

# **PROJECT MANUAL**

FOR

THOMPSON MIDDLE SCHOOL HVAC REPLACEMENT  
MODULAR BUILDINGS

## **OWNER**

MURRIETA VALLEY UNIFIED SCHOOL DISTRICT  
41870 MCALBY COURT  
MURRIETA, CA 92562-7036

## **ARCHITECT**

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PROJECT W2100600AR  
MARCH 2021

PROJECT MANUAL  
FOR

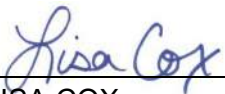
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MODULAR BUILDINGS

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

**SECTION 01 11 00**

SUMMARY OF WORK

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Work Included.
- B. Work under separate contracts.
- C. Work by Owner.
- D. Owner furnished products.
- E. Contractor use of site and premises.
- F. Work Sequence.
- G. Owner occupancy.
- H. Work restrictions.

1.2 WORK INCLUDED

- A. Work of this Contract comprises general construction including demolition and replacement of wall-mounted HVAC units in modular classroom buildings located at Thompson Middle School, 24040 Hayes Avenue, Murrieta, CA 92562 for Murrieta Valley Unified School District, Owner.
- B. Construct the work under a single lump sum contract.

1.3 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
  - 1. Owner occupancy.
  - 2. Work by others and Work by Owner.

1.5 OWNER OCCUPANCY

- A. Partial Owner Occupancy: Owner will occupy the entire site and premises during entire construction period, with the exception of areas under construction.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
- C. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.

- D. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
- E. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.
- F. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage.
- G. Perform the Work so as not to interfere with Owner's day-to-day operations.
- H. Maintain existing exits, unless otherwise indicated.
- I. Provide not less than 72 hours notice to Owner of activities that will affect Owner's operations.

1.6 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours, Monday through Friday, except as otherwise indicated or required to conform to construction schedule and labor codes.
  - 1. Hours for Utility Shutdowns: Off hours as required by and coordinated with site.
  - 2. Hours for Noisy Operations: Off hours as required by and coordinated with site.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted to do so and then only after arranging to provide temporary utility services according to requirements indicated.
  - 1. Notify Architect not less than 5 days in advance of proposed utility interruptions. Do not proceed with utility interruptions without Architect's permission.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION



**SECTION 01 20 00**

PRICE AND PAYMENT PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cash allowances.
- B. Contingency allowances.
- C. Schedule of Values.
- D. Application for Payment.
- E. Defect assessment.
- F. Non-payment for rejected work.
- G. Change procedures.
- H. Alternates.
- I. Unit prices.

1.2 CASH ALLOWANCES

- A. Include in the contract sum all cash allowances stated herein.
- B. Items covered by cash allowances shall be supplied for such amounts and by such persons as the Owner may direct, but the Contractor shall not be required to employ persons or entities against which the Contractor makes reasonable objection.
- C. Costs Included in Cash Allowances: Cost of Product to Contractor or Subcontractor, less applicable trade discounts; delivery to site and applicable taxes.
- D. Costs Not Included in the Cash Allowance: Product handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; labor for installation and finishing; and overhead profit and other expenses contemplated. These expenses shall be included in the contract sum and not in the allowance.
- E. Funds will be drawn from cash allowance amount only by written authorization of the Owner.
- F. At closeout of contract, funds remaining in cash allowance amount will be credited to Owner by change order.
- G. Whenever costs are more than cash allowance amount, the contract amount will be adjusted accordingly by change order.
- H. Contractor Responsibilities:
  - 1. Assist Architect in selection of products and suppliers.
  - 2. Obtain proposals from suppliers and offer recommendations.
  - 3. On notification of selection by Owner, execute agreement with designated supplier.
  - 4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery and product handling at site.

5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for damage.

### 1.3 CONTINGENCY ALLOWANCE:

- A. Include in the contract sum and base bid all contingency allowances stated herein.
- B. Costs included in contingency allowance: Cost of work to Contractor or subcontractor, less applicable trade discounts; delivery to site and applicable taxes; product handling, including unloading, uncrating, and storage; protection of products from damage; labor for installation and finishing; reasonable overhead and profit and other expenses required by work.
- C. Funds will be drawn from contingency allowance amount only by written authorization of Owner.
- D. At closeout of Contract, funds remaining in contingency allowance amount will be credited to Owner by Change Order.
- E. Whenever costs are more than contingency allowance amount, the Contract amount will be adjusted accordingly by Change order.
- F. Contractor Responsibilities:
  1. Assist Architect in selection of products and suppliers.
  2. Obtain proposals from suppliers and offer recommendations.
  3. On notification of selection by Owner, execute agreement with designated supplier.
  4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery of product to site.
  5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for damage.
- G. Contingency Allowance: A stipulated sum of \$25,000.00.

### 1.4 SCHEDULE OF VALUES

- A. Submit Schedule of Values for approval in duplicate within fourteen days after receipt of Notice to Proceed.
- B. Format: Submit typed schedule based upon the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section.
- C. Include in each line item, the amount of Allowances specified in this Section.
- D. Include within each line item, a directly proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders, on continuation sheet, with each Application For Payment.

### 1.5 APPLICATIONS FOR PAYMENT

- A. Submit six copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA Form G703 Continuation Sheet.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Application Times: The date for each progress payment is indicated in the General Conditions of the Contract.
- D. Payment Application Periods: The period of construction covered by each application for payment is the period indicated in the General Conditions of the Contract.

- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents. Architect will return incomplete applications without action.
- F. Waiver of Stop Notices: With each application for payment, submit waivers of stop notices from subcontractors for construction period covered by previous application.
- G. Final Payment: As specified in the General Conditions of the Contract and in Section 01 77 00 - Closeout Procedures.
- H. Refer to the General Conditions of the Contract for additional payment provisions.

#### 1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct one of the following remedies:
  - 1. The defective Work may remain, but the listed schedule of value will be adjusted to a new value at the discretion of the Architect.
  - 2. The defective Work will be partially repaired to the instructions and satisfaction of the Architect and the listed schedule of value will be adjusted to reflect a new value at the discretion of the Architect.

#### 1.7 NON-PAYMENT FOR REJECTED WORK

- A. Payment will not be made for any of the following:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined to be unacceptable before or after placement.
  - 3. Products not completely unloaded from the transporting vehicle.
  - 4. Products placed beyond the lines and levels of the required work.
  - 5. Products remaining on hand after completion of the work.
  - 6. Loading, hauling and disposing of rejected products.

#### 1.8 CHANGE PROCEDURES

- A. The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by General Conditions on AIA Form G710 Architect's Supplemental Instructions.
- B. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications. Proposal Requests are for information only and are not to be considered instructions to stop the work or to execute the proposed change. Contractor will prepare and submit a detailed estimate within 14 days.
- C. Any change in the Work which involves the adjustment to contract sum/price or contract time shall be properly certified by the Contractor as indicated in the General Conditions of the contract.
- D. The Contractor may propose a change by submitting a Change Order Request to the Architect, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation.
- E. Stipulated Sum Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's Change Order Request as approved by Architect.

- F. Time and Material/Force Account Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the General Conditions of the Contract.
- G. Maintain detailed records of work done on Time and Material/Force Account basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work as indicated in the General Conditions of the Contract.
- H. Construction Change Directive: Architect may issue a directive, signed by the Owner and Architect, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute the change.
- I. Allowance Adjustment: Adjustment of allowance amounts shall be based upon a properly documented and detailed Change Order Request which substantiates distribution of allowance amounts and actual costs of work in place.
- J. Change Order Forms: AIA G701 Change Order.
- K. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the General Conditions of the Contract.
- L. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- M. Promptly revise progress schedules to reflect any changes in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change and resubmit.
- N. Promptly enter changes in Project Record Documents.

#### 1.9 UNIT PRICES

- A. A unit price is an amount proposed by the bidder and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by change order in the event the estimated quantities of work required by the Contract Documents are increased or decreased.
- B. Unit prices shall include all necessary material, overhead, profit and applicable taxes.
- C. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established prices, and to have this work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.
- D. Refer to individual specification sections for construction activities requiring the establishment of unit prices.
- E. Specification sections referenced in the Schedule of Unit Prices contain requirements for materials and methods described under each unit price.

#### 2. PART 2 PRODUCTS

Not Used

#### 3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 25 13

### PRODUCT SUBSTITUTION PROCEDURES

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Product options.
- B. Substitution procedures.

##### 1.2 DEFINITIONS

- A. Requests for changes in products, materials, or equipment required by Contract Documents proposed by the Contractor prior to and after award of the Contract are considered requests for substitutions. The following are not considered substitutions:
  - 1. Revisions to Contract Documents requested by the Owner or Architect.
  - 2. Specified options of products, materials, and equipment included in Contract Documents.

##### 1.3 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with Provision for Substitution: Products of manufacturers named and meeting specifications with substitution of products or manufacturer only when submitted under provisions of this section.
- C. Products Specified by Naming One or More Manufacturers without Provision for Substitution: No substitution allowed.

##### 1.4 LIMITATIONS ON SUBSTITUTIONS SUBMITTED PRIOR TO THE RECEIPT OF BIDS

- A. The Bid shall be based upon the standards of quality established by those items of equipment and/or materials which are specifically identified in the Contract Documents.
- B. The opportunity to request a substitution is not for the convenience of the Bidder to request acceptance of equipment and/or materials which may be more familiar or have a lesser cost.
- C. Architect may consider requests for substitutions of specified equipment and/or materials only when requests are received by Architect prior to the date established for the receipt of bids as stipulated in Document 00 21 13 - Instructions to Bidders.
- D. Consideration by Architect of a substitution request will be made only if request is made in strict conformance with provisions of this section.
- E. Burden of proof of merit of requested substitution is the responsibility of the entity requesting the substitution.
- F. It is the sole responsibility of the entity requesting the substitution to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.
- G. Architect's decision on substitution requests are final and do not require documentation or justification.
- H. When substitution is not accepted, provide specified product.
- I. Substitute products shall not be included within the bid without written acceptance by Addendum.

