

**SECTION 000101  
PROJECT TITLE PAGE**

**PROJECT MANUAL  
FOR  
GRAHAM CREEK AG BUILDING  
CITY OF FOLEY  
23030 WOLF BAY DRIVE  
FOLEY , ALABAMA 36535  
DATE: 09.03.2021  
PREPARED BY:  
WAS DESIGN, INC.**

**END OF SECTION**

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**SECTION 000102  
PROJECT INFORMATION**

**PART 1 GENERAL**

**1.01 PROJECT IDENTIFICATION**

- A. Project Name: Graham Creek Ag Building , located at:
- B. Owner's Project Number: GCNP-092821.  
23030 Wolf Bay Drive.  
Foley, Alabama 36535.
- C. The Owner, hereinafter referred to as Owner: City of Foley
- D. Owner's Representative: Leslie Gahagan .
  - 1. Department: Environmental.
  - 2. Address: 23030 Wolf Bay Drive
  - 3. City, State, Zip: Foley, AL36535.
  - 4. Phone/Fax: 251-923-4267 .
  - 5. E-mail: lgahagan@cityoffoley.org .

**1.02 NOTICE TO PROSPECTIVE BIDDERS**

- A. These documents constitute an Invitation to Bid to and request for qualifications from General Contractors for the construction of the project described below.
- B. Notice Date: 09-12-21.

**1.03 PROJECT DESCRIPTION**

- A. Summary Project Description: The project involves the construction of an accessory building within the Ag Center at the Graham Creek Nature Preserve..
- B. Contract Scope: For the project area, the scope will include construction and facility operations during occupancy.
- C. Contract Terms: Lump sum (fixed price, stipulated sum).
- D. The currently utilized premises at the project site are open for examination by bidders during daylight hours.

**1.04 PROJECT CONSULTANTS**

- A. The Prime Consultant, hereinafter referred to as Landscape Architect (or LA): WAS Design, Inc. .
- B. Landscape Architect's Representative: Dan Majors, Project Manager.
  - 1. Address: 218 N. Alston St.
  - 2. City, State, Zip: Foley, Alabama 36535
  - 3. E-mail: dmajors@was-design.com

**1.05 PROCUREMENT TIMETABLE**

**1.06 PROCUREMENT TIMETABLE**

- A. Bid package available: 09-13-2021 .
- B. Mandatory Pre-Bid Meeting: 09-21-2021 at 10 AM local time.
  - 1. Location: City of Foley.
  - 2. Address: 407 E. Laurel Avenue.
  - 3. City, State, Zip: Foley, AL 36535.
- C. Last Request for Substitution Due: 7 days prior to due date of bids.
- D. Last Request for Information Due: 3 days prior to due date of bids.
- E. Bid Due Date: 09-28-2021 , before 2 PM local time.
  - 1. Location: City of Foley.
  - 2. Attn: Purchasing Agent
  - 3. Address: 407 E. Laurel Avenue.
  - 4. City, State, Zip: Foley, AL 36535.
- F. Bid Opening: Same time as bid due deadline..
- G. Notice to Proceed: Within 7 days after due date.

- H. Bids May Not Be Withdrawn Until: 30 days after due date.
- I. Contract Time: To be stated in bid documents.
- J. Desired Construction Start: Not later than 7 calendar days after Notice to Proceed.
- K. Required Substantial Completion Date: Not later than 75 calendar days from Notice to Proceed.
- L. Required Final Completion Date: Not later than 90 calendar days from Notice to Proceed.
- M. Completion date is critical due to requirements of Owner's operations.
- N. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

**1.07 PROCUREMENT DOCUMENTS**

- A. Availability of Documents: Complete sets of procurement documents may be obtained:
  - 1. From the project Landscape Architect via email request to the Project Manager's address listed above.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 000103  
PROJECT DIRECTORY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Identification of project team members and their contact information.

**1.02 OWNER:**

- A. Name: City of Foley .
1. Address Line 1: 407 E. Laurel Avenue
  2. City: Foley
  3. State: AL
  4. Zip Code: 36536
- B. Primary Contact: All correspondence from the Contractor to the Landscape Architect will be direct, with copies to this party, unless alternate arrangements are mutually agreed upon at preconstruction meeting.
1. Title: Environmental & Nature Parks Director.
  2. Name: Leslie Gahagan.
  3. Email: lgahagan@cityoffoley.org.

**1.03 CONSULTANTS:**

- A. Landscape Architect: Design Professional of Record. All correspondence from the Contractor regarding construction documents authored by Landscape Architect's consultants will be through this party, unless alternate arrangements are mutually agreed upon at preconstruction meeting.
1. Company Name: WAS Design, Inc.
    - a. Address Line 1: 218 N. Alston St.
    - b. City: Foley
    - c. State: Alabama
    - d. Zip Code: 36535
    - e. Telephone: 850-203-4252
  2. Primary Contact: Dan Majors.
    - a. Title: Project Manager.
- B. Structural Engineering Consultant:
1. Company Name: Larry M. Oliver Enterprises, Inc..
    - a. Address Line 1: 7228 Oakbriar Drive South.
    - b. City: Mobile.
    - c. State: Alabama.
    - d. Zip Code: 36619.
  2. Primary Contact:
    - a. Title: Owner/Structural Engineer.
    - b. Name: Larry M. Oliver.
- C. Mechanical Engineering Consultant - Mechanical, Electrical & Plumbing:
1. Company Name: Stewart Engineering & Construction.
    - a. Address Line 1: 40680 State Hwy 59.
    - b. City: Bay Minette.
    - c. State: Alabama.
    - d. Zip Code: 36507.
  2. Primary Contact:
    - a. Title: President.
    - b. Name: Wade Stewart.

