

**DIVISION 01: GENERAL REQUIREMENTS****01 1000 SUMMARY**

01 1100 SUMMARY OF WORK  
01 1400 WORK RESTRICTIONS

**01 2000 PRICE AND PAYMENT PROCEDURES**

01 2900 PAYMENT PROCEDURES

**01 3000 ADMINISTRATIVE REQUIREMENTS**

01 3100 PROJECT MANAGEMENT AND COORDINATION  
01 3300 SUBMITTAL PROCEDURES

**01 4000 QUALITY REQUIREMENTS**

01 4100 REGULATORY REQUIREMENTS  
01 4301 QUALITY ASSURANCE - QUALIFICATIONS

**01 6000 PRODUCT REQUIREMENTS**

01 6100 COMMON PRODUCT REQUIREMENTS  
01 6200 PRODUCT OPTIONS  
01 6600 PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

**01 7000 EXECUTION AND CLOSEOUT REQUIREMENTS**

01 7300 EXECUTION  
01 7400 CLEANING AND WASTE MANAGEMENT  
01 7700 CLOSEOUT PROCEDURES  
01 7800 CLOSEOUT SUBMITTALS

**07 8000 FIRESTOPPING**

07 9213 ELASTOMERIC JOINT SEALANTS  
07 9219 ACOUSTIC JOINT SEALANTS

END OF TABLE OF CONTENTS

**SECTION 01 1100**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements Summary of Work requirements.

**1.2 WORK COVERED BY CONTRACT DOCUMENTS**

- A. Provisions contained in Division 01 apply to Sections of Divisions 02 through 26 of Specifications. Instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, obligations set forth in Contract Documents are obligations of Contractor.
- B. Contractor shall furnish total labor, materials, equipment, and services necessary to perform The Work in accordance with Contract Documents.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 1400****WORK RESTRICTIONS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Work Restrictions.

**1.2 PROJECT CONDITIONS**

- A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and their employees comply with following requirements:
1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
  2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project site.
  3. Do not allow use of tobacco in any form on Project Site.
  4. Do not allow pornographic or other indecent materials on site.
  5. Do not allow work on Project site on Sundays except for emergency work.
  6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
  7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
  8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
  9. Do not build fires on Project Site.
  10. Do not allow weapons on Project Site, except those carried by law enforcement officers or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.
- B. Do not load or permit any part of the structure to be loaded with a weight that will endanger its safety. Questions of structural loading as part of construction means and methods shall be addressed by a licensed structural engineer engaged by Contractor, subject to the review by Architect.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 2900****PAYMENT PROCEDURES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements to prepare and process Applications for Payments.

**1.2 PAYMENT REQUESTS**

- A. Use Payment Request forms provided by Owner.
- B. Each Payment Request will be consistent with previous requests and payments certified by Architect and paid for by Owner.
- C. Request Preparation:
1. Complete every entry on Payment Request form.
  2. Entries will match data on approved schedule of values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
  3. Submit signed Payment Request to Architect with current Construction Schedule.
- D. Provide following submittals before or with submittal of Initial Payment Request:
1. List of Subcontractors.
  2. Initial progress report.
  3. Contractor's Construction Schedule.
  4. Submittal Schedule.
- E. Provide Affidavit of Contractor and Consent of Surety with Payment Request following Substantial Completion.

**1.3 SCHEDULE OF VALUES**

- A. Submit schedule of values on Owner's standard form to Architect 20 days minimum before submission of Initial Payment Request as a necessary condition before payment will be processed. Coordinate preparation of schedule of values with preparation of Contractor's Construction Schedule. Correlate line items in Schedule of Values with other required administrative schedules and forms, including:
1. Contractor's Construction Schedule.
  2. Payment Request form.
  3. Schedule of Allowances.
  4. Schedule of Alternates.
- B. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.
1. Include separate line items under Contractor and principal subcontracts for Sustainable (LEED) documentation and other project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 3100****PROJECT MANAGEMENT AND COORDINATION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Project Management and Coordination on Projects.

**1.2 PROJECT COORDINATION**

- A. This Project designation will be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

**1.3 MULTIPLE CONTRACT COORDINATION**

- A. Contractor shall be responsible for accurately maintaining and reporting schedule of The Work from Notice to Proceed to date of Substantial Completion.
- B. Contractor shall be responsible for providing Temporary Facilities And Controls for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- C. Contractor shall be responsible for providing Construction Waste Management And Disposal services for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- D. Contractor shall be responsible for Final Cleaning for entire Project.

**1.4 PROJECT MEETINGS AND CONFERENCES**

- A. Preconstruction Conference:
  - 1. Attend preconstruction conference and organizational meeting scheduled by Architect at Project site or other convenient location.
  - 2. Be prepared to discuss items of significance that could affect progress, including such topics as:
    - a. Construction schedule.
    - b. Critical Work sequencing.
    - c. Current problems.
    - d. Designation of responsible personnel.
    - e. Distribution of Contract Documents.
    - f. Equipment deliveries and priorities.
    - g. General schedule of inspections by Architect and its consultants.
    - h. General inspection of tests.
    - i. Office, work, and storage areas.
    - j. Preparation of record documents and O & M manuals.
    - k. Procedures for processing interpretations and Modifications.
    - l. Procedures for processing Payment Requests.
    - m. Project cleanup.
    - n. Security.
    - o. Status of permits.