## 1.5 LIMITATIONS ON SUBSTITUTIONS SUBMITTED AFTER THE AWARD OF THE CONTRACT

- A. The Contract is based upon the standards of quality established by those items of equipment and/or materials which are specifically identified in the Contract Documents.
- B. The opportunity to request a substitution is not for the convenience of the Contractor to request acceptance of equipment and/or materials which may be more familiar or have a lesser cost.
- C. Consideration by Architect of substitution requests received after the established date of the receipt of bids or contract award will only be made when one or more of the following conditions are met and documented:
  - 1. Specified item fails to comply with regulatory requirements.
  - 2. Specified item has been discontinued.
  - 3. Specified item, through no fault of the Contractor, is unavailable in the time frame required to meet project schedule.
  - 4. Specified item, through subsequent information disclosure, will not perform properly or fit in designated space.
  - 5. Manufacturer declares specified product to be unsuitable for use intended or refuses to warrant installation of product.
  - 6. Substitution would be, in the sole judgement of the Architect, a substantial benefit to the Owner in terms of cost, time, energy conservation, or other consideration of merit.
- D. Notwithstanding the provisions of Article 1.4 of this section and the above, the Architect may consider a substitution request after the date of the receipt of bids or contract award, if in the sole discretion of the Architect, there appears to be just cause for such a request. The acceptance of such a late request does not waive any other requirement as stated herein.
- E. Consideration by Architect of a substitution request will be made only if request is made in strict conformance with provisions of this section.
- F. Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittals without separate written request as required by provisions of this section.
- G. Review of shop drawings does not constitute acceptance of substitutions indicated or implied on shop drawings.
- H. Substitutions will not be considered when requested or submitted directly by subcontractor or supplier.
- I. Substitutions will not be considered as a result of the failure to pursue the work promptly or coordinate activities properly.
- J. Burden of proof of merit of requested substitution is the responsibility of the Contractor.
- K. It is the sole responsibility of the Contractor to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.
- L. Owner shall receive full benefit of any cost reduction as a result of any request for substitution.
- M. Architect's decision on substitution requests is final and does not require documentation or justification.
- N. When substitution is not accepted, provide specified product.
- O. Substitute products shall not be ordered or installed without written acceptance.

## 1.6 REGULATORY REQUIREMENTS

- A. It shall be the responsibility of the entity requesting the substitution to obtain all regulatory approvals required for proposed substitutions.
- B. All regulatory approvals shall be obtained for proposed substitutions prior to submittal of substitution request to Architect.
- C. All costs incurred by the Owner in obtaining regulatory approvals for proposed substitutions to include the costs of the Architect and any authority having jurisdiction over the project shall be reimbursed to the Owner. Costs of these services shall be reimbursed regardless of final acceptance or rejection of substitution.

## 1.7 SUBSTITUTION REPRESENTATION

- A. In submitting a request for substitution, the entity requesting the substitution makes the representation that he or she:
  - 1. Has investigated the proposed substitution and has determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty or guarantee for the substitution as for the specified product.
  - 3. Will coordinate installation and make changes to other work which may be required for the work to be completed with no additional cost to the Owner.
  - 4. Waives claims for additional cost or time extension which may subsequently become apparent.
  - 5. Will reimburse Owner for the cost of Architect's review or redesign services associated with substitution request.

## 1.8 SUBMITTAL PROCEDURE

- A. Submit each Substitution Request in conformance with the requirements of this section.
- B. Assemble complete Substitution Request into a single bookmarked Portable Document Format (PDF) file.
- C. Submit request with Architect's Substitution Request Form. Form may be obtained at the office of the Architect. Substitution requests received without request form will be returned unreviewed.
- D. Limit each request to one proposed substitution.
- E. Request to include sufficient data so that direct comparison of proposed substitution can be made.
- F. Provide complete documentation for each request. Documentation shall include the following information, as appropriate, as a minimum:
  - 1. Statement of cause for substitution request.
  - 2. Identify product by specification section and article number.
  - 3. Provide manufacturer's name, address, and phone number. List fabricators, suppliers, and installers as appropriate.
  - 4. List similar projects where proposed substitution has been used, dates of installation and names of Architect and Owner.
  - 5. List availability of maintenance services and replacement materials.
  - 6. Documented or confirmation of regulatory approval.
  - 7. Product data, including drawings and descriptions of products.

8. Fabrication and installation procedures.
  9. Samples of proposed substitutions.
  10. Itemized comparison of significant qualities of the proposed substitution with those of the product specified. Significant qualities may include size, weight, durability, performance requirements and visual effects.
  11. Coordination information, including a list of changes or modifications needed to other items of work that will become necessary to accommodate proposed substitution.
  12. Statement on the substitutions effect on the construction schedule.
  13. Cost information including a proposal of the net change, if any, in the Contract sum if the substitution is submitted after the receipt of bids or contract award.
  14. Certification that the substitution is equal to or better in every respect to that required by the Contract Documents and that substitution will perform adequately in the application intended.
  15. Waiver of right to additional payment or time that may subsequently become necessary because of failure of substitution to perform adequately.
- G. Inadequate warranty, vagueness of submittal, failure to meet specified requirements, or submittal of insufficient data will be cause for rejection of substitution request.

1.9 ARCHITECT'S REVIEW

- A. Within 14 days of receipt of request for substitution, the Architect will accept or reject proposed substitution.
- B. If a decision on a substitution cannot be made within the time allocated, the product specified shall be used.
- C. There shall be no claim for additional time for review of proposed substitutions.
- D. Final acceptance of a substitution submitted prior to the date established for the receipt of bids will be in the form of an Addendum.
- E. Final acceptance of a substitution submitted after the award of the contract will be in the form of a Change Order.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION



## SECTION 01 31 00

### PROJECT MANAGEMENT AND COORDINATION

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Coordination.
- B. Preconstruction conference.
- C. Progress meetings.
- D. Request for Information (RFIs).
- E. Preinstallation conferences.
- F. Closeout conference.
- G. Post construction dedication.

##### 1.2 DEFINITIONS

- A. RFI - Request from Contractor seeking additional information, interpretation or clarification of the Contract Documents.

##### 1.3 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Coordinate construction operations of the different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- C. Prior to commencement of a particular type or kind of work examine relevant information, contract documents and subsequent data issued to the project.
- D. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- E. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- G. In locations where several elements of mechanical and electrical work must be sequenced and positioned with precision in order to fit into available space, prepare coordination drawings showing the actual conditions required for the installation. Prepare coordination drawings prior to purchasing, fabricating or installing any of the elements required to be coordinated.
- H. Closing up of walls, partitions or furred spaces, backfilling and other covering up operations shall not proceed until all enclosed or covered work and inspections have been completed. Verify before proceeding.
- I. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owners partial occupancy.

- J. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
- K. Coordinate all utility company work in accordance with the General Conditions.
- L. Coordinate field engineering with the provisions of Section 01 73 00.

#### 1.4 PRECONSTRUCTION CONFERENCE

- A. Architect will schedule a conference immediately after receipt of fully executed contract documents prior to project mobilization.
- B. Mandatory Attendance: Owner, Owner's Resident Inspector, Owner's Testing Laboratory Representative, Architect, Contractor, Contractor's Project Manager and Contractor's Job Superintendent.
- C. Optional Attendance: Architect's consultants, subcontractors and utility company representatives.
- D. Architect will preside at conference, record minutes and distribute copies.
- E. Agenda:
  - 1. Execution of Owner-Contractor Agreement.
  - 2. Issue Notice to Proceed.
  - 3. Submission of executed bonds and insurance certificates.
  - 4. Distribution of Contract Documents.
  - 5. Federal and State labor law requirements applicable to Contract.
  - 6. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
  - 7. Designation of responsible personnel representing the parties.
  - 8. Procedures and processing of RFIs, field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders and Contract closeout procedures.
  - 9. Procedures for testing and inspection.
  - 10. Temporary facilities and controls.
  - 11. Procedures for moisture and mold control.
  - 12. Procedures for disruptions and shutdowns.
  - 13. Scheduling.
  - 14. Critical work sequence and long lead items.
  - 15. Work restrictions and working hours.
  - 16. Progress meetings.
  - 17. Use of site and premises.
  - 18. Storage.
  - 19. Authorities having jurisdiction over project.
  - 20. Owner occupancy requirements.

21. Construction waste management.
22. Preparation of Record Drawings.
23. Security.
24. Parking availability.
25. Progress cleaning.

#### 1.5 PROGRESS MEETINGS

- A. Architect will schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Architect will make arrangements for meetings, prepare agenda, preside at meetings, record minutes (Field Reports), and distribute copies.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Owner's Inspector, and Architect, as appropriate to agenda topics for each meeting.
- D. Agenda:
  1. Review minutes of previous meetings. (Field Reports)
  2. Review of Work progress.
  3. Field observations, problems, and decisions.
  4. Identification of problems which impede planned progress.
  5. Review of submittals schedule and status of submittals.
  6. Requests For Information (RFIs).
  7. Status of Proposal Requests (PRs).
  8. Status of Change Order Requests (CORs).
  9. Status of Change Orders (Cos).
  10. Status of corrective or deficient items.
  11. Review of off-site fabrication and delivery schedules.
  12. Maintenance of construction schedule.
  13. Corrective measures to regain projected schedules.
  14. Planned progress during succeeding work period.
  15. Coordination of projected progress.
  16. Maintenance of quality and work standards.
  17. Effect of proposed changes on progress schedule and coordination.
  18. Temporary facilities and controls.
  19. Progress cleaning.

20. Other business relating to Work.

1.6 REQUEST FOR INFORMATION (RFI'S)

- A. Procedure: Immediately on discovery of the need for additional information, interpretation of the Contract Documents, and if not possible to request interpretation at Progress Meeting, prepare and submit an RFI in the form specified.
1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
  3. Each RFI shall address only one subject matter.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Date.
  2. Project name.
  3. Owner's name.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. Specification Section number and title and related paragraphs, as appropriate.
  8. Drawing number and detail references, as appropriate.
  9. Field dimensions and conditions, as appropriate.
  10. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  11. Contractor's signature.
  12. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Hard-Copy RFIs: Identify each page of attachments with the RFI number and sequential page number.
- D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above. Attachments shall be electronic files in a format that will allow electronic editing by the Architect.
- E. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow fifteen days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day. If the RFI is required to be forwarded to a consultant, subconsultant, or Owner for a response, the response time will be twenty five days.
1. The following RFIs will be returned without action:
    - (a) Requests for approval of submittals.
    - (b) Requests for approval of substitutions.

- (c) Requests for information already indicated in the Contract Documents.
  - (d) Requests for coordination information which is the responsibility of the Contractor.
  - (e) Requests for adjustments in the Contract Time or the Contract Sum.
  - (f) Requests for interpretation of Architect's actions on submittals and substitutions.
  - (g) Incomplete RFIs or RFIs with numerous errors.
2. Architect's action may include a request for additional information, in which case Architect's allowable time for response will start again.
  3. Architect's review of or response to RFIs shall not constitute an approval, direction, or procedure related to construction means, methods, techniques, sequences, or procedures of Contractor.
  4. Architect's review of or response to RFIs shall not constitute an approval, direction, or procedure related to the construction site safety precautions, procedures or methodology of Contractor.
  5. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Order Request according to Division 01 Section 01 20 00 - Price and Payment Procedures.
    - (a) If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within five days of receipt of the RFI response.
    - (b) Under no circumstances is the Architect's review of or response to RFIs to be considered an authorization to depart from the Contract Documents or an authorization to perform extra work.
- F. On receipt of Architect's action immediately distribute the RFI response to affected parties.
- G. Review response and notify Architect within three days if Contractor disagrees with response.

