

## **DIVISION 01 GENERAL REQUIREMENTS**

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## **SECTION 01010**

### **SUMMARY OF WORK**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section includes requirements for:

1. Project Scope.
2. Equipment and Material.
3. Allowances.
4. Alternates.
5. Unit Prices.

##### **1.02 PROJECT SCOPE**

- A. The Project includes fully completing the Work in one Phase as detailed in the Drawings,
- B. The Notice to Proceed will specify a commencement date for the entire Project. No work shall commence until authorized. Contractor shall perform the work as authorized by the OWNER.
- C. NOT USED.

##### **1.03 EQUIPMENT AND MATERIAL**

A. OWNER PROCURED – CONTRACTOR INSTALLED

1. OWNER shall purchase the following items to be installed by Contractor (when applicable):
  - a. Refer to Project Drawings
  - b. Refer to Project Specifications
2. OWNER shall provide Contractor rough-in drawings, diagrams, setting templates, and other necessary information to assure proper mating of assemblies.
3. Contractor shall agree on a reasonable time and delivery method to avoid delay.
4. Contractor shall receive each item at the Project Site, and from time of receipt, shall assume full responsibility for the care, custody, installation, connection, start-up, testing, and demonstration of such items for full operation and incorporation into the Work as required in the Contract Documents.
5. Contractor shall uncrate, inspect, and notify OWNER that it accepted or rejected such items in writing within 7 calendar days of receipt.
  - a. Upon notice of rejection, OWNER shall inspect and determine to return or take other appropriate action to furnish items for the Contractor's use.

- b. Contractor shall exercise due care in the storage and protection of rejected items until the OWNER returns the items or takes other appropriate action.
  6. Contractor shall verify sizes and services required for each item.
  7. OWNER shall provide contact information of the manufacturer's representatives, who may assist the Contractor in checking, testing, and demonstrating the items.
- B. OWNER PROCURED – INSTALLED UNDER SEPARATE CONTRACT
1. OWNER shall purchase and install the following items itself or under a separate contract:
    - a. Refer to Project Drawings
    - b. Refer to Project Specifications

#### **1.04 ALLOWANCES**

- A. The term "Allowances" is defined in Article 3 of the General Conditions. General Conditions, Article 3 also include contract and scope requirements for Allowances.
- B. This Bid has {number} Allowances. See Bid Form and Supplementary Conditions for details. Bidder includes in its Base Bid the following Allowances:
  1. ALLOWANCE 1: {Description}
  2. ALLOWANCE 2: {Description}

#### **1.05 ALTERNATES**

- A. The term "Alternate" is defined in the Instructions to Bidders, paragraph 7.
- B. This SECTION identifies each Alternate and includes a brief description of its basic changes to the Work if accepted. Refer to the specific Specification Sections of Divisions 2-16 for technical descriptions of the Alternates.
- C. This Bid has {number} Alternates. See Bid Form, Supplementary General Conditions, Specification Divisions 2-16, and Drawing Nos. xx for details.
  1. ALTERNATE 1.a.: UNIT PRICE DEDUCT
  2. ALTERNATE 1.b.: UNIT PRICE DEDUCT
  3. ALTERNATE 1.c.: UNIT PRICE DEDUCT
  4. ALTERNATE 2: {Name}  
  
Add, Deduct, or No Change} Alternate.  
  
{Provide a brief description sufficient to allow the bidder to make a reasonable estimate about its qualifications to complete the work. Include references to all applicable Drawings and Specifications Sections.}

Acceptance of this Alternate will not increase/decrease the Completion Time. OR  
Acceptance of this Alternate will increase/decrease the Completion Time by #  
calendar days.

- D. Contractor's Base Bid and Alternate Bid Amounts shall include all labor, materials, tools, equipment, overhead and profit, and all other direct and indirect costs to fully complete the Alternate and coordinate its integration into the Work, so that the combination of the Base Bid and any Alternate is complete. The scope of Work for all Alternates shall be in accordance with applicable Drawings and Specifications.
- E. Contractor shall insert an amount for each Alternate in the appropriate spaces on the Bid Form.
- F. OWNER shall accept and award Alternates per the Supplementary General Conditions.

## **1.06 UNIT PRICES**

- A. The term "Unit Price" means a fixed price per unit of measurement for an item or portion of work performed by Contractor as offered in its Bid.
- B. This Bid has {number} Unit Price items. See Bid Form and Specification Section 01#### for details.
  - 1. UNIT PRICE NO. 1: {Item Description, e.g. xxxxxxxx}, {Estimated Quantity and Unit, e.g. xxxxxx}. Specifications Section {number}.
  - 2. UNIT PRICE NO. 2: {Item Description, e.g. xxxxxxxxxxxx}, {Estimated Quantity and Unit, e.g. xxxxxx}. Specifications Section {number}.
- C. Contractor shall insert unit price quotations in the appropriate spaces on the Bid Form for each unit price item of work. Contractor's unit prices shall include all labor, materials, tools, equipment, overhead and profit, and all other direct and indirect costs to coordinate with adjacent work and fully complete the item of work. The applicable Specifications Sections describe the materials and methods required for the unit price items of work.
- D. Before commencing any unit price work beyond the Base Bid work scope, Contractor must immediately notify the Construction Manager and obtain the Construction Manager's prior approval.
  - 1. Contractor shall perform unit price items of work as directed by the Construction Manager. Contractor shall take necessary measurements in the presence of Construction Manager and shall submit quantity calculations to Construction Manager for approval. Contractor shall provide 1-working day advance notice to Construction Manager before taking measurements.
  - 2. OWNER shall make the final determination of the applicability, measurement methods, and documentation for unit price work, and adjustment, if any, of the Contract Sum for such work.
- E. OWNER will pay Contractor for unit price items of work as stated in the Contract. Contractor's full compensation for an item of work shall be calculated in accordance with its unit price. Adjustments of the Contract Sum for approved unit price items of work whether added to or deducted from the Base Bid work scope shall be made by Change Order.
- F. OWNER has the right to increase or decrease the quantity of any unit price item for which an estimated quantity is stated in the Bid Form. Compensation shall be determined pro rata based upon the unit price stated in the Bid Form.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01030

### PROJECT FORMS

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. The following project forms and documents listed in this Section are to be utilized at all times. Upon CONTRACTOR request, the OWNER or the CONSTRUCTION MANAGER may approve the use of alternate forms. OWNER reserves the right to introduce new forms.
- B. A Compact Disc containing .doc and .xls files of all required forms will be issued to CONTRACTOR.

##### 1.02 RELATED DOCUMENTS

- A. Section 01010: Summary of the Work
- B. Section 01040: Coordination

#### PART 2- PRODUCTS (Not applicable)

#### PART 3- EXECUTION

##### 3.01 FORMS

- A. The following examples of forms are contained within this Section unless otherwise noted:
  - 1. Pay Application with Schedule of Values sample
  - 2. Certificate of Substantial Completion/Partial Substantial Completion
  - 3. Change Order (CO)
  - 4. Change Order Request (COR)
  - 5. Conditional Waiver and Release Upon Progress & Final Payment
  - 6. Construction Change Directive
  - 7. Daily Job Report
  - 8. Certificate of Final Inspection
  - 9. Request for Information
  - 10. Request for Proposal (Construction Process)
  - 11. Submittal Routing
  - 12. Substitution Request
  - 13. Letter of Transmittal
  - 14. System Interruption/Utility Outage Notification
  - 15. Unconditional Waiver and Release Upon Progress & Final Payment
  - 16. Pre-Bid Conference Agenda
  - 17. Pre-Bid Checklist
  - 18. Bid Award Schedule
  - 19. Job Walk Agenda
  - 20. Job Walk Sign In Sheet
  - 21. Bid Results Template
  - 22. Bid Evaluation Template – Due Diligence Form
  - 23. Bid Evaluation – RFPs
  - 24. Notice of Award Template (Purchasing generated)
  - 25. Notice to Proceed Template (Purchasing generated)
  - 26. Meeting Minutes Template
  - 27. Inspection Request Template
  - 28. Notice of Non-Compliance Template
  - 29. Off Hours Request Template
  - 30. Contractor Information form

31. Kick-Off Construction Meeting Agenda
32. DSA Closeout Checklist Template
33. Notice of Warranty Work Template
34. Notice of Completion/Retention Release

### 3.02 PROCEDURES

- A. Application for Payment: This form is used by the CONTRACTOR to request a progress payment. CONTRACTOR to review the draft payment request with CONSTRUCTION MANAGER. The IOR and Architect will review and sign the electronic copy of the application for payment.
- B. Certificate of Substantial Completion: This form is used according to Article 1.1.39 of the General Conditions.
- B. Change Order (CO): This form is issued by the Construction Manager to adjust the Contract Amount, Milestones and/or the Contract Time. This form is used according to Article 7.2 of the General Conditions.
- C. Change Order Request (COR): This form is used by the CONTRACTOR to communicate proposed adjustments to the Contract Amount, Milestones and/or Contract Time. Used in accordance with Article 7.6 of the General Conditions.
- D. Conditional Waiver and Release upon Progress and Final Payment: These forms are used according to Article 9.6 of the General Conditions.
- E. Construction Change Directive (CCD): This form is used by the OWNER or CONSTRUCTION MANAGER to issue a Construction Directive in accordance with Article 7.3 of the General Conditions. "CCD" is also a Construction Change Document as defined in IR A-6. Coordination is required.
- F. Daily Job Report: This form is used to report daily Work activities of CONTRACTOR and/or Subcontractor(s). The Daily Report is due at the end of each Work day.
- G. Certificate of Final Inspection: This form is used according to Article 9.9.2 of the General Conditions.
- H. Request for Information (RFI): This form is to be used by the CONTRACTOR requesting clarification of the intent of the Contract Documents or requesting technical direction on changed conditions. The RFI must be generated prior to any Change Order Requests by the CONTRACTOR.
- I. Request for Proposal (RFP): This form is used by the Architect or OWNER to request a proposed adjustment in the Contract Amount, Milestones and/or Contract Time in response to the Work contained within the Request for Proposal.
- J. Submittal Routing: This is a routing form of the required submittals to the CM and Architect.
- K. Substitution Request: This form is used to submit proposed substitutions of materials and/or equipment no longer manufactured and/or which cannot be acquired from existing inventories. This form is used by the CONTRACTOR to submit a list of proposed "or equal" substitutions. In accordance with Article 3.11.5 of the General Conditions.

- L. Letter of Transmittal: This online form is used for transmission of all items or documents related to the Contract. All transmittals must have the project number clearly is and Final Payment: This form is used according to Article 9.9 of the General Conditions.
- M. System Interruption/Utility Outage Notification: This form is used to notify the CONSTRUCTION MANAGER, 72 hours in advance, of necessary interruptions to water, irrigation, electrical, data, gas, communication, storm drain, sewer or other systems relating to the Work.
- N. Unconditional Waiver and Release upon Progress and Final Payment: These forms are used according to Article 9.9 of the General Conditions.
- O. Pre-Bid Conference Agenda - This form is a template for use to confirm details before a project is going out to bid.
- P. Pre-Bid Checklist – This form is used as the checklist for the pre-bid conference.
- Q. Bid Award Schedule - This form details the timeline from submission of a project for bid into Purchasing through to Board approval and then issue of contract and start of the construction.
- R. Job Walk Agenda – This agenda is utilized in the pre bid job walk with potential bidders.
- S. Job Walk Sign In Sheet - This is a sign in sheet at the job walk that Purchasing will upload to PlanetBid for public notification of attendees after the job walk.
- T. Bid Results Template - This is used to document the initial bid opening results on bid day.
- U. Bid Evaluation Template – Due Diligence form - This form is utilized in the further review and analysis of all bid documents for responsiveness and responsibility of each bid received.
- V. Bid Evaluation – RFPs - This form is utilized in proposals submitted under a Request for Proposal request for services.
- W. Notice of Award Template - This letter is generated by the Purchasing office when it is ready for release.
- X. Notice to Proceed Template - This letter is generated by the Purchasing office when it is ready for release.
- Y. Meeting Minutes Template – This template is for the documentation of project meetings and the discussions of the project.
- Z. Inspection Request Template - The Contractor is required to complete the form for submission to the CM and the IOR in a timely fashion in the project.
- AA. Notice of Non-Compliance Template - This template is utilized by the Construction Manager and the IOR to document any work that is in non-compliance to the project documents which includes plans, and specifications.
- BB. Off Hours Request Template - This form is completed by the Contractor when there is a request to work in the off hours of the project for approval by various District reps.
- CC. Contractor Information form - This form is completed by the Contractor at the start of the project to provide contact information of all Contractor key personal for the CM.
- DD. Kick-Off Construction Meeting Agenda - This agenda is utilized in the kickoff of a new project with all of project team members present - architect, contractor, IOR, CM reps, Owner's representatives, and any other project consultants.



- EE. DSA Closeout Checklist template - This form is the checklist utilized by the Construction Manager to document all required Division of State Architect closeout reports and forms have been received and uploaded to The DSA Box for final project certification.
- FF. Notice of Warranty Template - After completion of the project and during the warranty period, The Owner will notify the Contractor of warranty work through this form. Contractor shall make necessary repairs in a timely fashion.
- GG. Notice of Completion/Retention Release form - This internal District form is to be completed by the Construction Manager once all contract closeout requirements have been fulfilled by the Contractor and is ready to release retention of the contract.

**END OF SECTION**

## **SECTION 01040**

### **COORDINATION**

#### **PART 1 - GENERAL**

##### **1.01 SUMMARY**

- A. Section includes requirements for:
  - 1. Communications
  - 2. Disruption of Owner's Activities
  - 3. Work Hours
  - 4. Work Sequencing

##### **1.02 COMMUNICATIONS**

- A. PROCEDURE: see General Conditions, 4.2.4 and 4.10.4.
- B. CONSTRUCTION MANAGER'S ROLE: see General Conditions, 4.10.1 and 4.10.2.
- C. ARCHITECT'S ROLE: see General Conditions, 4.2.1, 4.2.2, 4.2.3, 4.2.9, and 4.2.10.

##### **1.03 DISRUPTION OF OWNER'S ACTIVITIES**

- A. See Special Conditions and General Conditions, 8.2.5.
- B. Contractor shall accomplish Work without undue interference with OWNER'S operations.
  - 1. Necessary interruptions to electrical, communication, or other College systems shall be done only after consultation with OWNER and as instructed by Construction Manager.
- C. Contractor shall not use any of OWNER's office equipment or supplies.

##### **1.04 WORK HOURS**

- A. See General Conditions, 1.1.34, 1.1.44, 8.1.3, 8.2.2, and 8.2.3.

##### **1.05 WORK SEQUENCING**

- A. Layout, scheduling and sequencing of the Work shall be solely the Contractor's responsibility. Contractor shall coordinate Work of all trades, subcontractors, utility service providers, with Owner and /or separate work contract. Contractor shall sequence, coordinate, and perform the Work to impose minimum hardship on the operation and use of the existing education facility and/or project site. Contractor shall install all necessary protection for existing improvements, project site, property, and new Work against dust, dirt, weather, damage, vandalism, and maintain and relocate all protection to accommodate progression of the Work.
- B. Contractor shall bring together the various parts, components, systems and assemblies as required for the correct interfacing and integration of all elements of the Work.
  - 1. Schedule construction operations in sequence required where installation of one part of Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
  - 3. Provide provisions to accommodate items scheduled for later installation.
  - 4. Prepare and administer provisions for coordination drawings.

- C. Contractor shall coordinate Work to correctly and accurately connect abutting, adjoining, overlapping and related elements, including work under separate contracts by OWNER (such as Furniture procurement and installation). On dates and during times designated by OWNER, Contractor shall provide clear off-loading, receiving, protected storage, and OWNER's dumpster space areas for use of OWNER or OWNER's third-party Owner Furnished/Owner Installed (OFOI) contractors. At such times, Contractor shall also make clear routes and access available to all rooms and spaces to receive OFOI materials.
  - a. On dates and during times designated by OWNER, Contractor shall provide access to the elevators for use of OWNER or OWNER's contractors.
- D. Coordinate completion and clean up of Work.
- E. After OWNER occupies the premises, coordinate access to site to correct defective work and work not in accordance with Contract Documents, to minimize disruption to OWNER.

## **1.06 SUBMITTALS**

- A. Coordination Drawings: Contractor shall prepare coordination drawings to coordinate the installation of products and materials fabricated, furnished, and installed by separate entities, under different parts of the Contract. Contractor shall notify the OWNER and Architect, in writing, of all major conflicts in a timely manner so that the design team can respond without construction delays. Coordination drawings shall address the following at a minimum:
  - 1. Limitations in available space for installation or service. Contractor shall overlay plans of each trade and verify space requirements and conflicts between trades. Minor changes and adjustments that do not affect design intent shall be made by Contractor and shall be highlighted for Architect's review.
  - 2. Incompatibility between items provided under different trades (such as difference in voltage between equipment and electrical power).
  - 3. Inconsistencies between drawings, specifications and codes (between trades and within each trade).
- B. Prepare coordination drawings in CAD with each trade on a separate layer, in specified color and scale. Contractor and each subcontractor shall provide and forward reproducible copies and CAD drawing files in the order described here:
  - 1. Structural shop drawings shall indicate locations and sizes of columns, beams and other structural members, as well as wall, roof and slab penetrations, and will be provided to mechanical, electrical, low voltage and plumbing subcontractors for coordination. Structural items shall be indicated using black lines.
  - 2. HVAC subcontractor will indicate all ductwork, piping and equipment complete with installation and dimensioned service clearances, duct and pipe sizes, fitting types and sizes, top or bottom of duct and pipe elevations, distances of ducts, pipes and equipment from building reference points and hanger and support locations. Minor changes and adjustments that do not affect design intent shall be made by subcontractor and shall be highlighted for the OWNER and Architect's reviews. Forward drawings to plumbing subcontractor for further coordination. HVAC items shall be indicated using orange lines.
  - 3. Plumbing subcontractor will indicate all plumbing lines, and equipment complete with installation and dimensioned services clearances, pipe sizes, fitting types and sizes, top or bottom of pipe elevations, distance of pipes and equipment from building reference points and hanger/support locations, Coordinate with HVAC subcontractor. Minor changes and

adjustments that do not affect design intent shall be made by subcontractor and shall be highlighted for OWNER and Architect's reviews. Upon completion, drawings shall be forwarded to Fire Sprinkler subcontractor for further coordination. All plumbing items shall be indicated using blue lines.

4. Fire sprinkler subcontractor will indicate fire sprinkler piping and equipment complete with installation and dimensioned service clearances, pipe sizes, fitting types and sizes, top or bottom of pipe elevations, distances of pipes and equipment from building reference points and hanger or support locations. Coordinate with Plumbing and HVAC subcontractors. Minor changes and adjustments that do not affect design intent shall be made by subcontractor and shall be highlighted for OWNER and Architect's reviews. Upon completion, drawings shall be forwarded to Electrical subcontractor for further coordination. All plumbing items shall be indicated using red lines.
5. Electrical and Low Voltage subcontractors will indicate service and feeder conduit runs and other electrical equipment complete, including low voltage with installation and dimensioned service clearances, sizes, top or bottom of conduit and rack elevations, distances of conduits and equipment from building reference points and hanger and support locations. Coordinate with Fire Sprinkler, Plumbing and HVAC subcontractors. Minor changes and adjustments that do not affect design intent shall be made by subcontractor and shall be highlighted for OWNER and Architect's reviews. Upon completion, drawings shall be forwarded to Contractor for further coordination. Electrical work shall be indicated using dark green lines. Low Voltage work shall be indicated with light green lines.
6. Contractor will be responsible for the overall coordination review. As each coordination drawing is completed, Contractor will meet with OWNER and Architect to review and resolve all conflicts on coordination drawings.
7. Coordination meetings will be held in the Contractor's project field office. Contractor is required to distribute Shop Drawings, cut sheets and submittals to subcontractors where appropriate. Reviewed coordination drawings will be maintained in the Contractor's project field office. Contractor shall create meeting minutes after each meeting and submit to the OWNER and other participants within 5 days.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01045**

### **CUTTING AND PATCHING**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

- A. Section includes:
  - 1. Scope.
  - 2. Submittals.
- B. Related requirements: General Conditions, 3.12.

##### **1.02 SCOPE**

- A. This Section covers incidental cutting and patching required for the installation of a specific item or piece of equipment, such as piping, ductwork, conduit, and similar items.
- B. For new construction required to replace such removals, see the pertinent Specification Sections.
- C. Contractor shall be responsible for the distinction between demolition and cutting and patching.

##### **1.03 SUBMITTALS**

- A. Submit a written proposal for approval before cutting and patching the following building elements or safety related systems:

- Primary operational systems and equipment.
- Air or smoke barriers.
- Water, moisture, or vapor barriers.
- Integrity of weather exposed or moisture resistant element.
- Membranes and flashings.
- Efficiency, maintenance, or safety of any operational element.
- Fire protection systems.
- Noise and vibration control elements and systems.
- Control systems.
- Communication systems.
- Conveying systems.
- Electrical wiring systems.
- Structural integrity of any element of project.
- Visual qualities of sight exposed elements.
- Work performed by Owner or separate a Contractor.