- p. Submittal of Product Data, Shop Drawings, Samples, Quality Assurance / Control submittals.
  - q. Sustainable (LEED) Requirements.
  - r. Use of the premises.
  - s. Work restrictions.
  - t. Working hours.
3. Architect will record minutes of meetings and distribute copies to Owner and Contractor within three (3) working days.
- B. Progress Meetings:
1. Attend progress meetings at Project site at regularly scheduled intervals determined by Architect, at least once a month.
  2. Progress meetings will be open to Owner, Architect, Subcontractors, and anyone invited by Owner, Architect, and Contractor.
  3. Be prepared to discuss items of significance that could affect progress, including following:
    - a. Progress since last meeting.
    - b. Whether Contractor is on schedule.
    - c. Activities required to complete Project within Contract Time.
    - d. Labor and materials provided under separate contracts.
    - e. Off-site fabrication problems.
    - f. Access.
    - g. Site use.
    - h. Temporary facilities and services.
    - i. Hours of work.
    - j. Hazards and risks.
    - k. Project cleanup.
    - l. Quality and Work standards.
    - m. Status of pending modifications.
    - n. Documentation of information for Payment Requests.
    - o. Maintenance of Project records.
  4. Architect will prepare minutes of progress meetings and distribute copies of minutes to Owner and Contractor within three (3) working days.
- C. Pre-Installation Conferences:
1. Attend pre-installation conferences specified in Contract Document.
    - a. If possible, schedule these conferences on same day as regularly scheduled Progress Meetings. If this is not possible, coordinate scheduling with Architect.
    - b. Request input from attendees in preparing agenda.
  2. Be prepared to discuss following items:
    - a. Requirements of Contract Documents.
    - b. Completed work necessary for installation of items or systems.
    - c. Conditions not in compliance with installation requirements.
    - d. Installation and inspection schedule.
    - e. Coordination between trades.
    - f. Space and access limitations.
    - g. Testing.
  3. Architect will prepare meeting minutes and distribute minutes to Owner and Contractor within three (3) working days.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 3300****SUBMITTAL PROCEDURES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Submittal Procedures.

**1.2 SUBMITTAL SCHEDULE**

- A. Furnish submittal schedule within 20 days after receipt of Notice to Proceed, listing items specified to be furnished for review to Architect including product data, shop drawings, samples, and Informational submittals.
  - 1. Coordinate submittal schedule with Contractor's construction schedule.
  - 2. Enclose the following information for each item:
    - a. Scheduled date for first submittal.
    - b. Related Section number.
    - c. Submittal category.
    - d. Name of Subcontractor.
    - e. Description of part of the Work covered.
    - f. Scheduled date for resubmittal.
    - g. Scheduled date for Architect's final release or approval.
- B. Print and distribute copies to Architect and Owner and post copy in field office. When revisions are made, distribute to same parties and post in same location.
- C. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.

**1.3 SUBMITTAL PROCEDURES**

- A. Coordination:
  - 1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
    - a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
    - b. Coordinate transmittal of different types of submittals required for related elements of The Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
  - 2. Processing Time:
    - a. Allow sufficient review time so installation will not be delayed by time required to process submittals, including time for resubmittals.
      - 1) Allow 21 days for initial review. Allow additional time if processing must be delayed to allow coordination with subsequent submittals. Architect will promptly advise Contractor when submittal being processed must be delayed for coordination.
      - 2) If an intermediate submittal is necessary, process same as initial submittal.
      - 3) Allow 10 days for reprocessing each submittal.

- 4) No extension of Contract Time will be authorized because of failure to transmit submittals to Architect in sufficient time before work is to be performed to allow processing.
3. Identification:
  - a. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
    - 1) Provide space approximately 4 by 5 inches on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.
    - 2) Include following information on label for processing and recording action taken:
      - a) Project name.
      - b) Date.
      - c) Name and address of Architect.
      - d) Name and address of Contractor.
      - e) Name and address of Subcontractor.
      - f) Name and address of supplier.
      - g) Name of manufacturer.
      - h) Number and title of appropriate Specification Section.
      - i) Drawing number and detail references, as appropriate.
4. Transmittal:
  - a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using transmittal letter. On transmittal, record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements, or, on form or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.
  - b. Submittals received from sources other than Contractor or not marked with Contractor's approval will be returned without action.

#### 1.4 ACTION SUBMITTALS

- A. Product Data:
  1. Submit Product Data, as required by individual Sections of Specifications.
  2. Mark each copy of each set of submittals to show choices and options used on Project. Where printed Product Data includes information on products that are not required for Project, mark copies to indicate information relating to Project.
  3. Certify that proposed product complies with requirements of Contract Documents. List any deviations from those requirements on form or separate sheet.
  4. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required.
  5. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required.
- B. Shop Drawings:
  1. Submit newly prepared graphic data to accurate scale. Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least **8-1/2 by 11 inches (215 by 280 mm)** but no larger than **36 by 48 inches (915 by 1 200 mm)**. Highlight, encircle, or otherwise show deviations from Contract Documents. Include following information as a minimum:
    - a. Dimensions.
    - b. Identification of products and materials included.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
  2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings. Standard printed information prepared without specific reference to Project is not acceptable as Shop Drawings.