#### 1.7 PREINSTALLATION CONFERENCES

- A. When required in individual specification Section, convene a preinstallation conference prior to commencing work of the Section. Refer to individual specification section for timing requirements of conference.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Notify Architect a minimum of seven days in advance of meeting date.
- D. Preinstallation conference to coincide with regularly scheduled progress meeting.
- E. Prepare agenda, preside at conference, record minutes, and distribute copies within two days after conference to participants.
- F. Agenda:
  1. Review of Contract Documents.
  2. Manufacturer's recommendations.
  3. Status of submittals.
  4. Related RFIs.
  5. Related Change Orders.
  6. Schedule of work activities.

7. Deliveries of materials and equipment.
8. Sequence of operation.
9. Acceptable substrates.
10. Interface requirements.
11. Possible conflicts.
12. Access.
13. Site utilization.
14. Tests and inspections.
15. Review of Mockups.
16. Temporary facilities and controls.
17. Quality and work standards.
18. Weather limitations.

#### 1.8 PROJECT CLOSEOUT CONFERENCE

- A. Architect will schedule a project closeout conference, at a time convenient to Owner and Contractor, but no later than 90 days prior to the scheduled date of Substantial Completion.
- B. Mandatory Attendance: Owner, Owner's Resident Inspector, Owner's Testing Laboratory, Architect, and Contractor.
- C. Architect will preside at conference, record minutes, and distribute copies.
- D. Refer to Section 01 77 00 for additional closeout requirements.
- E. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
  1. Submittal procedures for closeout documents.
  2. Preparation of Record Documents.
  3. Procedures required prior to review for Substantial Completion and for final review for acceptance.
  4. Submittal of written warranties.
  5. Requirements for preparing operations and maintenance data.
  6. Requirements for delivery of material samples, attic stock, and spare parts.
  7. Requirements for demonstration and training.
  8. Preparation of Contractor's punch list.
  9. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
  10. Coordination of separate contracts.
  11. Owner's partial occupancy requirements.
  12. Installation of Owner's furniture, fixtures, and equipment.

13. Responsibility for removing temporary facilities and controls.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 32 17

### CONSTRUCTION SCHEDULE - BAR CHART

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. References.
- B. Performance requirements.
- C. Qualifications.
- D. Quality Assurance.
- E. Project record documents.
- F. Submittals.
- G. Review and evaluation.
- H. Format.
- I. Cost and schedule reports.
- J. Early work schedule.
- K. Construction schedule.
- L. Short interval schedule.
- M. Requested time adjustment schedule.
- N. Recovery schedule.
- O. Updating schedules.
- P. Distribution.

##### 1.2 REFERENCES

- A. Construction Planning and Scheduling Manual - A Manual for General Contractors and the Construction Industry, The Associated General Contractors of America (AGC).
- B. National Weather Service - Local Climatological Data.

##### 1.3 PERFORMANCE REQUIREMENTS

- A. Ensure adequate scheduling during construction activities so work may be prosecuted in an orderly and expeditious manner within stipulated Contract Time.
- B. Ensure coordination of Contractor and subcontractors at all levels.
- C. Ensure coordination of submittals, fabrication, delivery, erection, installation, and testing of materials and equipment.
- D. Ensure on-time delivery of Owner furnished materials and equipment.
- E. Ensure coordination of jurisdictional reviews.



- F. Assist in preparation and evaluation of applications for payment.
- G. Assist in monitoring progress of work.
- H. Assist in evaluation of proposed changes to Contract Time.
- I. Assist in evaluation of proposed changes to Construction Schedule.
- J. Assist in detection of schedule delays and identification of corrective actions.

#### 1.4 QUALIFICATIONS

- A. Scheduler: Personnel with 3 years minimum experience in scheduling construction work of a complexity and size comparable to this Project.
- B. Administrative Personnel: 3 years minimum experience in using and monitoring schedules on comparable projects.

#### 1.5 QUALITY ASSURANCE

- A. Perform work in accordance with Construction Planning and Scheduling Manual published by the AGC.
- B. In the event of discrepancy between the AGC publication and this section, provisions of this section shall govern.

#### 1.6 PROJECT RECORD DOCUMENTS

- A. Submit record documents under provisions of Section 01 77 00.
- B. Submit one electronic file and three copies of final Record Construction Schedule which reflects actual construction of this Project.
- C. Record schedule shall be certified for compliance with actual way project was constructed.
- D. Receipt of Record Construction Schedule shall be a condition precedent to any retainage release or final payment.

#### 1.7 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Within 7 days from the Notice of Award submit proposed Early Work Schedule and preliminary Cost Report defining activities for first 60 days of Work.
- C. Within 45 days from the Notice of Award submit proposed Construction Schedule and final Cost Report.
- D. Submit updated Construction Schedule at least 10 days prior to each Application for Payment.
- E. Submit Short Interval Schedule at each Construction Progress Meeting.
- F. Submit Time Adjustment Schedule within 10 days of commencement of a claimed delay.
- G. Submit Recovery Schedules as required by completion of work.
- H. Submit one electronic file and three copies of each schedule and cost report.

#### 1.8 REVIEW AND EVALUATION

- A. Early Work Schedule shall be reviewed during Preconstruction Conference with Owner and Architect.

- B. Within 5 days of receipt of Owner and Architect's comments provide satisfactory revision to Early Work Schedule or adequate justification for activities in question.
- C. Acceptance by Owner of corrected Early Work Schedule shall be a condition precedent to making any progress payments for first 60 days of Contract.
- D. Cost loaded values of Early Work Schedule shall be a basis for determining progress payments during first 60 days of Contract.
- E. Participate in joint review of Construction Schedule and Reports with Owner and Architect.
- F. Within 7 days of receipt of Owner and Architect's comments provide satisfactory revision to Construction Schedule or adequate justification for activities in question.
- G. In the event that an activity or element of work is not detected by Owner or Architect review, such omission or error shall be corrected by next scheduled update and shall not affect Contract Time.
- H. Acceptance by Owner of corrected Construction Schedule shall be a condition precedent to making any progress payments after first 60 days of Contract.
- I. Cost-loaded values of Construction Schedule shall be basis for determining progress payments.
- J. Review and acceptance by Owner and Architect of Early Work Schedule or Construction Schedule does not constitute responsibility whatsoever for accuracy or feasibility of schedules nor does such acceptance expressly or impliedly warrant, acknowledge or admit reasonableness of activities, logic, duration, or cost loading stated or implied on schedules.

#### 1.9 FORMAT

- A. Shall be fully developed horizontal bar-chart-type schedule prepared under concepts and methods outlined in AGC Construction Planning and Scheduling Manual.
- B. Provide separate bar for each activity or operation.
- C. Activity shall not have a duration longer than 14 days or a value over \$20,000.00 except non-construction activities for procurement and delivery.
- D. Prepare schedule on sheet of sufficient width to clearly show data.
- E. Provide continuous heavy vertical line identifying first day of week.
- F. Provide continuous subordinate vertical line identifying each day of week.
- G. Identify activities by number, description, and cost.
- H. Show each activity in proper sequence.
- I. Indicate graphically sequences necessary for related activities.
- J. Provide legend of symbols and abbreviations used.

#### 1.10 COST AND SCHEDULE REPORTS

- A. Activity Analysis: Tabulate each activity and identify for each activity:
  - 1. Description.
  - 2. Interface with outside contractors or agencies.
  - 3. Duration.

4. Start date.
5. Finish date.
6. Actual start date.
7. Actual finish date.
8. Monetary value keyed to Schedule of Values.
9. Responsibility.
10. Percentage complete.
11. Variance positive or negative.

B. Cost Report: Tabulate each activity and identify for each activity:

1. Description.
2. Total cost.
3. Percentage complete.
4. Value prior to current period.
5. Value this period.
6. Value to date.

#### 1.11 EARLY WORK SCHEDULE

- A. Shall establish scope of work to be performed during the first 60 days of Contract.
- B. Shall contain the following phases and activities:
  1. Procurement activities to include mobilization, shop drawings and sample submittals.
  2. Identification of key and long-lead elements and realistic delivery dates.
  3. Construction activities in units of whole days limited to 14 days for each activity except non-construction activities for procurement and delivery.
  4. Approximate cost and duration of each activity.
- C. Shall contain seasonal weather considerations. Seasonal rainfall shall be 10 year average for the month as evidenced by Local Climatological Data obtained from U.S. National Weather Service.
- D. Activities shall be incorporated into Construction Schedule.
- E. No application for payment will be evaluated or processed until Early Work Schedule has been submitted and reviewed.
- F. Shall be updated on a monthly basis while Construction Schedule is being developed.
- G. Failure to submit an adequate or accurate Early Work Schedule or failure to submit on established dates will be considered a substantial breach of Contract.

## 1.12 CONSTRUCTION SCHEDULE

- A. Shall include Early Work Schedule as first 60 days of Construction Schedule.
- B. Shall be a fully developed horizontal bar-chart-type schedule.
- C. Shall indicate a completion date for project that is no later than required completion date.
- D. Conform to mandatory dates specified in the contract documents.
- E. Should schedule indicate a completion date earlier than any required completion date, Owner or Architect shall not be liable for any costs should project be unable to be completed by such date.
- F. Seasonal weather shall be considered in planning and scheduling of all work. Seasonal rainfall shall be 10 year average for the month as evidenced by Local Climatological Data obtained from U.S. National Weather Service.
- G. Provide sub-schedules to define critical portions of entire schedule.
- H. Indicate procurement activities, delivery and installation of Owner furnished material and equipment.
- I. Level of detail shall correspond to complexity of work involved.
- J. As developed shall show sequence of activities required for complete performance of Work.
- K. Shall be logical and show a coordinated plan of Work.
- L. Show order of activities. Include specific dates of completion.
- M. Duration of activities shall be coordinated with subcontractors and suppliers and shall be best estimate of time required.
- N. Failure to include any activity shall not be an excuse for completing all work by required completion date.
- O. An activity shall meet the following criteria:
  - 1. Any portion or element of work, action, or reaction that is precisely described, readily identifiable, and is a function of a logical sequential process.
  - 2. Descriptions shall be clear and concise. Beginning and end shall be readily verifiable. Starts and finishes shall be scheduled by logical restraints.
  - 3. Responsibility shall be identified with a single performing entity.
  - 4. Additional codes shall identify building, floor, bid item and CSI classification.
  - 5. Assigned dollar value (cost-loading) of each activity shall cumulatively equal total contract amount. Mobilization, bond and insurance costs shall be separate. General requirement costs, overhead, profit, shall be prorated throughout all activities. Activity costs shall correlate with Schedule of Values.
- P. For major equipment and materials show a sequence of activities including:
  - 1. Preparation of shop drawings and sample submissions.
  - 2. Review of shop drawings and samples.
  - 3. Finish and color selection.
  - 4. Fabrication and delivery.
  - 5. Erection or installation.