- B. Include in proposal:
  - 1. Project Name and Bid Number.
  - 2. Location and description of affected Work.
  - 3. Necessity for cutting or alteration.
  - 4. Description of proposed Work and Products to be used.
  - 5. Alternatives to cutting and patching.
  - 6. Effect on work of Owner or separate Contractor.
  - 7. Written permission of affected separate Contractor.
  - 8. Date and time work will be executed.

#### **PART 2 – PRODUCTS**

## **2.01 MATERIALS**

- A. Primary Products: Those required for original installation.
- B. Product Substitution: For proposing a change in equipment, materials or products, submit request for substitution per General Conditions.

## **PART 3 – EXECUTION**

### **3.01 EXAMINATION**

- A. Contractor shall verify and examine all areas to be cut and patched, and shall coordinate the work of subcontractors.
  - 1. Examine existing conditions before commencing Work, including elements subject to damage or movement during cutting and patching.
  - 2. Assess existing conditions affecting performance of Work.
- B. Beginning cutting or patching means acceptance of existing conditions.
- C. Before proceeding, Contractor shall contact Construction Manager with questions regarding the size, location, or method of cutting concrete or any other structural elements.

### **3.02 PREPARATION AND PROTECTION**

- A. Provide devices and methods to protect other portions of the Project from damage.
  - 1. Provide temporary supports to ensure structural integrity of the Work.
  - 2. Provide protection from elements for areas of exposed, uncovered work.
  - 3. Maintain excavations free of water.
- B. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- C. Do not cut and patch operating elements or related components in a manner that would reduce their capacity to perform as intended.
  - 1. Do not cut and patch operating elements or related components in a manner that would increase maintenance or decrease operational life or safety.
  - 2. Avoid cutting existing pipe, conduit, or ductwork serving the building until provisions have been made to bypass them.
- D. Employ skilled workers to perform cutting and patching.
- E. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

### **3.03 CUTTING**

- A. Execute cutting and fitting, including excavation and fill, to complete the Work.
  - 1. For general cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping.
  - 2. Cut rigid materials using a carborundum masonry saw or diamond-core drill. Pneumatic tools are not allowed without prior approval.
  - 3. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.

4. Cut holes and slots as small as possible, neatly to size required and with minimum disturbance to adjacent surfaces.
  5. Provide openings in the Work for penetration of mechanical and electrical work.
  6. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  7. Temporarily cover openings when not in use.
- B. Cut pipe or conduit in walls or partitions to be removed.
1. For the removal, relocation, or abandonment of pipe or conduit, bypass utility services before cutting.
  2. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance or moisture or other foreign matter after bypassing and cutting.
- C. Remove and replace defective or non-conforming work.
1. Uncover work to install improperly sequenced work.
- D. Remove samples of installed work for testing when requested.
- E. Owner shall monitor sound-producing saw cutting or core drilling operations or similar audible disturbances, and Contractor shall abate when directed.

### **3.04 PATCHING**

- A. Provide appropriate surfaces to receive patching and finishing.
1. Clean piping, conduit, and similar items before applying paint or other finishing materials.
  2. Restore damaged pipe covering to its original condition.
- B. Patching shall duplicate existing-undisturbed adjacent finishes, colors, textures and profiles, unless noted otherwise.
1. Execute patching to complement adjacent Work.
  2. Restore work with new products per the Contract Documents.
  3. Restore exposed finishes of patched areas and extend finish restoration into retained, adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  4. Refinish surfaces to match adjacent finish.
    - a. For continuous surfaces, refinish to nearest intersection or natural break.
    - b. For smooth painted surfaces, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
    - c. For an assembly, refinish entire unit.
- C. Fit products together to integrate with other Work.
- D. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- E. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to full thickness of the penetrated element.
- F. Avoid damage to other Work.
- G. Replace, patch, and repair materials and surfaces cut or damaged in such a manner as to not void any warranty.
  - 1. Employ original installer to perform patching for weather exposed and moisture resistant elements and sight-exposed surfaces.
- H. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
- I. Architect shall solely judge what is acceptable for matching surfaces and materials.

### **3.05 CLEANING**

- A. Clean cut and patched areas by completely removing paint, mortar, oils, putty and similar items.

### **END OF SECTION**



## SECTION 01050

### FIELD ENGINEERING

#### PART 1 – GENERAL

##### 1.01 SUMMARY

- A. Section includes requirements for:
1. Contractor's Site and Utilities Surveys.
  2. Site and Utilities Surveys Submittal.
  3. OWNER'S Reference Points Survey.

##### 1.02 CONTRACTOR'S SITE AND UTILITIES SURVEYS

- A. Pursuant to General Conditions 2.2, Contractor shall conduct a site and utility survey using a Land Surveyor or Civil Engineer registered in the State of California.
- B. Contractor shall investigate the Project Site to ascertain all conditions affecting procedures and sequencing of the Work. Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to properly locate each element of the project. Calculate and measure required dimensions within indicated or recognized tolerances. **DO NOT** scale Drawings to determine dimensions.
1. Utilities in Streets, Easements, and/or Alleys: Contractor is responsible for verifying the conditions under which work on such utilities will be done, such as what lines will be left in place, removed, or rerouted.
  2. Contractor shall report to Construction Manager any adverse condition(s) that may affect the proper execution of the Work. Do not proceed until instructed by Construction Manager.
  3. Contractor shall verify, confirm, and coordinate field measurements so that new construction correctly and accurately interfaces with conditions existing prior to construction.
  4. Contractor shall verify locations of survey control points, reference points and benchmarks prior to starting work.
    - a. Locate and protect existing benchmarks and control points.
    - b. Preserve permanent reference points during construction.
    - c. Contractor shall provide field engineering service using recognized engineering survey practices.
      - (1) Establish a minimum of one permanent three-inch diameter brass bench mark on site, referenced to established control points. Record locations, with horizontal and vertical data, on Project record documents.
      - (2) Establish elevations, lines and levels. Locate and layout by instrumentation and similar appropriate means.
      - (3) Site improvements including pavements, stakes for grading, fill and topsoil placement when applicable, utility locations, slopes, and invert elevations. Locate by instrumentation or similar appropriate means.

- (4) Grid or axis for structures.
  - (5) Building foundation, column locations, ground floor elevations, set-out references. Include batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical work.
  - (6) Floor elevations of existing structures, if any, which relate to the Project.
  - (7) Partition layouts on rough floor as a guide to all trades.
5. Contractor shall verify that utility requirement and characteristics of operating equipment are, compatible with building utilities. Coordinate work of various Specification Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Start of work at the Project Site shall imply Contractor's acceptance of all site and utility conditions.
  - D. Maintain a complete and accurate log of control and survey work as it progresses.
  - E. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

### **1.03 SITE AND UTILITIES SURVEYS SUBMITTAL**

- A. Submit name, address, and telephone number of Surveyor or Civil Engineer before starting survey work.
- B. Submit the information in 1.02 above to Construction Manager for approval.

### **1.04 OWNER'S REFERENCE POINTS SURVEY**

- A. OWNER will locate survey control and reference points.
- B. Control datum for survey is that indicated on Drawings.

## **PART 2 – PRODUCTS**

Not Used.

## **PART 3 – EXECUTION**

- A. Periodically verify layouts by same means.
- B. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- C. Promptly report to OWNER the loss or destruction of any reference point or relocation required because of changes in grades or other reasons. Replace lost, destroyed, or dislocated project control points. Base replacements on the original survey control points.
- D. Advise entities engaged in construction activities of marked lines and levels provided for their use.
- E. As construction proceeds, check every major element for line, level and plumb.

**END OF SECTION**

## **SECTION 01060**

### **REGULATORY REQUIREMENTS**

#### **PART 1 - GENERAL**

##### **1.01 SUMMARY**

A. Section Includes: required regulatory requirements.

##### **1.02 CODES AND REGULATIONS**

A. All work pertaining to and all materials supplied for executing and completing this contract shall comply with provisions specified in the contract documents and with all applicable laws, regulations and ordinances governing work including, but not necessarily limited to, those of:

1. California Code of Regulations (CCR), Title 14, Section 18700 et. seq.
2. California Integrated Waste Management Act of 1989 (AB 939).
3. CCR, Title 19, Chapter 2, Sub-chapter 3, Article 4, Sections 2729 – 2734, Hazardous Materials Notification.
4. 2019 California Administrative Code (CAC), Part 1, Title 24 CCR\*
5. 2019 California Building Code (CBC), Part 2, Title 24 CCR (2018 International Building Code, Vol. 1 & 2, and 2019 California amendments)
6. 2019 California Electrical Code (CEC), Part 3, Title 24 CCR (2017 National Electrical Code and 2019 California Amendments)
7. 2019 California Mechanical Code (CMC), Part 4, Title 24 CCR (2018 IAPMO Uniform Mechanical Code and 2019 California amendments)
8. 2019 California Plumbing Code (CPC), Part 5, Title 24 CCR (2018 IAPMO Uniform Plumbing Code and 2019 California amendments)
9. 2019 California Energy Code (CEC), Part 6, Title 24 CCR
10. 2019 California Fire Code (CFC), Part 9, Title 24 CCR (2018 International Fire Code and 2019 California Amendments)
11. 2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR (2018 International Existing Building Code and 2019 California Amendments)
12. 2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
13. 2019 California Referenced Standards Code, Part 12, Title 24 CCR
14. Title 19 CCR, Public Safety, State Fire Marshal Regulations
15. 2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators (per 2019 CBC Part 2 Ch 35) Note: Cal/OSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption

B. Partial List of Applicable Standards:

1. NFPA 13 - Standard for the Installation of Sprinkler Systems (CA amended) 2016 Edition
2. NFPA 14 - Standard for the Installation of Standpipe and Hose Systems (CA amended) 2016 Edition
3. NFPA 17 - Standard for Dry Chemical Extinguishing Systems 2017 Edition
4. NFPA 17A - Standard for Wet Chemical Extinguishing Systems 2017 Edition
5. NFPA 20 - Standard for the Installation of Stationary Pumps for Fire Protection 2016 Edition
6. NFPA 22 - Standard for Water Tanks for Private Fire Protection 2013 Edition
7. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances (CA amended) 2016 Edition
8. NFPA 72 - National Fire Alarm and Signaling Code (CA amended) 2016 Edition
9. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2016 Edition
10. NFPA 2001 - Standard on Clean Agent Fire Extinguishing Systems (CA amended) 2015 Edition
11. UL 300 - Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment 2005 (R2010)
12. UL 464 - Audible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories 2003 Edition
13. UL 521 - Standard for Heat Detectors for Fire Protective Signaling Systems 1999 Edition
14. UL 1971 - Standard for Signaling Devices for the Hearing Impaired 2002 (R2010)
15. ICC 300 - Standard for Bleachers, Folding and Telescopic Seating, and Grandstands 2017 Edition
16. For a complete list of applicable NFPA standards refer to 2019 CBC (SFM) Chapter 35 and California Fire Code Chapter 80.
17. See California Building Code Chapter 35 for State of California amendments to the NFPA Standards.
18. \*All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10) is January 8, 2019 and the effective date for the use of the California Administrative Code (Title 24, Part 1, Chapter 4) is January 8, 2019.
19. NFPA 253 Critical Radiant Flux of Floor Covering Systems 1995 Edition
20. Reference code section for NFPA Standards: (SFM) 3503.1.3.
21. Applicable ordinances of City and County in which the project is located.

C. Governing Regulations, Part 1, Title 24, California Building Standards Administrative Code.

1. ORS/DSA not subject to arbitration.
  2. Changes in the Work, including minor changes, by Addenda or Change Order in accordance with Section 4-338.
  3. Inspector shall be approved by ORS/DSA. Inspector, continuous inspection of work and special inspections in accordance with Sections 4- 333(b) and 4-342.
  4. Tests and testing in accordance with Section 4-335, costs for which paid for by District.
  5. Contractor shall submit verified reports in accordance with Section 4-336 and 4-343(c).
  6. Copies of Part 1 (CBSC) and Part 2 (CBC), Title 24, CCR, shall be kept and made available at the construction site office during construction.
  7. ORS/DSA shall be notified by Architect upon start of construction in accordance with Section 4-331 (CBSC) and supervision shall be provided by ORS/DSA in accordance with Section 4-334 (CBSC).
  8. Administration of construction by Architect, Structural Engineer or Professional Engineer shall be conducted in accordance with Section 4-333(a) and Section 4-343.
  9. Administration of construction by Contractor, in accordance with Section 4-343.
- D. Requirements for accessibility shall comply with Chapter 11A and 11B, Part 2, Title 24, CCR, 1998 California Building Code (CBC). (1997 Uniform Building Code Volumes 1-3 and 1998 California Amendments).
- E. Enforcement includes all other codes or regulations referenced in the above listed codes.
- F. The preceding listed codes, regulations and ordinances of the regulatory agencies are hereby made a part of this Contract. Nothing in the Contract shall be construed as allowing any violation of any provision of any of the above listed documents.

### **1.03 PUBLICATION DATES**

- A. Unless specified otherwise, specific references to codes, regulations, standards, manufacturer's instructions or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the latest edition of each in effect at the date of the Contract or the edition in effect on the date of subsequent change orders or field orders, as applicable.

### **1.04 DISCREPANCIES IN CONTRACT DOCUMENTS**

A. In the event of error, omission, ambiguity or conflict in the Drawings or Specifications, the Contractor shall bring the matter to the attention of the Architect in a timely manner for Architect's determination and direction.

1. Comply with General Conditions.

B. Higher Quality and Quantity: see General Conditions

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01091**

### **REFERENCE STANDARDS**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. Quality assurance.
2. Use of references.
3. Definitions of terms.
4. Abbreviations, acronyms, names, and general terms.
5. Partial schedule of references and abbreviations.

B. Related Sections

1. General Conditions: Reference standards indicated therein.

##### **1.02 QUALITY ASSURANCE**

- A. For products or workmanship specified by association, trade, or other consensus standard, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Comply with reference standard by date of issue current on date of the Contract.
- C. Maintain copy of standards at project site during submittals, planning, and progress of the specific work, until Substantial Completion of punchlist.
- D. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
- E. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Architect shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- F. Reference standards and abbreviations noted herein may be contained in Sections of the Technical Specifications and are so referenced for brevity and to communicate prevailing industry usage as a common basis of understanding.

##### **1.03 USE OF REFERENCES**

- A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices, and requirements for products, execution, tests, and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.
- B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.
- C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best and greatest of the alternatives or options for the intended use and prevailing conditions.



D. Copies of Reference Standards:

1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades and crafts are familiar with these generally-recognized standards of the construction industry.
2. Copies of reference standards may be obtained from publishing sources. The Architect will furnish, upon request, information on how to obtain copies.

E. Jobsite Copies:

1. Contractor shall obtain and maintain at the project site copies of reference standards identified on the Drawings and in the Specifications in order to properly execute the Work.
2. At a minimum, the following shall be readily available at the site, as applicable to the Work:
  - a. Local and State Building Codes: As referenced in Section 01060.
  - b. Safety Codes: State of California, California Code of Regulations (CCR), Title 8 Industrial Relations, Chapter 4, Subchapter 7, General Industry Safety Orders (CAL/OSHA).

F. General Standards:

1. Uniform Building Code (UBC) Standards (as amended and adopted by authorities having jurisdiction), other model code standards.
2. Underwriters Laboratories, Inc. (UL) or Warnock-Hersey International (WHI) publications.
3. Factory Mutual Research Organization (FM) Approval Guide.
4. American Society for Testing and Materials (ASTM) publications.
5. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.
6. Other Common Materials Standards Referenced in the Technical Specifications Sections:
  - a. American Concrete Institute (ACI).
  - b. American Institute of Steel Construction (AISC).
  - c. American Welding Society (AWS).
  - d. Gypsum Association (GA).
  - e. National Fire Protection Association (NFPA).
  - f. Tile Council of America (TCA).
  - g. Woodwork Institute of California (WIC).
7. Research Reports: ICBO Evaluation Service (ICBO). Research Reports and National Evaluation Service Reports (NER), for products not in conformance to prescribed requirements stated in Building Code.
8. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.

G. Edition Date of References:

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of the permit issued by authorities having jurisdiction.
  2. All amendments, changes, errata, and supplements as of the effective date shall be included.
- H. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized Specifications and Standards.

#### **1.04 DEFINITIONS OF TERMS**

- A. Basic Contract Definitions: Words and terms governing the Work are defined in the General Conditions.
- B. Other Words and Terms Used on Drawings and in Specifications: Additional words and terms may be used in the Drawings and Specifications and are defined as follows:
1. "Applicable." As appropriate for the particular condition, circumstance or situation.
  2. "Approve(d)." Limited to duties and responsibilities of the Architect stated in the General Conditions, for actions performed in the professional judgment of the Architect or the Architect's responsible design consultant, in conjunction with submittals, applications, and requests. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences, and procedures of construction. Approval shall not relieve the Contractor from responsibility to fulfill Contract requirements.
  3. "And/or fused", shall mean that either or both of the items so joined are required.
  4. "Directed." Limited to duties and responsibilities of the Architect stated in the General Conditions, meaning as instructed by the Architect or the OWNER, in writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean "approved" by the Architect, "requested by the Architect, and similar phrases. No implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's supervision of construction.
  5. "Equal" or "Equivalent." Limited to products, services, components, or systems demonstrated through the submittal process to the satisfaction and specific approval of the OWNER or Construction Manager to be equal to the product, service, components, or system specified as set forth in this Contract.
  6. "Furnish." Means "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
  7. "Indicated." Refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. There is no limitation on location.

8. "Install." Describes operations at the project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
9. "Installer:"
  - a. "Installer" refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
  - b. "Experienced installer." The term "experienced," when used with "installer" means having experience and having completed projects similar in size and scope to this Project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.
10. "Job Site." All of the property and/or facilities of the OWNER where the Work will be performed pursuant to the Contract, as well as such adjacent lands as may be directly affected by the performance of the Work.
11. "Necessary": With due considerations of the conditions of the Project and as determined in the professional judgment of the Architect as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences and procedures of construction.
12. "Noted." Same as "Indicated."
13. "Per." Same as "in accordance with," "according to" or "in compliance with."
14. "Products." Material, system, or equipment.
15. "Project Site." Same as "Job Site."
16. "Proper." Determined by the Architect as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences, and procedures of construction, which are solely the Contractor's responsibility.
17. "Provide." To furnish, install, test, and make ready for operation and use to the satisfaction of the OWNER, Architect, Construction Manager, and Project Inspector, the Work to be performed by the Contractor.
18. "Regulation." Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as and rules, conventions and agreements within the construction industry that control performance of the Work.
19. "Required." Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, such as:
  - a. Regulatory requirements of authorities having jurisdiction.
  - b. Requirements of referenced standards.

- c. Requirements generally recognized as accepted construction practices of the locale.
  - d. Notes, schedules and graphic representations on the Drawings, i.e. requirements specified or referenced in the Specifications.
  - f. Duties and responsibilities stated in the Bidding and Contract Requirements.
20. "Scheduled." Same as "Indicated."
21. "Selected." As selected by Architect or OWNER from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, texture or price range.
22. "Shown." Same as "Indicated."
23. "Site." Same as "Job Site."
24. "Inspector." Individual or independent firm engaged to perform inspection services, hired by the OWNER, approved by the ORS/DSA, and working under the direction of the Architect or Engineer of Record. Defined in General Conditions 4.3.
25. "Testing Laboratory." An independent entity engaged to perform specific inspections or tests, at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

#### **1.05 ABBREVIATIONS, ACRONYMS, NAMES, AND GENERAL TERMS**

- A. Abbreviations, Acronyms, Names, and Terms: Where acronyms, abbreviations names, and terms are used in the Drawings, Specifications or other Contract Documents, they shall mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable.
- B. Abbreviations: Refer to Drawings for commonly-used abbreviations.
- C. Undefined Abbreviations, Acronyms, Names, and Terms: Words and terms not otherwise specifically defined in this Section, in the General Conditions, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:
  - 1. Dictionary of Architecture and Construction (Cyril M. Harris, McGraw- Hill Book Company, 1975).
  - 2. The American Institute of Architects (AIA) Document M101, "Glossary of Construction Industry Terms."
  - 3. The Construction Specifications Institute (CSI) Technical Document TD 2-4, "Abbreviations."
  - 4. Encyclopedia of Associations, published by Gale Research Co., available in most libraries.

#### **1.06 PARTIAL SCHEDULE OF REFERENCES AND ABBREVIATIONS**

AA Aluminum Association, Washington, DC  
 AABC Associated Air Balance Council, Washington, DC.