3. Review and designate (stamp) approval of shop drawings. Unless otherwise specified, submit to Architect six copies of shop drawings required by Contract Documents. Shop drawings not required by Contract Documents, but requested by Contractor or supplied by Subcontractor, need not be submitted to Architect for review.
- C. Samples:
1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
    - a. Mount, display, or package Samples so as to ease review of qualities specified. Prepare Samples to match samples provided by Architect, if applicable. Include following:
      - 1) Generic description of Sample.
      - 2) Sample source.
      - 3) Product name or name of manufacturer.
      - 4) Compliance with recognized standards.
      - 5) Availability and delivery time.
  2. Submit Samples for review of kind, color, pattern, and texture, for final check of these characteristics with other elements, and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. Where variations in color, pattern, texture or other characteristics are inherent in material or product represented, submit set of three samples minimum that show approximate limits of variations.
    - b. Refer to other specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
    - c. Refer to other Sections for Samples to be returned to Contractor for incorporation into The Work. Such Samples shall be undamaged at time of use. On transmittal, indicate special requests regarding disposition of Sample submittals.
  3. Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit full set of choices for material or product. Preliminary submittals will be reviewed and returned with Architect's mark indicating selection and other action.
  4. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three sets. One will be returned marked with action taken.
  5. Samples, as accepted and returned by Architect, will be used for quality comparisons throughout course of construction.
    - a. Unless noncompliance with Contract Documents is observed, submittal may serve as final submittal.
    - b. Sample sets may be used to obtain final acceptance of construction associated with each set.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Informational submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, and other documentary data affirming quality of products and installations. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required. [or] Submit electronic files: PDF. Architect will return a PDF copy marked with action taken and with corrections or modifications required.
1. Certificates: Describe certificates intended to document affirmations by Contractor or others that the work is in accordance with the Contract Documents, but do not repeat provisions of Parts 2 or 3.
  2. Delegated Design Submittals / Design Data: Describe submittals intended to demonstrate design work prepared by Contractor's licensed professionals.

3. Test And Evaluation Reports: Describe submittal of test reports or evaluation service reports intended to document required tests.
4. Manufacturer Instructions: Describe submittals intended to document manufacturer instructions.
5. Source Quality Control Submittals: Describe submittal of source quality control documentation.
6. Field Quality Control Submittals: Describe submittal of field quality control documentation.
7. Manufacturer Reports: Describe submittal of Manufacturer reports as documentation of manufacturer activities.
8. Special Procedure Submittals: Describe submittals intended to document special procedures. An example would be construction staging or phasing for remodeling an existing facility while keeping it in operation. While the Contractor would normally be responsible for managing this, submittal of his plan as documentation could be specified.
9. Qualification Statements: Describe submittals intended to document qualifications of entities employed by Contractor.

## 1.6 CLOSEOUT SUBMITTALS

- A. This title groups submittals that occur during project closeout. Coordinate with section 01 7800 Closeout Submittals.
  1. Maintenance Contracts: Describe submittal of the maintenance contract.
  2. Operations & Maintenance Data: Describe submittal of operation and maintenance data necessary for products of the Section.
  3. Warranty Documentation: Describe submittal of final executed warranty document.
  4. Record Documentation: Describe submittal of record documentation specific to this Section.
  5. Software: Describe submittal of extra copy operating system and other utility software necessary to operate and maintain software during life of product.

## 1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. This title groups maintenance material submittals required by Section.
  1. Spare Parts: Describe spare parts necessary for Owner's use in facility operation and maintenance. 'Parts' are generally understood to be items such as filters, motor drive belts, lamps, and other similar manufactured items that require only simple replacement.
  2. Extra Stock Materials: Describe extra stock materials to be provided for Owner's use in facility operation and maintenance.
  3. Tools and Software:
    - a. Describe tools to be provided for Owner's use in facility operation and maintenance. Tools are generally understood to be wrenches, gauges, circuit setters, etc, required for proper operation or maintenance of a system.
    - b. If necessary, describe submittal of an extra copy of operating system and other utility software necessary to operate and maintain the software during expected life of product.

## PART 2 - PRODUCTS Not Used

## PART 3 - EXECUTION Not Used

**END OF SECTION**

**SECTION 01 4100**  
**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Regulatory Requirements.

**1.2 ASBESTOS**

- A. Contract Documents for this Project have been prepared in accordance with generally accepted professional architectural and engineering practices. Accordingly, no asbestos or products containing asbestos have been knowingly specified for this Project. Notify Architect immediately for instructions if materials containing asbestos are brought to site for inclusion in the Work.
- B. At Architect's direction and with Owner's approval, a certified asbestos inspector will collect samples and an independent testing laboratory will perform testing procedures on suspect materials.
- C. Certify that based upon best knowledge, information, inspection, and belief no building materials containing asbestos were used in construction of Project. Submit certification on form provided by Owner.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 6600****PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Product Delivery, Storage, and Handling Requirements.

**1.2 GENERAL**

- A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

**1.3 DELIVERY AND ACCEPTANCE REQUIREMENTS**

- A. Schedule delivery to reduce long-term storage at site and to prevent overcrowding of construction spaces.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.

**1.4 STORAGE AND HANDLING REQUIREMENTS**

- A. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.
- B. Store heavy materials away from Project structure so supporting construction will not be endangered.
- C. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 7300****EXECUTION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for governing Execution of the Work.

**1.2 COMMON INSTALLATION PROVISIONS**

- A. Manufacturer's Instructions: Comply with Manufacturer's installation instructions and recommendations to extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents. Notify Architect of conflicts between Manufacturer's installation instructions and Contract Document requirements.
- B. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Anchor each product securely in place, accurately located, and aligned with other Work. Allow for expansion and building movement.
- C. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain best visual effect. Refer questionable choices to Architect for final decision.
- D. Install each component during weather conditions and Project status that will ensure best possible results. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration.
- E. Coordinate temporary enclosures with required inspections and tests, to reduce necessity of uncovering completed construction for that purpose.
- F. Mounting Heights: Where mounting heights are not shown, install individual components at standard mounting heights recognized within the industry or local codes for that application. Refer questionable mounting height decisions to Architect for final decision.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

## SECTION 01 7400

### CLEANING AND WASTE MANAGEMENT

#### PART 1 – GENERAL

##### 1.1 SUMMARY

- A. Includes But Not Limited To:
  1. Administrative and procedural requirements for Cleaning and Waste Management as described in Contract Documents.
  2. Administrative and procedural requirements for Cleaning, Salvaging, Recycling and Disposing of Construction Waste as described in Contract Documents.
  