6. Testing.

- Q. Include a minimum of 15 days prior to completion date for punch lists and clean up. No other activities shall be scheduled during this period.

1.13 SHORT INTERVAL SCHEDULE

- A. Shall be fully developed horizontal bar-chart-type schedule directly derived from Construction Schedule.
- B. Prepare schedule on sheet of sufficient width to clearly show data.
- C. Identify activities by same description as Construction Schedule.
- D. Show each activity in proper sequence.
- E. Indicate graphically sequences necessary for related activities.
- F. Indicate activities completed or in progress for previous 2 week period.
- G. Indicate activities scheduled for succeeding 2 week period.
- H. Further detail may be added if necessary to monitor schedule.

1.14 REQUESTED TIME ADJUSTMENT SCHEDULE

- A. Updated Construction Schedule shall not show a completion date later than the Contract Time, subject to any time extensions processed as part of a Change Order.
- B. If an extension of time is requested a separate schedule entitled "Requested Time Adjustment Schedule" shall be submitted to Owner and Architect.
- C. Indicate requested adjustments in Contract Time which are due to changes or delays in completion of work.
- D. Extension request shall include forecast of project completion date and actual achievement of any dates listed in Agreement.
- E. To the extent that any requests are pending at time of any Construction Schedule update, Time Adjustment Schedule shall also be updated.
- F. Schedule shall be a fully developed horizontal bar-chart-type schedule.
- G. Accompany schedule with formal written time extension request and detailed impact analysis justifying extension.
- H. Time impact analysis shall demonstrate time impact based upon date of delay, and status of construction at that time.
- I. Activity delays shall not automatically constitute an extension of Contract Time.
- J. Failure of subcontractors shall not be justification for an extension of time.
- K. Extensions will be granted only to extent that time adjustments extend Contract completion date.
- L. Owner shall not have an obligation to consider any time extension request unless requirements of Contract Documents, and specifically, but not limited to these requirements are complied with.
- M. Owner shall not be responsible or liable for any construction acceleration due to failure of Owner to grant time extensions under Contract Documents should requested adjustments in Contract Time not substantially comply with submission and justification requirements of Contract for time extension requests.

- N. In the event a Requested Time Adjustment Schedule and Time Impact Analysis are not submitted within 10 days after commencement of a delay it is mutually agreed that delay does not require a Contract time extension.

#### 1.15 RECOVERY SCHEDULE

- A. When activities are behind Construction Schedule a supplementary Recovery Schedule shall be submitted.
- B. Form and detail shall be sufficient to explain and display how activities will be rescheduled to regain compliance with Construction Schedule.
- C. Maximum duration shall be one month and shall coincide with payment period.
- D. Ten days prior to expiration of Recovery Schedule verification to determine if activities have regained compliance with Construction Schedule will be made. Based upon this verification the following will occur:
  - 1. Supplemental Recovery Schedule will be submitted to address subsequent payment period.
  - 2. Construction Schedule will be resumed.

#### 1.16 UPDATING SCHEDULES

- A. Review and update schedule at least 10 days prior to submitting an Application for Payment.
- B. Approved change orders which affect schedule shall be identified as separate new activities.
- C. Change orders of less than \$20,000.00 value or less than 3 days duration need not be shown unless completion date is affected.
- D. Maintain schedule to record actual prosecution and progress.
- E. No other revisions shall be made to schedule unless authorized by Owner.
- F. Provide narrative Progress Report at time of schedule update which details the following:
  - 1. Activities or portions of activities completed during previous reporting period.
  - 2. Actual start dates for activities currently in progress.
  - 3. List of major construction equipment used during reporting period and any equipment idle.
  - 4. Number of personnel by craft engaged on Work during reporting period.
  - 5. Progress analysis describing problem areas.
  - 6. Current and anticipated delay factors and their impact.
  - 7. Proposed corrective actions for Recovery Schedule.
  - 8. Proposed modifications, additions, deletions and changes in Construction Schedule.
- G. Schedule update will form basis upon which progress payments will be made.
- H. Owner will not be obligated to review or process Application for Payment until schedule and Progress Report have been submitted.

#### 1.17 DISTRIBUTION

- A. Following joint review and acceptance of updated schedules distribute copies to Owner, Architect, and all other concerned parties.

B. Instruct recipients to promptly report in writing any problem anticipated by projections shown in schedule.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

**SECTION 01 33 00**

**SUBMITTAL PROCEDURES**

**1. PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Related submittals.
- B. Architect's digital data files.
- C. Proposed products list.
- D. Processing time.
- E. Submittal review.
- F. Submittal procedures - paper submittals.
- G. Shop drawings - paper submittals.
- H. Submittal procedures - electronic submittals.
- I. Shop drawings - electronic submittals.
- J. Product data.
- K. Samples.
- L. Manufacturers' instructions.
- M. Manufacturers' certificates.
- N. Submittal schedule.

**1.2 RELATED SUBMITTALS**

- A. Progress Payments: Section 01 20 00 - Price and Payment Procedures.
- B. Schedule of Values: Section 01 20 00 - Price and Payment Procedures.
- C. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- D. Coordination Drawings: Section 01 31 00 - Project Management and Coordination.
- E. Construction Schedule: Section 01 32 17 - Construction Schedule - Bar Chart.
- F. Tests and Inspections: Section 01 45 29 – Testing Laboratory Services.
- G. Certified Final Property Survey: Section 01 73 00 – Execution Requirements.
- H. Waste Reduction Progress Reports: Section 01 74 19 - Construction Waste Management and Disposal.
- I. Closeout Procedures: Section 01 77 00 – Closeout Procedures.
- J. Commissioning Submittals: Section 01 91 13 - General Commissioning Requirements.
- K. The General Conditions set forth additional requirements for submittals.



### 1.3 ARCHITECT'S DIGITAL DATA FILES

- A. Upon written request, and if asked nicely, the Architect's electronic CAD files will be provided for use in connection with preparation of shop drawings subject to the acceptance of the Architect's standard terms and conditions for electronic file transfer.

### 1.4 PROPOSED PRODUCTS LIST

- A. Within fourteen days after date of Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, model number, and designated specification section of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

### 1.5 PROCESSING TIME

- A. Time period for review of submittals will commence upon receipt of submittal by Architect.
- B. Initial Review: Allow ten working days for each submittal.
- C. Resubmittal Review: Allow ten working days for each resubmittal.
- D. Sequential Review: Allow fifteen working days for initial and resubmittal review of each submittal where review is required by Architect's consultant's, Owner or other parties indicated.

### 1.6 SUBMITTAL REVIEW

- A. The Architect's review is only for general conformance with design concept and Contract requirements. Contractor is responsible for compliance with Contract Documents, dimensions, quantities, fit and coordination with other Work. Review does not authorize substitutions, exclusions and limitations to Contract requirements unless specifically requested by Contractor and acknowledged by Architect.
- B. Definitions for submittal review:
  - 1. Review Completed - Do Not Resubmit: The Work covered by the submittal has been reviewed by the Architect and may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
  - 2. Revise as Noted - Do Not Resubmit: The Work covered by the submittal has been reviewed by the Architect and may proceed provided it complies both with Architect's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
  - 3. Revise as Noted - Resubmit for Record: The Work covered by the submittal has been reviewed by the Architect and the submittal is to be revised according to the Architect's notations and corrections and a new submittal is to be made. Do not proceed with the Work covered by the submittal. Once the revised submittal is received it will be reviewed again by the Architect and retained as the record submittal. Once reviewed, the Work may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
  - 4. Not Acceptable - Make New Submittal: Do not proceed with the Work covered by the submittal. Prepare a new submittal that complies with the Contract Documents. Once the revised submittal is received it will be reviewed again by the Architect. Once reviewed, the Work may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
  - 5. Comment Box / Line: This line is for the Architect to take other action as may be appropriate for the actual submittal made. Notations may include a request for additional items or a statement regarding the submittal. This area can also be used in conjunction with other boxes that have been marked.

## 1.7 SUBMITTAL PROCEDURES - PAPER SUBMITTALS

- A. Transmit each submittal in conformance with requirements of this section.
- B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphanumeric suffix.
- C. Identify Project and Architect's project number, Contractor, Subcontractor or supplier; pertinent Drawing and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents. Submittals without Contractor's stamp and signature will be returned without review.
- E. Schedule submittals to expedite the Project, and deliver to Architect at 8163 Rochester Avenue, Suite 100, Rancho Cucamonga, CA 91730. Coordinate submission of related items.
- F. Make submittals in groups containing associated and related items to make sure that information is available for checking each item when it is received.
- G. Submittals for all items requiring color selection must be received before any will be selected.
- H. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
- I. Make submittals in advance of scheduled dates for installation to allow specified time for review, revisions, and resubmission prior to final review and subsequent placement of orders.
- J. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit proper processing.
- K. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- L. Provide space for Contractor and Architect review stamps.
- M. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- N. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- O. Partial submittals will be considered non responsive and will be returned without review.
- P. Submittals not requested will not be recognized or processed. Submittals not requested will be returned without review.
- Q. Architect will not review submittals that contain material safety data sheets (MSDS) and will return them for resubmittal.
- R. Substitutions will not be considered when they are indicated or implied on submittals without separate written request as required by provisions of Section 01 25 13 - Product Substitution Procedures.

## 1.8 SHOP DRAWINGS - PAPER SUBMITTALS

- A. Submit six prints of each drawing. Four copies will be retained by Architect.
- B. Review comments will be shown on returned print. Contractor will make and distribute copies as required for his purpose.
- C. After review, distribute in accordance with article on procedures stated above and provide copies for Record Documents described in Section 01 77 00 - Closeout Procedures.

- D. Do not reproduce Contract Documents or copy standard information and submit as shop drawings.
- E. Standard information prepared without specific reference to project requirements will not be considered a shop drawing.
- F. Do not use or allow others to use shop drawings which have been submitted and have been rejected.