AAIEE American Institute of Electrical and Electronics Engineers.  
AAMA Architectural Aluminum Manufacturers Association.  
AASHTO American Association of State Highway and Transportation Officials,  
Washington, DC.  
ACI American Concrete Institute, Detroit MI. ADA Americans with Disabilities Act.  
AIA American Institute of Architects, Washington, DC.  
AI Asphalt Institute, College Park MD.  
AISC American Institute of Steel Construction, Englewood CO.  
AISI American Iron and Steel Institute, Washington, DC.  
AITC American Institute of Timber Construction, Englewood CO.  
ANSI American National Standards Institute, New York NY.  
APA American Plywood Association, Tacoma W A.  
APWA American Public Works Association.  
ARI Air Conditioning and Refrigeration Institute, Arlington VA.  
AISC American Institute of Steel Construction.  
ASHRAE American Society of Heating, Refrigerating and Air Conditioning Engineers,  
Atlanta GA.  
ASME American Society of Mechanical Engineers, New York NY.  
ASSE American Society of Sanitary Engineering.  
ASTM American Society for Testing and Materials, Philadelphia P A.  
AWI Architectural Woodwork Institute, Arlington VA.  
AWPA American Wood Preservers' Association, Bethesda MD.  
AWS American Welding Society, Miami FL.  
AWWA American Water Works Association, Denver CO.

BHMA Builders Hardware Manufacturers Association.  
BIA Brick Institute of America, Reston VA.

CalTrans State of California Department of Transportation.  
CARB California Air Resources Board.  
CAS/CAR California Accessibility Statutes/California Accessibility Regulations, Books 1  
and 2, May, 1994.  
CCR California Code of Regulations.  
CBC California Building Code.  
CDA Copper Development Association, New York NY.  
CEC California Electrical Code I CFC California Fire Code.  
CISCA Ceiling and Interior Systems Contractors Association.  
CLFMI Chain Link Fence Manufacturers Institute, Washington, DC.  
CMC California Mechanical Code  
CPC California Plumbing Code  
CRSI Concrete Reinforcing Steel Institute, Schaumburg IL.  
CS US Commercial Standards.  
CSI Construction Specifications Institute, Alexandria VA.  
CTI Ceramic Tile Institute.

DHI Door and Hardware Institute, McLean VA.  
DFPA Douglas Fir Plywood Association.

EGMA Expansion Joint Manufacturers Association, Tarrytown NY.

FGMA Flat Glass Marketing Association, Topeka KS.  
FIA Factory Insurance Association.  
FLIB Furring and Lathing Information Bureau, Los Angeles CA.  
FM Factory Mutual System, Norwood MA.  
FS Federal Specification General Services Administration, Washington, DC,

GA Gypsum Association, Evanston IL.

HMMA Hollow Metal Manufacturers Association, Chicago IL.

ICBO International Conference of Building Officials, Whittier CA.  
IEEE Institute of Electrical and Electronics Engineers, New York NY.  
IES Illuminating Engineering Society.  
IMIAC International Masonry Industry All-Weather Council, International Masonry Institute,  
Washington, DC.

LSGA Laminators Safety Glass Association

MFMA Maple Flooring Manufacturers Association, Northbrook IL.  
MIL Military Specification Naval Publications and Forms Center, Philadelphia PA.  
ML/SFA Metal Lath/Steel Framing Association, Chicago IL.

NAAMM National Association of Architectural Metal Manufacturers, Chicago IL.  
NACA National Acoustical Contractors Association.  
NAGDM National Association of Garage Door Manufacturers.  
NBS National Bureau of Standards.  
NCMA National Concrete Masonry Association, Herndon V A.  
NEBB National Environmental Balancing Bureau, Vienna VA.  
NEC National Electrical Code.  
NEMA National Electrical, manufacturer Association, Washington, DC.  
NFPA National Fire Protection Association, Quincy MA.  
NLMA National Lumber Manufacturers Association.  
NRCA National Roofing Contractors Association.  
NSF National Sanitation Foundation.  
NTMA . National Terrazzo and Mosaic Association, Des Plaines IL.  
NWMA National Woodwork Manufacturers Association, Park Ridge IL.

ORS/DSA Office of Regulatory Services, Division of the State Architect.

PCA Portland Cement Association, Skokie IL.  
PCI Prestressed Concrete Institute, Chicago IL.  
PDCA Painting and Decorating Contractors of America.  
PPI Plastics Pipe Institute.  
PS Product Standard, US Department of Commerce, Washington, DC.

RCRBJ Research Council of Riveted and Bolted Joints.  
RIS Redwood Inspection Service, San Francisco CA.  
RCSHSB Red Cedar Shingle and Handsplit Shake Bureau, Bellevue WA.

SCAQMD South Coast Air Quality Management District, Los Angeles CA.  
SDI Steel Deck Institute, Canton OR.  
SDI Steel Door Institute, Cleveland OR.  
SFPA Southern Pine Forest Products Association.  
SIGMA Sealed Insulating Glass Manufacturers Association, Chicago IL.  
SJI Steel Joist Institute, Myrtle Beach SC.  
SMACNA Sheet Metal and Air Conditioning Contractors National Association, Vienna VA.  
SPIB Southern Pine Inspection Bureau.  
SSPC Steel Structures Painting Council, Pittsburgh P A.  
SSPWC Standard Specifications for Public Works Construction.  
SWRI Sealant, Waterproofing and Restoration Institute.

TCA Tile Council of America, Princeton NJ.

UL Underwriters Laboratories, Northbrook IL.

WCLIB West Coast Lumber Inspection Bureau, Portland OR.  
WHI Warnock Hersey International.  
WIC Woodwork Institute of California, Fresno CA.  
WWPA Western Wood Products Association, Portland OR.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**END OF SECTION**

## SECTION 01 30 00

### ADMINISTRATIVE REQUIREMENTS

#### COLLABORATION SOFTWARE

##### 1. SUMMARY

- a. CONTRACTOR will utilize the OWNER construction project management collaboration software - Procore ([www.procore.com](http://www.procore.com)) to submit, track, distribute and collaborate on project documentation and action items.
- b. The intent of utilizing a web based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.

##### 2. SOFTWARE CAPABILITIES (including but not limited to)

- a. Daily Log
  - i. Provide daily log entry from web and mobile with automatic capture of daily weather conditions.
  - ii. Provide ability to attach photographs to entries directly from mobile.
  - iii. Provide reporting capabilities to easily report on man-hours and activities for a certain time frame and contractor.
- b. Dashboards
  - i. Provide a dashboard that shows the status of all currently assigned items with drill down capability to see the subject, assignee and due date of each item.
- c. Deficiency Tracking
  - i. Provide a means for recording, assigning and confirming completion of any deficiency or observation noted during the course of construction. Must be accessible from web and mobile.
- d. Directory
  - i. Provide a directory of all team member's contact information that is accessible from web and mobile.
- e. Documents
  - i. Provide a storage location for miscellaneous project documents with the ability to have a folder hierarchy and privacy settings on folders.
  - ii. There should not be a storage limit.
  - iii. Provide download tracking.
  - iv. Provide the ability to revision and check out files, with access to all previous revisions.
- f. Drawings
  - i. Provide access to a system maintained current set of drawings on web and mobile, with access to all previous revisions as well.
  - ii. Provide automatic hyperlinking capability for detail callouts.
  - iii. Provide drawing markup capabilities on web and mobile.



- iv. Provide ability to link RFIs, Submittals, Punchlist Items, Photos and Project Documents to the drawings.
  - v. Drawing Markups should be carried forward when new revisions are uploaded.
  - vi. Markups and linked documentation should be able to be public or private.
- g. Financial Management
  - i. Provide ability to manage contracts, payment applications and change orders through the software.
  - ii. Provide ability to view contracts and change orders from web and mobile.
- h. Inspections
  - i. Provide ability to create inspections from web and mobile.
  - ii. Provide ability to create a deficiency item from an inspection that can be assigned and tracked to completion.
- i. Meetings
  - i. Provide ability to create, edit and view meeting minutes from web and mobile.
  - ii. Provide ability to create action items with assignees and due dates from a meeting item.
- j. Mobile Accessibility
  - i. Provide native mobile applications for iOS and Android phones at a minimum that provide access to relevant project documentation, including as-built versions of Drawings and Specifications, even when there is no internet access.
- k. Photos
  - i. Provide ability to upload and view photos from web and mobile.
  - ii. Provide ability to markup photos from mobile to clarify anything important in the photo.
  - iii. Provide ability to link photos to specific locations on drawings.
- l. Punchlist
  - i. Provide ability to create punchlist items from web and mobile and link them to specific locations on the drawings.
  - ii. Provide ability to distribute punchlist items to all contractors, for contractors to mark them as resolved with photographic proof of resolution via mobile, and for the items to be marked as complete via mobile or web. .
- m. Requests for Information (RFIs)
  - i. Provide ability to create RFIs with assignees, due dates and attachments.
  - ii. Provide ability for assignees to respond to RFIs both via the software and by responding to the system generated email.
  - iii. Provide an auto-generated log of all RFIs.
- n. Schedule
  - i. Provide ability to display schedules from typical scheduling software such as Microsoft Project, Primavera P3, Primavera P6 or Asta Powerproject.
- o. Specifications

- i. Provide ability to upload project specifications and manage them at the individual specification level.
- ii. Provide ability to view and search specifications on web and mobile.
- iii. Provide ability to upload revisions to individual specifications and maintain all revision history.
- iv. Provide an auto-generated current specification log that provides access to the current version of each specification.
- v. Provide ability to link specifications to submittals and view the specification from the submittal.

p. Submittals

- i. Provide ability to upload a submittal register of all expected submittals.
- ii. Provide ability to create multi-step approval workflows for submittals, with reminder notifications for the current assignee.
- iii. Provide the ability to upload any file type without size restrictions.
- iv. Provide an auto-generated submittal log.

### 3. TECHNOLOGY

- a. Fully web based with mobile apps for Windows, iOS and Android phones.
- b. Accessible without logging in through a virtual private network (VPN).
- c. Works on the current version of Internet Explorer, Google Chrome, Mozilla Firefox and Apple Safari browsers.
- d. Can generate emails automatically, and all attachments are included in the emails via download links to avoid emails not being delivered due to size.
- e. PDF output of forms such as RFIs, Submittals, Meetings, Change Orders, etc. should be available and customizable.

### 4. TRAINING AND SUPPORT

- a. OWNER/PROCORE must provide support to all parties via email, phone and live chat at no additional charge.
- b. OWNER/PROCORE must provide training in the form of self-paced learning videos as well as interactive webinars.
- c. The contractor shall hold a kickoff meeting with the Owner and applicable consultants at the beginning of the project to discuss how the software will be used, routing & naming protocols, etc.

### 5. PROCEDURES

a. RFIs and Submittals

- i. The Contractor will be responsible for submitting all RFIs and Submittals through the software and assigning them to the appropriate parties.
- ii. Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the software, including all relevant attachments.
- iii. The Contractor will distribute responses to all affected subcontractors and confirm agreement with the response by closing the item.

b. Construction Documentation

- i. The Contractor will manage Drawings, Specifications and Documents in the software to ensure that the current version of all applicable construction documentation is available to the entire team via web and mobile.
  - ii. The Contractor will ensure that all RFIs which modify the current drawings are posted to the drawings and available via web and mobile within 24 hours of the RFI being responded to.
- c. Contractor will record and distribute meeting minutes and action items via the software.
- d. Contractor will take daily site photos and make them publicly available.
- e. Punchlist
  - i. All punchlist items will be managed through the software.
  - ii. Punchlist items will be created by the Contractor while walking with the Owner and applicable consultants.
  - iii. It will be at the Owner's discretion whether or not Punchlist Items can be closed while a representative from the Owner or applicable consultant is not present.
- f. General
  - i. The Contractor will utilize the software for at least all functions identified in "Section 2 – Software Capabilities."

## 6. PRICING

- a. The cost of Procore Technologies services has been paid in full by the Owner.
- b. The software must allow for unlimited users to ensure that all parties have access to the system.

## SECTION 01310

### CONTRACTOR'S CONSTRUCTION SCHEDULES

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of the Work: Contractor's Construction Schedule. See General Conditions for further requirements.
- B. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
  - 1. Development of the baseline schedule, and the schedule update submittal shall employ computerized Critical Path Method (CPM) scheduling.
  - 2. Submit schedules and reports as specified in PART 3 – EXECUTION.

##### 1.02 DEFINITIONS

- A. An "activity" is an operation or process that requires the consumption of time and resources and identified for planning, scheduling, monitoring, and controlling the project.
  - 1. A "critical activity" is an activity that must finish on time for the entire project to finish on time. A series of critical activities make up the project's critical path.
  - 2. A "predecessor activity" is an activity that must be completed before it's successor activity can be started.
- B. "Critical Path" means the continuous chain of critical activities that cannot be delayed without delaying substantial completion of the entire project beyond the completion time.
- C. An "event" is the starting or ending point of an activity.
- D. The 'Project Float' is the time between the scheduled completion of the work and contract substantial completion. Project float is a resource available to both OWNER and the Contractor.
  - 1. Float Ownership: Neither OWNER nor Contractor owns float. The project owns the float. As such, liability for delay of the substantial completion date rests with the party whose actions, last in time, actually cause delay to the substantial completion date.
    - a. For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the substantial completion date.
    - b. Party A would not be responsible for the time since it did not consume all of the float and additional float remained; therefore, the substantial completion date was unaffected.
- E. Construction schedule baseline is the basis of the original project execution plan, and incorporates planned production rates, work calendars, logic ties, and activity durations to meet contract requirements.

- F. Construction schedule update is focused on status of the project, reflecting actual progress to date.
- G. As-built schedule is the historical project record showing actual start and finish dates for work performed.

## **PART 2 – QUALIFICATIONS**

- A. Contractor shall employ experienced scheduling personnel qualified to use Oracle® Primavera P6<sup>SM</sup> scheduling software release 18.8 and later. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose. Upon receiving the notice of award, the Contractor shall provide OWNER a written verification that Contractor has the required personnel under its employ or that Contractor will employ the required CPM consultant.
  - 1. The written statement shall identify individual who will perform CPM scheduling.
  - 2. Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
  - 3. Required level of experience shall include at least two projects of similar nature, scope, and value. The written statement shall provide contact persons for referenced projects with current contact information.
- B. OWNER reserves the right to approve Contractor's scheduler or consultant and right to reject them at any time. OWNER also reserves right to refuse replacement of Contractor's scheduler or consultant if it believes such replacement will negatively affect contract.

## **PART 3 – EXECUTION**

### **3.01 CONSTRUCTION SCHEDULE BASELINE REQUIREMENTS**

- A. Contractor shall submit a construction schedule baseline, **no later than 5 days after** Contractor receives the Notice of Award.
- B. The baseline schedule submittal shall include the following components:
  - 1. A written narrative including an overview of the Contractor's general workplan for the project.
  - 2. A complete electronic copy of the baseline schedule. This file should be in the .xer format produced by Oracle® Primavera P6<sup>SM</sup> scheduling software release 18.8 or later.
  - 3. Printed reports as specified in PART 3 – EXECUTION. These printed reports must reflect the calculated dates in the electronic schedule.
  - 4. Graphics as specified in PART 3 – EXECUTION.
  - 5. The weather calendars method to account for adverse weather. The Contractor shall use the industry practice 'Use of Weather Calendars' outlined in 'RP\_84r-13 Planning and Accounting for Adverse Weather' publication by AACE Int. The Contractor shall be responsible for all costs associated with the preparation and implementation of the weather calendars. Contractor shall be required to comply with the requirements of Paragraph 3.03.C.6.a for delays due to adverse weather.

C. Contractor shall submit its proposed Construction Schedule baseline to Construction Manager:

1. Contractor shall submit electronic copies of the required reports and a copy of the schedule's native electronic backup .xer file free of common data corruptions, such as public operational breakdown structure (POBS) records.
2. The Construction Schedule shall be submitted in graphic form:
  - a. Use a bar chart type format with the schedule organized by area, floor, start and finish dates. Planning unit: calendar day.
  - b. Identify all activities required to complete the Work: list the activity by ID Code identifying who is performing the work, the description and sequence requirements, the original duration, remaining duration, the anticipated and actual start and end dates, and total Float if any.
    - (1) Construction activities shall not be scheduled on an OWNER holiday without prior authorization. Submit with the schedule a list of anticipated non-Workdays, such as weekends and holidays.
    - (2) Provide sequencing and coordination for work to be performed by sub-trade and under separate contracts.
      - (a) Provide daily resource allocation for each trade.
      - (b) Provide exact activity location for scheduled work.
    - (3) Include Contractor and OWNER procurement activities for long lead items and major items, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, delivery, and installation.
    - (4) Include coordinated review and re-submittal times in each schedule.
    - (5) No activity on schedule shall have duration longer than fifteen (15) days, with exception of submittal, approval, fabrication, and procurement activities, unless otherwise approved by OWNER.
    - (6) Activity durations shall be in **Calendar** days.
    - (7) Identify the activities which constitute the critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to ten (10) days.
    - (8) Include only constraints and work restrictions indicated in the Contract Documents and as follows:
      - (a) Arrange list of activities in the schedule by phase.
      - (b) Include a separate activity for each portion of the Work performed by OWNER.
      - (c) Include a separate activity for each product indicated in Division 1, Specification Section 01010. Include delivery

dates.

(d) Show the effect of the following items on the schedule: coordination with existing construction, seasonal variations, and environmental control.

(e) Identify the responsible party of each activity.

(f) Note that negative float is not permitted in baseline schedule.

c. Include the commencement date in the Notice to Proceed, date of Substantial Completion, Final Closeout, test and inspection dates, submittal deadlines, and all other critical path dates.

(1) Indicate time for Architect's administrative procedures necessary for certification of Substantial Completion.

(2) If applicable, include **not less than 10 days** for startup and testing.

(3) Include **not less than 10 days** for commissioning, if applicable.

d. Contractor shall supplement its proposed Construction Schedule Baseline with reports, as necessary. Each report shall have a narrative with a revised progress analysis including a description of problem areas, any current and anticipated delays, an explanation of corrective action taken and any proposed adjustments and revisions for a recovery plan. Discuss constraints, including phasing, sequencing, and milestones.

D. Construction Schedule Baseline Approval:

1. **Within 7 days** of receipt of the Construction Schedule Baseline, Construction Manager shall review the schedule and either accept it or return it to Contractor with comments and suggested changes and revisions.
2. **Within 7 days** after receipt of Construction Manager's comments, Contractor shall resubmit its Construction Schedule Baseline after incorporating necessary changes and revisions.
3. **Within 7 days** after receipt of the resubmitted Construction Schedule Baseline, Construction Manager will either reject or accept the schedule as the Construction Schedule Baseline. If accepted, the Construction Schedule Baseline shall be used to monitor the Work and compare the original planned dates, duration, and logic sequence against the actual as-built progress. If rejected, Contractor shall resubmit its revised Construction Schedule Baseline the next business day until accepted.

### 3.02 THREE-WEEK LOOK AHEAD SCHEDULE

- A. At the Weekly Progress Meeting, the Contractor shall provide and present a time scaled three-week look ahead schedule that is based and correlated by activity number to the current schedule (i.e. schedule baseline or schedule update).

### 3.03 UPDATING THE CONSTRUCTION SCHEDULE

- A. Contractor shall establish procedures for monitoring and monthly updating the Construction Schedule and for reporting progress.
- B. The schedule update submittal shall include the following components:
1. A written narrative focused on changes made to the schedule since the last accepted schedule update. If no accepted schedule updates exist, then the review should focus on the changes made since the accepted baseline schedule.
  2. A complete electronic copy of the schedule update. This file should be in the .xer format produced by Oracle® Primavera P6<sup>SM</sup> scheduling software release 18.8 or later.
  3. Printed reports as specified in PART 3 – EXECUTION. These printed reports must reflect the calculated dates in the electronic schedule.
  4. Graphics as specified in PART 3 – EXECUTION.
- C. Updating the Construction Schedule as the Work Progresses:
1. Contractor shall submit an updated Construction Schedule **7 days** before submitting its Application for Payment.
    - a. No Application for Payment will be processed nor shall any payments become due until the updated Construction Schedule is accepted by Construction Manager.
  2. The updated Construction Schedule shall include:
    - a. Actual start and finish dates for all completed activities. These completed activities shall accurately reflect 'as-built' information by indicating when activities were actually started and completed.
    - b. Actual start dates and Contractor's estimated percentage complete for each activity in progress.
    - c. Show the current schedule and any adjustments or recovery plan due to stormy or increment weather, or any other delays or unforeseeable events.
    - d. All changes mutually agreed upon by Contractor and OWNER, and all changes resulting from Change Orders.
    - e. All pending Change Orders.
  3. Contractor shall supplement its approved Construction Schedule with reports, as necessary using the same format specified in 3.01.C.2. above.
  4. Contractor may submit a request for an adjustment to the Completion Time. Such request shall be accompanied by a complete time impact analysis (TIA or "fragnet") for review by Construction Manager.
    - a. Each TIA documentation shall:
      - (1) Provide information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay.



