

## SECTION 01 10 00

### SUMMARY OF WORK

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.
- B. Owner: The Board of Regents of The Texas A&M University System, an instrumentality of the State of Texas. The term "Owner", "owner", "Owner's Designated Representative (ODR)", or any other reference to the entity with whom the Contractor is bound in contract with, shall be synonymous for the extent of this contract and wherever found in the Contract Documents.
- C. OWNER'S DESIGNATED REPRESENTATIVE (ODR): SOUTHEAST SERVICE CORPORATION d/b/a SSC Service Solutions, is herein referred to as "SSC," or "Owner's Designated Representative" (ODR). The ODR is the only party authorized to direct changes to the scope, cost, or time of the Contract.

##### 1.02 DESCRIPTION OF WORK

- A. Work to be done: The work to be performed under this contract and in accordance with these contract documents shall consist of furnishing all necessary plant, labor, materials, and constructing, installing, and performing all work shown and described in the contract documents, all of which are made a part thereof.
- B. Character of Work and Mechanics: The Work shall be executed in the best and most workmanlike manner by qualified, careful, and efficient mechanics skilled in the trade, and in strict accordance with the contract documents and standards of the industry. Only certified journeymen in respective trades or apprentices under the direct supervision of certified journeymen will be permitted to install, supervise installation of, alter or replace electrical and mechanical systems including but not limited to: pipe, plumbing, HVAC systems, electrical wiring, fire protection systems, welding equipment and devices. A licensed plumber as defined by the Texas Plumbing License Law, section 1301.002-#4, A-D., will accomplish installation, alteration and testing of gas systems. A current plumbing, mechanical and electrical license, as indicated in the Supplemental General Conditions, will be recognized as certification upon approval of the Owners Designated Representative. Licenses shall be available at the pre-construction conference and from plumbers, mechanics and electricians at the job site throughout the contract performance. Work accomplished by unlicensed mechanics shall be removed and reinstalled by the contractor using licensed mechanics at no additional cost to the University.

C. Project Title and Location:

Project Title: Performing Arts Center Interior Renovations

Project No.: 1520051

Project Location: Performing Arts Center #152

Texas A&M University Corpus Christi

6300 Ocean Drive

Corpus Christi, Texas 78412

Nueces County

D. Contract Documents: Contract Documents, dated May 2022, were prepared for the project by Southeast Service Corporation (SSC), and/or their consultants by PDG Architects.

E. The Work will be constructed under a general construction contract.

1.03 PRINCIPAL FEATURES:

A. The contractor will do all work with the building occupied and the contract work area unoccupied. The contractor shall coordinate all work with the Owner Designated Representative (ODR) and the building occupants.

B. Work of this contract can be summarized as follows:

1. Upgrade select house lighting as per electrical drawings.
2. Provide new patron fixed seating on all levels of interior venue.
3. New sheet vinyl flooring, stair nosing, and transitions throughout all three floors.
4. Refinish the stage wood flooring, stairs and wood base.

1.04 STARTING WORK:

A. The Contractor shall not start work until the eBuilder commitment approval or Notice to Proceed has been issued and all insurance certificates have been submitted, reviewed and accepted by the Owners Designated Representative (ODR).

1. The Contractor shall provide and maintain the insurance coverage, with the minimum amounts required by the contract, until the end of the contract warranty period. The Contractor shall present the ODR a current certificate of insurance prior to performing contract work and any required warranty work.

2. The Contractor shall update all expired policies prior to submission for monthly payment and during the contract warranty period. Failure to update policies shall be reason for withholding of payment until renewal is provided to the ODR.

B. The Contractor shall notify the ODR prior to commencing any contract work.

1.05 WORK HOURS, UTILITY OUTAGE AND COORDINATION:

A. Work Hours: Normal work hours at the University are 8:00 a.m. to 5:00 p.m., Monday through Friday. Contract work hours shall be Monday through Friday exclusive of holidays. Work may

be permitted on Holidays at the option of SSC and at no additional cost to SSC, with written notice to SSC at least 48 hours before the start of the scheduled work.

1. The Contractor may be allowed additional, or varied work hours, with prior approval by SSC.
- B. The Contractor shall limit use of the premises to the work indicated and allow for occupancy and use during the construction.
- C. Utilities:
  1. Utility Outage: When a utility outage affecting occupied facilities is necessary to perform the contract work, the outage shall be performed during non-work hours at no additional cost to SSC. The contractor shall give written notice to SSC fourteen (14) days in advance of a scheduled outage. University personnel will perform disconnection and reconnection of utilities. Fourteen days advance notice is also required for connection and disconnection of temporary utilities by University personnel including but not limited to temporary water taps, electrical taps and other temporary site utilities.
  2. Utility Excavation: Before performing any excavation, grading, trenching or other operations whereby existing underground utilities may be disturbed or damaged, contact the Texas Excavation Safety System (Texas 811) at 811 to have utilities marked. Also, coordinate with Campus Utilities and Energy Services and Campus Telecommunications for marking of any utilities. In accordance with Texas Utilities Code, Title 5, Chapter 251 - Underground Facility Damage Prevention And Safety, a person who intends to excavate shall notify Texas 811 not earlier than the 14th day before the date the excavation is to begin or later than the 48th hour before the time the excavation is to begin, excluding Saturdays, Sundays, and legal holidays. The contractor shall allow sufficient time for Texas 811 and campus to accomplish marking of utilities at no additional cost to the ODR or campus. Once utilities are marked, the contractor shall be responsible for maintaining the flags/paint at their proper location(s). No excavation will be permitted until all utilities existing in the area have been marked. If no utilities are marked during the utility locate process, contractor shall confirm and notify the ODR's project manager that locates have in fact been accomplished before performing any excavation. The contractor shall be responsible for the repair of underground utilities damaged as a result of contract operations at no additional cost to ODR.
  3. Damage occurring to these lines, during construction, shall be repaired and/or replaced by Contractor or ODR, at the expense of the Contractor. Subsequent expenses incurred by University Staff and Personnel, resulting from the interruption of service caused by the damaging of underground utilities, shall be borne by the Contractor.
  4. ODR's personnel shall be notified for inspection of all buried utilities upon discovery. Damage and repairs shall be recorded by inspectors prior to approval of backfilling.
  5. Should Contractor discover "Unknown Utilities", promptly notify the ODR's personnel for direction. Such piping systems and lines shall be treated as charted lines discussed above.
  6. Procedures for Notification if utility lines or piping systems are damaged during construction:
    - a. Facilities Services Communications Center:  
College Station – 979-845-4811  
Other Campuses: NA