#### 1.9 SUBMITTAL PROCEDURES - ELECTRONIC SUBMITTALS

- A. Transmit each electronic submittal in conformance with requirements of this section.
- B. Submittals for all items requiring color selections will not be accepted as an electronic submittal.
- C. Assemble complete submittal package into a single indexed Portable Document Format ( PDF ) file. File format licensed by Adobe Systems.
- D. Transmit electronic submittals as PDF files via Architect's Project Collaboration Site address or designated email address.
- E. Transmittal form for submittals shall be an electronic form acceptable to the Architect which identifies the Project, the Architect's project number, the Contractor, the Subcontractor or material supplier; pertinent Drawing and detail number(s), and specification Sections, as appropriate.
- F. Provide links enabling navigation to each item of submittal package.
- G. Name electronic submittal file with consistent project identifier composed of Architect's project number, Architect's alpha numeric file designation, and specification section number followed by sequential number. (e.g., 1930700-56-SUB - 064116-01.pdf )
- H. Resubmittals shall include an alphabetic suffix after initial point number. (e.g., 1930700-56-SUB – 064116-01-A.pdf)
- I. Resubmittals shall identify all changes made since previous submittal.
- J. Insert Contractor's review stamp to permanently record Contractor's action.
- K. Contractor's stamp shall be signed or initialed certifying that review, verification of Products required, field dimensions, adjacent work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- L. Submittals without Contractor's stamp and signature will be returned without review.
- M. Provide space for Architect's electronic review stamp.
- N. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
- O. Make submittals in advance of scheduled dates for installation to allow specified time for review, revisions, and resubmission prior to final review and subsequent placement of orders.
- P. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit proper processing.
- Q. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- R. Contractor shall reproduce and distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- S. Partial submittals will be considered non responsive and will be returned without review.

- T. Submittals not requested will not be recognized or processed. Submittals not requested will be returned without review.
- U. Architect will not review submittals that contain material data safety sheets (MSDS) and will return them for resubmittal.
- V. Substitutions will not be considered when they are indicated or implied on submittals without separate written request as required by provisions of Section 01 25 13 - Product Substitution Procedures.

#### 1.10 SHOP DRAWINGS - ELECTRONIC SUBMITTALS

- A. Submit electronic copy of shop drawings in PDF format as specified in this section.
- B. Review comments will be indicated on reviewed document.
- C. After review, distribute in accordance with article on procedures stated above and provide copies for Record Documents described in Section 01 77 00 - Closeout Procedures.
- D. Do not reproduce Contract Documents or copy standard information and submit as shop drawings.
- E. Standard information prepared without specific reference to project requirements will not be considered a shop drawing.
- F. Do not use or allow others to use shop drawings which have been submitted and have been rejected.

#### 1.11 PRODUCT DATA

- A. When specified in individual specification sections, submit copies of data for each product which Contractor requires.
- B. Submit six copies of product data made in paper format. Four copies will be retained by Architect.
- C. Electronic submittals for product data will comply with Article for electronic submittal procedures stated in this section.
- D. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.
- E. Manufacturer's standard product data or catalogs that do not indicate materials or products that are specific to project will be returned without review.
- F. After review, distribute in accordance with article on procedures stated above and provide copies for Record Documents described in Section 01 77 00 - Closeout Procedures.

#### 1.12 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Include identification on each sample, with full Project information.
- C. Submit the number of samples which Contractor requires, plus two which will be retained by Architect.
- D. Reviewed samples which may be used in the Work are indicated in individual specification Sections.
- E. Submittals for all items requiring color selection must be received before any will be selected.
- F. If a variation in color, pattern, texture or other characteristic is inherent within the material or product submitted, sample shall approximate limits of variation.

### 1.13 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturer's instructions and Contract Documents.

### 1.14 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturer's certificate to Architect for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

## 2. PART 2 PRODUCTS

Not Used

## 3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 35 16

### ALTERATION PROJECT PROCEDURES

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Products and installation for altering, patching and extending Work.
- B. Transition and adjustments.
- C. Repair of damaged surfaces, finishes, and cleaning.
- D. Fire prevention.

##### 1.2 DEFINITIONS

- A. Protect and Maintain: To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.
- B. Repair: To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Repair also includes limited replacement to match existing, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.
- C. Replace: To duplicate and replace entire features with new material to match existing. Replacement includes the following conditions:
  - 1. Duplication: Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.
  - 2. Replacement with New Materials: Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.
  - 3. Replacement with Substitute Materials: Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.
- D. Remove: To detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- E. Remove and Salvage: To detach items from existing construction and deliver them to Owner.
- F. Remove and Reinstall: To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.
- G. Existing to Remain or Retain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.
- H. Match Existing: Material that matches existing materials, as much as possible, in species, cut, color, grain, and finish.
- I. Refinish: To remove existing finishes to base material and apply new finish to match original.

##### 1.3 SUBMITTALS

- A. If alternate methods and materials to those indicated are proposed for any work, provide written description of proposed methods and comparable products.

- B. Where existing conditions may be misconstrued as damage caused by alteration procedures submit evidence of adjacent construction before work begins.

#### 1.4 QUALITY ASSURANCE

- A. Qualifications: An experienced firm regularly engaged in similar alteration Work specified in this Section.
- B. Lead Paint: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40CFR 745, Subpart E, and shall use only workers that are trained in lead-safe work practices.
- C. Dust and Noise Control: Provide temporary dust and noise-control partitions when required by alteration operations. Do not block means of egress from occupied spaces.
- D. Debris Hauling: Define hauling routes and provide temporary protective coverings.
- E. Fire-Prevention: Comply with NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations. Prepare a written plan for preventing fires during prosecution of the Work. Indicate placement of fire extinguishers, rag buckets, and other fire-control devices. Coordinate with Owner's fire-protection equipment. Include fire-watch personnel when required by alteration operations.
- F. Safety and Health Standard: Comply with ANSI/ASSE A10.6, Safety and Health Program Requirements for Demolition Operations.

#### 1.5 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs.
- B. Discrepancies: Notify Architect of discrepancies between existing conditions and Contract Documents before proceeding with the Work.
- C. Owner's Removal: Before beginning alteration Work, verify with Owner that all items of importance to them have been removed.
- D. Size Limitations of Existing Space: Materials, products, and equipment used for performing Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms and openings.

#### 1.6 PEDESTRIAN AND VEHICULAR CIRCULATION

- A. Coordinate alteration Work with circulation paths.
- B. Circulation patterns cannot be closed off entirely and can only be redirected around small areas.
- C. Plan and execute the Work accordingly.

### 2. PART 2 PRODUCTS

#### 2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New Materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing Work as a standard.

### 3. PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that demolition is complete, and areas are ready for installation of new Work.
- B. Beginning of alteration Work means acceptance of existing conditions.

### 3.2 FIRE PREVENTION

- A. Comply with NFPA 241 requirements.
- B. Remove and keep area free of combustible rubbish, paper, waste, and chemicals.
- C. Heat-Generating Activities: Comply with the following procedures while performing heat-generating procedures including welding, torch-cutting, soldering, brazing, removing paint by heat, or other procedures with open flames.
  - 1. As far as practical, restrict heat generating activities to area outside the building.
  - 2. Do not perform heat generating activities in or near rooms that contain flammable liquids or explosive vapors.
  - 3. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature materials from reaching surrounding combustible materials.
  - 4. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings and roofs.
  - 5. Fire Watch: Before working with heat generating activities, employ personnel to serve as fire watch at each location where such work will be performed. Fire watch procedures shall be implemented according to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work and NFPA 241.
    - (a) Prohibit fire watch personnel from other work that would distract them from fire-watch duties.
    - (b) Cease work for heat generating activities whenever fire-watch personnel are not present.
    - (c) Fire-watch personnel shall perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of heat generating activities.
    - (d) Fire-watch personnel shall maintain their duties at each area of heat generating activities until 60 minutes after conclusion of daily work.
  - 6. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids.
  - 7. Fire Sprinklers: Where fire sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. Protect sprinklers from damage by operations. Remove protection when operations are complete.

### 3.3 PREPARATION

- A. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- C. Remove debris and abandoned items from area and from concealed spaces.
- D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.



- E. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

#### 3.4 INSTALLATION

- A. Coordinate work of alterations and renovations to expedite completion and to accommodate Owner occupancy.
- B. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring products and finishes to original or specified condition.
- C. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- D. Install products as specified in individual Sections.

#### 3.5 TRANSITIONS

- A. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patched Work to match existing adjacent Work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new work is not possible, request instructions from Architect.

#### 3.6 ADJUSTMENTS

- A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/8 inch or more occurs, request instructions from Architect.
- C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
- D. Fit work at penetrations of surfaces as specified in Section 01 73 29.

#### 3.7 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- B. Repair substrate prior to patching finish.

#### 3.8 FINISHES

- A. Finish surfaces as specified in individual Product Sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

#### 3.9 CLEANING

- A. Match samples of existing materials that have been cleaned and identified for acceptable cleaning levels.
- B. Avoid over cleaning to prevent damage to existing materials.

END OF SECTION

## SECTION 01 42 19

### REFERENCE STANDARDS

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Definitions.
- B. Specification format and content.
- C. Industry standards.
- D. Codes and standards.
- E. Governing regulations/authorities.

##### 1.2 DEFINITIONS

- A. General: Basic contract definitions are included in the General Conditions.
- B. Regulations: Includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work.

##### 1.3 SPECIFICATION FORMAT AND CONTENT

- A. Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 50-Division Master Format 2018 numbering system.
- B. The sections are placed in the Project Manual in numeric sequence; however, this sequence is not complete and the Table of Contents of the specifications must be consulted to determine the total listing of sections.
- C. The section title is not intended to limit the meaning or content of the section, nor to be fully descriptive of the requirements specified therein.
- D. The organization of the specifications shall not control the division of the work among subcontractors or establish the extent of work to be performed by any trade.
- E. Specifications use certain conventions regarding style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are:
  - 1. Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable to maintain the context of the Contract Document indicated.
  - 2. Imperative and streamlined language is generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. Subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
  - 3. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

#### 1.4 INDUSTRY STANDARDS

- A. Except where Contract Documents include more stringent requirements, applicable construction industry standards shall apply as if bound into the Contract Documents to the extent referenced. Such standards are made part of Contract Documents by reference.
- B. Conform to reference standard by date of issue current on date for receiving bids except when a specific date is indicated.
- C. Where compliance with 2 or more standards is specified and where standards may establish different or conflicting requirements for quantities or quality levels, the more stringent, higher quality and greater quantity of work shall apply.
- D. The quantity or quality level shown or specified shall be the minimum provided or performed. Indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements.
- E. Each entity engaged in construction of the work is required to be familiar with industry standards applicable to its construction activity.
- F. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required activity, Contractor shall obtain copies directly from publication source.
- G. Trade associations names and titles of general standards are frequently abbreviated. Where such abbreviations are used in the Specifications or other Contract Documents, they shall mean the recognized trade association, standards-generating organization, authority having jurisdiction, or other entity applicable to the content of the text provision. Refer to the "Encyclopedia of Associations", published by Gale Research Co., available in most libraries.
- H. Refer to individual specification sections and related drawings for names and abbreviations of trade associations and standards applicable to specific portions of the work. In particular, refer to Division 23 for names and abbreviations applicable to mechanical work, and refer to Division 26 for names and abbreviations applicable to electrical work.
- I. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