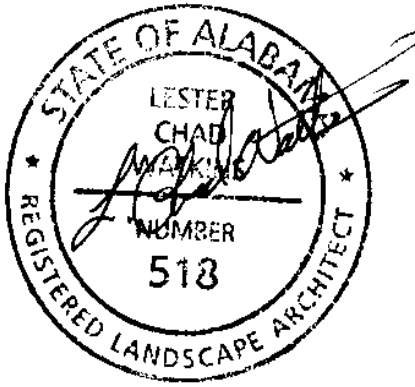
**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

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**SECTION 004000  
PROCUREMENT FORMS AND SUPPLEMENTS**

**PART 1 GENERAL**

**1.01 CONTRACTOR IS RESPONSIBLE FOR OBTAINING A VALID LICENSE TO USE ALL COPYRIGHTED DOCUMENTS SPECIFIED BUT NOT INCLUDED IN THE PROJECT MANUAL.**

**1.02 FORMS**

- A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the procurement requirements.
- B. Instructions to Bidders: AIA A701.
- C. Substitution Request Form (During Procurement): CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage).
- D. Bid Form: Section 004100 - Bid Form.
- E. Procurement Form Supplements:
  - 1. Bid Security Form: AIA A310.
  - 2. Substitution Request Form (for substitutions requested with bid): CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage).
- F. Representations and Certifications:
  - 1. Bidder's Qualifications: in format that matches AIA A305.

**1.03 REFERENCE STANDARDS**

- A. AIA A305 - Contractor's Qualification Statement 1986.
- B. AIA A310 - Bid Bond 2010.
- C. AIA A701 - Instructions to Bidders 2018.
- D. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage) Current Edition.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

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**SECTION 004100  
BID FORM**

**THE PROJECT AND THE PARTIES**

**1.01 TO:**

- A. City of Foley (Owner)  
Attn: Purchasing Agent  
407 E. Laurel Avenue  
Foley, Alabama 36536

**1.02 FOR:**

- A. Project: Graham Creek Ag Building
- B. Owner's Project Number: GCNP-092821.  
23030 Wolf Bay Drive  
Foley, Alabama 36535

**1.03 DATE: \_\_\_\_\_ (BIDDER TO ENTER DATE)**

**1.04 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)**

- A. Bidder's Full Name \_\_\_\_\_
  - 1. Address \_\_\_\_\_
  - 2. City, State, Zip \_\_\_\_\_

**1.05 OFFER**

- A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bid Documents prepared by WAS Design, Inc. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:
- B. \_\_\_\_\_ dollars  
(\$ \_\_\_\_\_), in lawful money of the United States of America.
- C. We have included the required security Bid Bond as required by the Instruction to Bidders.
- D. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.
  - 1. The cost of the required performance assurance bonds is \_\_\_\_\_ dollars  
(\$ \_\_\_\_\_), in lawful money of the United States of America.
- E. All applicable federal taxes are included and State of Alabama taxes are included in the Bid Sum.

**1.06 ACCEPTANCE**

- A. This offer shall be open to acceptance and is irrevocable for thirty days from the bid closing date.
- B. If this bid is accepted by Owner within the time period stated above, we will:
  - 1. Execute the Agreement within seven days of receipt of Notice of Award.
  - 2. Furnish the required bonds within seven days of receipt of Notice of Award.
  - 3. Commence work within seven days after written Notice to Proceed of this bid.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

**1.07 CONTRACT TIME**

- A. If this Bid is accepted, we will:
- B. Complete the Work in \_\_\_\_\_ calendar weeks from Notice to Proceed.  
(Bidder to enter number of weeks.)

**1.08 UNIT PRICES**

- A. Unit prices for the project are included as an attachment to this Bid Form.

**1.09 CHANGES TO THE WORK**

- A. When Landscape Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
  - 1. \_\_\_\_\_ percent overhead and profit on the net cost of our own Work;
  - 2. \_\_\_\_\_ percent on the cost of work done by any Subcontractor.
- B. On work deleted from the Contract, our credit to Owner shall be Architect-approved net cost plus \_\_\_\_\_ of the overhead and profit percentage noted above.

**1.10 ADDENDA**

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
  - 1. Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.
  - 2. Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

**1.11 BID FORM SIGNATURE(S)**

- A. \_\_\_\_\_
- B. (Bidder - print the full name of your firm)
- C. was hereunto affixed in the presence of:
- D. \_\_\_\_\_
- E. (Authorized signing officer, Title)

**1.12 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.**

**END OF SECTION**



**SECTION 004301  
BID FORM SUPPLEMENTS COVER SHEET**

**PARTICULARS**

**1.01 TO (OWNER): CITY OF FOLEY**

**1.02 OWNER'S PROJECT NUMBER: .**

**1.03 PROJECT: GRAHAM CREEK AG BUILDING**

**1.04 DATE: \_\_\_\_\_**

**1.05 SUBMITTED BY: (BIDDER TO INSERT FULL NAME AND ADDRESS)**

- A. In accordance with Section 002113 - Instructions to Bidders and Section 004100 - Bid Form - , we include the Supplements To Bid Form listed below. The information provided shall be considered an integral part of the Bid Form.