- Gas Company: 911 (if gas lines are damaged)
- b. ODR Project Manager
  - c. If unavailable, notify SSC/EDCS Resident Regional Manager: College Station at 979-446-2435. Other Campuses: NA
7. COMMUNICATIONS AND DATA: Work on telephone, fiber optic lines, data lines and other communication systems must be performed by Texas A&M personnel and/or the telephone contractor. The Contractor shall coordinate his work with these agencies through the ODR.
- D. Coordination: Contractor shall coordinate work with the Owner's Designated Representative, prior to beginning any work on the project. Additionally, prior to starting work each day, the Contractor's superintendent shall inform and coordinate with the Owner's Designated Representative.
- E. Cranes: When a crane is necessary to perform the contract work, the crane delivery, placement and lift dates shall be coordinated with the Owner's Designated Representative, Environmental Health and Safety and others as may be required such as Texas Department of Transportation and local government. The Contractor shall give written notice to the University fourteen (14) days in advance of a required crane placement and lift. The Contractor shall submit a Crane Lift Plan with the written notice of crane placement and lift. The lift plan shall show the proposed crane location during the lift, the area of boom swing proposed for the lift, location and type of barricades, and affected streets, sidewalks, parking areas and buildings. The area of boom swing shall be depicted as the arc of the boom for the proposed swing with a radius of the boom length if the boom were in the horizontal. Contractor shall comply with OSHA and ANSI safety standards for cranes.
- F. Inspection of Work: The Contractor shall not cover up any Work with finishing materials or other building components prior to an inspection of the Work by the ODR project inspector. Should corrections of the Work be required for approval, cover-up shall be delayed until another inspection can be made and approval is granted.
- 1. The Contractor shall be responsible for providing notification of at least seven (7) WORKING days, to the ODR project inspector of the anticipated need for a cover-up inspection. Should the ODR project inspector fail to make the necessary inspection within the seven (7) working days, the Contractor may not proceed to cover up the Work until the inspection has been completed.
  - 2. The Contractor will notify the ODR project inspector a minimum of 24-hours in advance of any concrete pour. The ODR project inspector will inspect, approve or disapprove formwork, vapor retarder, fill, reinforcing/structural steel and utility line placements. Contractor will not pour concrete until the ODR project inspector has approved the Work.

#### 1.06 UNIVERSITY OCCUPANCY

- A. University Occupancy: University may occupy the adjacent facilities during the entire period of the contract operations. Cooperate fully with the University representative during contract operations to minimize conflicts and to facilitate University usage.

1.07 PARKING, STORAGE AND SITE RESTRICTIONS: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas for which work is indicated are not to be disturbed. Comply with the Owner's requirements concerning the Contractor's operations and use of the premises, parking, loading and unloading.

- A. Keep existing driveways and entrances serving the adjacent University facilities and parking spaces clear and available to the, visitors, staff and service vehicles at all times. Do not use these areas for parking or storage of materials.
- B. Keep all storage areas free of debris, refuse, spills, leaks, stains, splashes and excess materials. All storage areas shall be maintained in a neat, clean, and safe condition. Do not unreasonably encumber the site with materials or equipment. Stockpiling of materials and the locations of storage sheds, trailers or temporary field offices shall be confined to the area designated by the University. If additional storage is necessary obtain and pay for such storage off site. Use of designated area(s) shall be coordinated with SSC/University.
- C. Contractor storage and parking are at the job site in an area to be designated by SSC/University. Parking is not allowed on sidewalks, drives, or roadway. Do not block parking spaces.
- D. Lock automobiles and other mechanized or motorized construction equipment, when parked and unattended, to prevent unauthorized use. Do not leave vehicles or equipment unattended with the motor running or the ignition key in place. Contractor shall not allow any construction equipment to be parked on adjacent streets at night.
- E. Designated roads shall be used for construction traffic. Contractor shall not close, block, or otherwise obstruct roads at any time without written permission of the University and where required the local government. Contractor shall keep all debris and mud off all sidewalks and streets. Immediately clean all debris and mud that is a result of contract operations.

1.08 EXISTING FACILITIES AND CONDITIONS: Maintain the existing facilities in a safe condition throughout the demolition period.

- A. Areas designated around, or near the building will be made available for contractor staging and dumpsters. Coordinate with ODR and University.
- B. Prior to commencement of contract work, inspect areas in which work will be performed. Document and photograph existing conditions of structure, surfaces, equipment, and condition of surrounding properties, which could be misconstrued as damage resulting from demolition work or other contract operations. Inspection shall be verified, signed by, and filed with the Owner or Owners Representative prior to starting work.”
- C. Structural Building Components: Unless indicated on the Construction Documents, do not cut or modify any structural building component (e.g. column, beam, floor slab) without prior approval of Structural Engineer. If an existing structural component is accidentally cut, the remedial design work shall be by a Professional Structural Engineer licensed in Texas. The construction contractor is responsible for engaging the Structural Engineer and for payment of all design fees.

1.09 FIRE REGULATIONS: Comply with National Fire Protection Association, NFPA 241 guidelines. The contractor shall use no explosives or fire in performing the work. Contractor shall understand and comply with OSHA welding and cutting requirements.

- A. Coordinate all work on existing fire alarm and fire suppression systems with the ODR inspector prior to the start of contract work. Any work that could cause dust or fumes must be coordinated with the ODR prior to commencing so the fire alarm system can be modified and protected as necessary.

1.10 CLEANUP: The contractor shall dispose of all trash, debris, refuse, garbage, etc., which is generated by the contractor during the contract. Building sites shall be cleaned on a daily basis and disposal shall be outside the limits of University property. Contractor shall routinely empty dumpsters to prevent wind-blown debris. Disposal shall be by sanitary landfill or other approved methods and shall conform to all local, state, and federal guidelines, criteria, and regulations.

1.11 ENERGY CONSERVATION: The contractor shall use good judgment in the conservation of utilities. Prevailing energy conservation practices shall be adhered to and enforced by the contractor.

1.12 SPECIAL STORAGE: The following shall apply when required to perform contract operations.

A. Petroleum Storage:

1. The contractor shall store all fuel or petroleum products, whether new or used, in appropriate containers and within a bermed area with an impermeable liner (40 mil) or other approved containment measures. All storage areas shall be marked with appropriate signage (i.e., Flammable Storage - No Smoking Within 50 ft). All fuel tanks and petroleum storage containers shall be structurally sound and in good condition, be kept sealed when not in use, and be grounded and bonded according to NFPA Requirements.
2. The containment area shall be sized to hold fluid volume equal to 110% of the largest storage container, with a minimum of one foot of freeboard for earthen berms. The contractor shall immediately clean up and dispose of any evidence of a fuel or oil spill in conformance with all federal and state regulations at no additional cost to the University.
3. The contractor shall remove bermed areas at the completion of the job and restore the area to its original condition. The contractor shall immediately clean up and dispose of any evidence of a fuel or oil spill in conformance with all federal and state regulations. Costs of all soil tests as a result of spills shall be a responsibility of the contractor.
4. The contractor shall keep all other storage areas free of debris, leaks, stains, or splashes. All storage areas shall be maintained in a neat, clean, and safe condition. Any areas that incur contamination by any hazardous substance shall be immediately remediated by the contractor at no additional expense to SSC/University. Remediation may include subsequent soil analysis if directed by SSC/University. The contractor shall store all paints, thinners, solvents and other hazardous materials in a contractor supplied trailer or storage unit, which shall be secured when not in use.

1.13 TESTING PARAGRAPHS: Testing indicated in these contract documents to be performed by University or the Owner will be performed at the option of the University.