#### 1.5 CODES AND STANDARDS

- A. Latest edition of pertaining ordinances, laws, rules, codes, regulations, standards, and others of public agencies having jurisdiction of the work are intended wherever reference is made in either the singular or plural to Code or Building Code except as otherwise specified, including but not limited to latest edition of those in the following listing.
  - 1. 2019 California Building Standards Administrative Code (CBSAC), California Code of Regulations (CCR), Title 24, Part 1
  - 2. 2019 California Building Code (CBC) California Code of Regulations (CCR) Title 24, Part 2 (2018 International Building Code (IBC) with California amendments)
  - 3. 2019 California Electrical Code (CEC) California Code of Regulations (CCR) Title 24, Part 3 (2017 National Electric Code (NEC) with California amendments)
  - 4. 2019 California Mechanical Code (CMC) California Code of Regulations (CCR) Title 24, Part 4 (2018 Uniform Mechanical Code (UMC) with California amendments)
  - 5. 2019 California Plumbing Code (CPC) California Code of Regulations (CCR) Title 24, Part 5 (2018 Uniform Plumbing Code (UPC) with California amendments)

6. 2019 California Energy Code, California Code of Regulations (CCR) Title 24, Part 6
7. 2019 California Fire Code (CFC) California Code of Regulations (CCR) Title 24, Part 9 (2018 International Fire Code (IFC) with California Amendments)
8. 1990 State Fire Marshal Regulations California Code of Regulations (CCR) Title 19 (As amended to date)
9. 2019 California Existing Building Code (CEBC) California Code of Regulations (CCR) Title 24, Part 10 (2018 International Existing Building Code (IEBC) with California Amendments)
10. 2019 State Referenced Standards Code (CRSC) California Code of Regulations (CCR) Title 24, Part 12
11. 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design. (ADAS)

#### 1.6 GOVERNING REGULATIONS/AUTHORITIES

- A. Authorities having jurisdiction have been contacted where necessary to obtain information for preparation of Contract Documents. Contact authorities having jurisdiction directly for information having a bearing on the work.
- B. Comply with all federal, state and local laws, ordinances, rules and regulations indicated and which bear on the conduct of the work.

#### 2. PART 2 PRODUCTS

Not Used

#### 3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 43 00

### QUALITY ASSURANCE

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Interpretation of requirements.
- B. Quality assurance and control of installation.
- C. Tolerances.
- D. Field samples.
- E. Manufacturers' field services and reports.

##### 1.2 INTERPRETATION OF REQUIREMENTS

- A. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement.
- B. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation shall comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits.
- C. Where codes or specified standards indicate higher standards, more stringent tolerances or more precise workmanship than levels shown or specified, comply with most stringent requirements.
- D. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

##### 1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this project, whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and - control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
- E. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- F. Comply fully with manufacturers' instructions, including each step in sequence.
- G. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

- H. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

#### 1.4 TOLERANCES

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

#### 1.5 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been reviewed by Architect.

#### 1.6 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 other field services as applicable, and to initiate instructions when necessary.
- B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report in duplicate within 15 days of observation to Architect for review.

### 2. PART 2 PRODUCTS

Not Used

### 3. PART 3 EXECUTION

#### 3.1 GENERAL INSTALLATION

- A. Comply with requirements specified in Section 01 73 00.

#### 3.2 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

#### 3.3 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.

- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

## SECTION 01 50 00

### TEMPORARY FACILITIES AND CONTROLS

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, communication service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing. Water, erosion, pollution, noise and fire protection control.
- C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

##### 1.2 TEMPORARY ELECTRICITY

- A. Connect to existing power service at location as directed. Power consumption shall not disrupt Owner's need for continuous service. Owner will pay for cost of energy used. Exercise measures to conserve energy.
- B. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.
- C. Provide main service disconnect and over current protection at convenient location.
- D. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service.
- E. Permanent convenience receptacles may be utilized during construction.

##### 1.3 TEMPORARY LIGHTING

- A. Provide and maintain lighting for construction operations, observations, inspections, and traffic conditions.
- 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.
- E. Permanent building lighting may be utilized during construction.

##### 1.4 TEMPORARY HEATING/COOLING

- A. Provide and pay for devices as required to maintain specified thermal conditions for construction operations.
- B. Only electric or indirect fired combustion heaters shall be used. No direct fired space heaters will be allowed.
- C. Heaters will be equipped with controls to automatically turn off heater if airflow is interrupted or internal temperature exceeds design temperature.
- D. Do not use permanent equipment for temporary purposes.
- E. Maintain minimum ambient temperature of 50 degrees F and maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
- F. Maintain temperature above dew point of enclosed space based upon relative humidity of enclosed area.



- G. Continuously monitor temperature of enclosed space(s) using an electronic monitoring device (s). Place devices in locations that will record average temperature of building(s). Provide print out to Architect upon request.

#### 1.5 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to assist cure of materials and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Do not use permanent equipment for temporary ventilation purposes.
- C. Ventilate enclosed spaces to dissipate humidity. Maintain a maximum relative humidity level of less than 60 percent. Avoid pockets of high humidity.
- D. Continuously monitor humidity of enclosed space(s) using an electronic monitoring device(s). Place devices in locations that will record average humidity of building(s). Provide print out to Architect upon request.

#### 1.6 TEMPORARY HUMIDITY CONTROL

- A. Provide temporary ventilation during construction activities to protect installed construction from adverse effects of high humidity and moisture.
- B. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- C. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- D. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- E. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.

#### 1.7 TEMPORARY WATER SERVICE

- A. Connect to existing water source for construction operations. Owner will pay cost of water used. Exercise measures to conserve water. Water consumption shall not disrupt Owner's need for continuous service.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

#### 1.8 TEMPORARY SANITARY FACILITIES

- A. Provide temporary chemical type toilet facilities and enclosures.
- B. Maintain temporary toilet facilities in a sanitary manner.
- C. Existing facilities shall not be used.
- D. Facilities shall comply with the accessibility requirements of the CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Section 11B-201.4.

#### 1.9 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide protection for plant life and trees designated to remain and for soft and hardscape areas adjacent to work, replace damaged materials in kind.
- C. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

#### 1.10 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks. Post fences and gates with no trespassing signs.

#### 1.11 TEMPORARY FIRE PROTECTION

- A. Maintain temporary fire protection facilities of the types needed until permanent facilities are installed.
- B. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations".
- C. Fire safety during construction shall comply with CFC - California Fire Code (CCR) California Code of Regulations, Title 24, Part 9, Chapter 33.
- D. Store combustible materials in containers in fire-safe locations.
- E. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes.
- F. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
- G. Refer to Section 01 35 16 Alteration Project Procedures for additional requirements for operations in existing buildings.

#### 1.12 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

#### 1.13 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Conform to Best Management Practices for waste management and material controls as defined in Section 4 of the Construction Activity Handbook published by the Storm Water Quality Association.

#### 1.14 EXTERIOR ENCLOSURES

- A. Provide temporary weather-tight closure of exterior openings to accommodate acceptable working conditions and protection for materials, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification Sections, and to prevent entry of unauthorized persons.
- B. Provide access doors with self-closing hardware and locks.

#### 1.15 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as required to separate work areas from Owner occupied areas, to prevent penetration of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

#### 1.16 SECURITY

- A. Provide security and facilities to protect Work from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.

#### 1.17 ACCESS ROADS

- A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
- B. Stabilize temporary vehicle transportation routes and construction entrances to prevent erosion and control dust immediately after grading in accordance with best management practice techniques defined in Section 3 of the Construction Activity Handbook published by the Storm Water Quality Association.
- C. Maintain stabilization techniques as work progresses.
- D. Provide and maintain access to fire hydrants, free of obstructions.
- E. Designated existing on-site roads may be used for construction traffic.

#### 1.18 PARKING

- A. Existing on-site parking areas may be used for construction personnel.

#### 1.19 TRAFFIC CONTROL

- A. Comply with requirements of authorities having jurisdiction.
- B. Obtain all permits, provide all materials and maintain controls as required of authorities having jurisdiction.
- C. Maintain access for fire-fighting equipment and access to hydrants.

#### 1.20 PROGRESS CLEANING

- A. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- B. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- C. Provide walk-off mats at each building entry.

#### 1.21 WASTE DISPOSAL

- A. Provide waste collection containers in sizes adequate to handle waste from construction operations.
- B. Maintain building areas free of waste materials, debris, and rubbish.
- C. Remove waste materials, debris, and rubbish from site periodically and legally dispose of off site.
- D. Maintain site area in a clean and orderly condition.

#### 1.22 STORAGE AREAS AND SHEDS

- A. Size to storage requirements for products of individual Sections. Allow for access and orderly provision for maintenance and for inspection of products.

#### 1.23 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Maintain temporary equipment, facilities and controls until Substantial Completion or when use is no longer required.
- B. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion review.
- C. Clean and repair damage caused by installation or use of temporary work.

- D. Materials and facilities that constitute temporary facilities are property of the Contractor.
- E. Restore existing facilities used during construction to original condition.
- F. Restore permanent facilities used during construction to specified condition.
- G. Replace construction that cannot be satisfactorily restored.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 61 00

### PRODUCT REQUIREMENTS

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Damage and restoration.

##### 1.2 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Products may also include existing materials or components required for reuse that were obtained from this project.
- C. Products specified or recycled from other projects are not considered new products.
- D. Provide interchangeable components of the same manufacturer, for similar components.
- E. Provide products that comply with the Contract Documents, that are undamaged and are unused at the time of installation.
- F. Provide products complete with all accessories, trim, finish, safety guards and other devices and detail needed for a complete installation and for the intended use and effect.
- G. Where a specific manufacturer's product is specified as the basis of design, the designation shall establish the qualities relating to type, function, dimension, in-service performance, physical properties, appearance and other characteristics for comparable products of other named manufacturers.
- H. Where products are specified by name or by manufacturer provide the product or manufacturer specified. No substitutions will be permitted unless made under the provisions of Section 01 25 13.
- I. Where specifications only describe a product or assembly by listing exact characteristics required, provide a product or assembly that provides the characteristics.
- J. Where specifications only require compliance with performance requirements, provide products that comply with those requirements.
- K. Where the specifications only require compliance with an imposed code, standard or regulation, provide a product that complies with the standards, codes or regulations specified.
- L. Where specifications require review and acceptance of a sample, the Architect's decision will be final on whether a proposed product sample is acceptable or not.
- M. Provide materials and products specified in the full range of color, texture and pattern for selection by Architect. Range shall include standard stocked color/texture/pattern, as advertised in product data and brochures. Unless otherwise indicated in individual specification sections, Architect may select from any color range at no additional cost to Owner.
- N. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

- O. Where product is designated to match an existing product, provide product that matches in size, profile, finish, dimension and other characteristics the existing product identified.