**1.06 SUPPLEMENTS TO BID FORM**

A. [ \_\_\_\_\_ ]

B. [ \_\_\_\_\_ ]

**SIGNATURE(S)**

**2.01 WAS HEREUNTO AFFIXED IN THE PRESENCE OF:**

A. \_\_\_\_\_

B. (Authorized signing officer                      Title)

**END OF SECTION**

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**SECTION 004323  
ALTERNATES FORM**

**PARTICULARS**

**1.01 THE FOLLOWING IS THE LIST OF ALTERNATES REFERENCED IN THE BID SUBMITTED BY:**

**1.02 (BIDDER) \_\_\_\_\_**

**1.03 TO (OWNER ): CITY OF FOLEY**

**ALTERNATES LIST**

**2.01 THE FOLLOWING AMOUNTS SHALL BE ADDED TO OR DEDUCTED FROM THE BID AMOUNT. REFER TO SECTION 012300 - ALTERNATES.**

**ALTERNATE # 1: ADD / (DEDUCT) \$ \_\_\_\_\_**

**END OF SECTION**

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**SECTION 005000  
CONTRACTING FORMS AND SUPPLEMENTS**

**PART 1 GENERAL**

**1.01 AGREEMENT AND CONDITIONS OF THE CONTRACT**

- A. See Section 005200 - Agreement Form for the Agreement form to be executed.
- B. See Section 007200 - General Conditions for the General Conditions.
- C. The Agreement is based on AIA A101.
- D. The General Conditions are based on AIA A201.

**1.02 FORMS**

- A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in Contract Documents.
- B. Bond Forms:
  - 1. Bid Bond Form: AIA A310.
  - 2. Performance and Payment Bond Form: AIA A312.
- C. Post-Award Certificates and Other Forms:
  - 1. Certificate of Insurance Form: ACORD Certificate of Insurance 25.
  - 2. Schedule of Values Form: AIA G703.
  - 3. Application for Payment Forms: AIA G702 with AIA G703 (for Contractors).
  - 4. Sales Tax Form: per Owner requirements.
  - 5. Proof of E-Verify Participation: Provide a copy of the signed Memorandum Of Understanding (MOU) generated upon completion of the E-Verify program.
  - 6. City of Foley Business License.
  - 7. Felony background check of the successful low bidder: Form to be provided by the City of Foley per Ordinance No. 1029-08.
- D. Clarification and Modification Forms:
  - 1. Substitution Request Form: CSI/CSC Form 1.5C (During the Bidding/Negotiating Stage).
  - 2. Substitution Request Form: CSI/CSC Form 13.1A (After the Bidding/Negotiating Stage).
  - 3. Architect's Supplemental Instructions Form: AIA G710.
  - 4. Construction Change Directive Form: AIA G714.
  - 5. Work Changes Proposal Request Form: AIA G709-2001.
  - 6. Change Order Form: AIA G701.
- E. Closeout Forms:
  - 1. Certificate of Substantial Completion Form: AIA G704.
  - 2. Contractor's Affidavit of Release of Liens Form: AIA G706A
  - 3. Consent of Surety to Final Payment Form: AIA G707.
  - 4. Warranty Form: as acceptable to Owner.

**1.03 REFERENCE STANDARDS**

- A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum 2017.
- B. AIA A201 - General Conditions of the Contract for Construction 2017.
- C. AIA A310 - Bid Bond 2010.
- D. AIA A312 - Performance Bond and Payment Bond 2010.
- E. AIA G701 - Change Order 2017.
- F. AIA G702 - Application and Certificate for Payment 1992.
- G. AIA G703 - Continuation Sheet 1992.
- H. AIA G704 - Certificate of Substantial Completion 2017.
- I. AIA G706A - Contractor's Affidavit of Release of Liens 1994.
- J. AIA G707 - Consent of Surety to Final Payment 1994.
- K. AIA G709-2001 - Proposal Request 2001.

- L. AIA G710 - Architect's Supplemental Instructions 2017.
- M. AIA G714 - Construction Change Directive 2017.
- N. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage) Current Edition.
- O. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase) Current Edition.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 007200  
GENERAL CONDITIONS**

**FORM OF GENERAL CONDITIONS**

**1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT ARE AS FOLLOWS:**

- A. The General Conditions for this project shall be AIA Document A201, General Conditions of the Contract for Construction, 2017.
- B. This document shall be made a part of the Contract Documents as if fully stated herein.
- C. Contractors are presumed to be familiar with this document, however a copy may be examined in the LANDSCAPE Architect's office.
- D. Liquidated Damages.
  - 1. Liquidated damages for non-completion of the work within the time limit agreed upon will be assessed in the amount of Two Hundred and Fifty Dollars (\$250.00) for each day that the work remains uncompleted. This sum will be deducted from the compensation otherwise to be paid to the Contractor. If a working day is lost due to inclement weather or other unforeseen event, the Contractor shall submit this information on a weekly basis to the project manager for consideration.

**RELATED REQUIREMENTS**

**2.01 SECTION 014216 - DEFINITIONS.**

**END OF SECTION**

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**SECTION 011000  
SUMMARY**

**PART 1 GENERAL**

**1.01 PROJECT**

- A. Project Name: Graham Creek Ag Building
- B. Owner's Name: City of Foley.
- C. Landscape Architect's Name: WAS Design, Inc..
- D. The Project consists of the construction of an accessory building withing the Ag Center at the Graham Creek Nature Preserve.

**1.02 CONTRACT DESCRIPTION**

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 005000 - Contracting Forms and Supplements.

**1.03 DESCRIPTION OF ALTERATIONS WORK**

**1.04 OWNER OCCUPANCY**

- A. Owner intends to continue to utilize adjacent portions of the Ag Center during the entire construction period.
- B. Owner intends to occupy the Project upon Substantial Completion.
- C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- D. Schedule the Work to accommodate Owner occupancy.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

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**SECTION 012000  
PRICE AND PAYMENT PROCEDURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Procedures for preparation and submittal of applications for progress payments.

**1.02 RELATED REQUIREMENTS**

- A. Section 005000 - Contracting Forms and Supplements: Forms to be used.
- B. Section 012200 - Unit Prices: Monetary values of unit prices; Payment and modification procedures relating to unit prices.