1.14 SAFETY:

- A. Comply with all applicable Occupational Safety and Health Act (OSHA) Standards and Regulations.
- B. Furnish and install all necessary safeguards to provide safety and protection of the public and University property adjacent to the contract work area. Comply with all applicable federal, state, and local laws, regulations, ordinances, policies and standards related to the safety of the public and University property while performing contract operations.
- C. Speed Limit: Contractor shall notify all employees and subcontractors of the speed limit of the adjacent streets and ensure all personnel understand and comply with this requirement.
- D. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate to support loads and to withstand exposure to traffic during contract operations.
- E. Temporary Traffic Controls: Furnish and install Temporary Traffic Controls (TTC) in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD). Submit a temporary traffic control plan for vehicular and pedestrian traffic to the project Engineer for approval prior to the start of construction operations. Pedestrian traffic control plans shall provide a safe, convenient and accessible travel path that replicates as nearly as possible the most desirable characteristics of the existing sidewalks or footpaths throughout all phases of construction. Provide for continuous operation of signs and barricades designating restricted or dangerous conditions including but not limited to: illuminated barricades, danger signals, warning signs and obstructions.
- F. Site Safety: Do not leave the work areas in an unsecured or unsafe condition at any time during contract operations. Contractor personnel and equipment operators shall monitor their surroundings at all times and be alert for people moving in or adjacent to contract work areas. Contractor shall use spotters when moving vehicles through the construction sites and no construction vehicles (i.e. backhoes, bobcats, etc.) shall be left unsecured on site. Contractor shall furnish and install temporary fences, barricades, signs and other required items to:
  - 1. Warn/notify adjacent building occupants
  - 2. Protect construction materials
  - 3. Prevent unauthorized personnel from entering the construction site.
  - 4. Redirect vehicular and pedestrian traffic flow when required to perform contract operations; comply with paragraph E above, Temporary Traffic Controls.
- G. Prior to spraying paint, coatings or power washing exterior structures the following criteria shall be met:
  - 1. Contractor shall provide ODR and University forty eight (48) hours' notice prior to spraying any material, including primer, paint or coatings.

2. Consider use of dry-fall paint when spray painting large areas of structure (e.g. metal building frames) or materials by conventional or airless spray.
3. The Contractor shall provide all necessary barricades, signs, warning of spray area as determined in the preconstruction conference. The Contractor shall set these signs out the night before spraying begins.
4. The Contractor shall be responsible for the removal of signs and barricades at the completion of the job.
5. The Contractor shall protect any automobile, bicycle, vehicle or other property which is located in a warning area where contact with the Owner has not been made.
6. The Contractor shall employ approved wind screens, protective shrouds and other protection methods during all paint and coating applications. The Contractor is responsible for all overspray and shall have sole liability where damage occurs as a result of this work.
7. Spray equipment shall be as recommended by the materials manufacturer. Spray operations shall be performed only during adequate period of calm weather with winds not exceeding 15 miles per hour. Protect all property from overspray or other damage.
8. To prevent sparking a flammable substance, smoking and other sources of flame near spray painting operations are prohibited and tools shall be properly rated and grounded for work in a spray painting area.

1.15 TREES, SHRUBS, AND HEDGES: Coordinate all tree protection procedures through SSC Grounds Management. Take appropriate measures to prevent injury to plants in or near the project site unless designated to be removed. Do not remove or prune any plants without approval from SSC/University or designated representative. No tree, shrub or hedge, or portion of a tree, shrub or hedge shall be removed that contains actively nesting birds unless approved by SSC/University. Actively nesting migratory birds will also require a permit be obtained from the U.S. Fish and Wildlife Service. Plants which are damaged during construction shall be replaced at no expense to SSC/University. Contractor shall remove all trees, tree branches, shrubs and plants that will interfere, encroach upon, or otherwise obstruct new construction and contract operations at no additional cost to SSC/University.

#### 1.16 ENVIRONMENTAL REQUIREMENTS:

- A. Compliance with Environmental Laws: The contractor shall comply, and assure that all subcontractors comply, with all applicable federal, state, and local laws, regulations, ordinances, policies and standards related to environmental matters. The contractor shall also comply, and assure that all subcontractors comply, with all applicable specific instructions, policies, or references contained herein.
- B. Contractors involved in projects that include the removal and/or disposal of polychlorinated biphenyl (PCB) contaminated light ballasts shall comply with the requirements of 40 CFR 761. PCB containing ballasts are a special waste and must be managed as such. The contractor shall immediately notify SSC/University when activities involving the removal of PCB light ballasts begin.

Contractors involved in projects that include the removal and/or disposal of fluorescent, mercury vapor, or HID Sodium Vapor lamps shall comply with the requirements of this section. Fluorescent lamps have been determined, by the TCEQ to be hazardous waste and must be managed in accordance with 40 CFR 260-279, and 30 TAC 330-335. The contractor



shall immediately notify SSC/University when activities involving the removal of the aforementioned lamps begin.

- C. Nuisance and Polluting Activity Prohibited: Polluting, dumping, or discharging of any harmful, nuisance, or regulated materials (such as concrete truck washout, vehicle maintenance fluids, residue from saw cutting operations, solid waste and hazardous substances) into building drains, site drains, streams, waterways, holding ponds or to the ground surface shall not be permitted. The contractor shall be held responsible for any damages that may result. Further, the contractor shall conduct activities in such a fashion to avoid creating any legal nuisance, including but not limited to, suppressing noise and dust, controlling erosion, and implementing other measures as necessary to minimize off-site impacts of work activities.
- D. Should the contractor encounter previously unidentified and suspect asbestos-containing materials (ACM), mold, hazardous or potentially hazardous material or suspected lead containing paint which must be disturbed to comply with the contract documents, the contractor shall cease all work that would disturb the suspect material and shall immediately notify the Owner's Designated Representative. The Owner shall take steps, as appropriate, to ascertain the material's composition and determine any remedial action necessary. The Contractor will remove contract work crews from the area of the work site affected by the suspect materials and continue work on other parts of the project as feasible. Contractor shall return to abandoned work area after the owner has determined the composition of the suspect material and completed any required remedial action.
- E. Contractor is responsible for all materials brought on site, including hazardous materials. All hazardous waste or special waste generated by the contractor as a result of contract operations shall be identified, characterized, containerized and transported to a permitted disposal facility in strict accordance with the requirements of 40 CFR 260-279 (Hazardous waste and used oil regulations), 30 TAC 324, 330-335 (TCEQ Hazardous and Industrial Waste Regulations).

1.17 WARRANTY PERIOD: Except as may be otherwise specified in the Contract Documents, the Contractor shall repair all defects in materials, equipment, or workmanship appearing within one year from the date of Substantial Completion of the Work. If Substantial Completion occurs by phase, then the warranty period for that particular Work begins on the date of such occurrence, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work.

#### 1.18 COLOR AND MATERIAL SELECTIONS:

- A. No color selections and no material selections will be made by SSC/University until the contractor submits all samples of all materials requiring color selections to SSC/University. In addition, prior to SSC/University selecting colors, the contractor shall certify in writing that all colors and samples submitted are current and are acceptable to the contractor for SSC/University's selection.
- B. Any samples that are not applicable to the contract shall be carefully removed from the submittal by the contractor. The contractor shall submit the manufacturer's full range of applicable colors, patterns, and textures for the various materials that are required by the contract and within the guidelines hereinbefore stated.

- C. In the event that discontinued, non-current or non-applicable colors, textures, or samples are submitted by the contractor and their selection is made by SSC/University, the contractor shall bear all labor and material correction costs for fabrication, shipping, restocking, removal, repair of damaged materials, and installing of all materials required by SSC/University to correct the project.

## PART 2 - PRODUCTS

Not Used

## PART 3 - EXECUTION

Not Used

**END OF SECTION**

## SECTION 01 22 00

### UNIT PRICES

#### PART 1 - GENERAL

##### 1.01 DEFINITIONS:

- A. Unit price is stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

##### 1.02 UNIT PRICES:

- A. Unit price is the amount proposed by bidders and stated on the Bid Form as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if the estimated quantities of Work required by the Contract Documents are increased or decreased.