### 1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Schedule delivery to minimize long-term storage at site to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
- D. Deliver products in manufacturer's original sealed container or packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- E. Promptly inspect shipments to assure 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.

### 1.4 STORAGE

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
- B. Store sensitive products in weather-tight, climate controlled enclosures.
- C. Store products in a manner that will not damage or overload project structure.
- D. For exterior storage of fabricated products, place on sloped supports, above ground.
- E. Provide off-site storage when site does not permit on-site storage .
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- J. Prevent the discharge of pollutants to storm water from storage of materials on-site using best management practice techniques defined in Chapter 4 of the Construction Activity Handbook published by the Storm Water Quality Task Force.

### 1.5 PROTECTION

- 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 minimize 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.

- 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. Provide humidity and temperature control for installed products as recommended by materials manufacturer.
- G. Prohibit traffic from landscaped areas.

1.6 DAMAGE AND RESTORATIONS

- A. Damage to existing or new work whether accidental or not shall be restored or replaced as specified or directed by Architect.
- B. Restoration shall be equal to structural performance of original work.
- C. Finish shall match appearance of existing adjacent work.
- D. Work not properly restored or where not capable of being restored shall be removed and replaced.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

## SECTION 01 73 00

### EXECUTION REQUIREMENTS

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. General procedural requirements governing execution of the Work.
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. General installation of products.

##### 1.2 SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- B. Certified Surveys: Submit two copies signed by land surveyor.
- C. Final Property Survey: Submit 2 copies showing the Work performed and record survey data.

#### 2. PART 2 PRODUCTS

Not Used

#### 3. PART 3 EXECUTION

##### 3.1 EXAMINATION

- A. Existing Conditions: Existence and location of site improvements and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify existence and location of construction affecting the Work.
- B. Existing Utilities: Existence and location of underground and other utilities indicated as existing are not guaranteed. Before beginning work, investigate and verify existence and location of underground utilities affecting the Work.
  - 1. Before construction, verify location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and electrical services.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Written Report: Where conditions detrimental to performance of the Work are encountered, provide a written report listing the following:
    - (a) Description of the Work.
    - (b) List of detrimental conditions, including substrates.
    - (c) List of unacceptable installation tolerances.



- (d) Recommended corrections.
- 2. Verify compatibility with and suitability of substrates, including compatibility of existing finishes or primers.
- 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
- 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
- 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of need for clarification of Contract Documents, submit a Request For Information (RFI) to Architect. Include a detailed description of problem encountered, together with recommendations for resolution of the item discovered.

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

### 3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
  - 4. Maintain maximum headroom clearance in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

END OF SECTION

## SECTION 01 73 29

### CUTTING AND PATCHING

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

##### 1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore surfaces to original or specified conditions after installation of other work.

##### 1.3 REGULATORY REQUIREMENTS

- A. Unless specifically shown on the drawings, no structural member shall be cut, drilled, or notched without prior written authorization from the Architect.

##### 1.4 SUBMITTALS

- A. Submit written request in advance of cutting or patching which affects:

1. Structural integrity of any element of Project.
2. Integrity of weather-exposed or moisture-resistant element.
3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate contractor.

- B. Include in request:

1. Identification of Project.
2. Location and description of affected work.
3. Necessity for cutting or patching.
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.

##### 1.5 QUALITY ASSURANCE

- A. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

- B. Do not cut or patch operating elements that would reduce their capacity to perform or that would result in increased maintenance or decreased operational life or safety.
- C. Do not cut or patch construction that would result in visual evidence of cutting or patching.
- D. Remove and replace construction that has been cut or patched in a visually unsatisfactory manner.

## 2. PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Primary Products: Those required for original installation.
- B. Substitutions: Under provisions of Section 01 25 13.

## 3. PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing Work, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

### 3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering work.

### 3.3 CUTTING AND PATCHING

- A. Execute cutting, fitting, and patching to complete Work.
- B. Fit Products together, to integrate with other work.
- C. Uncover work to install ill timed work.
- D. Remove and replace defective or non-conforming work.
- E. Remove samples of installed work for testing when requested.
- F. Provide openings in the Work for penetration of mechanical and electrical work.
- G. Cut rigid materials using saw or drill. Pneumatic tools not allowed without prior approval.

### 3.4 PERFORMANCE

- A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. Employ skilled and experienced installer to perform cutting and patching.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- D. Restore work with new Products in accordance with requirements of Contract Documents.
- E. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- F. 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.
- G. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

### 3.5 CLEANING

- A. Clean areas and spaces where cutting and patching was performed.
- B. Completely remove paint, mortar, oils, sealant, and similar materials.

END OF SECTION

## SECTION 01 74 19

### CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Administrative and procedural requirements for the following:
  - 1. Recycling nonhazardous demolition and construction waste.
  - 2. Disposing of nonhazardous demolition and construction waste.

##### 1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

##### 1.3 PERFORMANCE GOALS

- A. Salvage/Recycle Goals: Salvage and recycle as much nonhazardous demolition and construction waste as possible.

##### 1.4 SUBMITTALS

- A. Submit waste management plan and progress reports under the provisions of Section 01 33 00.
- B. Waste Management Plan: Submit plan within 14 days of date established for the Notice of Award.
- C. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit reports. Include separate reports for demolition and construction waste. Include the following information:
  - 1. Material category.
  - 2. Generation point of waste.
  - 3. Total quantity of waste in tons.
  - 4. Quantity of waste salvaged, both estimated and actual in tons.
  - 5. Quantity of waste recycled, both estimated and actual in tons.
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
  - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- D. Forms: Prepare waste reduction progress reports on forms included at end of Part 3.
- E. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- F. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

- G. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- H. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- I. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- J. Qualification Data: For refrigerant recovery technician.
- K. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

#### 1.5 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

#### 1.6 WASTE MANAGEMENT PLAN

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  - 1. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - 2. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - 3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  - 4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  - 5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Forms: Prepare waste management plan on forms included at end of Part 3.

## 2. PART 2 PRODUCTS

Not Used

## 3. PART 3 EXECUTION

### 3.1 PLAN IMPLEMENTATION

- A. General: Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - 1. Distribute waste management plan to everyone concerned within 3 days of submittal return.
  - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  - 2. Comply with Division 01 Section 01 50 00 - Temporary Facilities and Controls, for controlling dust and dirt, environmental protection, and noise control.

### 3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Sale: Not permitted to be sold on Project site.
- B. Salvaged Items for Donation: Permitted on Project site.
- C. Salvaged Items for Owner's Use:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area designated by Owner.
  - 5. Protect items from damage during transport and storage.

### 3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: Licensed entity normally engaged in the business of receiving, recycling, and processing waste materials with a minimum of 5 years of documented experience with the types of waste products to be processed under the provisions of this section.
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be shared equally by Owner and Contractor.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
  - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
  - 2. Inspect containers and bins for contamination and remove contaminated materials if found.
  - 3. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 4. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  - 5. Store components off the ground and protect from the weather.
  - 6. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

### 3.4 RECYCLING DEMOLITION WASTE

- A. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- B. Metals: Separate metals by type.
  - 1. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- C. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.



### 3.5 RECYCLING CONSTRUCTION WASTE

#### A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

#### B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
  - (a) Comply with requirements in Division 32 Section 32 90 00 - Planting for use of clean sawdust as organic mulch.

### 3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
- B. Do not allow waste materials that are to be disposed of accumulate on-site. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Burning: Do not burn waste materials.
- D. Disposal: Transport waste materials off Owner's property and legally dispose of them.

### 3.7 FORMS

#### A. Waste Management Plan Forms Attached:

1. Construction Waste Reduction Progress Report.
2. Demolition Waste Reduction Progress Report.
3. Construction Waste Identification.
4. Demolition Waste Identification.
5. Construction Waste Reduction Work Plan.
6. Demolition Waste Reduction Work Plan.
7. Cost/Revenue Analysis of Construction Waste Reduction Work Plan.
8. Cost/Revenue Analysis of Demolition Waste Reduction Work Plan.

END OF SECTION

**CONSTRUCTION WASTE REDUCTION PROGRESS REPORT**

MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (D = B + C)	TOTAL QUANTITY OF WASTE RECOVERED % (D/Ax100)
			ESTIMATED TONS	ACTUAL TONS (B)	ESTIMATED TONS	ACTUAL TONS (C)		
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

**DEMOLITION WASTE REDUCTION PROGRESS REPORT**

MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (D=B+C)	TOTAL QUANTITY OF WASTE RECOVERED % (D/Ax100)
			ESTIMATED TONS	ACTUAL TONS (B)	ESTIMATED TONS	ACTUAL TONS (C)		
Asphaltic Concrete Paving								
Concrete								
Brick								
CMU								
Lumber								
Plywood and OSB								
Wood Paneling								
Wood Trim								
Miscellaneous Metals								
Structural Steel								
Rough Hardware								
Insulation								
Roofing								
Doors and Frames								
Door Hardware								
Windows								
Glazing								
Acoustical Tile								
Carpet								
Carpet Pad								
Demountable Partitions								
Equipment								
Cabinets								
Plumbing Fixtures								
Piping								
Supports and Hangers								
Valves								
Sprinklers								
Mechanical Equipment								
Electrical Conduit								
Copper Wiring								
Light Fixtures								
Lamps								
Lighting Ballasts								
Electrical Devices								
Switchgear and Panel boards								
Transformers								
Other:								

CONSTRUCTION WASTE IDENTIFICATION							
MATERIAL CATEGORY	GENERATION POINT	EST. QUANTITY OF MATERIALS RECEIVED (A)	EST. WASTE - % (B)	TOTAL EST. QUANTITY OF WASTE* (C=AxB)	EST. VOLUME CY	EST. WEIGHT TONS	REMARKS AND ASSUMPTIONS
Packaging: Cardboard							
Packaging: Boxes							
Packaging: Plastic Sheet or Film							
Packaging: Polystyrene							
Packaging: Pallets or Skids							
Packaging: Crates							
Packaging: Paint Cans							
Packaging: Plastic Pails							
Site-Clearing Waste							
Masonry or CMU							
Lumber: Cut-Offs							
Lumber: Warped Pieces							
Plywood or OSB (scraps)							
Wood Forms							
Wood Waste Chutes							
Wood Trim (cut-offs)							
Metals							
Insulation							
Roofing							
Joint Sealant Tubes							
Gypsum Board (scraps)							
Carpet and Pad (scraps)							
Piping							
Electrical Conduit							
Other:							

\* Insert units of measure.

