Performance: Roofing system shall have an initial solar reflectance of 74% or greater when tested according to CRRC-1.
- F. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, [Class A]; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- G. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3. ROOFING SHEET MATERIALS

- A. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
 - 1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
 - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
 - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
 - 2) 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)
- B. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive.
 - 1. 155 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced, rubber modified roofing membrane reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G

- a. Tensile Strength, ASTM D 5147

- 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
 - 2) (50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 8% XD 8%
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)
- C. Cold Applied Interply Adhesive: (1 and 2) [Where Specified on Drawing]
1. Rubberized, polymer modified cold process asphalt roofing bitumen V.O.C. compliant ASTM D 3019. Performance Requirements:
 - a. Non-Volatile Content ASTM D 4479 70%
 - b. Density ASTM D1475 8.9 lbs./gal.
 - c. Viscosity Stormer ASTM D562 400-500 grams
 - d. Flash Point ASTM D 93 100 deg. F min. (37 deg. C)
 - e. Slope: up to 3:12
- D. Flashing Base Ply: One ply bonded to the prepared substrate with Interply Adhesive:
1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
 - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
 - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
 - c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
 - 2) 50mm/min@ -17.78 +/- 2 deg. C MD 4 % XD 4 %
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F (-40 deg. C)
- E. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
1. 155 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced, rubber modified roofing membrane reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
 - 2) (50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N

- c. Elongation at Maximum Tensile, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 8% XD 8%
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
- d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)
- F. Flashing Ply Adhesive:
 - 1. Flashing Bond: Asphalt roofing mastic V.O.C. compliant, ASTM D 4586, Type II trowel grade flashing adhesive.
 - a. Non-Volatile Content ASTM D 4479 70 min.
 - b. Density ASTM D 1475 8.3 lbs./gal. (1kg/l)
 - c. Flash Point ASTM D 93 103 deg. F (39 deg. C)

2.4. AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
- B. Asphalt Primer: ASTM D 41.
- C. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- E. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel, Fasteners shall be self-clinching type of penetrating type as recommended by the deck manufacturer. Fasten nails and fasteners flush-driven through flat metal discs not less than 1 inch (25 mm) diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than 1 inch (25 mm) diameter are used.
- F. Urethane Sealant: One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
 - 1. Tensile Strength, ASTM D 412: 250 psi
 - 2. Elongation, ASTM D 412: 450%
 - 3. Hardness, Shore A ASTM C 920: 35
 - 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- G. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer.
- H. Non-Shrink Grout All weather fast setting chemical action concrete material to fill pitch pans.
 - 1. Flexural Strength, ASTM C 78: (modified) 7 days 1100psi
 - 2. High Strength, ASTM C 109: (modified) 24 days 8400lbs (3810kg)
- I. Pitch Pocket Sealer: Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
 - 1. Durometer, ASTM D 2240: 40-50 Shore
 - 2. Elongation, ASTM D 412: 250%
 - 3. Tensile Strength, ASTM D 412: 200 @ 100 mil

J. Walkway Pads: 1/2-inch thick, 3-feet wide, as approved by manufacturer. In locations shown on the drawings.

K. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.5. ROOF INSULATION

A. General: Preformed roof insulation boards approved by roofing manufacturer, selected from standard sizes suitable for application, of thicknesses indicated.

B. Thermal Insulation Properties and Approved Insulation Boards.

1. Rigid Polyisocyanurate Roof Insulation; ASTM C1289:

a. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.

b. Thickness: Minimum [Match existing that is wet, see IR scan].

c. Compliances: UL, WH or FM listed under Roofing Systems

1) Federal Specification HH-I-1972, Class 1.

d. Acceptable Products:

1) ENRGY-3; Johns Manville

2) Hytherm; Dow

3) EnergyGuard; GAF

4) Approved Equivalent

2. Dens-Deck Prime Roof Board

a. Qualities: Nonstructural glass mat faced, noncombustible, water-resistant treated gypsum core panel.

b. Board Size: Four feet by four feet (4'x4').

c. Thickness: One half (1/2) inch.

d. R-Value: .56

e. Compliances: UL, WH or FM listed under Roofing Systems

C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.6. INSULATION ACCESSORIES

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

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.

2. Full-spread spray-applied, low-rise, two-component urethane adhesive.

D. Insulation Cant Strips: ASTM C 728, perlite insulation board.

E. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

F. Wood Nailer Strips: Comply with requirements in [Section 061000 "Rough Carpentry."] [Section 061053 "Miscellaneous Rough Carpentry."]