- B. Related Requirements:
  1. Section 01 1200: Coordination of responsibilities for waste management.
  2. Section 01 6400: Waste removal of Owner furnished products.
  3. In addition to standards described in this section, comply with all requirements for cleaning-up as described in various other Sections of these Specifications.

##### 1.2 REFERENCES

- A. Definitions:
  1. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
  2. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
  3. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
  4. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
  5. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
  6. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
  7. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.
  
- B. Reference Standards:
  1. ASTM International:
    - a. ASTM E1609-01, 'Standard Guide for Development and Implementation of a Pollution Prevention Program.'

##### 1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
  1. Waste Management Conference:
    - a. Schedule conference before start of construction activities on Project.
    - b. In addition to agenda items specified in Section 01 3100, review following:

- c. Review methods and procedures related to waste management including, but not limited to, the following:
  - 1) Review and discuss waste management plan including responsibilities of waste management coordinator.
  - 2) Review requirements for documenting quantities of each type of waste and its disposition.
  - 3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - 4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - 5) Review waste management requirements for each trade.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General:
  - 1. Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total nonhazardous solid waste generated by the Work.
  - 2. Practice efficient waste management in the use of materials in the course of the Work.
  - 3. Use all reasonable means to divert construction and demolition waste from landfills and incinerators.
  - 4. Facilitate recycling and salvage of materials, including the following:
    - a. Construction Waste:
      - 1) Carpet and pad.
      - 2) Electrical conduit.
      - 3) Gypsum board.
      - 4) Insulation.
      - 5) Lumber.
      - 6) Masonry and CMU.
      - 7) Metals.
      - 8) Packaging: Regardless of salvage/recycle goal indicated in paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
        - a) Boxes.
        - b) Cardboard.
        - c) Paper.
        - d) Plastic pails.
        - e) Plastic sheet and film.
        - f) Polystyrene packaging.
        - g) Wood crates.
      - 9) Piping.
      - 10) Roofing.
      - 11) Site-clearing waste.
      - 12) Wood sheet materials.
      - 13) Wood trim.

#### 1.5 SUBMITTALS

- A. Action Submittals:
  - 1. Waste Reduction Progress Reports:
    - a. Submit plan within 10 days of date established for the Notice to Proceed.
- B. Informational Submittals:
  - 1. Waste Management Progress Reports:
    - a. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
      - 1) Material category.

- 2) Generation point of waste.
  - 3) Total quantity of waste in **tons (tonnes)**.
  - 4) Quantity of waste salvaged, both estimated and actual in **tons (tonnes)**.
  - 5) Quantity of waste recycled, both estimated and actual in **tons (tonnes)**.
  - 6) Total quantity of waste recovered (salvaged plus recycled) in **tons (tonnes)**.
  - 7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- b. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
  - c. Records of Donations:
    - 1) Indicate receipt and acceptance of salvageable waste donated to individuals and organizations.
    - 2) Indicate whether organization is tax exempt.
  - d. Records of Sales:
    - 1) Indicate receipt and acceptance of salvageable waste sold to individuals and organizations.
    - 2) Indicate whether organization is tax exempt.
  - e. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
  - f. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
2. Sustainable Design Submittals:
    - a. Sustainable (LEED) letter template for Credit MR 2.1 and 2.2, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
  3. Qualification Statements: Waste management coordinator qualification documentation.

## 1.6 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
  1. Comply with hauling and disposal regulations of authorities having jurisdiction (AHJ).
- B. Qualifications:
  1. Waste Management Coordinator Qualifications:
    - a. Experienced firm, with a record of successful sustainable waste management coordination of Projects with similar requirements.

## 1.7 WASTE MANAGEMENT PLAN

- A. General:
  1. Develop a waste management plan according to ASTM E1609 and requirements of this Section.
  2. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis.
  3. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification:
  1. Indicate anticipated types and quantities of demolition site-clearing and construction waste generated by the Work.
  2. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan:



1. List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  - a. Disposed Materials:
    - 1) Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  - b. Handling and Transportation Procedures:
    - 1) Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
  - c. Recycled Materials:
    - 1) Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  - d. Salvaged Materials for Donation:
    - 1) For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - e. Salvaged Materials for Reuse:
    - 1) For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
  - f. Salvaged Materials for Sale:
    - 1) For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
2. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
  - a. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
  - b. Handling and transportation costs. Include cost of collection containers for each type of waste.
  - c. Net additional cost or net savings from waste management plan.
  - d. Revenue from salvaged materials.
  - e. Revenue from recycled materials.
  - f. Savings in hauling and tipping fees by donating materials.
  - g. Savings in hauling and tipping fees that are avoided.
  - h. Total cost of disposal (with no waste management).
  - i. Total quantity of waste.