DEMOLITION WASTE IDENTIFICATION				
MATERIAL DESCRIPTION	EST. QUANTITY	EST. VOLUME CY	EST. WEIGHT TONS	REMARKS AND ASSUMPTIONS
Asphaltic Concrete Paving				
Concrete				
Brick				
CMU				
Lumber				
Plywood and OSB				
Wood Paneling				
Wood Trim				
Miscellaneous Metals				
Structural Steel				
Rough Hardware				
Insulation				
Roofing				
Doors and Frames				
Door Hardware				
Windows				
Glazing				
Acoustical Tile				
Carpet				
Carpet Pad				
Demountable Partitions				
Equipment				
Cabinets				
Plumbing Fixtures				
Piping				
Piping Supports and Hangers				
Valves				
Sprinklers				
Mechanical Equipment				
Electrical Conduit				
Copper Wiring				
Light Fixtures				
Lamps				
Lighting Ballasts				
Electrical Devices				
Switchgear and Panelboards				
Transformers				
Other:				

CONSTRUCTION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS	DISPOSAL METHOD AND QUANTITY			HANDLING AND TRANSPORTATION PROCEDURES
			EST. AMOUNT SALVAGED TONS	EST. AMOUNT RECYCLED TONS	EST. AMOUNT DISPOSED TO LANDFILL TONS	
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pails						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						
Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

DEMOLITION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS	DISPOSAL METHOD AND QUANTITY			HANDLING & TRANSPORTION PROCEDURES
			EST. AMOUNT SALVAGED TONS	EST. AMOUNT RECYCLED TONS	EST. AMOUNT DISPOSED TO LANDFILL TONS	
Asphaltic Concrete Paving						
Concrete						
Brick						
CMU						
Lumber						
Plywood and OSB						
Wood Paneling						
Wood Trim						
Miscellaneous Metals						
Structural Steel						
Rough Hardware						
Insulation						
Roofing						
Doors and Frames						
Door Hardware						
Windows						
Glazing						
Acoustical Tile						
Carpet						
Carpet Pad						
Demountable Partitions						
Equipment						
Cabinets						
Plumbing Fixtures						
Piping						
Supports and Hangers						
Valves						
Sprinklers						
Mechanical Equipment						
Electrical Conduit						
Copper Wiring						
Light Fixtures						
Lamps						
Lighting Ballasts						
Electrical Devices						
Switchgear and Panelboards						
Transformers						
Other:						

**COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN**

<b>MATERIALS</b>	<b>TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)</b>	<b>EST. COST OF DISPOSAL (B)</b>	<b>TOTAL EST. COST OF DISPOSAL (C = A x B)</b>	<b>REVENUE FROM SALVAGED MATERIALS (D)</b>	<b>REVENUE FROM RECYCLED MATERIALS (E)</b>	<b>LANDFILL TIPPING FEES AVOIDED (F)</b>	<b>HANDLING AND TRANSPORTATION COSTS AVOIDED (G)</b>	<b>NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)</b>
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces or OSB								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								



**COST/REVENUE ANALYSIS OF DEMOLITION WASTE REDUCTION WORK PLAN**

<b>MATERIALS</b>	<b>TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)</b>	<b>EST. COST OF DISPOSAL (B)</b>	<b>TOTAL EST. COST OF DISPOSAL (C= A x B)</b>	<b>REVENUE FROM SALVAGED MATERIALS (D)</b>	<b>REVENUE FROM RECYCLED MATERIALS (E)</b>	<b>LANDFILL TIPPING FEES AVOIDED (F)</b>	<b>HANDLING AND TRANSPORTATION COSTS AVOIDED (G)</b>	<b>NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)</b>
Asphaltic Concrete Paving Concrete								
Brick								
CMU								
Lumber								
Plywood and OSB								
Wood Paneling								
Wood Trim								
Miscellaneous Metals								
Structural Steel								
Rough Hardware								
Insulation								
Roofing								
Doors and Frames								
Door Hardware								
Windows								
Glazing								
Acoustical Tile								
Carpet								
Carpet Pad								
Demountable Partitions								
Equipment								
Cabinets								
Plumbing Fixtures								
Piping								
Supports and Hangers								
Valves								
Sprinklers								
Mech. Equipment								
Electrical Conduit								
Conner Wiring								
Light Fixtures								
Lamps								
Lighting Ballasts								
Electrical Devices								
Switchgear and Panelboards								
Transformers								
Other:								

**SECTION 01 77 00**

CLOSEOUT PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout Procedures.
- B. Final Cleaning.
- C. Pest Control.
- D. Adjusting.
- E. Demonstration and Instructions.
- F. Project Record Documents.
- G. Operation and Maintenance Data.
- H. Warranties.
- I. Spare Parts and Maintenance Materials.
- J. DVBE Participation Report.

1.2 PROJECT CLOSEOUT CONFERENCE

- A. As specified under Section 01 31 00.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect's review.
- B. Prepare and submit to Architect a list of items to be completed or corrected, the value of the items on the list, and reasons why the Work is not complete.
- C. Submit written request to Architect for review of Work.
- D. Submit warranties, bonds, service agreements, certifications, record documents, maintenance manuals, receipt of spare parts and similar closeout documents.
- E. Terminate and remove temporary facilities from Project site.
- F. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- G. Submit affidavit of payment of debts and claims, AIA Document G706.
- H. Submit affidavit of release of liens, AIA Document G706A.
- I. Submit consent of contractors surety to final payment, AIA Document G707.
- J. Owner will occupy all of the building as specified in Section 01 11 00.

#### 1.4 REGULATORY REQUIREMENTS

- A. Provide submittals to Architect that are required by governing or other authority.

#### 1.5 FINAL CLEANING

- A. Execute final cleaning prior to final review by Architect.
- B. Employ experienced professional cleaners for final cleaning.
- C. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.
- D. Vacuum carpeted and soft surfaces. Shampoo if visible stains exist.
- E. Clean equipment and plumbing fixtures to a sanitary condition.
- F. Clean exposed surfaces of grilles, registers and diffusers.
- G. Replace filters of operating mechanical equipment.
- H. Clean debris from roofs, gutters, downspouts, and drainage systems.
- I. Clean site; sweep paved areas, rake clean landscaped surfaces.
- J. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- K. Clean light fixtures and replace burned out lamps and bulbs.
- L. Leave project clean and ready for occupancy by Owner.

#### 1.6 PEST CONTROL

- A. Engage an experienced, licensed exterminator to make final inspection and rid Project of rodents, insects, and other pests. Submit final report to Architect.

#### 1.7 ADJUSTING

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

#### 1.8 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products, systems, and equipment to Owner's personnel two weeks prior to date of final review.
- B. For each demonstration submit list of participants in attendance.
- C. Provide two copies of video tape of each demonstration and instructions session.
- D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- E. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- F. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment location.
- G. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

## 1.9 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work in contrasting color.
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other Modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product Section in contrasting color ink, description of actual Products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Supplier and installer's name and contact information.
  - 3. Changes made by Addenda and Modifications.
- E. Contract Drawings and Shop Drawings: Legibly mark each item in contrasting color ink to record actual construction including:
  - 1. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 2. Field changes of dimension and detail.
  - 3. Details not on original Contract Drawings.
  - 4. Revisions to electrical circuitry and locations of electrical devices and equipment.
  - 5. Note change orders, alternate numbers, and similar information, where applicable.
  - 6. Identify each record drawing with the written designation of "RECORD DRAWING" located in prominent location.
- F. Record Digital Data Files: Immediately before inspection for Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
  - 1. Format: Annotated PDF electronic file with comment function enabled.
  - 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  - 3. Refer instances of uncertainty to Architect for resolution.
  - 4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
    - (a) Refer to Section 01 33 00 "Submittal Procedures" for requirements related to use of Architect's digital data files.

(b) Architect will provide data file layer information. Record markups in separate layers.

- G. Final Property Survey: Under the provisions of Section 01 73 00.
- H. Record Construction Schedule: Under the provisions of Section 01 32 17.
- I. Submit documents to Architect at time of Substantial Completion.

#### 1.10 OPERATION AND MAINTENANCE DATA

- A. Summary:
  - 1. Organize operation and maintenance data with directory.
  - 2. Provide operation and maintenance manuals for products, systems, subsystems, and equipment.
  - 3. Refer to Divisions 02 thru 49 for specific operation and maintenance manual requirements for the Work in those Divisions.
- B. Submit two sets prior to final review, bound in 8-1/2 inch x 11 inch, three ring D size binders with durable vinyl covers.
- C. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with laminated plastic tabs.
- E. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Engineers, Contractor, subcontractors, and major equipment suppliers and manufacturers.
- F. Part 2: Operation and maintenance instructions, arranged by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
  - 1. Performance and design criteria.
  - 2. List of equipment.
  - 3. Parts list for each component.
  - 4. Start-up procedures.
  - 5. Shutdown instructions.
  - 6. Normal operating instructions.
  - 7. Wiring diagrams.
  - 8. Control diagrams.
  - 9. Maintenance instructions for equipment and systems.
  - 10. Maintenance instructions for finishes, including recommended cleaning methods and materials.
- G. Part 3: Project documents and certificates, including the following:
  - 1. Shop drawings and product data.
  - 2. Air and water balance reports.

3. Certificates.

4. Warranties.

#### 1.11 WARRANTIES

- A. Commencement of warranties shall be date of Substantial Completion.
- B. 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.
- C. Provide duplicate notarized copies in operation and maintenance manuals.
- D. Execute and assemble documents from subcontractors, suppliers, and manufacturers.
- E. Provide Table of Contents and assemble in binder with durable plastic cover.
- F. Submit prior to final Application for Payment.
- G. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of warranty on the work that incorporates the products.
- H. Manufacturer's disclaimer and limitations on product warranties do not relieve suppliers, manufacturer's, and subcontractors required to countersign special warranties with Contractor.
- I. When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- J. When work covered by warranty has failed and has been corrected, reinstate warranty by written endorsement. Reinstated warranty shall be equal to original warranty with equitable adjustment for depreciation.
- K. Upon determination that Work covered by warranty has failed, replace or repair Work to an acceptable condition complying with requirements of the Contract Documents.

#### 1.12 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver to Project site and place in location as directed.
- C. Obtain signed receipt for delivery of materials and submit prior to request for final review by Architect.

#### 1.13 DISABLED VETERAN BUSINESS ENTERPRISE ("DBVE") PARTICIPATION

- A. Submit DVBE Participation Report as stipulated by Document 00 45 46.02.
- B. Provide supplemental report to substantiate non-compliance with District goal of three percent (3%) participation if required.

### 2. PART 2 PRODUCTS

Not Used

### 3. PART 3 EXECUTION

Not Used

END OF SECTION