- G. Tapered Edge Strips: ASTM C 728, perlite insulation board.
 - H. Cover Board: ASTM C1177/C1177M, Glass Mat Gypsum Prime Roof Board, 1/2 inch (13 mm) thick.
- 2.7. ROOF EDGE SYSTEM – SHOP-FABRICATED SHEET METAL
- 2.8. Drip Edge, Downspouts & Gutters or Metal Components shall be shop fabricated to configurations and forms in accordance with recognized ANSI/SPRI ES-1, SMACNA, and NCRA standards.
- A. General: Designed to meet ANSI/SPRI ES-1 Testing Requirements
 - B. 24-gauge galvanized steel.
 - 1. Hem exposed edges
 - 2. Angle bottom edges of exposed vertical surfaces to form drip
 - 3. Lap corners with adjoin pieces fastened and set in sealant.
 - 4. Form joints for gravel stop fascia system, coping cap with 3/8" opening between sections. Back the opening with and internal drainage plate formed to the profile of fascia piece.
 - 5. Basis-of-Design: The Garland Company, Flat Stock Metal **however GPMTD will accept a styrene-butadiene-styrene (SBS) modified bituminous membrane roofing system of equal design.**
 - 6. Sheet Size: 4' x 10'
 - 7. Finish: Fluoropolymer (PVF2 – polyvinyl fluoride) resin finish coat.
 - 8. Color: As selected from manufacturer's set of standard, designer, or premium colors chosen by the Architect.

PART 3 EXECUTION

3.1. EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Do not begin installation until substrates have been properly prepared.
- B. 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.

3.3. INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.4. SUBSTRATE BOARD INSTALLATION

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
 - 1. Approved recovery board one half (1/2) inch thickness shall be installed over rigid insulation using approved insulation adhesive per wind up lift requirements.

2. Install no more insulation at one time than can be roofed on the same day.
3. Install temporary 2-ply water cut-offs at completion of each day's work and remove upon resumption of work.
4. Cant Strips/Tapered Edge Strips: Install preformed forty five (45) degree cant strip at junctures of vertical surfaces. Provide preformed, tapered edge strips at perimeter of edges of roof that do not terminate at vertical surfaces and/or indicated on the drawings.

3.5. INSULATION INSTALLATION

- A. Mechanically fasten new polyisocyanurate to substrate according to roofing system manufacturer's written instructions.
- B. Nailer Strips: Mechanically fasten 4-inch nominal- (89-mm actual-) width wood nailer strips of same thickness as insulation perpendicular to sloped roof deck at the following spacing:
- C. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing system with vertical surfaces or angle changes greater than 45 degrees.
- D. Trim surface of insulation where necessary at gutters so completed surface is flush and does not restrict flow of water.
- E. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- F. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 1. Set each layer of the recovery board insulation where indicated in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
- G. Mechanically Fastened Insulation: Mechanically attach existing insulation into metal, using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 1. Fasten insulation according to requirements in FM 1-90 specified Windstorm Resistance Classification.
 2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together [] and adhere to mechanically attached polyisocyanurate with approved insulation adhesive per manufactures wind up lift requirements for 90 mph wind event. Tape joints if required by roofing system manufacturer.

3.6. ROOFING INSTALLATION, GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.

- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.
- E. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 - 1. Provide 2-ply tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of base sheet set in roofing cement, with joints and edges sealed.
 - 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 - 3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.7. BASE-PLY SHEET INSTALLATION

- A. COLD APPLIED Base Ply: Cut base ply sheets into 18 foot lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
 - 1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 - 2. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
 - 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
 - 4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
 - 5. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 - 6. Install base flashing ply to all perimeter and projection details.
 - 7. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.

3.8. SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

- A. Modified Cap Ply(s): Cut cap ply sheets into 18 foot lengths and allow plies to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
 - 1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 - 2. Solidly bond to the base layers with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
 - 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Care should be taken to eliminate air entrapment under the membrane.

4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
5. Allow cold adhesive to set for 5 to 10 minutes before installing the top layer of modified membrane.
6. Extend membrane 2 inches beyond top edge of all cants in full moppings of the cold adhesive as shown on the Drawings.

3.9. FLASHING AND STRIPPING INSTALLATION

- A. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and surfaces to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base flashing ply with specified cold adhesive unless otherwise noted in these specifications. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Solidly adhere the entire sheet of flashing membrane to the substrate.
 5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and mesh.
 6. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work as specified.
 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.

3.10. FIELD QUALITY CONTROL

- A. At the completion of the roofing installation and associated work, meet with contractor, architect, installer, installer of associated work, owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided at the cost of the roofing contractor.
- D. If core cuts or thermographic scan verify the presence of damp or wet materials, the roofing contractor shall be required to replace the damaged areas at his own expense.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- F. Immediately correct roof leakage during construction. If the contractor does not respond within twenty four (24) hours, the owner may exercise right to correct the Work under the terms of the Conditions of the Contract.
- G. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- H. 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.