- (2) Be in form and content acceptable to the Construction Manager, and shall include, but not be limited to, the following:
  - (a) Illustrate how Contractor proposes to incorporate the change or alleged delay into the current Construction Schedule.
  - (b) Identify activities proposed to be amended due to the change or alleged delay, together with engineering estimates and other appropriate data justifying the proposal.
  - (c) Include event time computations for all affected activities - demonstrate the time impact upon the overall Project and the time for completion.
- b. When OWNER initiates changes by proposed change order which have the potential to impact stipulated contract completion dates for each phase, Contractor shall prepare a TIA to reflect such changes.
- c. Contractor shall be required to comply with the requirements of Paragraph 3.03.C.5 for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- d. Contractor shall be responsible for all costs associated with the preparation of TIA documents, and the process of incorporating them into the current schedule update. The Contractor shall provide OWNER with 4 copies of each TIA.
- c. Once agreement has been reached on a TIA, the Completion Times will be adjusted accordingly. If agreement is not reached on a TIA, the Completion Times may be extended in an amount OWNER allows, and the Contractor may submit a claim for additional time claimed by contractor.
- 5. If Contractor is **behind schedule five (5) days** beyond the Contract Substantial Completion date, or individual milestone completion dates, the Contractor shall submit to Construction Manager a proposed recovery plan **no later than one (1) day** after notice of such delay.
  - a. The recovery plan shall show how Contractor intends to complete the Work as scheduled. If the proposed revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.
  - b. The recovery plan shall include a written narrative of each revision made to recapture the lost time without additional cost to OWNER to regain schedule compliance. The recovery plan activities shall be identified according to their relationship to activities on the accepted schedule.
  - c. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by OWNER.
  - d. If the Contractor's revision is not accepted by OWNER, and the Contractor disagrees with OWNER's position, the Contractor has seven (7) days from receipt of OWNER's letter rejecting the revision, to provide a written narrative providing full justification and explanation for the revision. The Contractor's

failure to respond in writing within seven (7) days of OWNER's written rejection of a schedule revision shall be contractually interpreted as acceptance of OWNER's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding City's position.

6. Adverse Weather:

- a. The Completion Time shall be extended for a delay due to a day(s) adverse weather if and only if Contractor files a Change Order Request establishing all of the following:
  1. the day was a day on which, as a result of adverse weather, no Critical Path work could be performed by Contractor;
  2. the day was identified on the Construction Schedule as a scheduled work day;
  3. the Contractor employed all reasonable mitigation measures to enable the Work to continue on the day;
  4. Contractor complies with all requirements in the General Conditions paragraph 8.4.3.
- b. If the Contractor fails to submit a claim and documentation within the specified time per General Conditions paragraph 8.4.3, the adverse weather shall be deemed not to have caused a delay in the construction.

D. Review and Approval:

1. A meeting will be held on approximately the twenty-first (21<sup>st</sup>) of each month to review the schedule update submittal and progress payment application.
  - a. At this meeting, at a minimum the following items will be reviewed: Percent complete of each activity; Time impact evaluations for Change Orders and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated contractor delays.
  - b. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
  - c. Contractor shall plan on the meeting taking no less than four (4) hours.
2. Within five (5) days after monthly schedule update meeting, Contractor shall submit the updated CPM schedule update.
3. Construction Manager shall determine acceptability of the updated Construction Schedule **within 7 days** after its receipt. Construction Manager shall determine whether the alleged delay is excusable.
  - a. If accepted, percent complete shown in monthly update will be basis for Application for payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.

- b. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- 4. The accepted, updated Construction Schedule shall be the record for the period it is current.
- 5. If Contractor disputes the determination of the Construction Manager regarding the status on delay, such dispute shall not relieve him/her of the responsibility to comply with the requirements of this Section and other related Sections until the dispute is resolved per the Contract.

**END OF SECTION**

## **SECTION 01340**

### **SUBMITTALS**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

- A. This Section supplements the Submittal requirements in the General Conditions, Supplementary General Conditions, and Special Conditions.

##### **1.02 SUBMITTALS**

- A. Cost Breakdown (or Schedule of Values)
- B. Contractor's Construction Schedule, Traffic Management, Logistics and Safety Plans
- C. Shop Drawings, Product Data, and Samples, Installation Certifications
- D. Concrete Mix Designs, Load Tickets, Portland Cement Mill Certificates, and Product Data
- E. Substitution Requests
- F. Daily Construction Reports
- G. Test Reports
- H. Certificates of Compliance
- I. Application for Payments
- J. Insurance Certificates
- K. O&M Manuals
- L. Record Documents
- M. Warranties and Guarantees

##### **1.03 PROCEDURES**

- A. Submittals shall be in English.
- B. Fabrication or other work performed in advance of the receipt of accepted submittals shall be entirely at the Contractor's risk and expense.
- C. The Construction Manager reserves the right to withhold action on a submittal requiring coordination with other submittals until such other submittals are received by the Construction Manager.
- D. Coordination and Submittals: carefully review and coordinate all aspects of each item being submitted.
- E. The Contractor shall be responsible for delivering reviewed copies of shop drawings to all others whose work is dependent thereon.
- F. The Contractor shall maintain at the site of the Project, at all times, a complete file of approved shop drawings and manufacturer's data for this Project.

##### **1.04 PROCESS**

- A. Contractor is required to review and approve every submittal and shop drawing prior to transmittal and delivery to Architect. Should Contractor determine a submittal contains errors, or does not meet the requirements of the contract, Contractor shall immediately return the submittals and shop drawings to the producer and expedite the corrections prior to transmitting the submittal to Architect. Submittals shall not be used by Contractor

to request clarifications or submit questions. Contractor will affix stamp to each submittal certifying Contractor has performed, at minimum, the following:

1. Verified the submittal is complete in all respects and follows the requirements of the Contract Documents without variance.
  2. Confirmed that no substitutions have been included. If substitutions are included, Contractor shall eliminate them from the submittal and process them in accordance with the General Conditions.
  3. Identified any variances from the requirements of the Contract Documents and confirmed that the identified variance meets but does not exceed the allowable limitations or tolerances as defined in these specifications.
  4. Verified that all submitted materials, dimensions and tolerances are compatible with existing or planned conditions of the Work in order to erect, fabricate, or install the submitted assembly in conformance with the requirements of the Contract Documents.
  5. Coordinated and verified that the dimensions match Contractor measured field or installation conditions.
  6. Coordinated and verified that the products of separate manufacturers required within any field produced assembly are compatible in all respects for such assembly.
  7. Packaged together all related submittals or shop drawings where such is necessary for a comprehensive Architect review.
- B. Contractor shall package each submittal appropriately for transmittal and handling. Transmittal format shall be as required by OWNER. Contractor shall transmit and deliver six sets of each submittal or re-submittal to Architect, two of which shall be returned to Contractor. Some specifications may require additional copies be provided. Contractor shall provide the OWNER additional copies as specified or as requested by OWNER. Architect will not accept submittals received from sources other than from Contractor.
- C. After Architect's review, Architect will transmit submittals to OWNER and OWNER shall further distribute to Contractor, Inspector and others as required. Work shall not commence, unless otherwise approved by OWNER, until approved submittals are transmitted to Contractor.
- D. Contractor shall clearly identify any deviations from the Contract Documents on each submittal. Any deviation not so noted even though stamped reviewed is not acceptable.
- E. Contractor shall coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities requiring sequential activity.
- F. Timing of Submittals:
1. In accordance with General Conditions, Contractor shall submit to Architect, with copy of transmittal to the OWNER, those Shop Drawings, Product Data, diagrams, materials lists, Samples and other submittals required by the Contract Documents.
  2. The scheduling of submittals shall be sequenced to support the progress of the Work, and shall be:
    - a. Submitted sufficiently in advance of construction, fabrication or installation in order to allow time for transmittal, review, modification, correction, (and resubmission and re-review when required.)
    - b. Phased with adequate time between submittals in order to allow for proper review by the Architect without negative impact to the Milestones Schedule.
  3. Contractor shall coordinate submittal of related items and Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received by Architect.
  4. Contractor shall revise, update and submit submittal schedule to Architect and

OWNER on the first of each month, or as required by OWNER.

5. Contractor shall allow in the Construction Schedule, at least five days for Architect review following Architect receipt of submittal. For mechanical, plumbing, electrical, low voltage, fire sprinklers, door and hardware, and other submittals requiring joint review with OWNER, Contractor shall allow a minimum of ten days following Architect receipt of submittal. Deferred approval items shall be allowed additional time for DSA review.
6. No adjustments to the Contract Time or Milestones will be authorized because of a failure to transmit submittals to Architect sufficiently in advance of the Work to permit review and processing or where Contractor fails to provide Architect submittals on related items.
7. In case of product substitution, Shop Drawing preparation shall not commence until such time as OWNER accepts or rejects the proposed substitution in accordance with the procedures described in the General Conditions.
- G. If required, resubmit submittals in a timely manner. Resubmit as specified for initial submittal but identify as such. Review times for re-submitted items shall be as per the time frames for initial submittal review.
- H. Shop Drawing preparation shall not commence until such time as Contractor receives Product Data acceptance.
- I. Architect will stamp each submittal with a uniform, action stamp. Architect will mark the stamp appropriately to indicate the action taken, as follows:
  1. APPROVED WITH NO EXCEPTIONS: When Architect marks a submittal with this stamp, the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  2. APPROVED AS NOTED - PROCEED CONDITIONALLY: When Architect, or authorized agent, marks a submittal "... as Noted," the Work covered by the submittal may proceed on the condition it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
  3. REJECTED – RESUBMIT – DO NOT PROCEED: When Architect, or authorized agent, marks a submittal "Rejected - Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat as necessary to obtain different action mark. In case of multiple submittals covering same items of Work, Contractor is responsible for any time delays, schedule disruptions, out of sequence Work, or additional costs due to multiple submissions of the same submittal item. Do not use, or allow others to use, submittals marked "Rejected - Resubmit" at the Project site or elsewhere where Work is in progress.
  4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, Architect, or authorized agent, will return the submittal marked "Action Not Required".

#### **1.05 SHOP DRAWINGS**

- A. Shop Drawings are original drawings prepared by Contractor, Sub-Contractor, supplier, or distributor illustrating some portion of Work by showing fabrication, layout, setting, or erection and shall not be based on reproduced Contract Documents or copied standard information.
- B. Produce Shop Drawings to an accurate scale that is large enough to indicate all pertinent features and methods. Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches.

- C. Shop Drawings shall include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:
  - 1. Dimensions.
  - 2. Identification of products and materials included by sheet and detail number.
  - 3. Compliance with specified standards.
  - 4. Notation of coordination requirements.
  - 5. Notation of dimensions established by field measurement.
- D. Provide a space of approximately 4 by 5 inches on the label or beside the title block on Shop Drawings to record Contractor and Architect review, and the action taken. Include the following information on the label for processing and recording action taken:
  - 1. Project name.
  - 2. Date.
  - 3. Name and address of Architect.
  - 4. Name and address of Contractor.
  - 5. Name and address of SubContractor.
  - 6. Name and address of supplier.
  - 7. Name and address of manufacturer.
  - 8. Name and title of appropriate Specification section.
  - 9. Drawing number and detail references, as appropriate.
- E. Unless otherwise agreed to or indicated in individual Specification sections, submit a sufficient number of sets to allow for adequate distribution to Contractor, Sub-Contractor, supplier, manufacturer and fabricators plus four (4) sets (two sets to be retained by Architect, one set to the Inspector and one set to OWNER).

#### **1.06 PRODUCT DATA**

- A. Collect Product Data into a single submittal for each element of Work or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, wiring diagrams, schedules, illustrations, or performance curves.
  - 1. Mark each copy to show or delineate pertinent materials, products, models, applicable choices, or options. Where Product Data includes information on several products that are not required, clearly mark copies to indicate the applicable information. Include the following information:
    - a. Manufacturer's printed recommendations.
    - b. Compliance with trade association standards.
    - c. Compliance with recognized testing agency standards.
    - d. Application of testing agency labels and seals.
    - e. Notation of dimensions verified by field measurement.

- f. Notation of coordination requirements.
  - g. Notation of dimensions and required clearances.
  - h. Indicate performance characteristics and capacities.
  - i. Indicate wiring diagrams and controls.
2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed by Contractor.
- C. Required Copies and Distribution: Same as denoted in Article 3.02.E.

## **1.07 SAMPLES**

### **A. Procedure:**

1. Submit Samples of sufficient size, quantity, cured and finished and physically identical to the proposed product or material. Samples include partial or full sections or range of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches denoting color, texture, and/or pattern.
    - a. Mount or display Samples in the manner to facilitate review of qualities indicated. Include the following:
      - 1) Specification section number and reference.
      - 2) Generic description of the Sample.
      - 3) Sampling source.
      - 4) Product name or name of manufacturer.
      - 5) Compliance with recognized standards.
      - 6) Availability and delivery time.
  2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
    - a. Where variations in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show the approximate limits of the variations.
    - b. Refer to other Specification sections for requirements for Samples that illustrate materials, fabrication techniques, assembly details, connections, operation, and similar construction characteristics.
    - c. Refer to other sections for Samples to be returned to Contractor for incorporation into the Work. Such Samples must be undamaged at time of installation. On the transmittal indicate special requests regarding disposition of Sample submittals.
    - d. Samples not incorporated into the Work, or otherwise not designated as OWNER property, remain the property of Contractor and shall be removed from the Project site prior to Substantial Completion.
  3. Color and Pattern: Whenever a choice of color or pattern is available in a specified product, submit accurate color chips and pattern charts to OWNER for review and selection.
  4. Number Required: Submit six, minimum, of each. Two will be returned to Contractor.
- B. When specified, erect field Samples and mock-ups at the Project site to illustrate products, materials, fabrications, or execution and to establish standards by which completed Work shall be judged.



- C. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of the Work. Sample sets may be used to obtain final acceptance of the Work associated with each set.

#### **1.08 QUALITY CONTROL SUBMITTALS**

- A. Submit quality control submittals, including design data, certifications, manufacturer's field reports, and other quality control submittals as required under other sections of the Contract Documents.
- B. When other sections of the Contract Documents require manufacturer's certification of a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
- C. Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the represented company.
- D. Requirements for submittal of inspection and test reports are specified in other sections of the Contract Documents.

### **PART 2 – PRODUCTS**

Not Used.

### **PART 3 – EXECUTION**

#### **3.01 DAILY CONSTRUCTION REPORTS**

- A. Prepare a Daily Construction Report, recording the following information concerning events at the job-site on a daily basis:
  - 1. List of SubContractors at the job-site.
  - 2. Approximate count of personnel at the site.
  - 3. High and low temperatures, general weather conditions.
  - 4. Work completed.
  - 5. Accidents and unusual events.
  - 6. Meetings and significant decisions.
  - 7. Stoppages, delays, shortages, losses.
  - 8. Meter readings and similar readings.
  - 9. Emergency procedures.
  - 10. Orders and requests of governing authorities.
  - 11. Change Orders/CCDs received, implemented.
  - 12. Services connected, disconnected.
  - 13. Equipment or system tests and start-ups.
  - 14. Authorized partial completions/occupancies and/or substantial completions.

#### **3.02 O & M MANUALS**

- A. Refer to Specification Section 01730.

**END OF SECTION**

## **SECTION 01400**

### **QUALITY CONTROL**

#### **PART 1 - GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes:
  - 1. Quality assurance and control of installation.
  - 2. References
  - 3. Project Inspector.
  - 4. Verified Reports.
  - 5. Manufacturers' field services and reports.

##### **1.02 QUALITY ASSURANCE/CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship to produce work of specified quality.
- B. Comply fully with manufacturers' instructions including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Construction Manager before proceeding. Construction Manager shall request clarification from Architect if necessary.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Where experience minimums for workmen, applicators, companies or manufacturers are required in individual sections, written certification and documentation substantiating such minimums shall be submitted and approved by Construction Manager and Architect, when requested.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

##### **1.03 REFERENCES**

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Construction Manager before proceeding. Construction Manager shall request clarification from Architect if necessary.
- D. The contractual relationship between Contractor and Owner shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

#### **1.04 PROJECT INSPECTOR**

- A. An Inspector, herein referred to as the "Project Inspector" or "Job Inspector", will be employed by the District in accordance with Part 1, Title 24, Section 4-333, California Code of Regulations.
  - 1. His duties are described in Part 1, Title 24, Section 4-342, CCR. His duties are also required and defined in Sections 39151, 39153, 81141 and 81143 of the California Education Code as they relate to schools.
- C. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Project Inspector. He shall have free access to any or all part of the work at any time.
- D. The Contractor shall furnish the Inspector information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials.
- E. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.
- F. When Project Inspector's services are required on an overtime basis, attributable to scheduling of the Work by the Contractor, payment for such services will be made by the Owner. At termination of work or Substantial Completion of project, all costs for overtime services will be deducted from Contractor's final payment (or any funds due and payable) by change order.
- G. Comply with the General Conditions.

#### **1.05 VERIFIED REPORTS**

- A. Contractor shall comply with Part 1, Title 24, Section 4-343, California Code of Regulations and issue verified reports through the Architect as required. Refer to Section 01060.

#### **1.06 MANUFACTURERS' FIELD SERVICES AND REPORTS**

- 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 of equipment and as applicable and to initiate instructions when necessary.
- B. Manufacturers Representatives shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report of observation to Architect for review.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

#### **END OF SECTION**

## **SECTION 01405**

### **TESTING AND INSPECTION**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Testing and inspection services to meet requirements of the California Building Code (CBC), Title 24, Parts 1 and 2, and as indicated on the Drawings.
- B. One or more DSA certified inspectors employed by the OWNER in accordance with the requirements of California Building Standards Administrative Code will be assigned to the Work with their duties as defined in Section 4-333(b).
- C. Tests of materials are required by a DSA certified testing agency as set forth in Section 4-335 of the California Building Standards Administrative Code.

##### **1.02 RELATED SECTIONS**

- A. Section 01030: Project Forms
- B. Section 01045: Cutting and Patching
- C. Section 01310: Contractor's Construction Schedule
- D. Section 01340: Submittals
- E. Section 01500: Construction Facilities Use of Premises and Temporary Controls
- F. Section 01600: Materials and Equipment
- G. Section 01700: Contract Closeout

#### **PART 2 – PRODUCTS (Not applicable)**

#### **PART 3 – EXECUTION**

##### **3.01 TESTS**

- A. OWNER will select an independent testing agency(s) to conduct tests, sampling, and testing of materials. Selection of material to be tested shall be by the agency and not by CONTRACTOR.
- B. Any material shipped from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from the IOR that such testing and inspection is not required, shall not be incorporated into the Work.
- C. OWNER will select and directly reimburse testing agency the costs for all DSA and/or DSA required tests and inspections, but may be reimbursed by CONTRACTOR for such costs as noted in related sections of the Contract Documents. If any material test fails, CONTRACTOR will pay for all retests.
- D. The independent testing agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work. The agency shall not perform any duties of CONTRACTOR.
- E. CONTRACTOR shall provide an insulated curing box with the capacity for eighteen (18) concrete cylinders and will relocate said box and cylinders as rapidly as required in order to provide for progress of the Work.

- D. Storefront or curtainwalls- if storefronts or curtainwalls are a part of the project scope of work, one time testing and inspections will be paid by the District, unless there is scope change requested by the OWNER requiring additional testing. If any material or system test fails, CONTRACTOR will pay for all retests.

### 3.02 TEST REPORTS

- A. Test reports shall include all tests performed, regardless of whether such tests indicate the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. Reports shall indicate the material or materials were sampled and tested in accordance with requirements of CBC, Title 24, Parts 1 and 2, and as specifically indicated on the Drawings. Test reports shall indicate specified design strength. They shall also definitely state whether or not material or materials tested comply with the specified requirements.
- B. One copy of the test report should be transmitted to the CONSTRUCTION MANAGER by the IOR.

### 3.03 VERIFICATION OF TEST REPORTS

- A. Each testing agency shall submit to the Division of the State Architect a verified report in duplicate covering tests which are required to be performed by that agency during progress of the Work. Such report shall be furnished each time construction on the Work is suspended, covering tests up to that time, and prior to Final Completion of the Work, covering all tests.

### 3.04 INSPECTION BY OWNER

- A. OWNER and its representatives shall at all times have access, for purpose of inspection, to all parts of the Work and to shops wherein the Work is in preparation, and CONTRACTOR shall at all times maintain proper facilities and provide safe access for such inspection.
- B. The CONSTRUCTION MANAGER and/or OWNER shall have the right to reject materials and/or workmanship deemed defective Work, and to require correction. Defective workmanship shall be corrected in a satisfactory manner and defective materials shall be removed from the premises and legally disposed of, all without charge to OWNER. If CONTRACTOR does not correct such defective Work within a reasonable time, fixed by written notice and in accordance with the terms and conditions of the Contract Documents, OWNER may correct such defective Work and proceed in accordance with related Articles of the Contract Documents.
- C. CONTRACTOR is responsible for compliance to all applicable local, state, and federal regulations regarding codes, regulations, ordinances, restrictions, and requirements.

### 3.05 INSPECTOR OF RECORD (IOR)

- A. The Inspector of Record is employed by OWNER in accordance with requirements of Title 24 of the California Code of Regulations with duties as defined therein.
- B. Inspection of Work shall not relieve CONTRACTOR from any obligation to fulfill all of the terms and conditions of the Contract Documents.
- C. CONTRACTOR shall be responsible for scheduling times of inspection, tests, sample taking, and similar activities of the Work. CONTRACTOR to give IOR at least 48 hours, advance notice of inspections and document the inspection date activity on the updated construction schedule.