## **PART 2 - PRODUCTS Not Used**

## **PART 3 - EXECUTION**

### **3.1 PLAN IMPLEMENTATION:**

- A. General:
  1. Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract:
    - a. Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Training:
  1. Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site:

- a. Distribute waste management plan to everyone concerned within five (5) days of submittal return.
  - b. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- C. Site Access and Temporary Controls:
- 1. Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities:
    - a. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
    - b. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

### 3.2 RECYCLING CONSTRUCTION WASTE

- A. General:
- 1. Recycle paper and beverage containers used by on-site workers.
  - 2. Recycling Receivers and Processors: Contractor to determine suitability and merit based on project requirements.
  - 3. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
  - 4. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
  - 5. Procedures:
    - a. Contractor in coordination with the Architect to determine the option that best suits the project:
      - 1) Option 1 - Source Separated:
        - a) Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
        - b) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
        - c) Inspect containers and bins for contamination and remove contaminated materials if found.
        - d) Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
        - e) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
        - f) Store components off the ground and protect from the weather.
        - g) Remove recyclable waste off Owner's property and transport to recycling receiver or processor.
      - 2) Option 2 – Co-mingled:
        - a) All recyclable waste shall be placed in a container un-separated and then separated later at the recycling facility.
- B. Packaging:
- 1. Cardboard and Boxes:
    - a. Break down packaging into flat sheets.
    - b. Bundle and store in a dry location.
  - 2. Polystyrene Packaging: Separate and bag materials.
  - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site.
    - a. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- C. Site-Clearing Wastes:
  1. Chip brush, branches, and trees at landfill facility.
- D. Gypsum Board:
  1. Stack large clean pieces on wood pallets or in container and store in a dry location.

### 3.3 DISPOSAL OF WASTE

- A. General:
  1. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
    - a. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
    - b. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning:
  1. Do not burn waste materials.
- C. Disposal:
  1. Transport waste materials off Owner's property and legally dispose of them.
- D. Landfill Receipts:
  1. Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

### 3.4 PROGRESS CLEANING

- A. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.
- B. Keep premises broom clean during progress of the Work.
- C. Keep site and adjoining streets reasonably clean. If necessary, sprinkle rubbish and debris with water to suppress dust.
- D. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.
- E. Clean and maintain completed construction as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure ability to operate without damaging effects.
- F. Supervise construction activities to ensure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- G. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.
- H. Clean exposed surfaces and protect as necessary to avoid damage and deterioration.

- I. Place extra materials of value remaining after completion of associated work have become Owner's property as directed by Owner or Architect.
- J. Construction Waste Management And Disposal:
  - 1. Remove waste materials and rubbish caused by employees, Subcontractors, and contractors under separate contract with Owner and dispose of legally. Remove unsuitable or damaged materials and debris from building and from property.
    - a. Provide adequate waste receptacles and dispose of materials when full.
    - b. Properly store volatile waste and remove daily.
    - c. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
  - 2. Do not burn waste materials or build fires on site. Do not bury debris or excess materials on Owner's property.

### 3.5 FINAL CLEANING

- A. Immediately before Substantial Completion, thoroughly clean building and area where The Work was performed. Remove all rubbish from under and about building, landscaped areas and parking lot and leave building and Project Site ready for occupancy by Owner.
- B. Comply with individual manufacturer's cleaning instructions.
- C. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program, including but not limited to:
  - 1. Interior Cleaning:
    - a. Clean inside glazing, exercising care not to scratch glass.
    - b. Remove marks, stains, fingerprints and dirt.
    - c. Clean and polish woodwork and finish hardware.
    - d. Remove labels that are not permanent labels.
    - e. Clean plumbing fixtures and tile work. Remove spots, soil or paint.
    - f. Clean surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures and lamps.
    - g. Clean other fixtures and equipment and remove stains, paint, dirt, and dust.
    - h. Remove temporary floor protection and clean floors.
  - 2. Exterior Cleaning:
    - a. Clean outside glazing, exercising care not to scratch glass.
    - b. Remove marks, stains, and dirt from exterior surfaces.
    - c. Clean and polish finish hardware.
    - d. Remove temporary protection systems.
    - e. Clean dirt, mud, and other foreign material from paving, sidewalks, and gutters.
    - f. Clean drop inlets, through-curb drains, and other drainage structures.
    - g. Remove trash, debris, and foreign material from landscaped areas.

**END OF SECTION**

**SECTION 01 7700**  
**CLOSEOUT PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Closeout Procedures.

**1.2 GENERAL**

- A. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.
- B. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.
- C. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect and included on Certificate of Substantial Completion.

**1.3 PRELIMINARY CLOSEOUT REVIEW**

- A. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled. Preparation of floor substrate to receive carpeting and any work which could conceivably damage or stain carpet must be completed, as carpet installation will be scheduled immediately following this inspection.
- B. Prior to this inspection, completed test and evaluation reports for HVAC system and font, where one occurs, are to be provided to Project Manager, Architect, and applicable consultants.
- C. Architect and his appropriate consultants, together with Contractor and mechanical, plumbing, fire protection, and electrical sub-contractors shall conduct a space by space and exterior inspection to review materials and workmanship and to demonstrate that systems and equipment are operational.
  - 1. Punch list of items requiring completion and correction will be created.
  - 2. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.

**1.4 SUBSTANTIAL COMPLETION INSPECTION**

- A. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.
- B. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.

- C. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
  - 1. Date of Substantial Completion.
  - 2. Punch List Work not yet completed, including seasonal and long lead items.
  - 3. Amount to be withheld for completion of Punch List Work.
  - 4. Time period for completion of Punch List Work.
  - 5. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.
- D. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.

### **1.5 FINAL ACCEPTANCE MEETING**

- A. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.
- B. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
  - 1. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
  - 2. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
  - 3. Final cleaning requirements have been completed.
- C. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.
- D. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

### **PART 2 - PRODUCTS Not Used**

### **PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 7800**  
**CLOSEOUT SUBMITTALS**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Closeout Submittals.

**1.2 GENERAL**

- A. Workmanship bonds, final certifications, equipment check-out sheets, and similar documents.
- B. Releases enabling Owner unrestricted use of The Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- C. Project photographs, damage or settlement survey, and similar record information required by Contract Documents.