**1.03 SCHEDULE OF VALUES**

- A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Landscape Architect for approval.
- C. Forms filled out by hand will not be accepted.
- D. Submit Schedule of Values electronically within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

**1.04 APPLICATIONS FOR PROGRESS PAYMENTS**

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.
- C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Landscape Architect for approval.
- D. Forms filled out by hand will not be accepted.
- E. Execute certification by signature of authorized officer.
- F. Submit one electronic and two hard-copies of each Application for Payment.
- G. Include the following with the application:
  - 1. Transmittal letter as specified for submittals in Section 013000.
  - 2. Current construction photographs specified in Section 013000.
- H. When Landscape Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

**END OF SECTION**

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**SECTION 012500  
SUBSTITUTION PROCEDURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Procedural requirements for proposed substitutions.

**1.02 RELATED REQUIREMENTS**

- A. Section 012300 - Alternates, for product alternatives affecting this section.
- B. Section 013000 - Administrative Requirements: Submittal procedures, coordination.
- C. Section 016000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

**1.03 DEFINITIONS**

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
  - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
  - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
    - a. Substitution requests offering advantages solely to the Contractor will not be considered.

**1.04 REFERENCE STANDARDS**

- A. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase) Current Edition.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 GENERAL REQUIREMENTS**

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
  - 2. Agrees to provide the same warranty for the substitution as for the specified product.
  - 3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
  - 5. Agrees to reimburse Owner and Landscape Architect for review or redesign services associated with re-approval by authorities.
- B. A Substitution Request for specified installer constitutes a representation that the submitter:
  - 1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
  - 1. Note explicitly any non-compliant characteristics.
- D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
  - 1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.
- E. Limit each request to a single proposed substitution item.

**3.02 SUBSTITUTION PROCEDURES DURING CONSTRUCTION**

- A. Submittal Form (after award of contract):
  - 1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

- B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Landscape Architect, in order to stay on approved project schedule.
- C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Landscape Architect, in order to stay on approved project schedule.
  - 1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
  - 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
  - 3. Bear the costs engendered by proposed substitution of:
    - a. Owner's compensation to the Landscape Architect for any required redesign, time spent processing and evaluating the request.
- D. Substitutions will not be considered under one or more of the following circumstances:
  - 1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
  - 2. Without a separate written request.

### **3.03 RESOLUTION**

- A. Landscape Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. Landscape Architect will notify Contractor in writing of decision to accept or reject request.

### **3.04 ACCEPTANCE**

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

### **3.05 CLOSEOUT ACTIVITIES**

- A. See Section 017800 - Closeout Submittals, for closeout submittals.
- B. Include completed Substitution Request Forms as part of the Project record.

**END OF SECTION**

**SECTION 013000  
ADMINISTRATIVE REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

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

**1.02 RELATED REQUIREMENTS**

- A. Section 016000 - Product Requirements: General product requirements.
- B. Section 017000 - Execution and Closeout Requirements: Additional coordination requirements.
- C. Section 017800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

**1.03 REFERENCE STANDARDS**

- A. AIA G716 - Request for Information 2004.
- B. AIA G810 - Transmittal Letter 2001.

**1.04 GENERAL ADMINISTRATIVE REQUIREMENTS**

- A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Landscape 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**

**3.01 PRECONSTRUCTION MEETING**

- A. Landscape Architect will schedule a meeting after Notice of Award.
- B. Attendance Required. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work:
  - 1. Owner or authorized representatives.
  - 2. Landscape Architect and their consultants.
  - 3. Contractor and its superintendent
  - 4. Major subcontractors
  - 5. Suppliers.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
  - 1. Execution of Owner-Contractor Agreement.

2. Submission of executed bonds and insurance certificates.
  3. Distribution of Contract Documents.
  4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
  5. Tentative construction schedule.
  6. Phasing.
  7. Critical work sequencing and long lead times.
  8. Designation of personnel representing the parties to Contract and their duties.
  9. Lines of communication.
  10. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  11. Procedures for testing and inspecting.
  12. Distribution of Contract Documents.
  13. Use of premises and existing building.
  14. Work restrictions.
  15. Working hours.
  16. Owner's occupancy requirements.
  17. Responsibility for temporary facilities and controls.
  18. Procedures for disruptions and shutdowns.
  19. Construction waste management and recycling.
  20. Parking availability.
  21. Office, work and storage areas.
  22. Equipment deliveries and priorities.
  23. First aid.
  24. Security.
  25. Progress Cleaning.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Landscape Architect, Owner, participants, and those affected by decisions made.

### **3.02 PROGRESS MEETINGS**

- A. Schedule and administer meetings throughout progress of the work at maximum weekly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
  1. Contractor.
  2. Owner.
  3. Landscape Architect.
  4. Contractor's superintendent.
  5. 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. Review of RFIs log and status of responses.
  7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Planned progress during succeeding work period.
  10. Maintenance of quality and work standards.
  11. Effect of proposed changes on progress schedule and coordination.
  12. Other business relating to work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Landscape Architect, Owner, participants, and those affected by decisions made.

### **3.03 CONSTRUCTION PROGRESS SCHEDULE**

- A. If preliminary schedule requires revision after review, submit revised schedule within 5 days.