### 3.06 TESTS AND INSPECTIONS

A. The following tests and inspections include but do not limit inspection of the Work and may be required by DSA, other agencies, or are required in related Sections of the Contract Documents.

B. Excavations, Foundations and Retaining Walls - CBC, Chapter 18A:

1. Inspection:

- |                                           |         |
|-------------------------------------------|---------|
| a. Inspection of Driven Pile Installation | 1704A.8 |
| b. Inspection of Caissons                 | 1704A.8 |

C. Concrete - CBC, Chapter 19A:

1. Materials:

- |                                           |                           |
|-------------------------------------------|---------------------------|
| a. Test of Materials                      | 1903A.1                   |
| b. Portland Cement Tests                  | 1903A.3, 1916A.1          |
| c. Concrete Aggregate                     | 1903A.5                   |
| d. Shotcrete Aggregate                    | 1903A.5; 1913A.1, 1913A.3 |
| e. Reinforcing Bars                       | 1907A.5.1; 1916A.2        |
| f. Prestressing Steel & Anchorage         | 1907A.5.1                 |
| g. Structural Steel, Steel Pipe or tubing | 2203A                     |
| h. Admixtures                             | 1905A.3, 2114.3           |

2. Quality:

- |                            |                                                       |
|----------------------------|-------------------------------------------------------|
| a. Proportions of Concrete | 1905A.1; 1905A.2; 1905A.3; 1905A.4; 1905A.5; 1905A.6, |
| b. Mixing and Placing      | 1905A.8; 1905A.10                                     |
| c. Concrete Testing        | 1903A                                                 |
| d. Test of Shotcrete       | 1913A; 1913A.5                                        |

3. Inspection:

- |                                           |                  |
|-------------------------------------------|------------------|
| a. Project Site Inspection                | 1905A.7          |
| b. Batch Plant or Weigh-master Inspection | 1704A.4.2        |
| c. Pre-stressed Concrete Inspection       | Table 1704A.4    |
| d. Shotcrete Inspection                   | 1916A.5; 1913A.3 |

e.	Reinforcing Bar Welding Inspection	1704A.3.1
D. Masonry - CBC, Chapter 21A:		
1. Materials:		
a.	Masonry Units	2103A.1
b.	Portland Cement	2103A.12.7
c.	Mortar & Grout Aggregates	2103A.12.3
d.	Reinforcing Bars	2103A.13
2. Quality:		
a.	Portland Cement Tests	2103A.10.7, 2105A.2.2.1.2
b.	Mortar & Grout Tests	2105A.2.2.1.4
c.	Masonry Prism Tests	2105A.2.2.2
d.	Masonry Core Tests	2105A.4
e.	Reinforcing Bars	2103A.13
3. Inspection:		
a.	Reinforced Masonry	1704A.5; Table 1704A.5.3
b.	Reinforcing Bar Welding Inspection	1704A.3.1.3
E. Steel - CBC, Chapters 17A & 22A:		
1. Materials:		
a.	Structural Steel	2202A.1
b.	Material Identification	2203A.1
2. Inspection and Tests:		
a.	Test of Structural Steel	1704A.3; Table 1704A.3
b.	Tests of High Strength Bolts, Nuts, and Washers	2212A.1
c.	Tests of End Welded Studs	2212A.2
d.	Shop Fabrication Inspection	1704A.2
e.	Welding Inspection	1704A.3.1.4
f.	High Strength Bolt Inspection	1704A.3.3

- |    |                                         |                    |
|----|-----------------------------------------|--------------------|
| g. | Steel Joist Load Tests                  | 1704A.3.2.1; 2206A |
| h. | Spray applied fire resistance materials | 1704A.12           |

END OF SECTION



## **SECTION 01410**

### **TESTING LABORATORY SERVICES**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. Regulatory requirements.
2. Selection and payment.
3. Laboratory responsibilities.
4. Laboratory reports.
5. Limits on testing laboratory authority.
6. Contractor responsibilities.
7. Schedule of inspections and tests.
8. Expansion anchors and powder-actuated fasteners.

##### **1.02 REGULATORY REQUIREMENTS**

- A. Part 1, Title 24, Section 4-335, California Code of Regulations: Testing required by the Office of Regulatory Services, Division of the State Architect (ORS/DSA).
- B. Part 2, Title 24, California Code of Regulations (1997 UBC and 1998 California Amendments): Inspections, testing and approvals required by individual sections therein.
- C. Refer to Specification Section 01060 and General Conditions 13.5.

##### **1.03 SELECTION AND PAYMENT**

- A. OWNER will employ and pay for services of an independent Testing Laboratory approved by the Architect and the ORS/DSA to perform inspection and testing in accordance with Part 1, Title 24, Section 4-335, California Code of Regulations.
1. In accordance with SB732 dated July 1, 1992, when hazardous materials abatement measures are included in the work, OWNER will employ and pay for the services of an independent testing laboratory, licensed and certified by the State, to conduct clearance and air sampling tests.
- B. When materials tested fail to meet requirements herein specified, they shall be promptly corrected or removed and replaced and re-tested in a manner required by the Architect. If any material test should fail, CONTRACTOR will pay for all retests.
- C. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with the Contract Documents.
- D. Costs of Testing Laboratory's services shall be paid per the General Conditions 8.2.4, 13.5.2, 13.5.5, 13.5.6, and 13.5.7.
1. Off-site tests: See General Conditions 13.5.2 and 13.5.4.
  2. Overtime: See General Conditions 13.5.2.
  3. Re-tests: See General Conditions 13.5.6.

##### **1.04 LABORATORY RESPONSIBILITIES**

- A. Laboratory shall be licensed to conduct testing and inspection operations in California. It shall be supervised by a State Licensed Civil Engineer who shall certify and sign all reports.

- B. Provide qualified personnel at site. Cooperate with Architect, Project Inspector, and Contractor in performance of services.
- C. Perform specified inspection, sampling, and testing of Products in accordance with standards specified herein.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Architect, Project Inspector, and Contractor by letter of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Architect or Governing Agencies.
- G. Immediately upon Testing Laboratory determination of a test failure, the laboratory shall telephone the test results to Architect. On the same day, laboratory shall send written test results to those named on the distribution list below.

#### **1.05 LABORATORY REPORTS**

- A. After each inspection and test, promptly submit six (6) copies of the laboratory report to the Construction Manager for distribution to the following:
  - 1. Construction Manager.
  - 2. General Contractor.
  - 3. Architect.
  - 4. Structural Engineer.
  - 5. Mechanical and Electrical Engineers (Related Tests and Inspections).
  - 6. Project Inspector.
- B. Include:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Name of Project Inspector.
  - 4. Date and time of sampling or inspection.
  - 5. Identification of product and Specifications Section.
  - 6. Location in the Project.
  - 7. Type of inspection or test.
  - 8. Date of test and ambient conditions at time of test.
  - 9. Results of tests.
  - 10. Conformance with Contract Documents.
  - 11. Signature by Registered Professional Engineer licensed in California.
  - 12. Statement that tests were conducted in accordance with CCR, Parts 1 and 2, Title 24.
- C. Test reports shall include tests made, whether such tests indicate that the material performed satisfactorily or not. Samples taken but not tested shall be reported. Reports shall show that the materials were sampled and tested in accordance with the requirements of the approved specifications. Reports shall show the specified design strength and shall state whether or not the materials tested comply with requirements. Report special sampling operations where required.
- D. Submit a report verifying that tests and inspections herein specified and otherwise required have been completed and material and workmanship complies with the Contract Documents. Such verification reports shall be submitted at Substantial Completion of the Project and at any time the Project is suspended. Parties to receive such reports are the same as listed above.
- E. When requested by Architect, provide interpretation of test results.

## **1.06 LIMITS ON TESTING LABORATORY AUTHORITY**

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

## **1.07 CONTRACTOR RESPONSIBILITIES**

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to be used which require testing.
- B. Cooperate with laboratory personnel, Construction Manager, Project Inspector, and the Architect, and provide access to the Work including weekends and after work hours and to Manufacturers' facility.
- C. Provide incidental labor materials and facilities to provide at all times, safe access to Work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. Send written notice to Construction Manager and Project Inspector per General Conditions 13.5.3.
  - 1. Notify Architect, Project Inspector and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.
  - 2. Notify OWNER in advance of manufacturer of materials to allow testing at source of supply.
- E. When changes of construction schedule are necessary during construction, coordinate such changes with the Testing Laboratory as required.
- F. There maybe additional testing indicated in the technical specifications, which the CONTRACTOR should review and be aware of. One time test and inspection costs will be by the OWNER.

## **1.08 SCHEDULE OF INSPECTIONS AND TESTS (CALIFORNIA BUILDING CODE, REFERENCED)**

### **A. MASONRY – STATE CHAPTER 21A**

- 1. Materials:
  - a. Masonry Units 2102A.2.4, 2102A.2.5, 2102A.2.6
  - b. Portland Cement, Lime 2102A.2.2
  - c. Mortar & Grout Aggregates 2102A.2.8, 2102A.2.9, 2103A.3, 2103A.4
  - d. Reinforcing Bars 21 02A.2.1.0
- 2. Masonry Quality:
  - a. Portland Cement Tests 1903A.2, 1929A.1
  - b. Mortar & Grout Tests 2105A.3.4.2
  - c. Masonry Prism Tests 2105A.3.2 2105A.3.3, 2105A.3.5.
  - d. Masonry Core Tests 2105A.3.1
  - e. Masonry Unit Tests 2105A.3.4.1, 2102A.2.5, 2102A.2.6
  - f. Reinforcing Bar Tests 1929A.2
- 3. Masonry Inspection:
  - a. Reinforced Masonry 21 05A.7

- b. Reinforcing Bar Welding Inspection 1929A.12

B. CONCRETE – STATE CHAPTER 19A

- 1. Materials:
  - a. Portland Cement Tests 1929A.1
  - b. Concrete Aggregates 1903A.3
  - c. Reinforcing Bars 1903A.5 1929A.2
  - d. Batch Plant Inspection 1929A.4
  - e. Waiver of Batch Plant Inspection & Tests 1929A.6
- 2. Concrete Quality:
  - a. Proportions of Concrete 1905A.2
  - b. Strength Tests of Concrete 1905A.6
  - c. Rebar 1 929A.2
  - d. Splitting Tensile Tests 1903A.8.6
- 3. Concrete Inspection:
  - a. Jobsite Inspection 1929A
  - b. Batch Plant or Weighmaster Inspection 1929A.4, 1929A.5
  - c. Reinforcing Bar Welding Inspection 1929A.12

C. STEEL – STATE CHAPTER 22A

- 1. Materials:
  - a. Structural Steel, 2202A.1
  - b. Cold Formed Steel Material Identification 2202A.2
  - c. Steel Deck 2204A
- 2. Inspection and Tests of Structural Steel:
  - a. Tests of Structural & Cold Formed Steel 2231A.1
  - b. Tests of High Strength Bolts, Nuts, Washers 2231A.2
  - c. Tests of End Welded Studs 2231A.3
  - d. Shop Fabrication Inspection 2231A.4
  - e. Welding Inspection 2231A.5
  - f. Nelson Stud Welding 2231A.5
  - g. High Strength Bolt Inspections 2231A.6
  - h. Steel Joist Load Tests 2231 A. 7
  - i. Non-Destructive Weld Testing 2231A.5

D. LIGHTWEIGHT METALS – STATE CHAPTER 20A

- 1. Materials:
  - a. Alloys 2001A.2
  - b. Identification 2001A.4
- 2. Inspection:
  - a. Welding 2004A.8

E. FOUNDATIONS & RETAINING WALLS – STATE CHAPTER 18 and EXCAVATION AND GRADING – Appendix Chapter 33

- 1. Earth Fill Compaction: 3313
- 2. Inspection:
  - a. Excavation Fills for Foundations I809A.6
  - b. Grading Inspection Appendix 3317

F. EXTERIOR WALL COVERINGS – STATE CHAPTER 14A

1. Materials:
  - a. Masonry Units 2102.A.2.4
  - b. Mortar & Grout 2102A.2.8 2102A.2.9
2. Inspection:
  - a. Bond Strength and Tests 1403.A.5.6

#### 1.09 REQUIRED TESTING FOR EXPANSION ANCHORS

- A. When the design tension for expansion anchors is less than seventy-five pounds, ten percent of the total number shall be proof-tested.
- B. When the design tension is more than seventy-five pounds, fifty percent of the anchors (alternate anchors in any group arrangement) shall be proof-tested in tension to twice the allowable tension load. Expansion anchor bolts supporting diagonal bracing wires shall be proof-tested to 440 lbs. tension in the direction of pull. If any anchor fails testing, test all anchors of the same category not previously tested until twenty consecutive passes, then resume the initial testing frequency.
- C. Test Values: Conform to the following table for either hardrock or lightweight concrete:

DIA. (in.)	<u>WEDGE</u>		<u>SLEEVE</u>		<u>SHELL</u>	
	LOAD (lbs.)	TORQUE (ft.-lbs.)	LOAD (lbs.)	TORQUE (ft.-lbs.)	LOAD (lbs.)	TORQUE —
1/4	800	10	400	4	1000	—
5/16	—	—	400	5	1400	—
3/8	1100	25	700	10	1800	—
1/2	2000	50	900	20	2700	—
5/8	2300	80	1100	45	3700	—
3/4	3700	150	1400	90	5400	—
1	5800	250	—	—	—	—

1. Anchor diameter refers to the thread size for the wedge and shell categories and to the anchor outside diameter for the sleeve category.
2. Apply proof-test loads to wedge and sleeve anchors without removing the nut if possible. If not, remove nut and install a threaded coupler to the same tightness of the original nut using a torque wrench and apply load.
3. For sleeve/shell internally threaded categories, verify that the anchor is not prevented from withdrawing by a base plate or other fixtures. If restraint is found, loosen and shim, or remove fixture(s) prior to testing.
4. Reaction loads from test fixtures may be applied near the anchor being tested provided the anchor is not restrained from withdrawing by the fixture(s).
5. Shell type anchors shall be tested as follows: Visually inspect 25 percent for full expansion as evidenced by the location of the expansion plug in the anchor body. Plug location of a fully expanded anchor should be as recommended by the manufacturer, or in the absence of such recommendation, as determined on the job site following the manufacturer's installation instructions, and proof-load 5 percent as indicated in the table above, but not less than three anchors per day, for each different person or crew installing anchors, or test 50 percent of the installed anchors in accordance with CBC 1925A.3.5.
6. Test equipment shall be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

7. Torque testing may occur on an individual basis when test procedures are submitted and approved by the enforcement agency.
8. The following criteria apply for the approval of installed anchors:
  - a. Hydraulic Ram Method: The anchor shall have no observable movement at the applicable test load.
  - b. Torque Wrench Method: The applicable test torque must be reached within the following limit for wedge or sleeve type:
    - (1) One-half (1/2) turn of the nut.
    - (2) One-quarter (1/4) turn of the nut for the 3/8 inch sleeve anchor only.
9. Testing shall occur within 24 hours after installation.

#### **1.10 REQUIRED TESTING FOR POWDER ACTUATED FASTENERS**

- A. Testing: Operator, tool and fastener shall be pre-qualified by the Project Inspector.
  1. Tools shall comply with ANSI AIO.3 safety requirements for powder actuated fastening systems and to all CAL/OSHA requirements.
- B. The Project Inspector shall observe the testing of the first 10 fastener installations loaded in tension.
- C. A test pullout load of not less than twice the design load or 200 lbs, whichever is greater, shall be applied to the fastener in such a manner as not to resist the spalling tendency of concrete in which the fastener is imbedded. Thereafter, random tests under the Project Inspector's supervision shall be made of approximately 1 in 10 fasteners. The design load shall not exceed 100 lbs.
- D. Should failure occur on any fastener tested, all installations shall be tested until twenty consecutive fasteners pass, then resume the initial testing frequency.

#### **1.11 INSPECTION BY OWNER**

- A. OWNER and Construction Manager shall at all times have access for the purpose of inspection to all parts of the work and to the shops wherein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection. Contractor shall provide all labor or materials necessary for the securing of such samples or inspection.
- B. OWNER and Construction Manager shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without extra cost or time to the Contract. If the Contractor does not correct such rejected work within a reasonable time, fixed by written notice, OWNER may correct same and charge the expense to the Contractor.
- C. Should it be considered necessary or advisable by OWNER at any time before completion of the entire work to make an examination of work already completed by removing or tearing out the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any respect due to the fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01500

### CONSTRUCTION FACILITIES, USE OF PREMISES & TEMPORARY CONTROLS

#### PART ONE - GENERAL

##### 1.01 SUMMARY

A. Section Includes:

1. Use of Premises – Field Office/Trailer
2. Fencing
3. Access Routes and Keys
4. Delivery and Storage of Materials and Equipment
5. Parking and Traffic Regulations
6. Protection of Persons and Property
7. Daily Cleaning
8. Dust Control
9. Noise and Pollution Control
10. Environmental Impact Coordination

##### 1.02 USE OF PREMISES – FIELD OFFICE/TRAILER/TEMPORARY UTILITIES

- A. Related requirements: See General Conditions Article 10.
- B. As instructed by Construction Manager, Contractor shall restrict its work performance to the immediate areas on the Project Site and in no way go beyond the limits noted on the Drawings, unless otherwise directed by Construction Manager.
- C. Confine work operations to the immediate boundaries of the Project Site and execute work to minimize interference with OWNER'S operations and/or work of other contractors working on the premises as directed by OWNER.
- D. The Contractor shall provide for the use of the Inspector, Construction Manager, and other Owner representatives on the Project Site a temporary office with restroom facility of not less than 400 square feet of floor area ("Inspector and Construction Management Office") to be located as directed by the Construction Manager. Contractor to provide water, waste, power, light, telephone and data utility services to the temporary office. The Inspector's Office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows and shall be maintained until removal is ordered by the Owner or Construction Manager. Exterior doors shall have a cross-bar with keyed dead-bolt of a manufacturer approved by the Owner. Windows shall be barred, with fire safety rating. The office shall also be air conditioned and heated. The Inspector's Office shall be configured to have a minimum of two each 120 square foot private offices (with desks and chairs) and at least 160 sq. ft. conference area containing a table, satisfactory for study of Drawings, two four drawer high file cabinets and at least six chairs.
- E. Contractor shall provide portable hand washing and chemical toilet facilities. Quantity of facilities shall be based on total number of workers and shall be in accordance with CAL/OSHA standards. Portable facilities shall be maintained with adequate supplies and in a clean and sanitary condition and shall be removed from the Project site upon Substantial Completion of the Work. Contractor shall keep all toilet facilities and Owner trailer restroom clean and operational at all times. Contractor shall coordinate location of toilet facilities with the Owner to minimize impact to surrounding adjacent properties. Contractor shall not use school toilet facilities.



- F. TEMPORARY UTILITIES: Contractor shall coordinate with the appropriate utility company to install temporary services. Where the utility company provides only partial service, Contractor shall provide and install the remainder with matching materials and equipment.
- a. Contractor shall furnish, install and pay for all necessary permits, inspections, move ins/out, temporary lines, connections and fees, extensions and distribution, metering devices and use charges, deliveries/pickups, rentals, storage, transportation taxes, labor, insurance, bonds, material, equipment and all other miscellaneous items for the temporary utility systems. Contractor shall pay to utility companies for the consumption of the following temporary utility services:
    - i. Temporary Water service
    - ii. Temporary Electrical service
    - iii. Temporary Gas service
    - iv. Temporary Telephone and Data
  - b. Water distribution piping and outlet devices shall be of the size and required flow rates in order to provide services to all areas of the Project site.
  - c. Furnish, install, maintain, extend and distribute temporary electric area distribution boxes, so located that individual trades can obtain adequate power and artificial lighting, at all points required for the Work, for inspection and for safety.
    - i. Provide 20 foot candles minimum lighting levels inside building(s) and 5 foot candles outside for minimum safety and security.
    - ii. Ensure welding equipment is supplied by electrical generators.
  - d. Provide temporary Heating, Ventilation and Air Conditioning. Owner will not accept utilization of the permanent HVAC system for temporary HVAC until Substantial Completion. Contractor shall maintain manufacturer required levels of room and/or space temperature, humidity and ventilation necessary to install products, materials and/or systems, cure materials, disperse humidity, remove fumes, and prevent accumulation of dust, irritants, or gases.
  - e. Provide temporary phone, data service and distribution to Project site temporary offices.
  - f. Upon Substantial Completion of the Work, remove temporary systems, devices and appurtenances.