##### 1.03 PROCEDURES:

- A. The unit bid price shall include the cost of delivery, insurance, taxes, labor, materials, supervision, overhead, profit, incidentals and the use of all equipment and tools required to complete the work. The unit bid price shall constitute full compensation for work required by the unit price item.
- B. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

##### C. MEASUREMENT AND PAYMENT FOR UNIT PRICE ITEMS:

- 1. Measurement: Measurement for payment shall be per unit of measurement indicated in the Schedule of Unit Price Items below and the Contract Unit Price Bid Form.
- 2. Payment: Payment shall be made at the Contract Unit Bid price for each Unit Price Item indicated in the Contract Unit Price Bid Form. Payment will only be made for installed work acceptable to the OWNER.

##### D. SCHEDULE OF UNIT PRICE ITEMS:

Unit Price Items: Contractor shall obtain approval from the OWNER prior to installation of any unit priced work item scheduled below.

1. Furnish and install \_\_\_\_\_: \$ \_\_\_\_\_ per linear foot.

2. Furnish and install \_\_\_\_\_: \$ \_\_\_\_\_ per square foot.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

## SECTION 01 23 00

### ALTERNATES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. This Section includes administrative and procedural requirements for alternates.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Divisions 02 through Division 33: Specific sections could be affected by any Alternate.

##### 1.03 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
- B. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
- C. Alternate bid prices shall include the cost of delivery, insurance, taxes, labor, materials, supervision, overhead, profit, incidentals and the use of all equipment and tools required to complete the specified alternate work. The alternate bid price shall constitute full compensation for work required by the alternate.

##### 1.04 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
- B. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate. Coordinate related Work and modify surrounding Work as required to complete the Work, including changes required by each Alternate, designated in the Contract.
- C. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- D. Execute accepted alternates under the same conditions as other work of the Contract.
- E. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

1.05 DESCRIPTION OF ALTERNATES:

BASE BID:

- PROVIDE PRICING TO REMOVE AND REPLACE EXISTING THEATER SEATING WITH THE NEW SELECTED SEATING.
- PROVIDE PRICING TO REMOVE AND SALVAGE ALL LOOSE CHAIRS.
- PROVIDE PRICING TO REMOVE AND REPLACE ALL SHEET VINYL FLOORING UNDER THE SEATING ON FLOORS 1-3, INCLUDING THE REMOVAL OF ALL TILE FLOORING, WOOD BASE, VINYL BASE, CARPET TRANSITIONS, AND EDGE NOSING AS REQUIRED IN AREA OF WORK. CARPETED AREAS ARE TO REMAIN.
- PROVIDE PRICING TO PROVIDE AND INSTALL NEW LED AISLE LIGHTING AT NEW END PANELS WHERE AISLE LIGHTING PREVIOUSLY EXISTED.

ALTERNATE BID #1 (DEDUCTIVE FROM BASE BID)

- PROVIDE PRICING TO REMOVE AND REPLACE ONLY SEATING AND AISLE LIGHTING ON FIRST, SECOND, AND THIRD FLOORS. EXISTING FLOOR FINISH, TRANSITIONS, AND BASE ARE TO REMAIN.

ALTERNATE BID #2

- PROVIDE PRICING FOR INSTALLING NEW LED AISLE LIGHTING AT FIXED SEATING END PANELS ON ALL LEVELS SO ALL END PANELS HAVE LED AISLE LIGHTING. INCLUDE DEMOLITION, REPAIR, AND ALTERATION OF EXISTING CEILING, FLOOR, AND ELECTRICAL SYSTEM TO ACCOMMODATE NEW ELECTRICAL CIRCUITING. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

ALTERNATE BID #3

- REPLACE LAMPS IN EXISTING HOUSE LIGHTING FIXTURES WITH DIMMABLE LAMPS COMPATIBLE WITH EXISTING THEATRICAL DIMMING CONTROLS SYSTEM
- REPLACE EXISTING THEATRICAL HOUSE LIGHTING DIMMING MODULES WITH NEW DIMMING MODULES COMPATIBLE WITH NEW DIMMABLE LAMPS

ALTERNATE BID #4

- REVISE EXISTING HOUSE LIGHTING CONTROL ZONES BEHIND STAGE AREA WITH THE ADDITION OF NEW SEPARATE LIGHTING CONTROL ZONES

ALTERNATE BID #5

- PROVIDE PRICING FOR STAINING AND REFINISHING OF THE STAGE WOOD FLOORING, STAGE EXTENSIONS, STAGE ENTRY WOOD STEPS, AND WOOD BASE THAT IS ASSOCIATED. WOOD WALL PANELS AND TRIM IS EXCLUDED.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

## SECTION 01 25 00

### SUBSTITUTION PROCEDURES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General requirements for product options and substitution procedures.
- B. Material and product options.
- C. Substitutions.
- D. Coordination.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination
- C. Section 01 33 00 - Submittal Procedures
- D. Section 01 34 00 - Shop Drawings, Product Data and Samples.
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 77 00 - Closeout Procedures.

##### 1.03 GENERAL:

- A. In addition to Uniform General and Supplementary Conditions, comply with product option and substitution requirements specified in this Section.

##### 1.04 MATERIAL AND PRODUCT OPTIONS:

- A. Materials and Products Specified by Reference Standards, by Performance, or by Description Only: Any product meeting specified requirements.
- B. Materials and Products Specified by Naming Products of One or More Manufacturers with a Provision for an Equivalent Product: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.
- C. Materials and Products Specified by Naming Products of Several Manufacturers Meeting Specifications: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.

##### 1.05 SUBSTITUTIONS

- A. Within sixty (60) days after date of Owner's Notice to Proceed, A/E will consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a material or product becomes unavailable due to no fault of Contractor or as follows:

1. Lockouts,
  2. Strikes,
  3. Bankruptcy,
  4. Discontinuation of product,
  5. Proven shortage,
  6. Other similar occurrences.
- B. Each proposed substitution of materials or products for that one specified is a representation by Contractor that it has personally investigated the substitution and determined that the proposed substitution is equivalent or superior to that specified in quality, durability and serviceability, design, appearance, function, finish, performance, and of size and weight which will permit installation in spaces provided and allow adequate service access. Additionally, Contractor agrees that it will provide and/or do the following:
1. Same warranty on substitution as for specified product or material,
  2. Coordinate installation and make other changes that may be required for Work to be complete in all respects,
  3. Waive claims for additional costs which may subsequently become apparent,
  4. Verify that proposed materials and products comply with applicable building codes and governing regulations and, where applicable, has approval of governing authorities having jurisdiction.
- C. The A/E will review requests from Contractor for substitutions with the ODR. Do not purchase or install substitute materials and products without written approval. The A/E will give written notice to Contractor and the ODR of acceptance or rejection within a reasonable time.
- D. Document each request for substitution with complete data substantiating compliance of proposed substitution with Contract Documents. As appropriate include:
1. Reason for the proposed substitution,
  2. Change in Contract Sum and Contract Time, if any,
  3. Effect on WPS and completion date,
  4. Changes in details and construction of related work required due to substitution,
  5. Drawings and samples,
  6. Product identification and description,
  7. Performance and test data,
  8. Itemized comparison of the qualities of the proposed substitution to the product specified including durability, serviceability, design, appearance, function, finish, performance, size and space limitations, vibration, noise, and weight,
  9. Availability of maintenance service, source and interchangeability of parts or components,
  10. Additional information as requested.
- E. In the event of credit change in the cost, the Owner shall receive all benefit of the reduction in cost of the proposed substitution. Credit shall be established prior to final approval of the proposed substitution and will be adjusted by Change Order.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, without having been reviewed and



approved by Contractor, or when acceptance will require substantial revision of Contract Documents without additional compensation to A/E.