- B. Within 5 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.
- C. Within 5 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

### **3.04 PROGRESS PHOTOGRAPHS**

- A. Submit new photographs weekly to Landscape Architect, within 3 days after being taken.
- B. Photography Type: Digital; electronic files.
- C. Provide photographs of site and construction throughout progress of work produced by amateur photographer, acceptable to Landscape Architect.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
  - 1. Completion of site clearing.
  - 2. Completion of subgrade prep.
  - 3. Completion of layout.
  - 4. Completion of walls.
  - 5. Progress and completion of tennis court surfacing.
  - 6. Final completion, minimum of 30 (thirty) photos.
- E. Views:
  - 1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
  - 2. Consult with Landscape Architect for instructions on views required.
  - 3. Provide factual presentation.
  - 4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
- F. Digital Photographs: 24 bit color, minimum resolution of 10 megapixel, in JPG format; provide files unaltered by photo editing software.
  - 1. Delivery Medium: via email link to download from document storage service.
  - 2. File Naming: Include project identification, date and time of view, and view identification.

### **3.05 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.
  - 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. 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 in a format and with content acceptable to the Landscape Architect.
  - 3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. 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. Unacceptable Uses for RFIs: Do not use RFIs to request the following::

- a. Approval of submittals (use procedures specified elsewhere in this section).
  - b. Approval of substitutions (see Section - 016000 - Product Requirements)
  - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
  - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
2. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
  3. 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 Landscape Architect, and any of its consultants, due to processing of such RFIs.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
  2. Owner's, Landscape Architect's, and Contractor's names.
  3. Discrete and consecutive RFI number, and descriptive subject/title.
  4. Issue date, and requested reply date.
  5. 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).
  6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
  7. 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.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
  2. Note dates of when each request is made, and when a response is received.
  3. Highlight items requiring priority or expedited response.
  4. Highlight items for which a timely response has not been received to date.
  5. Identify and include improper or frivolous RFIs.
- H. Review Time: Landscape Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. 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. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
  2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
  3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.

4. Notify Landscape Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

### **3.06 SUBMITTAL SCHEDULE**

- A. Submit to Landscape 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, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
  4. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

### **3.07 SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit them for review:
  1. Product data.
  2. Shop drawings.
  3. Samples for selection.
  4. Samples for verification.
- B. Submit to Landscape 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 017800 - Closeout Submittals.

### **3.08 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.
- B. Submit for Landscape Architect's knowledge as contract administrator or for Owner.

### **3.09 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 017800 - Closeout Submittals:
  1. Project record documents.
  2. Operation and maintenance data.
  3. Warranties.
  4. Bonds.
  5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

### **3.10 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. Samples: Submit the number specified in individual specification sections; one of which will be retained by Landscape Architect.
  1. After review, produce duplicates.
  2. Retained samples will not be returned to Contractor unless specifically so stated.

### 3.11 SUBMITTAL PROCEDURES

- A. General Requirements:
1. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
  2. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
  3. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
  4. 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.
  5. 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. Send submittals in electronic format via email to Landscape Architect.
  6. Schedule submittals to expedite the Project, and coordinate submission of related items.
    - a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
    - b. For sequential reviews involving Landscape Architect's consultants, Owner, or another affected party, allow an additional 7 days.
    - c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Landscape Architect's approval, allow an additional 30 days.
  7. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
  8. Provide space for Contractor and Landscape Architect review stamps.
  9. When revised for resubmission, identify all changes made since previous submission.
  10. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
  11. 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. Do not submit (Material) Safety Data Sheets for materials or products.

### 3.12 SUBMITTAL REVIEW

- A. Submittals for Review: Landscape Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Landscape Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Landscape Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Landscape Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
    - a. "Approved", or language with same legal meaning.
    - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
      - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
    - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
      - 1) 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.
  - b. "Rejected".
    - 1) Submit item complying with requirements of Contract Documents.
- E. Landscape Architect's and consultants' actions on items submitted for information:
- 1. Items for which no action was taken:
    - a. "Received" - 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**

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**SECTION 013216  
CONSTRUCTION PROGRESS SCHEDULE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

**1.02 RELATED SECTIONS**

- A. Section 011000 - Summary: Work sequence.

**1.03 REFERENCE STANDARDS**

- A. AGC (CPSM) - Construction Planning and Scheduling Manual 2004.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM 2015.

**1.04 SUBMITTALS**

- A. Within 5 days after date of 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 5 days.
- C. Within 10 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. Within 5 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit in PDF format.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 PRELIMINARY SCHEDULE**

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

**3.02 CONTENT**

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Include conferences and meetings in schedule.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Indicate delivery dates for owner-furnished products.
- G. Provide legend for symbols and abbreviations used.

**3.03 BAR CHARTS**

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

**3.04 UPDATING SCHEDULE**

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

### **3.05 DISTRIBUTION OF SCHEDULE**

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Landscape Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

**END OF SECTION**



**SECTION 014000  
QUALITY REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

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

**1.02 RELATED REQUIREMENTS**

- A. Section 013000 - Administrative Requirements: Submittal procedures.
- B. Section 014216 - Definitions.
- C. Section 014219 - Reference Standards.
- D. Section 016000 - Product Requirements: Requirements for material and product quality.

**1.03 REFERENCE STANDARDS**

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2019.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.
- G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.
- H. IAS AC89 - Accreditation Criteria for Testing Laboratories 2018.

**1.04 DEFINITIONS**

- A. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

**1.05 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Landscape 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 Landscape Architect, provide interpretation of results.
- 2. Test report submittals are for Landscape 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. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, 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.
- D. Manufacturer's Field Reports: Submit reports for Landscape Architect's benefit as contract administrator or for Owner.
  - 1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

#### **1.06 QUALITY ASSURANCE**

- A. Testing Agency Qualifications:
  - 1. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

#### **1.07 REFERENCES AND STANDARDS**

- A. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- B. Obtain copies of standards where required by product specification sections.
- C. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

#### **1.08 TESTING AND INSPECTION AGENCIES AND SERVICES**

- A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. Contractor Employed Agency:
  - 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
  - 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
  - 3. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
  - 4. Laboratory: Authorized to operate in the State in which the Project is located.
  - 5. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
  - 6. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

### **PART 3 EXECUTION**

#### **2.01 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 Landscape 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.