3.11. PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.
- D. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.12. MANUFACTURERS INSPECTIONS

- A. When the Project is in progress, a full-time employee of the roofing system manufacturer must provide the following:
- B. Report progress and quality of the work as observed. Progress reports must be published to an online system.
- C. Provide periodic (3 days per week) roofing installation inspections: Inspections must include; photographic documentation of work in-progress and written statements of compliance with details/shop drawings.
- D. Report to the architect in writing any failure or refusal of the contractor to correct unacceptable practices called to the contractor's attention.
- E. Confirm after project completion that the manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.
- F. Field observations shall be performed by a Representative employed full-time by the manufacturer with a minimum of ten years of field experience and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer
- G. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
- H. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.
- I. Manufacturer will provide roof inspections every 2 years until end of warranty, with a progress report sent to owner and architect through an online database.

END OF SECTION 07 5216

SECTION 07 9200 - JOINT SEALANTS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Nonsag gunnable joint sealants.

1.2. RELATED REQUIREMENTS

- A. Section 07 5216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING: Two ply modified bitumen membrane roofing, roof insulation, cover board, flashing system

1.3. REFERENCE STANDARDS

- A. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2018.
- B. ASTM C834 - Standard Specification for Latex Sealants; 2017.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2016.
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- F. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2018.
- G. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2014.
- H. SCAQMD 1168 - Adhesive and Sealant Applications; 1989 (Amended 2017).

1.4. SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 3. Substrates the product should not be used on.
 - 4. Substrates for which use of primer is required.
 - 5. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 6. Sample product warranty.
 - 7. Certification by manufacturer indicating that product complies with specification requirements.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

1.5. QUALITY ASSURANCE

- A. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
 - 1. Adhesion Testing: In accordance with ASTM C794.
 - 2. Compatibility Testing: In accordance with ASTM C1087.
 - 3. Allow sufficient time for testing to avoid delaying the work.
 - 4. Deliver to manufacturer sufficient samples for testing.
 - 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.

6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.
 - B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- 1.6. WARRANTY
- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
 - B. Correct defective work within a five year period after Date of Substantial Completion.
 - C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.
 - D. 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. Verify available warranties and warranty periods with manufacturers listed in Part 2 articles.
 2. Warranty Period: Two years from date of Substantial Completion.
 - E. 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. 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.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2. MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 1. Dow Corning Corporation: www.dowcorning.com/construction/#sle.
 2. Sika Corporation: www.usa-sika.com/#sle.
 3. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 4. Substitutions: See Section 01 6000 - Product Requirements.

2.3. JOINT SEALANT APPLICATIONS

- A. Scope:
 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.

- a. Other joints indicated below.
 - B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
 - 1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
 - 2. Type SJS-1 - Lap Joints in Sheet Metal Fabrications - exposed to sunlight: Single-Component, Nonsag, Non-Staining, Neutral-Curing Silicone Joint Sealant
- 2.4. JOINT SEALANTS - GENERAL
- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.
- 2.5. NONSAG JOINT SEALANTS
- A. Type SJS-2 - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus 100 percent, minus 50 percent, minimum.
 - 2. Non-Staining To Porous Stone: ASTM C1248: None on concrete, marble, granite, limestone, and brick.
 - 3. Color: To be selected by Architect from manufacturer's standard range of not less than 15 colors.
 - 4. Cure Type: Single-component, neutral moisture curing.
 - 5. Service Temperature Range: Minus 20 to 180 degrees F.
 - 6. Manufacturers:
 - a. Dow Chemical Company; DOWSIL 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
 - b. Sika Corporation; Sikasil WS-290: www.usa-sika.com/#sle.
 - c. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
 - B. Non-Curing Butyl Sealant: Solvent-based; ASTM C1311; single component, non-sag, non-skinning, non-hardening, non-bleeding.
 - 1. Manufacturers:
 - a. Pecora Corporation; Pecora BA-98 Non-Skinning Butyl Sealant: www.pecora.com/#sle.
 - b. Tremco Commercial Sealants and Waterproofing; TremPro JS-773 Non-Skinning Butyl Sealant: www.tremcosealants.com/#sle
 - c. Sika Corporation; SikaLastomer-511 Non-Skinning Butyl Sealant: www.usa-sika.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.1. EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.

3.2. PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3. INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.4. FIELD QUALITY CONTROL

- A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.5. POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION 07 9200