- G. In the event that the Contractor or Subcontractor has neglected to place an order for specified materials and products to meet the WPS, specified requirements, color schemes or other similar provisions, such failure or neglect shall not be considered as legitimate grounds for an extension of completion time nor shall arbitrary substitutions be considered to meet completion date.
- H. Only one request for substitutions will be considered for each product. When substitutions are not accepted, the Contractor shall provide specified product.
- I. Should substitution be accepted, and substitution subsequently is defective or otherwise unsatisfactory, replace defective material with specified material at no cost to Owner.

1.06 COORDINATION:

- A. When a specified, optional, specified by reference standard, or proposed substitution item of equipment or material is submitted which requires minor changes or additions to the designed structure, finishes or to mechanical and/or electrical services due to its requirements being different from those shown on the Contract Documents, itemize the changes required and attach to submittal. Do not proceed with changes without written approval from the A/E.
- B. Contractor shall make adjustments and changes required to coordinate Work for installation of optional materials and products, approved substitutions and materials and products specified by reference standards without additional costs to Owner or A/E.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

## SECTION 01 29 00

### PAYMENT PROCEDURES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Payment requests.

##### 1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 77 00 - Closeout Procedures.
- C. Section 01 34 00 - Shop Drawings, Product Data and Samples.

##### 1.03 PAYMENT REQUESTS:

- A. General: Except as otherwise indicated, the progress payment cycle is to be regular. Each application must be consistent with previous applications and payments. Certain applications for payment, such as the initial application, the application for final payment involve additional requirements. Refer to the Uniform General and Supplemental Conditions (UGSC) for additional requirements.
- B. Progress Payments will be accomplished through eBuilder utilizing a payment application approval process.
- C. At the earliest convenient time, but not later than 21 days after the Notice to Proceed, the Contractor shall develop a Schedule of Values (SOV) to reflect the value of the categories of work. The categories will be as required by the OWNER to facilitate componetization of the work by the OWNER. The ODR will provide the required categories at the pre-construction meeting. If more than one building is involved, the breakdown shall be by building. All exterior work involving utilities, landscaping, sidewalks, etc., should be identified as separate items.
  - 1. The initial SOV may require some revisions by the Contractor after the ODR's review. It is, therefore, recommended that this schedule be prepared and submitted as soon as possible to prevent delay of the initial payment to the Contractor.
  - 2. The ODR's initial interest in the SOV is to assure that the breakdown is in sufficient detail to meet the above requirements. After this requirement is satisfied, the A/E and ODR will review the schedule to assure that reasonable dollar values are assigned to the various items of work and to avoid front loading of payments.
  - 3. Computer generated or photo copied schedules of values prepared by the Contractor using the approved breakdown are acceptable.

D. MONTHLY PAYMENT ESTIMATES:

The A/E will show approval of the monthly pay estimate by affixing their signature to the original pay estimate. The original pay estimate will be forwarded to the OWNER for further processing.

1. Limitations - Estimates will not be approved if the job site record drawings are not up to date and posted per the UGSC. Estimates will also not be approved if other periodic requirements are not provided, i.e., WPS, Cash Flow Schedule, Required Logs, etc.
2. Historically Underutilized Business Progress Assessment Report (PAR) will be prepared and submitted with the pay request each month in accordance with Uniform General and Supplementary Conditions. Pay requests will not be approved without this completed form. The HUB Progress Assessment Report will be submitted even when no Hub Subcontractor payment is made during the pay period.
3. Contract Change Statement - All approved Change Orders should be entered on the Contract Change Statement. This Statement will then be attached to the Contractor's monthly payment estimate. Percentages complete should be shown opposite each item listed and extended into the "Total Complete to Date" column. The total of the "Total Complete to Date" should be brought forward to the line item on the breakdown schedule titled, "Changes Complete to Date".
4. Payment for Stored Materials - Invoices for stored materials will be submitted when required by the ODR. Stored material invoices will be accepted only after an approved shop drawing or sample has been received by the ODR.

Invoices for stored materials will only be considered when they exceed five hundred dollars (\$500) for each individual item. There will be no invoices accepted that contain tools, or expendable materials.

Invoices will only be considered that are referenced to the materials in the SOV. Invoices that are not legible will not be considered for payment.

All stored materials will be checked by the Project Superintendent and verified by the ODR before being incorporated into the payment estimate.

5. Payment of Estimates – The ODR will process the Contractor's estimates as promptly as possible. In order to do this, it is requested that these instructions be followed and that the Contractor make every effort to ensure that the estimate is mathematically correct and that only approved items are included as material stored on the site.

- D. Base applications for payment on value of work installed, and materials and equipment suitably stored at Site. Materials and equipment suitably stored off site in an insured or bonded warehouse may be included, if approved in writing by ODR. See UGSC for

additional requirements when requesting payment for materials stored off site.

- E. Payment for Stored Materials: The ODR shall be the sole authority for approval (proof of insurance or bond will be required).
1. Where the Schedule of Values separates items into labor amounts and material amounts, payment will be made for materials delivered and suitably stored on Site provided said material is required for installation according to the Contractor's Work Progress Schedule (WPS).
  2. Materials stored at an off site location which are eligible for inclusion on progress payments are defined as finished goods made specifically for the Project, provided said material is required for installation according to the Contractor's WPS. Raw materials, work in progress at fabrication plants, and commodity items readily available for purchase are not eligible for inclusion in Contractor's Application for Payment.
  3. Payment will be made under following provisions:
    - a. Items are listed separately on Application for Payment.
    - b. Include with Application for Payment:
      - (1) Paid receipts showing Contractor is unconditional owner.
      - (2) Fully executed Transfer of Title on photocopy of form provided herein.
      - (3) Location where materials are stored if off site, and method used to store.
      - (4) Identify items in off site storage as property of Owner and furnish description of identification method.
      - (5) Inventory of items and methods used to verify inventory, including Contractor's certification that quantities have been received in good order.
      - (6) Proof of insurance for materials stored off site, in Owner's name.
      - (7) Proof of transportation arranged for delivery of material stored off site.
      - (8) Material delivered and stored on site or off site needs to parallel WPS.
    - c. ODR reserves right to verify storage by physical inspection at any time.
    - d. Payment does not relieve Contractor's obligations to protect, transport and install materials.
    - e. Title of materials upon which partial payments are made shall transfer to Owner. Partial payment does not constitute acceptance by ODR nor a waiver of any right or claim by ODR. Any costs incurred by Owner shall be paid by Contractor.