**1.3 OPERATIONS AND MAINTENANCE DATA**

- A. Operations And Maintenance Manual(s) that include:
  - 1. Certifications required by Contract Documents.
  - 2. Copies of warranties required by Contract Documents.
  - 3. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction.
    - a. Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications. Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
    - b. Note related record drawing information and Product Data.
  - 4. Testing and Inspection Reports required by Contract Documents.

**1.4 WARRANTIES**

- A. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.
- B. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

**1.5 PROJECT RECORD DOCUMENTS**

- A. Do not use record documents for construction purposes. Protect from deterioration and loss in secure, fire-resistive location. Provide access to record documents for Architect's reference during normal working hours.

- B. Maintain clean, undamaged set of Drawings. Mark set to show actual installation where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
  - 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
  - 2. Mark new information that is important to Owner, but was not shown on Drawings.
  - 3. Note related Change Order numbers where applicable.

#### **1.6 SPARE PARTS**

- A. Provide items that are indicated in individual Sections.

#### **1.7 EXTRA STOCK MATERIALS**

- A. Provide items that are indicated in individual Sections.

#### **PART 2 - PRODUCTS Not Used**

#### **PART 3 - EXECUTION Not Used**

**END OF SECTION**



**SECTION 07 9213****ELASTOMERIC JOINT SEALANTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install sealants not specified to be furnished and installed under other Sections.
  - 2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.
- B. Related Sections:
  - 1. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.
  - 2. Section 07 2419: Sealants for EIF Systems.

**1.2 SUBMITTALS**

- A. Product Data:
  - 1. Manufacturer's literature and installation recommendations for each Product.
  - 2. Schedule showing joints requiring sealants. Show also backing and primer to be used.
- B. Quality Assurance / Control: Certificate from Manufacturer indicating date of manufacture.

**1.3 DELIVERY, STORAGE, AND HANDLING**

- A. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
- B. Deliver and keep in original containers until ready for use.
- C. Do not use damaged or deteriorated materials.
- D. Store in a cool place, but never under 40 deg F 4 deg C.

**PART 2 - PRODUCTS****2.1 MATERIALS**

- A. Sealants:
  - 1. Sealants provided shall meet Manufacturer's shelf-life requirements.
  - 2. Exterior Building Elements:
    - a. Joints and cracks around windows.
    - b. Aluminum entrance perimeters and thresholds.
    - c. Door frames.
    - d. Columns.
    - e. Louvers.
    - f. Wall penetrations.
    - g. Connections.
    - h. Parapet caps.
    - i. Other joints necessary to seal off building from outside air and moisture.
    - j. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
      - 1) Dow Corning:

- a) Primer: 1200.
    - b) Sealant: 791.
  - 2) GE Sealants & Adhesives:
    - a) Primer: SS4044.
    - b) Sealant: Silpruf SCS 2000.
  - 3) Tremco:
    - a) Primer:
      - (1) Metal: No. 20.
      - (2) Other: No. 23.
    - b) Sealant: Spectrum 1.
- 3. Exterior Sheet Metal And Miscellaneous:
  - a. Penetrations in soffits and fascias.
  - b. Roof vents and flues.
  - c. Flashings.
  - d. Gutters.
  - e. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
    - 1) 791 or 790 by Dow Corning.
    - 2) Sikaflex 15LM by Sika Corp.
    - 3) Tremsil 600 by Tremco.
- 4. Exterior Concrete:
  - a. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
    - 1) Joints between building foundations and exterior site concrete:
      - a) Dow Corning:
        - (1) Primer: 1200.
        - (2) Sealant: 790.
      - b) GE Sealants & Adhesives:
        - (1) Primer: SS4044.
        - (2) Sealant: Silpruf SCS 2000.
    - 2) Expansion joints in retaining walls:
      - a) Dow Corning:
        - (1) Primer: 1200.
        - (2) Sealant: 790.
      - b) GE Sealants & Adhesives:
        - (1) Primer: SS4044.
        - (2) Sealant: Silpruf SCS 2000.
    - 3) Expansion joints in Portland cement concrete driveways and parking lots:
      - a) Dow Corning: 888 (NS). 890 (SL) may be used on non-sloping areas.
- 5. Interior:
  - a. Inside jambs and heads of exterior door frames.
  - b. Inside perimeters of windows.
  - c. Miscellaneous gaps between substrates.
  - d. Category Four Approved Product. See Section 01 6200 for definitions of Categories.
    - 1) Tub, Tile, And Ceramic Silicone Sealant by Dow Corning.
    - 2) Acrylseal by GE Sealants & Adhesives.
    - 3) Latisil Sealant by Laticrete.
    - 4) Pro-Select Kitchen And Bath Silicone Sealant by Sherwin Williams.
    - 5) Tremsil 200 by Tremco.
- 6. Interior Joints Formed By:
  - a. Countertops and backsplash to wall.
  - b. Sinks and lavatories to countertops.
  - c. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
    - 1) Tub, Tile, And Ceramic Silicone Sealant by Dow Corning.
    - 2) Acrylseal by GE Sealants & Adhesives.
    - 3) Latisil Sealant by Laticrete.
    - 4) Pro-Select Kitchen And Bath Silicone Sealant by Sherwin Williams.
    - 5) Tremsil 200 by Tremco.
- 7. Color: As selected by Architect from Manufacturer's standard colors.

- B. Backing: Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.