## **2.02 TESTING AND INSPECTION**

- A. Testing Agency Duties:
  - 1. Provide qualified personnel at site. Cooperate with Landscape Architect and Contractor in performance of services.
  - 2. Perform specified sampling and testing of products in accordance with specified standards.
  - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 4. Promptly notify Landscape Architect and Contractor of observed irregularities or non-compliance of Work or products.
  - 5. Perform additional tests and inspections required by Landscape Architect.
  - 6. 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. Notify Landscape Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
  - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
  - 6. 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 Landscape Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

## **2.03 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, start-up of equipment, test, adjust, and balance equipment 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.

## **2.04 DEFECT ASSESSMENT**

- A. Replace Work or portions of the Work not complying with specified requirements.

**END OF SECTION**

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**SECTION 014100  
REGULATORY REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SUMMARY OF REFERENCE STANDARDS**

- A. Regulatory requirements applicable to this project including, but not limited to, the following:
- B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice current edition.
- C. 28 CFR 36 - Nondiscrimination by Public Accommodations and in Commercial Facilities; Final Rule; Department of Justice current edition.
- D. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- E. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- F. 29 CFR 1910 - Occupational Safety and Health Standards current edition.
- G. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- H. ICC (IFC) - International Fire Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. NFPA 101 - Life Safety Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. ICC (IPC) - International Plumbing Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

**1.02 RELATED REQUIREMENTS**

- A. Section 014000 - Quality Requirements.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

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**SECTION 014216  
DEFINITIONS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Other definitions are included in individual specification sections.

**1.02 DEFINITIONS**

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

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**SECTION 014219  
REFERENCE STANDARDS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Requirements relating to referenced standards.

**1.02 QUALITY ASSURANCE**

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Should specified reference standards conflict with Contract Documents, request clarification from the Landscape Architect before proceeding.
- C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Landscape Architect shall be altered by Contract Documents by mention or inference otherwise in any reference document.

**PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS**

**2.01 ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL**

- A. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).
- B. ACI 201.2R - Guide to Durable Concrete 2016.
- C. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete 1991 (Reapproved 2009).
- D. ACI 301 - Specifications for Structural Concrete 2016.
- E. ACI 302.1R - Guide to Concrete Floor and Slab Construction 2015.
- F. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).
- G. ACI 305R - Guide to Hot Weather Concreting 2010.
- H. ACI 306R - Guide to Cold Weather Concreting 2016.
- I. ACI 308R - Guide to External Curing of Concrete 2016.
- J. ACI 318 - Building Code Requirements for Structural Concrete and Commentary 2014 (Errata 2018).
- K. ACI 347R - Guide to Formwork for Concrete 2014, with Errata (2017).
- L. ACI 360R - Guide to Design of Slabs-on-Ground 2010.
- M. ACI 506.2 - Specification for Shotcrete 2013.
- N. ACI SP-66 - ACI Detailing Manual 2004.

**2.02 AIA -- THE AMERICAN INSTITUTE OF ARCHITECTS**

- A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum 2017.
- B. AIA A201 - General Conditions of the Contract for Construction 2017.
- C. AIA A305 - Contractor's Qualification Statement 1986.
- D. AIA A310 - Bid Bond 2010.
- E. AIA A312 - Performance Bond and Payment Bond 2010.
- F. AIA A511 - Guide for Supplementary Conditions. 1999.
- G. AIA A701 - Instructions to Bidders 2018.

## **2.03 ASME -- THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS**

## **2.04 ASTM A SERIES -- ASTM INTERNATIONAL**

## **2.05 ASTM B SERIES -- ASTM INTERNATIONAL**

## **2.06 ASTM C SERIES -- ASTM INTERNATIONAL**

- A. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field 2021a.
- B. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.
- C. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.
- D. ASTM C55 - Standard Specification for Concrete Building Brick 2017.
- E. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale) 2017.
- F. ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile 2017.
- G. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units 2016a.
- H. ASTM C91/C91M - Standard Specification for Masonry Cement 2018.
- I. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2021a.
- J. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens) 2021.
- K. ASTM C119 - Standard Terminology Relating to Dimension Stone 2020.
- L. ASTM C126 - Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units 2019.
- M. ASTM C127 - Standard Test Method for Relative Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate 2015.
- N. ASTM C128 - Standard Test Method for Relative Density (Specific Gravity), and Absorption of Fine Aggregate 2015.
- O. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units 2017.
- P. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 2019.
- Q. ASTM C138/C138M - Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete 2017a.
- R. ASTM C140/C140M - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units 2021.
- S. ASTM C141/C141M - Standard Specification for Hydrated Hydraulic Lime for Structural Purposes 2014.
- T. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.
- U. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar 2018.
- V. ASTM C150/C150M - Standard Specification for Portland Cement 2021.
- W. ASTM C157/C157M - Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete 2017.
- X. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete 2016.
- Y. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete 2017.
- Z. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method 2016.
- AA. ASTM C192/C192M - Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory 2019.
- BB. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement 2007 (Reapproved 2013).