- F. Final Payment Application (see UGSC): Administrative actions and submittals must precede or coincide with submittal of Contractor's final payment application.
1. Complete project closeout requirements specification in Section 01 77 00 and 01 78 00.
  2. Additions and deductions resulting from Change Orders.
    - a. Original Contract Sum.
  3. The Owner will prepare final Change Order, reflecting approval adjustments to Contract Sum not previously made by Change Orders.
  4. After final acceptance of the work, the Contractor shall submit their final payment application in the same manner as a progress payment, indicating this is the final payment application. Include waivers of lien release with final pay application. When Federal Funds or other grant funds are included, approval of that agency may also be required.
- G. Cash Flow Schedule (When required by the Owner): Cash Flow Schedule will be required within 21 days after approval of the SOV. This schedule shall show monthly payment requirements for the duration of the Contract. The schedule shall include a graphic analysis showing anticipated total completed to date accounts versus actual completed to date amounts. This Cash Flow Schedule is required to be updated monthly and submitted with each payment estimate.

## PART 2 – PRODUCTS

NOT USED

## PART 3 – EXECUTION

NOT USED

END OF SECTION

## SECTION 01 31 00

### PROJECT MANAGEMENT AND COORDINATION

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Coordination of Contract Work.
- B. Correspondence.
- C. Meetings.
- D. Coordination of Submittals.
- E. Coordination of Contract Closeout.
- F. Coordination with Local Personnel.

##### 1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions Article 3
- B. Section 01 11 00 - Summary of Work.
- C. Section 01 25 00 - Substitutions Procedures.
- D. Section 01 31 50 - Project Meetings.
- E. Section 01 32 00 - Construction Progress Documentation
- F. Section 01 33 00 - Submittal Procedures
- G. Section 01 34 00 - Shop Drawings, Product Data and Samples
- H. Section 01 60 00 - Product Requirements.
- I. Section 01 73 50 - Cutting and Patching.
- J. Section 01 77 00 - Closeout Procedures.
- K. All Divisions of Facility Services Subgroup

##### 1.03 COORDINATION, GENERAL:

- A. Coordinate all portions of the Work under the Contract. Require each Subcontractor to coordinate their portion of the Work and provide their requirements for coordination of their Work with other related Work. (see UGSC)

Contractor shall require and be responsible for cooperation and coordination between various trades and Subcontractors whose work is dependent upon one another. Schedule such work so as to prevent delays in dependent work and so that all related work will progress together.

Fully inform each trade or Subcontractor of the relation of its work to other work, and require each to make necessary provisions for the requirements of such other work. No additional compensation for extra work incurred through the lack of cooperation and coordination between various trades and Subcontractors will be allowed.

- B. Coordinate mechanical and electrical Work with that of other trades in order that various components of systems are installed at proper time, fit available space, and allow proper service access to those requiring maintenance, including equipment specified in other Divisions.
- C. Coordinate Work of sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

- D. Coordinate use of Project space and sequence of installation of mechanical, plumbing, and electrical Work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with proper allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas, except as otherwise shown, conceal pipes, ducts, conduit, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements. Provide escutcheon plates at penetrations through finished walls and ceilings with finish appropriate to adjacent finished surface.
- F. Coordination Drawings: Before materials are fabricated or installation of the Work, prepare coordination drawings (Section 01 34 00). Prepare drawings including plans, elevations, sections, and details as required to clearly define relationships between all building trades including HVAC, Electrical, Plumbing, Fire Sprinkler Systems and the structural components of the building such as ceilings, beams, columns, walls and floors. The drawings shall clearly define locations of sleeves, floor penetrations, Plumbing and HVAC piping, ductwork, equipment, light fixtures, electrical and control wiring conduits, panels, and their relationship to building structural components.
  - 1. In preparation of the coordination drawings the Contractor is required to hold coordination meetings with all trades providing the above Work for each building level and each mechanical and electrical room.
  - 2. Resolve conflicts between trades and prepare composite coordination drawings and submit six (6) sets of drawings to the A/E and one set to ODR. Allow sufficient time for review, in accordance with submittal procedures, prior to proceeding with fabricated or installation of the Work.
    - a. Prepare CAD coordination drawings to 3/8" = 1'0" scale for each floor level and for each mechanical and electrical room. The drawings shall indicate all work items located on each level shown on the drawing with the work items indicated by the following colors:
 

Building and structural components	black
HVAC ductwork and diffusers	dark green
HVAC piping	blue
Fire sprinkler piping and heads	red
Electrical conduits and equipment	orange
Domestic cold and hot water piping	brown
Plumbing storm and sanitary drain	purple
Plumbing gas piping	light green
    - b. All piping and ductwork larger than 2½" in diameter shall be drawn two line; smaller piping and ductwork shall be drawn double thickness single line.
    - c. Show access space around equipment as directed by Specifications.
    - d. The superintendent for each trade and the Contractor shall sign the

drawing indicating that he has reviewed the drawing for accuracy.

3. When conflicts cannot be resolved, Contractor shall request clarification from the A/E prior to proceeding with that portion of the Work affected by such conflicts or discrepancies. Prepare interference Drawings to scale and include plans, elevations, sections, and other details as required to clearly define the conflict between the various systems and other components of the building such as beams, columns, and walls, and to indicate the Contractor's proposed solution.

- G. Remove and relocate items which are installed without regard to proper access, as directed by the A/E and ODR, at no additional cost to the Owner.

#### 1.04 CORRESPONDENCE:

All correspondence relating to this Project should occur in eBuilder. Correspondence outside of eBuilder must show the Project name, Project number and Contract number and must be uploaded to eBuilder.

#### 1.05 MEETINGS:

- A. In addition to project meetings specified in Section 01 31 50, hold coordination meetings and pre-installation conferences with appropriate personnel to assure coordination of Work.

#### 1.06 COORDINATION OF SUBMITTALS:

- A. Schedule and coordinate submittals specified in Sections 01 32 00, 01 33 00, 01 34 00, 01 25 00 and 01 77 00 and other Sections of Divisions 2 through 35.
- B. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on Work of other sections.

#### 1.07 COORDINATION OF CONTRACT CLOSEOUT:

- A. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- B. 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.

#### 1.08 COORDINATION WITH LOCAL PERSONNEL:

- A. Problems concerning traffic, parking or blocking streets must be referred to the appropriate campus personnel. Confine truck route egress and exit to Site as indicated on Drawings. Coordination is to be through the ODR.
- B. Any exterior problems, including the moving of utilities is to be referred to the Facilities Services. Coordination is to be through the ODR.
- C. The scheduling of utility outages must be coordinated with the Physical Plant of the campus



at least fourteen (14) days in advance. This coordination is to be arranged through the ODR.

1.09 PROTECTION:

- A. Contractor shall assume responsibility for initiation and maintenance of protective requirements specified in Section 01 50 00, Temporary Facilities and Controls.

1.10 REPAIR OF DAMAGE:

- A. Damage: Restore accidental or careless damage to the Work to a condition as good as or better than existed before work was commenced and at no cost to the Owner.

1.11 SECURITY:

- A. Conform to requirements of public laws, ordinances and regulations and requirements of insurance carriers concerning security of Site while Work is in progress as well as when it has been suspended, if this occurs.

1.12 RECORD DOCUMENTS:

- A. Maintain project record documents at Site. Refer to Section 01 77 00 for requirements.