### 1.03 FENCING

- A. CONTRACTOR to provide temporary post-driven 6'-0" high chain link fence with attached 6'-0" windscreen around the area assigned by the College within the campus for storage/lay down. Space posts not to exceed 10'-0" on centers. Maintain fence functionality for the duration of the Work. Contractor to tie its temporary fence to the existing site fencing as necessary.
- B. Windscreen shall be attached to fence fabric and steel tension wires at 18" centers with a minimum of #14 gage tie wire. Windscreen shall be maintained and all rips, tears, missing sections shall be corrected upon notification by the PROJECT INSPECTOR or CONSTRUCTION MANAGER.
- C. Chain link fencing shall be free from barbs, icicles or other projections resulting from galvanizing process. Fence having such defects will be replaced even if it has been installed.
- D. Provide all gate hardware of a strength and quality to perform satisfactorily until complete barricade/fencing is removed upon Substantial Completion of the Work. Each gate shall have

a chain and padlock. Provide three (3) gate keys to the CONSTRUCTION MANAGER. Contractor to also provide a gate at the existing fence drive at the west side of the campus parking lot.

- E. At Substantial Completion of the Work, remove barricade/fencing from project site, backfill, and compact fence footing holes. Existing surface paving/landscape that is cut into or removed shall be patched and sealed to match surrounding areas.
- F. At CONTRACTOR expense and without limitation remove and/or relocate fencing, fabric and barricades or other security and protection facilities to provide for progress of the Work.

#### **1.04 ACCESS ROUTES AND KEYS**

- A. Related requirements: General Conditions 3.14 and 10.3.6; and Special Conditions.
- B. Coordinate with OWNER to designate road access to the Project Site. Construct and maintain temporary access accessing public thoroughfares to serve construction area. Submit Traffic management plan to OWNER for approval.
- C. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
- D. Provide and maintain access to fire hydrants, free of obstructions. Ensure the designated road access to the Project Site remains clear and in a safe condition at all times during the Work.
- E. Provide means of removing mud from vehicle wheels before entering streets.
- F. Coordinate with OWNER when construction traffic may have impact on existing operations.
- G. Contractor shall use the same access to remove materials, tools, supplies, equipment, debris and rubbish.
- H. Restrict the access of all persons entering upon OWNER'S property in connection with the Work to the Access Route and to the actual site of the work.

#### **1.05 DELIVERY AND STORAGE OF MATERIALS AND EQUIPMENT**

- A. Related requirements: Special Conditions.
- B. Contractor shall submit a Logistics plan for OWNER review and approval. Contractor shall deliver, and receive delivery of, materials, tools, supplies and equipment at the Project Site as provided on the OWNER approved Contractor Logistics Plan.
- C. Contractor shall use its own efforts to hoist, and transport materials, equipment, tools, supplies and personnel to the work areas in and around the new construction.
  - 1. Keep existing hoist(s), existing stair(s) and service elevator(s) clear of materials, equipment, tools, supplies, debris and rubbish. Do not interfere with use of such stairs and service elevator(s) by Owner's employees and authorized personnel (if applicable).
- D. Transport and handle and store products in accordance with manufacturer's instructions. No shipments shall arrive at OWNER'S Maintenance or Receiving areas.
- E. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

- F. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

G. STORAGE:

1. Store and protect products in accordance with manufacturers' instructions, with seals and labels intact and legible.
2. Store sensitive products in weather tight, climate controlled enclosures.
3. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of product.
4. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

## **1.06 PARKING AND TRAFFIC REGULATIONS**

A. PARKING REGULATIONS

1. Related requirements: Special Conditions.
2. Monitor parking of construction personnel's vehicles. Maintain vehicular access to and through parking areas.
3. Prevent parking on or adjacent to access roads or in non-designated areas.

B. TRAFFIC CONTROL

1. Related requirements: Special Conditions.
2. Submit a traffic management plan for all haul routes, laydown, marshalling, parking, and other temporary facilities for approval by OWNER'S Director of Campus Safety before commencing any work.
3. Post mounted traffic control and informational signs as required to maintain adequate standards of safety and control of movement on and off the construction site.
4. Confine construction traffic to designated haul routes.

## **1.07 PROTECTION OF PERSONS AND PROPERTY**

A. SAFETY AND SECURITY SUBMITTAL

1. Submit to the OWNER and gain approval before starting work, a plan detailing the Contractor's means and methods for the protection of the Site during the course of construction.
  - a. The plan shall include adequate measures to insure that the Work will be protected from theft, damage and vandalism for the duration of the contract.
  - b. Contractor shall be responsible for the existing roads, curbs and flatwork at areas of ingress and egress to the site. Contractor will protect these existing structures to best of their abilities. If, during the course of the Work, the Contractor or its subs/materialmen or designees damages these existing structures, then Contractor shall repair and refurbish all damaged structures.

- c. Contractor shall be responsible for cleaning up all areas adjacent to the construction site which have been affected by the construction; and for restoring them to at least their original condition – including landscaping; planting of trees, sod, and shrubs damaged by construction; and raking and disposal of debris such as roofing shingles, paper, nails, glass, sheet metal, bricks and waste concrete. Construction debris shall be removed and properly disposed of. Culverts and drainage ditches and streets with sediment from the construction area shall be cleared routinely to maintain proper drainage and re-cleaned prior to completion of the contract.
  - d. Should warnings of adverse weather conditions such as heavy rain and/or high winds be forecasted, Contractor shall provide every practical precaution to prevent damage to the Work, project site and adjacent property. Contractor precautions shall include, but not be limited to, enclosing all openings, removing and/or securing loose materials, tools, equipment and scaffolding. Contractor shall provide and maintain drainage away from buildings and structures. Contractor shall implement all required storm water mitigation measures as required under related Division 01 Sections.
- 2. Submit to OWNER a list of the Contractor's staff/employees for approval prior to start of this Project.
    - a. Contractor's employees who will be engaged in the construction of this Project shall be screened by OWNER for proper identification and good behavior.
    - b. Candidates of good standing will be issued a temporary pass.
  - 3. Furnish and maintain site security protection between the work areas and other areas, as directed by OWNER or other authorities having jurisdiction. Such site security protections shall remain for the duration of this Contract or as otherwise directed by OWNER.

#### B. PROTECTIVE MEASURES

- 1. Contractor shall be responsible for the security of all its construction equipment, materials, tools, facilities, and vehicles (personal, private, or contractual) while performing the work of this Contract. This requirement shall be effective and includes all hours and days in the week.
- 2. Provide security and facilities to protect Work and existing facilities from unauthorized entry, vandalism or theft.
- 3. Provide first aid facilities, materials and equipment required by governing authorities, laws ordinances, regulations, standards, orders and underwriters for the work of this Contract. Require subcontractors to maintain similar facilities.
- 4. Provide types, sizes numbers and locations of measure as would be reasonably effective in extinguishing fires during early stages, by personnel at job site. Require subcontractors to maintain similar equipment, continually kept current.
- 5. Instruct all personnel at the time of their first arrival at the job site on the proper use of extinguishers.
- 6. Installed Work:
  - a. Protect installed Work and provide special protection where specified in individual specification sections.

- b. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- c. Provide protective coverings at walls, projections, jambs, sills and soffits of openings.
- d. Protect finished floors, stairs and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- e. 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.
- f. Prohibit traffic from landscaped areas.
- g. Contractor shall ensure sediment does not block storm drains. Contractor shall be responsible for cleaning storm drains blocked due to erosion or sediment from the work area.

## **1.08 DAILY CLEANING**

- A. Daily Cleaning: General Conditions 3.13.1, 3.13.2, and 6.3
- B. Conduct cleaning and disposal operations in compliance with all applicable codes, ordinances and regulations, including environmental protection laws, rules and practices. Comply with local Air Quality Management District regulations for maximum allowable volatile emissions of any product used for cleaning purposes.
  - 1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
  - 2. Use cleaning materials only on proper surfaces recommended by manufacturer.
  - 3. Use only those cleaning agents and materials which will not create hazards to health or property.
  - 4. Provide on-site dump containers for collection of waste materials.
  - 5. Do not utilize waste facilities belonging to, or leased to, OWNER or on any adjacent property.
  - 6. Schedule cleaning operations to prevent dust and other contaminants from affecting newly painted surfaces or upon uncured materials.
- C. Employ experienced workmen or professional cleaners, utilizing materials and cleaning techniques recommended and approved by the manufacturers of the surfaces to be cleaned.
- D. Contractor shall provide and maintain trash bins on the project site. Trash bins shall be serviced on an as needed basis and Contractor is responsible for the transportation and legal disposal of all contents.
- E. WASH OUT: Contractor shall provide and maintain a minimum of four (4) wash out boxes of sufficient size and strength to provide for concrete mixer wash out. Contractor shall locate both the wash out boxes and wash out areas in order to accommodate the progression of the Work. The wash out area shall be located as to minimize the amount of potential run off onto adjacent private and/or public property. Contractor shall coordinate with the Owner and the Owner's biologist to locate the areas of the wash out areas. Contractor shall legally dispose of the contents of the wash out boxes and area on as needed basis or as required by the Owner.

#### **1.09 DUST CONTROL**

A. Provide positive means to prevent air-borne dust from dispersing into atmosphere both on and off the site. Contractor to spray water at all traffic areas at least twice a day and at areas where dust producing operations occur to minimize generation of dust. Contractor shall clean all soils and debris from construction vehicles and cover both earth and debris loads prior to leaving the project site. Contractor shall, on a daily basis, clean all streets, sidewalks and/or public improvements within the right of way of any and all debris, dirt, mud and/or other materials attributable to operations of Contractor. Compliance with CEQA-EIR Addendum Mitigation Measures is required.

#### **1.10 NOISE AND POLLUTION CONTROL**

- A. Provide methods, means, and facilities to minimize noise produced by construction operations, when noise may be detrimental to adjacent properties. Comply with the requirements of the jurisdiction having authority.
- B. Burning of refuse, debris or other materials will not be permitted on the Project Site.
- C. Comply with regulatory requirements and anti-pollution ordinances during the course of construction and disposal operations.

#### **1.11 ENVIRONMENTAL IMPACT COORDINATION**

- A. The adjacent land south of the construction area is environmentally sensitive grass land, populated and used by environmentally sensitive species, particularly the burrowing owl. Contractor must coordinate all construction activity with the Owner and the Owner's environmental biologist to minimize impact to this environmentally sensitive area.
- B. COORDINATION: Contractor shall coordinate and cooperate with the Owner's project environmental biologist to allow access for the Biologist to monitor all construction activity which may impact the sensitive species. The Owner's biologist shall have authority to stop all work activities in the event ongoing construction activities pose a potential direct and /or indirect impact to the burrowing owls or any other sensitive species.
- C. SENSITIVE SPECIES EDUCATION PROGRAM: As a means of minimizing impacts to sensitive wildlife species, the Owner will implement a contractor education and training program, written and conducted by the Owner's qualified biologist familiar with the sensitive biological resources. All Contractor on-site personnel responsible for the management, coordination and performance of the work shall be trained by the Owner's qualified biologist. The education program shall include field identification of sensitive wildlife species, potential impacts that may result from construction activities, all compliance measures required by the Environmental Impact Report, consequences of not complying with mitigation measures and contact information for the project biologist and monitor. Contractor personnel shall be required to have a sticker or other visual marker showing that they have completed the program. Contractor shall ensure that all on site personnel and activities conform to all conservation measures. The contractor shall ensure that all construction activity (including material delivery) is, at the least, managed and supervised by personnel who have completed the training. No construction activity shall occur without supervision by a person who has completed the training.

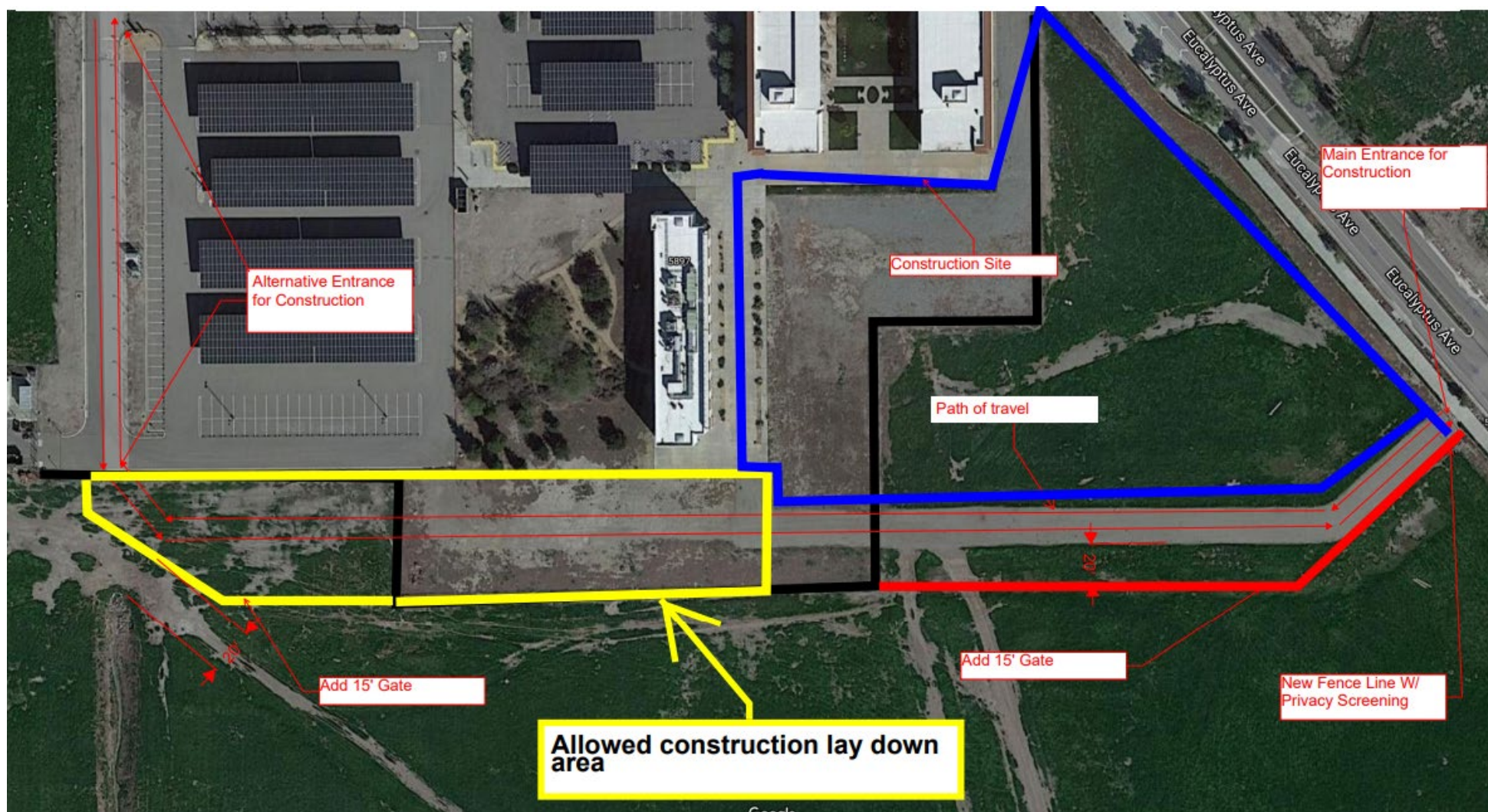
**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01500-A

### MEASURE P BOND PROGRAM CONSTRUCTION LAYDOWN AREA MAPCHINO CAMPUS





## **SECTION 01510**

### **TEMPORARY UTILITIES**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. Temporary electricity/data.
2. Temporary lighting.
3. Temporary HVAC.
4. Temporary water service.
5. Temporary sanitary facilities.
6. Removal of Temporary utilities.

- B. OWNER shall furnish electricity and water and telephone, facsimile, and data lines from utility sources, subject to the conditions in this Section, the General Conditions and Section 01500 Construction Facilities, Use of Premises and Temporary Controls.

##### **1.02 TEMPORARY ELECTRICITY/DATA**

- A. The Contractor will provide temporary electrical and data service for construction use only, based upon coordination with the local utility company and using existing power and voltages at existing public utility locations.
- B. The Contractor will be responsible for network access, electrical/data wiring and proper connections from the power source to the site.
- C. Coordinate with utility company and OWNER to ensure existing electrical source is adequately sized for use in construction operations.
1. Compliment existing power service capacity and characteristics as required.
  2. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- D. Supply power for electric welding by engine-driven power generator sets.

##### **1.03 TEMPORARY LIGHTING**

- A. Provide and maintain lighting for construction operations to achieve a minimum lighting level consistent with CAL/OSHA requirements.
- B. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- D. Maintain lighting and provide routine repairs.

##### **1.04 TEMPORARY HVAC**

- A. Provide and pay for HVAC devices and services as needed to maintain specified conditions for construction operations.
1. Provide separate metering and reimburse OWNER for cost of energy used, where energy utilized is drawn from OWNER'S utility providers.

2. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.
- B. Exercise measures to conserve energy.
- C. Before operating HVAC equipment, have installation approved and equipment lubricated and new filters installed.
- D. Self-contained heaters shall be UL rated or be otherwise appropriately approved for application.
- E. Fuel-burning heaters shall be adequately vented and have individual thermostatic controls.
- F. Use electric resistance space heaters only when a more energy-efficient type of heater is neither available nor allowable.
- G. Utilize on-line ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.
- H. Ventilate enclosed areas to assist curing materials, dissipating humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- I. Immediately report the existence of any suspicious or obnoxious odors upon discovery to authorities having jurisdiction.

#### **1.05 TEMPORARY WATER SERVICE**

- A. Coordinate with local utility companies and provide appropriately sized connections to existing water service for construction operations.. CONTRACTOR will make all connections at own costs, will maintain to Owner's satisfaction, and will remove and restore to original conditions upon the completion of the project.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections by CONTRACTOR.

#### **1.06 TEMPORARY SANITARY FACILITIES**

- A. CONTRACTOR to provide, maintain, and remove at the completion of the project temporary sanitary facilities for their construction forces. CONTRACTOR to maintain temporary sanitary facilities to the Owner's satisfaction for the duration of the project.
- B. Coordinate location of sanitary facilities with OWNER.

#### **1.07 REMOVAL OF TEMPORARY UTILITIES**

- A. Remove all temporary utilities, equipment, facilities, materials, and any related temporary installations at completion.
- B. Clean and repair damage caused by installation or use.
- C. Restore existing facilities used during construction to original or specified condition.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

## **END OF SECTION**

## SECTION 01520

### EXISTING TREES PROTECTION, IRRIGATION, AND TRIMMING

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the protection, irrigation and trimming of existing trees that are to be protected in place or are affected by, execution of the Work, whether temporary or new construction.
- B. All tree protection and maintenance, including watering, pruning, fertilizing, and control shall be done by or under the supervision of a licensed arborist or equally qualified tree specialist. Refer to the following Owner approved Arborists:
  - 1. Alonzo Garcia, of West Coast Arborists, Anaheim, office phone (714) 991-1900, x484, cell phone 714.981.3564 agarcia@wcainc.com
  - 2. Thomas Guarneri, of Brightview Tree Care Services, Corona, office phone (909) 349-1802, cell (951) 441-1358, Thomas.Guarneri@brightview.com

##### 1.2 SUBMITTALS

- A. General: Submit each item in this Article and requirements of this Section.
  - 1. Drawings showing locations of plants to be protected in place, and the proposed method of protection (both determined by OWNER)
  - 2. Estimated height, caliper, and two photographs of each plant to be protected, clearly showing the structure and appearance of each plant.
- B. Qualification data for firms and persons specified in the "Quality Assurance" paragraph herein to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and OWNER, and other information specified.
- C. Certification by a qualified arborist that trees indicated to remain and be protected in place have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- D. Close Out: Maintenance recommendations for care and protection of trees affected by construction after completing the Work.

##### 1.3 QUALITY ASSURANCE

Tree Service Qualifications: Engage an experienced tree service firm that has 5 years experience and has successfully completed tree protection and trimming work similar to that required for this Project and that will maintain an experienced, qualified arborist on the Project site who has performed similar work on three projects on a full-time basis during execution of the Work.

- 1. Arborist Qualifications: An arborist certified by the International Society of Arboriculture or licensed in the jurisdiction where the Project is located. Provide Arborist current license, certification and resume to CONSTRUCTION MANAGER for review from the above-mentioned list in paragraph 1.1-B.
- B. Tree Pruning Standards: Comply with the International Society of Arboriculture Pruning Standards, except where more stringent requirements are indicated.