- CC. ASTM C199 - Standard Test Method for Pier Test for Refractory Mortars 1984 (Reapproved 2016).
- DD. ASTM C203 - Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation 2005a (Reapproved 2017).
- EE. ASTM C206 - Standard Specification for Finishing Hydrated Lime 2014.
- FF. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes 2018.
- GG. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board 2012, with Editorial Revision (2019).
- HH. ASTM C209 - Standard Test Methods for Cellulosic Fiber Insulating Board 2020.
- II. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale) 2021.
- JJ. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
- KK. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019.
- LL. ASTM C272/C272M - Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions 2018.
- MM. ASTM C273/C273M - Standard Test Method for Shear Properties of Sandwich Core Materials 2020.
- NN. ASTM C279 - Standard Specification for Chemical-Resistant Masonry Units 2017.
- OO. ASTM C287 - Standard Specification for Chemical-Resistant Sulphur Mortar 1998 (Reapproved 2012).
- PP. ASTM C297/C297M - Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions 2016.
- QQ. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete 2019.
- RR. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete 2017a.
- SS. ASTM C331/C331M - Standard Specification for Lightweight Aggregates for Concrete Masonry Units 2017.
- TT. ASTM C332 - Standard Specification for Lightweight Aggregates for Insulating Concrete 2017.
- UU. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars 2021.
- VV. ASTM C365/C365M - Standard Test Method for Flatwise Compressive Properties of Sandwich Cores 2016.
- WW. ASTM C476 - Standard Specification for Grout for Masonry 2020.
- XX. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019.
- YY. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2019.
- ZZ. ASTM C666/C666M - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing 2015.
- AAA. ASTM C719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle) 2014 (Reapproved 2019).
- BBB. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry 2020.
- CCC. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants 2018.
- DDD. ASTM C845/C845M - Standard Specification for Expansive Hydraulic Cement 2018.
- EEE. ASTM C847 - Standard Specification for Metal Lath 2018.

- FFF. ASTM C897 - Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters 2015 (Reapproved 2020).
- GGG. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.
- HHH. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster 2020b.
- III. ASTM C933 - Standard Specification for Welded Wire Lath 2018.
- JJJ. ASTM C936/C936M - Standard Specification for Solid Concrete Interlocking Paving Units 2021a.
- KKK. ASTM C957/C957M - Standard Specification for High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Integral Wearing Surface 2017.
- LLL. ASTM C977 - Standard Specification for Quicklime and Hydrated Lime for Soil Stabilization 2018.
- MMM. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete 2016.
- NNN. ASTM C989/C989M - Standard Specification for Slag Cement for Use in Concrete and Mortars 2018a.
- OOO. ASTM C1116/C1116M - Standard Specification for Fiber-Reinforced Concrete 2010a (Reapproved 2015).

### **PART 3 UNITED STATES GOVERNMENT AND RELATED AGENCIES DOCUMENTS**

#### **3.01 ATBCB -- US ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD (THE ACCESS BOARD)**

- A. ATBCB ADAAG - Americans with Disabilities Act Accessibility Guidelines; 2002.
- B. ATBCB PROWAG - Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way 2011.

#### **3.02 USAB -- UNITED STATES ACCESS BOARD**

- A. ABA Standards - ABA Accessibility Standards 2004 (Amended 2015).

**END OF SECTION**

**SECTION 015000  
TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Vehicular access and parking.
- D. Waste removal facilities and services.

**1.02 TEMPORARY UTILITIES**

- A. Owner will provide the following:
  - 1. Electrical power and metering, consisting of connection to existing facilities.
  - 2. Water supply, consisting of connection to existing facilities.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

**1.03 TEMPORARY SANITARY FACILITIES**

- A. Use existing City facilities.
  - 1. Use of existing facilities is not permitted.
- B. Contractor to supply a temporary sanitary facility for use during construction.
- C. Maintain daily in clean and sanitary condition.
- D. At end of construction, return facilities to same or better condition as originally found.

**1.04 VEHICULAR ACCESS AND PARKING**

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may be used for construction traffic.
- F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

**1.05 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.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

**1.06 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.
- E. Restore new permanent facilities used during construction to specified condition.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

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## **SECTION 016000 PRODUCT REQUIREMENTS**

### **PART 1 GENERAL**

#### **1.01 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.
- F. Procedures for Owner-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 011000 - Summary: Lists of products to be removed from existing building.
- B. Section 012500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 017419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

#### **1.03 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**

#### **2.01 EXISTING PRODUCTS**

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.
- D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
  - 1. See Section 011000 for list of items required to be salvaged for reuse and relocation.

#### **2.02 NEW PRODUCTS**

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
- C. Where other criteria are met, Contractor shall give preference to products that:
  - 1. If used on interior, have lower emissions, as defined in Section 016116.
  - 2. If wet-applied, have lower VOC content, as defined in Section 016116.

#### **2.03 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.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

#### **2.04 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**

#### **3.01 SUBSTITUTION LIMITATIONS**

- A. See Section 012500 - Substitution Procedures.

#### **3.02 OWNER-SUPPLIED PRODUCTS**

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

#### **3.03 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.

#### **3.04 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 017419.
- 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. Provide off-site storage and protection when site does not permit on-site storage or protection.
- H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- I. Comply with manufacturer's warranty conditions, if any.
- J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- L. Prevent contact with material that may cause corrosion, discoloration, or staining.
- M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- N. 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**

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**SECTION 017000  
EXECUTION AND CLOSEOUT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Examination, preparation, and general installation procedures.
- B. Cutting and patching.
- C. Surveying for laying out the work.
- D. Cleaning and protection.
- E. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

**1.02 RELATED REQUIREMENTS**

- A. Section 011000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 013000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 014000 - Quality Requirements: Testing and inspection procedures.
- D. Section 017419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.
- E. Section 017800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.
- F. Section 024100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

**1.03 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather exposed or moisture resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight exposed elements.
  - 5. Work of Owner or separate Contractor.