1.13 CONSTRUCTION LOADING:

- A. General: Concrete slabs on grade and suspended floors have not been designed for heavy loading.
- B. Slabs On Grade: Do not subject slabs on grade to excessive loading by shoring, storage of materials or operation of construction equipment unless adequately protected by planking. Maintenance of slabs in good condition is the responsibility of the Contractor, who shall remove all damaged areas of such slabs and replace them with new work at no cost to Owner.
- C. Suspended Floors: Do not subject suspended slabs to construction loads beyond 40 pounds per square foot unless adequately shored. Such shoring shall be designed for the Contractor by a registered (Texas) Structural Engineer, who shall certify prior to imposing construction loads on slabs, that the shoring as installed conforms with the shoring as designed. Submit three prints, for record only, of the shoring drawings to the A/E, signed by the Contractor's design engineer.

1.14 SPECIAL REQUIREMENTS:

- A. Existing Utilities: Schedule shut downs if needed in order to minimize inconvenience to Owner. Notify ODR in writing fourteen (14) days in advance of any anticipated shutdowns. Utility shutdowns will only be scheduled at a time mutually agreeable to the Owner and Contractor.
- B. Existing Valves and Switchgear: Owner will be responsible for opening and closing all valves and switches on all utility services. This will be done by University's Facilities Services/Physical Plant personnel without cost, except when overtime work is required.

- C. Damaged Utilities and Services: When existing utilities are damaged, SSC Facilities Services shall make repairs or permit Contractor to make repairs under supervision of SSC Facilities Services personnel. If repairs are to utilities shown on Contract Documents, all costs or repairs incurred by Owner will be borne by Contractor.
- D. No additional compensation will be made to Contractor for reasons of premium time, after hours, overtime or for inefficiency of operation.
- E. Parking: Restricted to areas indicated on Drawings for Contractor's use. Contractor shall make arrangements and pay for any additional parking required off Project site.
- F. Deliveries and Removals: All deliveries of construction material, equipment, supplies, and similar operations, and removals shall be performed only in areas designated and approved by ODR.
- G. Circulation: Confine construction operations to designated areas avoiding any interruption of vehicular circulation to existing facilities. Should these requirements become unavoidable, submit a request to ODR in writing at least two weeks prior to anticipated interruption, stating predicted time, location and duration of interruption.
- H. Construction Scheduling: The Work shall be conducted in such a way as to cause a minimum of interference with the use of adjacent existing facilities during regular school and/or work hours.
- I. Noise Control: The Contractor shall execute the Work in this Contract as quietly as practical to avoid unnecessary disturbances.
  - 1. Any complaints duly registered by Owner of unacceptable noise levels shall be cause for use of special precautions and methods of operation by Contractor to reduce noises to acceptable levels at no additional cost to the Owner.
  - 2. The ODR shall be sole judge of tolerability of noise levels.
- J. Dust Control: Control all dust, to Owner's satisfaction, in working area and involved portions of the Project Site including access roads or drives.

## PART 2 – PRODUCTS

NOT USED

## PART 3 – PRODUCTS

NOT USED

END OF SECTION

## SECTION 01 31 50

### PROJECT MEETINGS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General Project Meeting Information.
- B. Pre-Construction Meeting.
- C. Progress Meetings.
- D. Pre-Installation Meetings.
- E. Lockset Hardware/Key Conference.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures
- C. Section 01 32 00 - Construction Progress Documentation
- D. Section 01 33 00 - Submittal Procedures
- E. Section 01 34 00 - Shop Drawings, Product Data and Samples
- F. Section 01 60 00 - Product Requirements..
- G. Section 01 73 50 - Cutting and Patching.
- H. Section 01 77 00 - Closeout Procedures.

##### 1.03 GENERAL:

- A. Contractors, Subcontractors and suppliers representatives attending the meetings/conferences of this section shall be qualified and authorized to act on behalf of the entity each represents.
- B. Contractor shall comply with the following meeting requirements during performance of the Contract.
  - 1. Arrangements: Arrange for a convenient, comfortable room in which to conduct the progress meetings, furnished as necessary to accommodate the people involved and to accomplish the purpose of the meeting. Owner will provide the room for the pre-construction meeting.
  - 2. Notices: Distribute notices to all concerned at least seven (7) days in advance of the meeting date.
  - 3. Records: Minutes of all project meetings shall be kept in eBuilder and available to all concerned within four (4) days after the adjournment of the meeting.
  - 4. Schedule Updating: Immediately following each progress meeting, where revisions to the Work Progress Schedule (WPS) have been made or recognized, revise the progress schedule. Reissue revised colored copies of the WPS concurrently with minutes of each meeting.

1.04 PRE-CONSTRUCTION CONFERENCE (see UGSC):

- A. Chairman: The meeting will be presided over by the ODR.
- B. Attendance: The following persons will be expected to attend:
  - 1. Owner's Representatives.
    - Project Manager
    - User Coordinator.
  - 2. A/E's Construction Administrator.
  - 3. A/E's Consultants for Mechanical, Electrical and Structural Engineering.
  - 4. A/E's special consultants as maybe required.
  - 5. Contractor's General Superintendent and Project Manager.
  - 6. Major Subcontractors including at least those for mechanical, plumbing and electrical work.
- C. Agenda: Subjects shall include, but are not limited to the following:
  - 1. Distribution of submittals. Refer to Sections 01 33 00 & 01 34 00.
  - 2. Sequence of critical work.
  - 3. Relation and coordination by the Contractor.
  - 4. Designation of responsible personnel.
  - 5. Processing of Change Orders.
  - 6. Distribution of Construction Documents.
  - 7. Access to Work to permit inspection.
  - 8. Maintaining project Record Documents.
  - 9. Use of the premises, access to the Site, office and storage areas, and Owner's requirements.
  - 10. Major equipment deliveries and priorities.
  - 11. Safety and first aid procedure.
  - 12. Security procedures.
  - 13. Housekeeping procedures.
  - 14. Additional subjects as requested by the Owner, the Architect/Engineer or the Contractor.
  - 15. List of major Subcontractors and suppliers.

1.05 PROGRESS MEETINGS:

- A. Chairman: Contractor's Project Manager or Project Superintendent shall preside over the meeting, prepare agenda and record minutes in eBuilder.

- B. Attendance: The following persons will be expected to attend:
1. Owner's Representatives.  
Project Manager  
User Coordinator.
  2. Architect/Engineer's Construction Administrator.
  3. Architect/Engineer's Consultants for mechanical, electrical and structural engineering until excused from attendance.
  4. A/E's special consultants as maybe required.
  5. Contractor's General Superintendent, Project Superintendent and Project Manager.
  6. Subcontractors who have work in progress.
  7. Subcontractor who will start work within the next month.
  8. Others as requested by ODR, A/E, or Contractor.
- C. Agenda: The Contractor will provide a written agenda including but not necessarily limited to the following items:
1. Present a brief written narrative of construction progress since the last monthly meeting containing:
    - a. General description of work performed.
    - b. Expectation of meeting scheduled dates.
    - c. Description of current or anticipated delaying factors or problems, if any.
  2. Review the updated WPS and present a written schedule analysis.
  3. Review the Submittal Schedule/Log.
  4. Review the COR Log.
  5. Review of Requests for Information.
  6. Review of project Record Documents.
  7. Review/approval of the Progress Payment.
  8. General discussion: Other outstanding/current business.
- D. Review of Pre-Installation Meetings
- E. Number of Meetings: A minimum of one progress meeting shall be held each month. Other weekly or biweekly progress meetings shall be held as determined by the ODR and shall cover those subjects as required by the ODR.