- C. Pre-installation Conference: Conduct a conference at the Project site to comply with the following:
  - 1. Before commencing tree protection and trimming, meet with the CONSTRUCTION MANAGER and comply with applicable code requirements. Review tree protection and trimming procedures and responsibilities. Notify GROUNDS MANAGER and participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Drainage Fill: Selected crushed stone, or crushed or uncrushed gravel, washed, ASTM D 448, size 24, with 90 to 100 percent passing a 2-1/2-inch (63-mm) sieve and not more than 10 percent passing a 3/4-inch (19-mm) sieve.
- B. Water: Potable
- C. Fencing Materials: As selected by contractor with Owner's acceptance.
- D. Straw hay and sod: Provide clean material, free from debris, noxious seeds and ingredients, insects and pests detrimental to plant growth.
- E. Topsoil: Provide fertile, friable, natural loam having an acceptable pH level and free from alkali, weed seed, mold, fungus, excessive clay content, large rocks, nematodes, insects and other pests detrimental to plant growth. Also see "topsoil" in the "Soil Preparation" Section.
- F. Fertilizer: Commercial grade 10-10-5
- G. Filter Fabric: Manufacturer's standard, non-woven, pervious, geo-textile fabric of polypropylene, nylon, or polyester fibers.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. PROHIBIT traffic and storage of materials within the drip lines of trees and shrubs which are indicated to be salvaged or to remain.
- B. Temporary Protection: Provide temporary fencing, barricades, or other suitable guards located outside the drip line to protect the existing trees and other plants from damage. This temporary protection is to be reviewed and approved by the CONSTRUCTION MANAGER, and replaced at the sole discretion of the CONSTRUCTION MANAGER at no additional expense to the OWNER.
- C. Protect tree root systems from damage due to noxious materials caused by run-off or spillage while mixing, placing, or storing construction materials. Protect root systems from flooding, eroding, or excessive wetting caused by dewatering operations.
- D. Do not store construction materials, debris, or excavated material within the drip line of remaining trees. Do not permit vehicles or foot traffic within the drip line, and prevent soil compaction over root systems.
- E. Provide tree root protection as follows:

1. Protect roots from flooding, erosion, and excessive wetting resulting from watering operations, run-off and spillage, or drainage of solutions containing materials which would be deleterious to tree roots. Area of tree-root protection is that which is within drip line.
  2. Any tree root outside of drip line whose greatest cross sections is larger than one inch and which will remain exposed during excavation operations, shall be coated with root wound dressing and wrap the root stub with consistently wet burlap.
  3. Jack or tunnel spaces for utilities by hand if utilities are indicated to be within drip line of trees. Do not cut taproots and main lateral roots. Cut smaller roots, which interfere with the work, with sharp pruning instruments and wrap the root stub with wet burlap.
  4. If excavation is indicated to be within drip lines of trees, excavate by hand and provide sheeting. Expose roots with narrow-tine spading forks and by combing of soil. If large, main lateral roots are encountered, expose those roots beyond excavation limits and bend and relocate without breaking. Do not allow exposed roots to dry out before permanent backfill is placed; either cover roots with earth or pack with peat moss and wrap with burlap. Water, keep moist, and temporarily support and protect roots from damage until they have been permanently relocated and covered with backfill.
  5. If existing grade around trees is above the finished grade, accomplish excavation within drip line by hand. Cut exposed roots approximately three inches below elevation of finish grade. Engage a qualified arborist to recommend procedures to compensate for loss of roots, such stimulation of root growth.
- F. Do not allow fires under or adjacent to remaining trees or other plants.

### 3.2 EXCAVATION

- A. Install shoring or other protective support systems to minimize sloping or benching of excavations.
- B. Do not excavate within tree drip line, unless otherwise indicated, reviewed and approved.
- C. Where excavation for new construction is required within tree drip lines, hand excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.
- D. Where utilities trenches are required within tree drip lines, tunnel under or around the roots by drilling, auger boring, pipe jacking, or digging by hand.
- E. Root Pruning: Do not cut main lateral roots or tap roots; cut only smaller roots that interfere with installation of new work. Cut roots with sharp pruning instruments; do not break or chop.
- F. Where excavation for new construction or trenching within tree drip lines, an ISA certified arborist must be present to observe and review mitigation measures of root pruning, tree trimming and alternate measures. Provide written report detailing work procedures.

### 3.3 REGRADING

- A. Minor Fill: Where existing grade is 6 inches (150 mm) or less below elevation of finish grade shown, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.
- B. No additional fill is accepted within 3' of trunk of tree.

### 3.4 TREE PRUNING

- A. Prune remaining trees affected by temporary and new construction.

- B. Prune remaining trees as required by arborist, where construction has damaged root system. Provide subsequent maintenance during the Contract period as recommended by arborist. Provide report to document worked required.
  - C. Pruning Standards: Prune trees according to the International Society of Arboriculture's "Pruning Standards for Shade Trees."
  - D. Cut branches with sharp pruning instruments; do not break or chop.
  - E. Chip branches removed from trees. Spread material where indicated or as requested by the CONSTRUCTION MANAGER.
- 3.5 TREE REPAIR AND REPLACEMENT
- A. Promptly repair trees damaged by construction operations to prevent progressive deterioration in accordance with the arborist's written recommendations.
  - B. Remove and replace dead and damaged trees that the arborist determines to be incapable of restoring to a normal growth pattern.
    - 1. Provide trees of comparable value and similar species selected by the CONSTRUCTION MANAGER when trees, not identified to be removed in the demolition plans, are impacted or have to be replaced.
- 3.6 DISPOSAL OF WASTE MATERIALS
- A. Burning on College's Property: Burning is not permitted on College's property.
  - B. Disposal: Remove excess excavated material, displaced trees, and chips from College's property as approved by the Construction Manager.
- 3.7 TEMPORARY IRRIGATION OF EXISTING TREES, SHRUBS, AND LANDSCAPING
- A. The OWNER will identify a Point of Connection for CONTRACTOR to connect a temporary irrigation service during construction operations on Chaffey Campus. Further, the CONTRACTOR will maintain (mow, water, etc.) all landscaping within the construction area or make arrangements for OWNER to schedule access by Grounds crew.
  - B. The CONTRACTOR's qualified arborist is to prepare a written Maintenance Plan and Irrigation Schedule to be submitted to the College for review and approval prior to any interruption of the existing irrigation system. The College may request modifications to this Maintenance Plan and Irrigation Schedule at no additional cost to the College.
  - C. CONTRACTOR to pay for all related costs to tap into the existing water service, provide a back-flow preventer, irrigation piping, timers, valves, controllers and sprinkler heads to extend the temporary irrigation system to service the existing trees in a code compliant manner to the satisfaction of the CONSTRUCTION MANAGER. The CONSTRUCTION MANAGER may request modifications to the temporary irrigation system at no additional cost to the OWNER.

**END OF SECTION**

## **SECTION 01560**

### **DEMOLITION WASTE MANAGEMENT**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. References.
2. System description.
3. Submittals.

B. Related Sections

1. Section 01310.
2. Section 01500.
4. Section 01510.
5. Section 01700.

##### **1.02 REFERENCES**

- A. California Integrated Waste Management Act of 1989 (AB 75)
- B. California Code of Regulations Title 14

##### **1.03 SYSTEM DESCRIPTION**

- A. Collection and separation of all C&D waste materials generated on-site, reuse or recycling on-site, transportation to approved recyclers or reuse organizations, or transportation to legally designated landfills, for the purpose of recycling, salvaging, and/or reusing a minimum of 50% of the C&D waste generated.

##### **1.04 SUBMITTALS**

- A. C&D Waste Management Plan (Exhibit 1): Within 10 calendar days after the Notice to Proceed and prior to any waste removal, submit the following to the OWNER for review and approval. Update as required. Include:
1. Materials to be recycled, reused, or salvaged, either onsite or offsite.
  2. Estimates of C&D waste quantity (in tons) by type of material. (If waste is measured by volume, give factors for conversion to weight in tons.)
  3. Procedures for recycling/ reuse program.
  4. Permit or license and location of Project waste-disposal areas.
  5. Site plan for placement of waste containers.
- B. C&D Waste Management Monthly Progress Report (Exhibit 2): Summary of waste generated by Project, monthly with Application for Payment. Include:
1. Firms accepting the recovered or waste materials.

2. Type and location of accepting facilities (landfill, recovery facility, used materials yard, etc.). If materials are reused or recycled on the job site, location should be designated as “on-site reuse / recycling”.
  3. Type of materials and net weight (tons) of each.
  4. Value of the materials or disposal fee paid.
  5. Attach weigh bills and other documentation confirming amount and disposal location of waste materials.
- C. C&D Waste Management Final Compliance Report: Final update of Waste Management Plan to provide summary of total waste generated by Project.
- D. Waste Management Report for Contractors (Exhibit 3): The attached form shall be completed and submitted to the Construction Manager.
- E. Solid Waste Management and Recycling Plan (Exhibit 4): The attached form shall be completed and submitted to the Construction Manager.

## **PART 2 – PRODUCTS**

Not Used.

## **PART 3 – EXECUTION**

### **3.01 IMPLEMENTATION**

- A. Implement approved Waste Management Plan including collecting, segregating, storing, transporting and documenting each type of waste material generated, recycled or reused, or disposed in landfills.
- B. Designate an on-site person to be responsible for instructing workers and overseeing the sorting and recording of waste/ recyclable materials.
- C. Include waste management and recycling in worker orientation and as an agenda item for regular job meetings.
- D. Recyclable and waste bin areas shall be limited to areas approved on the Waste Management Plan. Keep recycling and waste bins neat and clearly marked to avoid contamination of materials.

### **3.02 ATTACHMENTS**

- A. Exhibit 1: C&D Waste Management Plan.
- B. Exhibit 2: C&D Waste Management Monthly Progress Report.
- C. Exhibit 3: Waste Management Report for Contractors.
- D. Exhibit 4: Solid Waste Management and Recycling Plan.

### **3.03 WEB LINKS**

- A. Information has been compiled to provide the data bases available on the California Integrated Waste Management Board (CIWMB) website regarding C&D as well as some information updates from the C&D staff. In regards to locating facilities and services, some database may be useful. CIWMB has 2 databases to find facilities that accept C&D materials for recycling and one for recycled content products:



1. C&D Recyclers Database.

- a. The first database to check with is the C&D Recyclers Database:  
[<http://www.ciwmb.ca.gov/ConDemo/Recyclers/>](http://www.ciwmb.ca.gov/ConDemo/Recyclers/).

Select the material type and the county. It will list out the contact information of the facilities.

2. C&D Recycled-Content Building Products Database.

- a. The second database to check is the C&D Recycled-Content Building Products Database:  
[<http://www.ciwmb.ca.gov/ConDemo/Products/>](http://www.ciwmb.ca.gov/ConDemo/Products/)

Again select the material type and the county. It will also list the contact information of the facilities that uses recycle material as a feedstock.

3. Recycled-Content Product Database.

- a. The next database to check is the Recycled-Content Product Database:  
[<http://www.ciwmb.ca.gov/RCP/>](http://www.ciwmb.ca.gov/RCP/)

Type in the product or material of interest, and select either Product Name or Keywords. Then identify the Minimum Total Recycled Content and Minimum Post consumer Recycled Content. It will list the businesses name and their product. Click on the business name for contact information and click on the product for product information.

B. There are three basic strategies to handle C&D materials, once they are generated. They are:

1. Source Separation.
2. Time-Based Separation / Removal.
3. Commingle.

F. Source Separation and Commingle are two very common approaches.

Time-Based Separation/Removal utilizes the construction schedule to separate the recyclable materials. For example, during the roofing phase most of the waste is roofing materials, and during the framing phase most of the material is wood. The materials tend to be relatively clean or uncontaminated even without separation. However coordination and planning is extremely important. If the bin is not changed on time then the materials collected will be contaminated with other materials. This is a less popular approach, but maybe worth considering.

Also, these 3 strategies can be mixed and matched to fit your project. For example during certain phases you can use the Time-Based Separation / Removal and during the other phases you can use Commingle.

G. The following link list new ideas

<http://www.sjrecycles.org/business/cddd.htm>

H. Latest development

C&D regulation – Phase 1 & 2

[\[http://www.ciwmb.ca.gov/Rulemaking/CDMater/\]](http://www.ciwmb.ca.gov/Rulemaking/CDMater/)

Phase 1: covers transfer and processing of C&D

Phase 2: covers the disposal of C&D

I. SB1374

Require the Board to adopt one or more Model Ordinance for local governments by March 1, 2004. Required diversion rate of 50% to 75%.

J. CIWMB Point of Contact

The point of contact at the CIWMB is:

Christine L. Flowers  
California Integrated Waste Management Board  
Recycling Technologies Branch  
916-341-6489



## C&D WASTE MANAGEMENT MONTHLY PROGRESS REPORT

### CONSTRUCTION/ MAINTENANCE/ALTERATION & DEMOLITION PROJECTS

(1) Material Type	(2) Tons Actual Recycle	(3) Tons Actual Reuse	(4) Tons Actual Salvage	(5) Tons Actual Landfill	(6) Disposal or Recycling Facility (e.g., Onsite, Name of Facility)
<b>Total</b>					
<b>Diversion Rate: Columns [(2)+(3)+(4)] / [(2)+(3)+(4)+(5)]</b>					<b>=</b>

Signature	Title	Date
-----------	-------	------

Column 1	"Material Types" – Enter type of materials targeted for recycling, reuse, and/or salvage, either on- or off-site, and include a category for waste materials requiring disposal.
Columns 2 thru 4	"Estimated Generation" - Enter estimated quantities (tons) of recyclable, reusable, or salvageable waste materials anticipated to be generated and state number of salvageable items.
Column 5	"Estimated Landfill" - Enter quantities (tons) of materials disposed.
Column 4	"Disposal Location" - Enter end-destination of recycled, salvaged, and disposed materials.
General :	(1) Attach proposed Recycling & Waste Bin Location Plan. (2) Attach name and contact data for each recycling or disposal destination to be used.

### EXHIBIT 3

#### WASTE MANAGEMENT REPORT FOR CONTRACTORS

The City of Rancho Cucamonga is requesting that all contractors document materials generated (reused, recycled or landfilled).

Please complete this form each time materials are removed from the site or reused on-site.

-----

JOB SITE LOCATION: \_\_\_\_\_ DATE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

MATERIAL: \_\_\_\_\_

\_\_\_\_\_

WAS THE MATERIAL RECYCLED?    YES            NO

VOLUME/WEIGHT: \_\_\_\_\_ HAULER: \_\_\_\_\_

RECYCLING COMPANY OR DISPOSAL SITE: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

## EXHIBIT 4

### SOLID WASTE MANAGEMENT AND RECYCLING PLAN

The City of Rancho Cucamonga is requesting that all applicants prepare a waste management and recycling plan by completing the following form for construction and demolition materials produced as a result of work performed in the City of Rancho Cucamonga. The City requires that contractors recycle materials when there is a viable recycling company available.

The City of Rancho Cucamonga Public Works staff will provide assistance to applicants in developing and implementing the waste management and recycling plan by calling (415) 496-5910.

COMPANY NAME: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
JOB SITE: \_\_\_\_\_ FAX #: \_\_\_\_\_

Please fill out the following form for submittal. The form will help to identify the types of materials, estimated quantities of materials and how the material will be transported and recycled or disposed. If you have any questions regarding the form or recycling and disposal, please call (415) 496-5910.

Circle the material that will be generated at the construction site, estimate the quantity, list how the materials will be transported, and write in where the materials will be taken.

<b>MATERIALS</b>	<b>ESTIMATE QUANTITY</b> (in yards and tons)	<b>HAULER</b> (List hauler's name of not self-haul)	<b>RECYCLING COMPANY OR DISPOSAL SITE</b> (If self-haul)
Salvage and used building material			
Wood			
Plant Debris			
Wallboard			
Glass			
Soil			
Corrugated cardboard			
Metals			
Masonry Tile			
Concrete/Asphalt			
Toilets (porcelain)			
Carpet Padding (foam)			
Others			
Mixed Loads (i.e. trash, plastic, packaging, etc.)			

Exhibit 4, page 1 of 2

**FOR CITY USE ONLY**

**Approval Status:**

\_\_\_\_\_ Approved  
\_\_\_\_\_ Further explanation needed, see attached  
\_\_\_\_\_ Denied

\_\_\_\_\_  
**Reviewed by:**

\_\_\_\_\_  
**Date:**

Exhibit 4, page 2 of 2

**END OF SECTION**



## **SECTION 01573**

### **STORM WATER POLLUTION PREVENTION PLAN**

#### **1. PART 1 GENERAL**

##### **1.1 THIS GUIDELINE SECTION INCLUDES**

- A. Implementation of the Storm Water Pollution Prevention Plan (SWPPP).
- B. Plan administration, maintenance and updates.
- C. Placement of erosion/pollution control devices.
- D. Maintenance and monitoring of control devices.
- E. Non-Storm Water Management.
- F. Miscellaneous related work necessary for plan compliance.
- G. Reports and certificates.

##### **1.2 REFERENCES**

- A. Storm Water Pollution Prevention Plan (SWPPP) for Chaffey College Campus
- B. Storm water Best Management Practice Handbook (BMP Handbook), Construction Edition, as published by the California Storm Water Quality Association. Available at [www.cabmaphandbooks.com](http://www.cabmaphandbooks.com).

##### **1.3 SUBMITTALS**

- A. Submit SWPPP and ECP under provisions of Section 01340.
- B. Submit SWPPP and ECP updates for review within two weeks after Contract Award.
- C. Submit manufacturer's installation instructions for all products.

##### **1.4 QUALITY ASSURANCE**

- A. Perform work in accordance with Storm Water Pollution Prevention Plan.
- B. Maintain one copy of document on site.
- C. All construction CONTRACTOR's are to review SWPPP prior to commencing any construction activities

##### **1.5 PRE-INSTALLATION CONFERENCE**

- A. Convene a conference with the CONSTRUCTION MANAGER, College Maintenance and Operations personnel, Architect's design team representatives, and the SWPPP District consultant two weeks prior to commencing work at the site, under provisions of Section 01310.

- B. Require attendance of parties directly affecting the work of this Section.
- C. Review requirements of the SWPPP.

## 1.6 PERFORMANCE REQUIREMENTS

- A. The Storm Water Pollution Prevention Plan is a minimum requirement. Revisions and modifications to the SWPPP are acceptable only if they maintain levels of protection equal to or greater than originally specified. In the event of a discrepancy between the specification and the SWPPP, the more stringent requirement shall apply. The CONTRACTOR will comply with SWPPP protection (BMP's) to insure silt and erosion control is maintained during the course of construction and will be responsible for all water flow into and out of any of the construction site areas. A formal NOI permit will not be required. CONTRACTOR will be responsible for any and all costs. CONTRACTOR will be responsible for all inspections and record keeping requirements to maintain the SWPPP and BMPs.
- B. Read and be thoroughly familiar with all of the requirements of the SWPPP and NPDES General Permit.
- C. Inspect and monitor all work and storage areas as indicated in the SWPPP.
- D. Complete any and all corrective measures as indicated in the SWPPP or as directed by a regulatory agency.
- E. Penalties: Pay any clean up costs, fees and be liable for any other penalties that may be imposed by the regulatory agency for non-compliance with SWPPP during the course of work.
- F. Costs: Pay all costs associated with the implementation of the requirements of the SWPPP in order to maintain compliance with the Permit. This includes installation of all Housekeeping BMPs, General Site and Material Management BMPs, Inspection requirements, maintenance requirements, and all other requirements specified in the SWPPP.

## 2. PART 2 PRODUCTS

### 2.1 MATERIALS

- A. All temporary and permanent storm water pollution prevention facilities, equipment, and materials necessary to comply with the SWPPP as described in the BMP Handbook. Materials shall be monitored according to the SWPPP.
- B. All stored Potential Pollution Sources shall be inspected and inventoried according to the SWPPP.
- C. Substitutions: Under provisions of General Conditions Article 3.11.5-Substitutions.

## 3. PART 3 EXECUTION

### 3.1 PREPARATION AND APPROVAL

- A. Prepare Storm Water Pollution Prevention Plan (SWPPP) as required to comply with storm water pollution regulations. The CONTRACTOR will comply with SWPPP protection (BMP's) to insure silt and erosion control is maintained during the course of construction.
- B. Maintain and update SWPPP according to NPDES General Permit.

### 3.2 GENERAL IMPLEMENTATION REQUIREMENTS

- A. All measures required by the SWPPP shall be implemented prior to the commencement of construction. Pollution practices and devices shall be followed or installed prior to construction, with frequent inspection, maintenance, and evaluation as construction progresses.
- B. Conduct an inspection of all erosion control and pollution prevention devices prior to any anticipated storm event to verify all SWPPP measures are in place and to identify and mitigate any new potential pollution sources brought by the ongoing construction. Repair and report any inadequate BMPs.
- C. After storm events, conduct an inspection of the project site to verify the performance of the erosion control and pollution prevention devices in reducing pollutant loading of the discharged storm water associated with the construction activity. Repair and report any inadequate BMPs.
- D. Eliminate or reduce to the extent feasible the discharge of materials other than storm water to the storm drain system and/or receiving waters as dictated by the State General Permit and SWPPP

### 3.3 IMPLEMENTATION REQUIREMENTS DURING THE NON-RAINY SEASON

- A. The non-rainy season in the State of California is between April 1 and September 30.
- B. All requirements of the SWPPP shall apply during the non-rainy season.
- C. In the event of an unusual rain event during the non-rainy season, provide erosion control BMPs.

### 3.4 IMPLEMENTATION REQUIREMENTS DURING THE RAINY SEASON

- A. The rainy season in the State of California is between October 1 and March 31.
- B. All requirements of the SWPPP shall apply during the rainy season without exception.