**1.04 QUALIFICATIONS**

- A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Landscape Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

**1.05 COORDINATION**

- A. 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.
- B. Notify affected utility companies and comply with their requirements.
- C. 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.
- D. 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.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

- 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**

### **2.01 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 016000 - Product Requirements.

## **PART 3 EXECUTION**

### **3.01 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.

### **3.02 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.

### **3.03 LAYING OUT THE WORK**

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Landscape Architect of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- E. Promptly report to Landscape Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Landscape Architect.
- G. Utilize recognized engineering survey practices.
- H. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
  - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
  - 2. Grid or axis for structures.
  - 3. Wall foundations, column locations, subgrade and finish grade elevations.
- I. Periodically verify layouts by same means.

- J. Maintain a complete and accurate log of control and survey work as it progresses.

### **3.04 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.

### **3.05 CUTTING AND PATCHING**

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. 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.
- C. 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.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- 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. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.
- I. 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.

### **3.06 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.

### **3.07 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. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

### **3.08 ADJUSTING**

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

### **3.09 FINAL CLEANING**

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are nonhazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment.
- G. Clean debris from overflow drains, area drains, and drainage systems.
- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

### **3.10 CLOSEOUT PROCEDURES**

- A. Make submittals that are required by governing or other authorities.
- 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 Landscape Architect when work is considered ready for Landscape 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 Landscape Architect's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Landscape Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Landscape Architect.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Landscape Architect when work is considered finally complete and ready for Landscape Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Landscape Architect listed in executed Certificate of Substantial Completion.

**END OF SECTION**

**SECTION 017419  
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

**PART 1 GENERAL**

**1.01 WASTE MANAGEMENT REQUIREMENTS**

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Methods of trash/waste disposal that are not acceptable are:
  - 1. Burning on the project site.
  - 2. Burying on the project site.
  - 3. Dumping or burying on other property, public or private.
  - 4. Other illegal dumping or burying.
  - 5. Incineration, either on- or off-site.
- E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

**1.02 DEFINITIONS**

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

**1.03 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.

## **PART 3 EXECUTION**

### **2.01 WASTE MANAGEMENT PROCEDURES**

- A. See Section 013000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 015000 for additional requirements related to trash/waste collection and removal facilities and services.
- C. See Section 016000 for waste prevention requirements related to delivery, storage, and handling.
- D. See Section 017000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

**END OF SECTION**



**SECTION 017800  
CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

**1.02 RELATED REQUIREMENTS**

- A. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Individual Product Sections: Specific requirements for operation and maintenance data.
- C. Individual Product Sections: Warranties required for specific products or Work.

**1.03 SUBMITTALS**

- A. Project Record Documents: Submit documents to Landscape Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Landscape Architect will review draft and return one copy with comments.
  - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
  - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Landscape Architect comments. Revise content of all document sets as required prior to final submission.
  - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. 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**

**3.01 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.
- 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. Product substitutions or alternates utilized.
  - 2. Changes made by Addenda and modifications.

- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish first floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original Contract drawings.

### **3.02 OPERATION AND MAINTENANCE DATA**

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

### **3.03 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.
  - 2. Information for re-ordering custom manufactured products.
- 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.

### **3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS**

- A. For Each Item of Equipment and Each System:
  - 1. Description of unit or system, and component parts.
  - 2. Identify function, normal operating characteristics, and limiting conditions.
  - 3. Include performance curves, with engineering data and tests.
  - 4. Complete nomenclature and model number of replaceable parts.
- B. 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.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- G. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

### **3.05 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 Landscape 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.
  - 4. Design Data: To allow for addition of design data furnished by Landscape Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

### **3.06 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. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

**END OF SECTION**

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**SECTION 017900  
DEMONSTRATION AND TRAINING**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Demonstration of products and systems where indicated in Drawings or specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
  - 1. HVAC systems and equipment.
  - 2. Plumbing equipment.
  - 3. Electrical systems and equipment.

**1.02 RELATED REQUIREMENTS**

- A. Section 017800 - Closeout Submittals: Operation and maintenance manuals.
- B. Section 019113 - General Commissioning Requirements: Additional requirements applicable to demonstration and training.

**1.03 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Training Plan: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
  - 1. Submit to Landscape Architect for transmittal to Owner.
  - 2. Submit not less than four weeks prior to start of training.
  - 3. Revise and resubmit until acceptable.
  - 4. Provide an overall schedule showing all training sessions.
  - 5. Include at least the following for each training session:
    - a. Identification, date, time, and duration.
    - b. Description of products and/or systems to be covered.
    - c. Name of firm and person conducting training; include qualifications.
    - d. Intended audience, such as job description.
    - e. Objectives of training and suggested methods of ensuring adequate training.
    - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
    - g. Media to be used, such a slides, hand-outs, etc.
    - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
  - 1. Include applicable portion of O&M manuals.
  - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
  - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- D. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
  - 1. Format: DVD Disc.
  - 2. Label each disc and container with session identification and date.

**1.04 QUALITY ASSURANCE**

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
  - 1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
  - 2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION**

### **3.01 DEMONSTRATION - GENERAL**

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
- B. Demonstration may be combined with Owner personnel training if applicable.
- C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
  - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
  - 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
  - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

### **3.02 TRAINING - GENERAL**

- A. Conduct training on-site unless otherwise indicated.
- B. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
- C. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
  - 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
  - 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
  - 3. Typical uses of the O&M manuals.
- D. Product- and System-Specific Training:
  - 1. Review the applicable O&M manuals.
  - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
  - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
  - 4. Provide hands-on training on all operational modes possible and preventive maintenance.
  - 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
  - 6. Discuss common troubleshooting problems and solutions.
  - 7. Discuss any peculiarities of equipment installation or operation.
  - 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
  - 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
  - 10. Review spare parts and tools required to be furnished by Contractor.
  - 11. Review spare parts suppliers and sources and procurement procedures.
- E. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

**END OF SECTION**