## 2.2 MANUFACTURERS

- A. Contact Information:
  1. Dow Corning Corp, Midland, MI [www.dowcorning.com](http://www.dowcorning.com).
  2. Laticrete International Inc, Bethany, CT [www.laticrete.com](http://www.laticrete.com).
  3. GE Sealants & Adhesives, Huntersville, NC [www.gesealants.com](http://www.gesealants.com).
  4. Sika Corporation, Lyndhurst, NJ [www.sikaconstruction.com](http://www.sikaconstruction.com).
  5. Sherwin-Williams, Cleveland, OH [www.sherwin-williams.com](http://www.sherwin-williams.com).
  6. Tremco, Cleveland, OH [www.tremcosealants.com](http://www.tremcosealants.com).

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.
- B. Apply primer, if required.
- C. Joint Backing:
  1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than **3/8 inch 10 mm** deep.
  2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

### 3.2 APPLICATION

- A. Apply sealant with hand-calking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint. Apply sealants in vertical joints from bottom to top.
- B. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface. Tool joints in opposite direction from application direction, i.e., in vertical joints, from the top down. Do not 'wet tool' sealants.
- C. Depth of sealant bite shall be **1/4 inch 6 mm** minimum and **1/2 inch 13 mm** maximum, but never more than one half or less than one fourth joint width.
- D. Do not apply calking at temperatures below **40 deg F 4 deg C**.
- E. Calk gaps between painted or coated substrates and unfinished or pre-finished substrates. Calk gaps larger than **3/16 inch 9 mm** between painted or coated substrates.

### 3.3 CLEANING

- A. Clean adjacent materials, which have been soiled, immediately (before setting) as recommended by Manufacturer.

**END OF SECTION**

**SECTION 07 9219****ACOUSTICAL JOINT SEALANTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Quality of sealants to be used at perimeters of and penetrations through acoustically insulated walls and associated ceilings.
- B. Related Requirements:
  - 1. Section 09 2900: Furnishing and installing of acoustical sealants.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. American Architectural Manufacturers Association (AAMA):
    - a. "Voluntary Specifications and Test Methods for Sealants".
  - 2. ASM International:
    - a. "Adhesives and Sealants", Volume 3, ASM International Handbook Committee, May 1999.
    - b. Committee C24 on Building Seals and Sealants for various Specifications, Guides, Test Methods, and Practices related to sealant specifying and application.
    - c. Committee E6 on Building Performance for various Specifications, Guides, Test Methods, and Practices related to sealant use with air barriers, vapor retarders, and exterior enclosure systems and materials.
  - 3. The Adhesive and Sealing Council, Inc. (ASC) / Sealant, Waterproofing & Restoration Institute (SWR Institute):
    - a. "Sealants: The Professional's Guide".
    - b. "Joint Sealants, Whole Building Design Guide".
- B. Definitions:
  - 1. Adhesion: Bonding forces between two different materials (e.g. between an adhesive and substrate).
  - 2. Adhesive: An adhesive, as defined by The American Society for Testing and Materials (ASTM), is "a substance capable of holding materials together by surface attachment".
  - 3. Adhesive Failure: Loss of adhesion between adhesive and substrate. Adhesive pulls cleanly away from substrate.
  - 4. Caulk: Caulks have a variety of definitions but are generally recognized as materials used in applications where only minor elastomeric properties are needed.
  - 5. Primer: Coating applied to surface, prior to application of an adhesive, to improve performance of bond.
  - 6. Sealant. Sealants are generally used in applications where elastic properties are needed while adhesives are generally used in applications where bonding strength and rigidity are needed. With technology advancements both sealants and adhesives can be used interchangeably depending on the applications performance requirements.
  - 7. Sealant Types and Classes:
    - a. Federal Specifications:
      - 1) Type I: Self-leveling, pour grade.
      - 2) Type II: Non-sag, gun grade.
      - 3) Type NS: Non-sag, gun grade.

- 4) Class A: +25 percent, -25 percent expansion – contraction.
  - b. ASTM Specifications:
    - 1) Type S: Single-component sealant.
    - 2) Type M: Multi-component sealant.
    - 3) Grade P: Pourable or self-leveling sealant for joints on horizontal surfaces.
    - 4) Grade NS: Non-sag or gunnable sealant for joints in vertical surfaces.
    - 5) Class 25: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand increase and decrease of at least 25 percent of joint width as measured at time of application.
    - 6) Class 12: Sealant that, when tested for adhesion and cohesion under cyclic movement shall withstand increase and decrease of at least 12 percent of joint width as measured at time of application.
    - 7) T: Sealant designed for use in joints in pedestrian and vehicular traffic areas such as walkways, plazas, decks and parking garages.
    - 8) NT: Sealant designed for use in joints in non-traffic areas.
    - 9) M: Sealant will remain adhered to mortar.
    - 10) G: Sealant will remain adhered to glass.
    - 11) A: Sealant will remain adhered to aluminum.
    - 12) O: Sealant will remain adhered to substrates other than glass, aluminum, mortar.
  8. Shelf Life: Usable storage time of material. Most adhesives have shelf-life of 6 to 12 months. Shelf-life of an adhesive may be increased by refrigeration and is usually shortened by exposure to heat.
  9. Stability: Compound in original unopened container shall be stable for at least six months when stored at temperature not exceeding 80 degrees F. (26.7 degrees C.).
  10. Toxicity: Material shall have no adverse effect on health of personnel when used for its intended purpose.
- C. Reference Standards:
1. ASTM International:
    - a. ASTM C834-10, 'Standard Specification for Latex Sealants'.
    - b. ASTM C919-12, 'Standard Practice for Use of Sealants in Acoustical Applications'.
    - c. ASTM C1193-12, 'Standard Guide for Use of Joint Sealants'.
    - d. ASTM E84-12c, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
    - e. ASTM E90-09, 'Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements'
  2. Underwriters Laboratories, Inc.:
    - a. UL 723: 'Standard for Safety Test for Surface Burning Characteristics of Building Materials; Tenth Edition September 10 2008.' (Revision: September 13, 2010). 'SUBMITTALS
- D. Action Submittals:
1. Product Data:
    - a. Manufacturer's literature for each Product.
- E. Informational Submittals:
1. Certificates:
    - a. Manufacturer's Certificate:
      - 1) Certify products are suitable for intended use and products meet or exceed specified requirements.
      - 2) Certificate from Manufacturer indicating date of manufacture.
  2. Manufacturers' Instructions:
    - a. Manufacturer's installation recommendations for each Product.