### 3.5 REPORTING

- A. Prepare all inspection records for each inspection done prior to and just after all storm events as required by the SWPPP with two copies forwarded to the College and the Architect.
- B. Prepare the overall certification based upon the inspection reports for College's use in the certifying the project site's compliance with the SWPPP and the State's General Permit.
- C. Refer to the SWPPP manual for hierarchy in reporting procedures.

### 3.6 COMPLETION OF WORK

- A. Clean-up shall be performed as each portion of the work progresses. All refuse, excess material, and possible pollutants shall be disposed of in a legal manner off-site and all temporary and permanent SWPPP devices shall be in place and maintained in good condition for the duration of the Work.
- B. At completion of work, inspect installed SWPPP devices, and present the currently implemented SWPPP with all backup records to the College.
- C. At Substantial Completion, remove all temporary SWPPP and Erosion Control devices from the job site and restore to match original.

### 3.7 EROSION CONTROL PLAN

- A. Include Erosion Control Plan as a part of the final SWPPP.

## INVENTORY OF ONSITE POTENTIAL POLLUTANTS

[illegible]

<sup>a</sup> CONTRACTOR responsible for proper implementation of BMPs as indicated in this SWPPP

## INVENTORY OF ON-SITE BMPs

[illegible]

**BMP INSPECTION REPORT**  
**Chaffey College**  
**5885 Haven Avenue**  
**Rancho Cucamonga, CA 91737**

Event Type:      B - Before Storm Event      W- Weekly Inspection  
                          A - After Storm Event      T - 24 Hour Mark During Storm Event

Date Time	Event Type	Storm Start Time	Storm Duration	Time Since Last Storm	Rainfall Amount	Location of BMP (Sub-Project)	Describe Inadequate BMPs	Corrective Action Required	Inspectors Name/Title/Signature

**TRAINING REPORT**

Date: \_\_\_\_\_ Trainer: \_\_\_\_\_

The following individuals were provided and instructed on the information on the attached Agenda sheet.

NAME	COMPANY	INVOLVEMENT

Trainers Notes:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**END OF SECTION**



## **SECTION 01600**

### **MATERIAL AND EQUIPMENT**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. Products.
2. Transportation and handling.
3. Storage and protection.

##### **1.02 PRODUCTS**

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacturer for those replaced.

##### **1.03 TRANSPORTATION AND HANDLING**

- A. Transport and handle products in accordance with manufacturer's instructions. Contractor shall receive shipments at Project Site. No shipments shall arrive at the OWNER'S Maintenance or Receiving areas.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide proper equipment and personnel to prevent soiling or damage.

##### **1.04 STORAGE AND PROTECTION**

- A. Store and protect products in accordance with manufacturer instructions, with seals and labels intact and legible. Store sensitive products in weather tight, climate controlled enclosures. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- B. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- C. For exterior storage of fabricated products, place on sloped supports, above ground.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of product.
- E. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 – EXECUTION (NOT USED)**

### **END OF SECTION**

## **SECTION 01700**

### **COMPLETION AND CLOSEOUT**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

A. Section Includes:

1. Closeout procedures.
2. Project record documents.
3. Operation and maintenance data.
4. Warranties and guarantees.
5. Final Payment

##### **1.02 CLOSEOUT PROCEDURES**

A. Substantial Completion:

1. Comply with General Conditions
2. Comply with Part 1, Title 24, Section 4-336 CCR (Schools)] Requirements for Verified Reports and Closeout Procedures.

B. Final Inspection – Punchlist Completed

1. Prepare and submit a notice that Work is ready for final inspection and acceptance.
2. Verify the Work is complete.
3. Execute final cleaning before final inspection as specified in Section 01740.
4. Construction Manager and Architect will make an inspection to verify status of completion.
5. Should the Construction Manager and Architect determine the Work is incomplete or defective:
  - a. The Architect will promptly notify the Contractor in writing, listing incomplete or defective work.
  - b. Contractor shall remedy the deficiencies promptly and notify the Architect when ready for re-inspection.
6. When the Construction Manager and Architect determine the Work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals.

C. Closeout submittals include, but are not necessarily limited to:

1. Project Record Documents.
2. Operation and maintenance data.
3. Warranties and Guarantees.
4. Final Payment Application with attachments.

D. Comply with General Conditions, for all requirements related to acceptance and approval of the work.

##### **1.03 PROJECT RECORD DOCUMENTS**

A. Submit updated Record Documents. Contractor shall record, concurrently with construction progress, concise and neat updates on a weekly basis for all actual revisions to the work:

1. Changes made on the Drawings, including Clarification Drawings.
  2. Changes made to the Specifications.
  3. Changes made by Addenda.
  4. Changes made by Instruction Bulletins or Change Directives.
  5. Change Orders or other authorized Modifications to the Contract.
  6. Revisions made to shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction. Replace soiled or illegible documents.
- C. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name, trade name, product model and number and supplier.
  2. Authorized product substitutions or alternates utilized.
  3. Changes made by Addenda and Modifications.
- F. Construction Document 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. Identify drains and sewers by invert elevation.
  3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work. Identify ducts, dampers, valves, access doors and control equipment wiring.
  4. Field changes of dimension and detail.
  5. Details not on original Drawings.
- G. Obtain Inspector's signed certification that Record Documents have been fully updated prior to submitting monthly payment requests. Compliance is mandatory before payment will be made.
- H. Submit Inspector's certified documents to Architect with claim for final Application of Payment. Fully complete record drawings are a prerequisite to final payment.
- I. The OWNER requires the preparation of a final reproducible "RECORD SET" of drawings that incorporate all changes made during the construction process to include incorporation of all change orders, addenda, field orders and "As Installed" conditions noted on the Contractor prepared record documents. Contractor shall deliver the As-Built drawings in an electronic format reasonably acceptable to the OWNER.

#### **1.04 OPERATION AND MAINTENANCE DATA**

- A. Refer to Section 01730 for requirements.

#### **1.05 WARRANTIES AND GUARANTEES**

- A. Manufacturer's warranties and guarantees notwithstanding, and unless otherwise agreed between OWNER and Contractor, Contractor shall warrant entire Work against defects in materials and workmanship for twelve months from date of Substantial Completion. Warranties and guarantees between Contractor and manufacturers and Contractor and suppliers shall not affect warranties or guarantees between Contractor and OWNER.
- B. Execute and assemble documents from Subcontractors, suppliers and manufacturers.

- C. Submit prior to final Application for Payment.
- D. For items of Work delayed beyond date of Substantial Completion provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

**1.06 FINAL PAYMENT**

- A. Submit a final payment application showing all adjustments, if any, to the Contract Sum and/or Completion Time.
- B. Comply with provisions of Article 9, General Conditions.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01730**

### **OPERATING AND MAINTENANCE DATA**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

**A. Section Includes:**

1. Form of submittal and manual contents for information for OWNER'S maintenance and operation of products furnished under the Contract.
2. Instruction of OWNER'S personnel.

##### **1.02 FORM OF SUBMITTAL AND MANUAL CONTENTS**

**A. Prepare data in the form of an instructional manual for use by OWNER'S personnel.**

1. Format: Size: 8-1/2 inches by 11-inches.
2. Binders: Commercial quality three-ring binders with durable and cleanable plastic covers.

**B. Table of Contents: Include in each volume, neatly typewritten.**

1. Arrange Table of Contents based on the CSI Divisions 1-16 format.
2. Identify Contractor, name of responsible principal, address, and phone number.
3. List each product included, indexed to the content of the volume. List, with each product, the name, address, and telephone number of Subcontractor or installer and maintenance contractor as appropriate. and nearest source of supply for parts and replacement.

**C. Product Data:**

1. Include only those sheets which are pertinent to the specific product. Annotate each sheet to clearly identify the specific product or part installed.
2. Provide complete information for products specified in the individual Sections.
3. Include manufacturer, supplier, spare parts, and servicing location information, including address, telephone, and emergency telephone number if available.
4. Include recommended installation, adjustment, start-up, and calibration and troubleshooting procedures. Include recommended step-by-step procedures for all modes of operation including start-up, operation, shutdown, load changes, and emergency shutdown. Manufacturer's literature shall be included.
5. Include complete internal and connection wiring diagrams. Circuit diagrams and schematics shall be down to component level.
6. Include recommended preventative maintenance and maintenance procedures, including lubrication and calibration schedules with disassembly, overhaul, reassembly, realignment, and testing instructions.
7. Complete parts list, by generic title and identification number, with exploded views of each assembly; and recommended spare parts list and list of special tools and equipment required for O & M.

D. Drawings:

1. Supplement product data with Drawings as necessary to clearly illustrate relations of component parts.
2. Coordinate Drawings with information in project record documents to assure correct illustration of completed installation.
3. Do not use project record documents as maintenance drawings.
4. Include approved shop drawing submittal information applicable to O & M, including operating curves, and manufacturer's recommended tolerances and clearances.

E. Copy of each warranty, bond, and service contract issued.

**1.03 APPROVAL PROCEDURE**

- A. Submit one (1) copy of the O & M Manual to the Construction Manager for review prior to 90% completion of Contract amount as measured by monthly progress payments – Substantial Completion. The Construction Manager and Architect will review and return the submittal within 15 calendar days following receipt by the Construction Manager. The Contractor shall make all revisions and additions and resubmit to the Construction Manager an electronic copy of the corrected O & M Manuals at Substantial Completion of the Work.
- B. The Construction Manager and Architect will review the corrected O & M Manuals within 15 calendar days following their receipt by the Construction Manager. The Contractor shall then compile all of the corrected O & M Manuals into a single O & M Manual which shall be arranged according to a Table of Contents based on the CSI Divisions 1-16 format.
- C. Furnish to the Construction Manager a copy in an electronic format acceptable to the OWNER of the final O & M Manual. The manual shall be arranged in the same order as the Specifications. The final O & M Manual shall be submitted to the Construction Manager at Substantial Completion of the Contract. Failure to submit the O & M Manuals, the corrected O & M Manuals within the specified time frame shall be cause for withholding of monthly payments until all manuals have been corrected and submitted as detailed above.

**1.04 INSTRUCTION OF OWNER'S PERSONNEL**

- A. Schedule instructional meeting after manual has been submitted and approved by Construction Manager or Architect.
- B. Review contents of manual with personnel in full detail.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01740**

### **FINAL CLEANING**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes products and execution for Final Cleaning.
- B. Refer to General Conditions paragraphs 3.13.3 and 5.5.6 for additional requirements.

#### **PART 2 – PRODUCTS**

##### **2.01 MATERIALS**

- A. Apply same requirements specified in Specification Section 01500, paragraph 1.07. All disposals shall be lawful and without change in cost or time to the Contract.

#### **PART 3 – EXECUTION**

##### **3.01 FINAL CLEANING**

- A. Execute a thorough cleaning after completing Punchlist. Review all cleaning operations with Construction Manager.
- B. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program.
- C. Remove waste and surplus materials, rubbish, and temporary construction facilities, utilities, and controls.
- D. Remove grease, mastic, adhesive, dust, dirt, stain, fingerprints, labels, and other foreign materials from all visible interior and exterior surfaces caused by the work of this Contract.
- E. Remove dust from all horizontal surfaces not exposed to view, including light fixtures, ledges and plumbing fixtures, as applicable.
- F. Clean all horizontal surfaces to dust-free condition, including tops of door and window frames, tops of doors and interiors of cabinets and casework.
- G. Clean building accessories, including toilet partitions, fire extinguisher cabinets, lockers, toilet accessories, plumbing fixtures and lighting fixture lenses and trim.
- H. Clean and buff all metalwork, to be free of soiling and fingerprints. Mirror-finished metalwork shall be buffed to high luster.
- I. Clean interior and exterior glass surfaces exposed to view. Remove temporary labels, stains, and foreign substances. Polish transparent and glossy surfaces. Replace chipped or broken glass and other damaged transparent materials.
- J. Clean exposed exterior and interior hard surfaces to a dust-free condition, free of stains, films and similar foreign substances. Clean walls and ceilings of dust, dirt, stains, hand marks, paint spots, plaster droppings and similar contaminants.

K. Floor Cleaning:

1. Exposed Concrete: Thoroughly sweep and wet-mop floors in enclosed spaces. At parking areas and ramps, sweep and hose-off floor surface.
2. Ceramic Tile Flooring: Thoroughly sweep and mop tile flooring. Comply with specific requirements of the manufacture of the materials for types of cleaning materials.
3. Resilient Flooring: Thoroughly sweep surfaces. Damp wash and wax, as applicable, for the specified material.
4. Vacuum carpeted and soft surfaces.

L. Replace filters of operating equipment.

M. Clean site and construction staging area.

N. Wash down and scrub where necessary all paving soiled as a result of construction activities. Thoroughly remove mortar droppings, paint splatters, stains, and adhered soil.

O. Sweep paved areas and rake clean landscaped surfaces. Remove excess soil. Comply with regulations of authorities having jurisdiction and safety standards for cleaning surfaces on public rights-of-way.

P. Burning of materials on the jobsite not permitted. Do not bury debris or excess materials on OWNER'S property or on any adjacent properties.

Q. Where extra materials of value remaining after completion of associated work have become the OWNER'S property, arrange for disposition of these materials as approved by the OWNER.

R. Ventilate all enclosed, habitable spaces. Provide written report to OWNER describing any evidence of odorous spaces, areas, or materials encountered.

S. Should final cleaning be inadequate, as determined by the OWNER, and Contractor fails to correct conditions, OWNER may order additional cleaning operations under separate contract, and costs for such work will be deducted from final payment.

**END OF SECTION**



## **SECTION 01890**

### **RECONSTRUCTION**

#### **PART 1 – GENERAL**

##### **1.01 SUMMARY**

- A. Section Includes:
  - 1. References.
  - 2. Project record documents.
  - 3. Hazardous materials.
  - 4. Execution:
    - a. Preparation.
    - b. Temporary measures – life safety.
    - c. Removal and demolition.
    - d. Repair and alternations work.
    - e. Salvage and disposal.

##### **1.02 REFERENCES**

- A. South Coast Air Quality Management District.
  - 1. SCAQMD – Rule 1403.
- B. National Fire Protection Association.
  - 1. NFP A 241 – Safeguarding Construction Alteration and Demolition Operations.
- C. California Code of Regulations – Title 8.
  - 1. CAL/OSHA – Construction Safety Orders.
- D. California Code of Regulations – Title 24.
  - 1. CBC – Chapter 19A Concrete.

##### **1.03 PROJECT RECORD DOCUMENTS**

- A. Accurately record actual locations of capped utilities.

##### **1.04 HAZARDOUS MATERIALS**

- A. Comply strictly with Rule 1403, SCAQMD.
- B. As required by Rule 1403, Contractor shall file written notification with the SCAQMD at least 10 calendar days prior to commencing the work of this section. Certification of required notifications shall be submitted to the Architect under provisions of the specified Sections.

#### **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. Remove designated building equipment, fixtures, partitions, components and utilities whether stated, described, shown or not.
- B. Include work required to demolish and remove elements of existing construction including partitions, walls, paving, windows and similar elements of existing building construction, all as noted on Drawings or as required to permit installation of new construction.
- C. See drawings for removal notes.
- D. Refer to General Conditions paragraph 3.12 et. seq. for differentiation between "demolition" and "cutting."
- E. Disconnect, remove, and cap designated utility services within demolition areas. Notify OWNER 48 hours in advance of any utility shut-down.
  - 1. Use Form CP 102, System interruption/Utility Outage Notification, to be distributed during the pre-construction meeting.
- F. Protect existing items which are not indicated to be altered.
- G. Adequately protect staff and public from harm and accident during demolition operations by the erection of proper barricades, signs, lighting, guard rails, or other safety precautions. Comply with CAL/OSHA and NFP A 241.
- H. Protective Devices: Install substantial enclosures, weatherproof and dust-proof shields, protective covers, screens, and similar devices. Erect and move when necessary to permit use of existing rooms, areas, or facilities. Remove entirely when their use is no longer essential. Patch or repair all areas where devices have been removed.

### **3.02 TEMPORARY MEASURES – LIFE SAFETY**

- A. Emergency Exits: No enclosure, shield, or protective covering shall interfere with the use of emergency exits in existing facilities at any time.
- B. Maintain fully charged fire extinguishers and water hoses readily available during demolition.
- C. Test electrical conductors for disconnection prior to removing.
- D. Maintain free and unobstructed access to emergency services.
- E. Post NO SMOKING signs in English and Spanish, in number and location as approved by the Architect and Construction Manager.
- F. Reduce flammable and combustible fire load to minimum by daily removal of debris.
- G. Instruct construction personnel in fire safety and fire drill policies appropriate for the areas where demolition operations occur.
- H. The deployment, disposition, administration, and implementation of any and all safety measures shall be the sole responsibility of the Contractor.

### **3.03 REMOVAL AND DEMOLITION**

- A. Demolish in an orderly and careful manner. Maintain protected access at all times.
- B. Except where noted otherwise, immediately remove demolished materials from site and dispose legally. Do not utilize OWNER'S disposal system.
- C. Remove materials to be re-installed or retained in manner to prevent damage. Store and protect until re-installation.
- D. Do not burn or bury materials on site.
- E. Upon completion of work, leave areas of work in clean condition.

### **3.04 REPAIR AND ALTERATIONS WORK**

- A. New and existing work that is cut into, altered, damaged, relocated, or reinstalled shall be restored to original conditions. Workmanship and materials must conform to the applicable provisions of specified sections.
- B. Cutting Equipment: Jack-hammers and vibratory cutting equipment may be utilized under the following conditions:
  - 1. The time of day, and duration of the work on each given day shall be coordinated with the Project Inspector and the OWNER. Minimum of 24 hours advance notice required.
  - 2. Compressors shall be well muffled.
  - 3. Every consideration shall be exercised toward comfort of staff and public. Excessive noise or vibrations will constitute just cause for immediate stoppage of the work.
- C. Cutting:
  - 1. Comply with General Conditions paragraph 3.12 et. seq.
  - 2. Concrete: Cut with saws or other approved method, but do not overcut openings. Reinforcing bars, except where bonded into new concrete, shall be cut off and the ends painted with bituminous paint before being enclosed.
  - 3. Structural Members: Cut only when authorized by the Architect and approved by the building authority having jurisdiction.
- D. Removal of Existing Floor Finishes:
  - 1. Remove existing floor covering materials in areas indicated.
  - 2. Sandblast concrete floor surfaces (or submit alternate method to Architect for approval) to remove remaining adhesive, mortar, paint and similar materials which will affect bond of new floor coverings.
  - 3. Patch voids with non-shrink grout.
  - 4. Grind high spots and fill low spots to provide an even surfaced substrate for the specified new floor covering materials. Leveling materials shall be compatible with mortars and adhesives required to install finish floors. Floors shall not vary more than 1/4 inch in 10 feet as determined with a straightedge.
- E. Patching, Repairing and Finishing:
  - 1. Concrete: Edges of existing concrete shall be kept damp for 24 hours and scrubbed with Neat Portland Cement grout just before new concrete is placed. In lieu thereof, an approved epoxy concrete adhesive may be used. Finish shall match existing adjoining work.

2. Unless otherwise approved concrete shall be minimum 2,000 psi concrete for patching slabs on grade. Strength of concrete for patching structural members or deck fill shall be determined by the Architect. Where cut edges are to remain exposed, finish edges with cement mortar at least 3/4 inch thick, applied over epoxy adhesive and finished to match adjoining surfaces.
  3. Concrete mix for patching shall comply with CBC Method A and Table 19A-A-6.
  4. Plaster: Dampen edges of existing plaster. Plaster patching shall be of type, thickness, and finish to match existing work.
- F. Acoustical Ceilings: Existing acoustical ceiling which will be partially removed or will require patching, shall be repaired (or extended) with materials and suspension system identical to the existing materials and suspension system.
- G. Painting: Existing areas to be repainted or patched shall be prepared and finished as specified in the Contract Documents.
- H. Holes required through existing concrete or masonry construction, including footings and foundation walls, to accommodate new electrical conduits and piping or ductwork shall be provided as specified in the Contract Documents.
- I. Holes required through concrete or masonry work required for structural purposes shall be neatly drilled as required to accommodate the specific items. Coring shall be performed only with the approval of the Architect and in accordance with approved details on the Drawings.
- J. Work shall be fully coordinated to assure the proper sequence, limits, methods and time of performance. Arrange work to minimize hardship on the present operation of the facilities.
- K. Remove such existing ceilings, floors, walls, finish materials, or equipment as required to complete work. Restore such surfaces to their original condition after work is completed.
- L. Provide adequate ventilation during all operations to prevent accumulation of dust, fumes, vapors, or gases.
- M. Miscellaneous Work: Items not specifically mentioned shall be repaired, patched, or finished like new work or to match existing adjoining surfaces as approved. Surfaces damaged shall be restored to original condition.

### **3.05 SALVAGE AND DISPOSAL**

- A. Disposal: Removed material other than items to be salvaged or reused shall become Contractor's property and shall be removed from site.
- B. Debris shall be cleaned up and disposed of by Contractor promptly and continuously as work progresses, and not allowed to accumulate. Sprinkle the debris to prevent a dust nuisance.
- C. Secure and pay for required hauling permits and pay dumping fees and charges.

## **END OF SECTION**