### 1.3 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:

1. Surface-Burning Characteristics:
  - a. Class A flame spread rating in accordance with ASTM E84 or UL 723 Type 1.
    - 1) Class A (Flame spread index 0-25; Smoke-developed index 0-450).

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements:
  1. Deliver and keep in original containers until ready for use.
  2. Inspect for damage or deteriorated materials.
- B. Storage And Handling Requirements:
  1. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
  2. Store in cool, dry location, and at temperatures never under 40 deg F (4 deg C) nor exceeding 80 deg F (26.7 C).

#### 1.5 FIELD CONDITIONS

- A. Ambient Conditions:
  1. Do not apply caulking at temperatures below 40 deg F (4 deg C).

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Sealants:
  1. Design Criteria:
    - a. Meet requirements of ASTM C834.
    - b. Meet Class A flame spread rating.
  2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. OSI Pro-Series SC-175 Draft & Acoustical Sound Sealant by OSI Sealants Inc, Mentor, OH [www.osisealants.com](http://www.osisealants.com).
    - b. QuietZone Acoustic Caulk by Owens Corning, Toledo, OH [www.owenscorning.com](http://www.owenscorning.com).
    - c. Acoustical Sealant by Tremco, Beachwood, OH [www.tremcosealants.com](http://www.tremcosealants.com) or Toronto, ON (800) 363-3213.
    - d. Acoustical Sound Sealant by Titebond
    - e. Acoustical Sealant by U S Gypsum, Chicago, IL [www.usg.com](http://www.usg.com).

#### 2.2 ACCESSORIES

- A. Bond Breaker: Pressure sensitive tape recommended by Sealant Manufacturer to suit application.
- B. Joint Backing:
  1. Flexible closed cell polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.
  2. Oversized 25 to 50 percent larger than joint width.
- C. Joint Cleaner: Non-corrosive and non-staining type, recommended by Sealant Manufacturer, compatible with joint forming materials.
- D. Masking Tape: Pressure sensitive tape recommended by Sealant Manufacturer to suit application.
- E. Primer: Non-staining type, type, recommended by Sealant Manufacturer to suit application.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification Of Conditions:
1. Examine substrate surfaces and joint openings are ready to receive Work.
  2. Sealants provided shall meet Manufacturer's shelf-life requirements.
  3. Notify Architect of unsuitable conditions in writing.
    - a. Do not proceed until unsatisfactory conditions are corrected.
  4. Commencement of Work by installer is considered acceptance of substrate.

### 3.2 PREPARATION

- A. Surface Preparation:
1. Prepare joints in accordance with ASTM C1193 and Manufacturer's instructions.
  2. Clean joint surfaces to remove dirt, dust, oils, wax, paints, and other contamination capable of affecting primer and sealant bond.
  3. Protect elements surrounding the Work of this section from damage or disfiguration. Apply masking tape to adjacent surfaces when required to prevent damage to finishes from sealant installation.
- B. Surface Preparation:
1. Clean joint surfaces of residual sealant and other contaminates capable of affecting sealant bond to joint surface.
  2. Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.

### 3.3 INSTALLATION

- A. General:
1. Do not use damaged or deteriorated materials.
  2. Install primer and sealants in accordance with ASTM C1193 and Manufacturer's instructions where required for sealant adhesion.
  3. Install sealants immediately after joint preparation.
  4. Do not apply caulking/sealant at temperatures below 40 deg F (4 deg C).
- B. Joint Backing:
1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than 3/8 inch (9.5 mm) deep.
  2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.
- C. Install at perimeter joints and mechanical and electrical penetrations in sound insulated rooms. Apply sealant with hand-caulking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint.
- D. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface.
- E. Depth of sealant bite shall be 1/4 inch (6 mm) minimum and 1/2 inch (12.7 mm) maximum, but never more than one half or less than one fourth joint width.

**3.4 FIELD QUALITY CONTROL**

- A. Inspection:
  - 1. Examine sealant joints to verify compliance with Contract Document requirements.
- B. Non-Conforming Work. Non-conforming work as covered in the General Conditions applies, but is not limited to the following:
  - 1. Sealant material found to be contaminated or damaged or inadequate preparation of substrate results in deficiencies in joint sealant adhesion is considered defective or not complying with Contract Document requirements.
  - 2. Correct any work found defective or not-complying with Contract Document requirements at no additional cost to Owner.

**3.5 CLEANING**

- A. General:
  - 1. Remove sealant from adjacent surfaces in accordance with Sealant Manufacturer and Substrate Manufacturer recommendations as work progresses.
  - 2. Remove masking tape and any other foreign material.
  - 3. Clean adjacent materials that have been soiled immediately (before setting) as recommended by Manufacturer.
- B. Waste Management: Dispose of products in accordance with Sealant Manufacturer's recommendation.

**END OF SECTION**

**END OF DIVISION**