1.06 PRE-INSTALLATION MEETINGS:

- A. Provide a list of all pre-installation meetings anticipated.
- B. Convene a pre-installation meeting at the Project field office prior to commencing any work.
- C. Require attendance of entities directly affecting, or affected by, work of Section.
- D. Notify A/E and ODR ten (10) days in advance of meeting date.
- E. Contractor shall prepare agenda, preside at meeting and record minutes in eBuilder.
- F. Review conditions of installation, preparation and installation procedures, and coordination with related work. Review submittals for all Work to be installed.

- G. The Contractor shall maintain an adequate inspection system and perform such inspection to insure that the work called for by this contract conforms to the contract specifications and requirements.
- H. The Contractor shall maintain complete inspection records and make them available to the ODR.
- I. Subcontractor foreman or project manager are required to attend this meeting.

1.07 LOCKSET HARDWARE/KEY CONFERENCE:

A key conference shall be conducted after approval of hardware submittal prior to the ordering of lock hardware. The Contractor shall, in conjunction with the ODR, A/E and User Coordinator, establish a date for the key conference to be held. A key conference is required to review the function of the locks and to insure that all security requirements of the Using Agency will be met.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

## SECTION 01 32 00

### CONSTRUCTION PROGRESS DOCUMENTATION

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Work Progress Schedule (WPS).
- B. Daily reports.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination.
- C. Section 01 33 00 - Submittal Procedures.
- D. Section 01 33 50 - Shop Drawings, Product Data and Samples.
- E. Section 01 77 00 - Closeout Procedures.

##### 1.03 WORK PROGRESS SCHEDULE:

Coordination: Comply with Uniform General and Supplementary Conditions (UGSC). Coordinate both the listing and timing of reports and other activities required by provisions of this Section and other Sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the Work including the A/E and the Owner. In particular, provide close coordination of the WPS, contract price breakdown, listing of subcontracts, schedule of submittals, progress reports, and payment requests.

- A. Initial Work Progress Schedule: Submit a bar-chart type progress schedule within ten (10) calendar days after receipt of Notice to Proceed or Commitment Approval Work Order (CAWO). On this schedule, indicate a time bar for each major category or unit of work to be performed at the Site, properly sequenced and coordinated with other elements of work. Show completion of the activity sufficiently in advance of the date established for completion of the Work. Under no circumstances will construction operations begin other than initial mobilization until the preliminary Work Progress Schedule is submitted.
  - B. Work Progress Schedule: Within ten (10) calendar days after the receipt of the Notice to Proceed or Commitment Approval Work Order (CAWO), submit a comprehensive Work Progress Schedule (WPS). This schedule shall address and include all comments received from the ODR and the A/E that were in reference to the preliminary Work Progress Schedule. Note: The Owner prefers submission of the completed Construction Schedule at the preconstruction meeting if possible, otherwise the Construction Schedule shall be submitted to the ODR not later than ten (10) calendar days after the effective date of the Notice to Proceed or Commitment Approval Work Order (CAWO).
1. General: The Work Progress Schedule shall be in accordance with requirements of the Uniform General and Supplementary Conditions (UGSC).

2. **Work Progress Schedule:** Based on development of the preliminary WPS and whatever updating and feedback may have occurred during project start-up, secure commitments for performing major elements of the Work. Submit a comprehensive WPS indicating, by stage-coded symbols, a time bar for each major category or unit of work to be performed at the Site; include minor elements of work which are involved in overall sequencing of the Work. Contractor shall identify all critical items, in red ink. Arrange schedule to graphically show the major sequences of Work necessary for the completion of related elements of Work. Prepare and maintain the schedule on either a sheet of sufficient size, not to exceed 11" x 17", or a series of sheets showing required data clearly for the entire Construction Time. Provide monthly updates in color (or clearly discernable gray tone shading), graphically and digitally to the ODR.
3. **Area Separations:** Arrange the WPS with separations between buildings and floors as approved by the ODR.
4. **Network Diagram:** Activities shown on the WPS shall be categorized and described as follows:
  - a. Each individual construction activity.
  - b. A concise description of the work.
  - c. An activity duration shall not exceed 20 work days. Durations of greater than 20 work days are acceptable for non-construction activities or as required by the type of construction activity.
  - d. Each activity shall be coded with an activity code or hammock that relates that activity to an item on the Schedule of Values.
  - e. Each activity shall be coded with an activity code that relates that activity to a phase or building. This subdivision of the Project shall be mutually agreed upon between the ODR and the Contractor.
  - f. Items requiring fabrication and delivery longer than 180 days.
  - g. Times anticipated for shutdown and tying-in to existing services.  
Note: This does not serve as an official request to the ODR and each individual request for an outage shall be submitted in writing fourteen (14) calendar days prior to the anticipated outage, as described in Section 01 31 00 Project Management and Coordination. An integrated schedule containing all of the above categories, or individual schedules for each of the above categories, or both, shall be as required by the A/E and/or the ODR.
  - h. After Substantial Completion the Contractor shall show the following activities as a minimum:
    1. Completion of pre-final punchlist.
    2. Final inspection.
    3. The above activities are to be Finish to Start.
  - i. The WPS shall show the following Major Milestone Target Finish Dates:
    1. Completion of main structure foundation piers or footings.
    2. First or ground floor slab complete.
    3. Structure top out.
    4. Building dry-in or enclosed. This is defined as the roof,



- exterior walls, exterior windows and openings closed in.
  - 5. Start of conditioned air. This is defined as the building is ready to hold environmental conditions.
  - 6. Any Early Occupancy required by the Contract.
  - 7. Project phases as outlined in the Construction Documents.
  - 8. Permanent Power Required
  - 9. Other milestones as appropriate to the Project.
- j. Application of Major Milestones Requirement:
  - 1. The Major Milestone Target Finish Dates identified above are to allow for periodic assessment of critical points of delivery in the construction process. If the Work progresses behind the WPS to the extent that a Major Milestone Target is missed, the ODR may retain sufficient funds, otherwise due to the Contractor, to provide for the assessment of Liquidated Damages in the event that the lost time is not regained. There will be no such additional retainage of funds, provided the published Major Milestone Target Finish Dates are maintained throughout the life of the project.
  - 2. In the event that a Major Milestone Target Finish Date has not been met according to the approved schedule, then an assessment equal to the number of days beyond the scheduled date, multiplied by the contractual liquidated damage amount will be withheld as additional retainage (see UGSC) from the current progress payment. The Contractor shall consider this action by the ODR as Notice under UGSC and shall increase the rate of Work placement accordingly.
  - 3. Contractor is expected to implement a recovery action plan that re-establishes the original project progress schedule within thirty (30) calendar days of the missed milestone target date.
  - 4. Actions taken that restore the progress schedule within this 30 day work cycle will entitle the Contractor to recover the assessed additional retainage amount for that occurrence.
  - 5. Beyond thirty (30) calendar days, no reimbursement will be made and a deductive Change Order will be issued.
  - 6. All costs to recover lost time will be borne solely by the contractor.
- k. The WPS shall also show as a minimum the following activities:
  - 1. Permanent power energized.
  - 2. Required inspections such as: above ceiling inspections, wall inspections and pre-final inspections.
  - 3. Sufficient time to correct the items listed in the above inspections.
  - 4. Chilled and heating water required.
- l. Each activity shall be represented by a graphical horizontal line, as follows:

1. Each line clearly and briefly described.
  2. Estimated duration.
  3. Early start, late start, early finish, late finish, actual start and actual finish.
  4. Each activity shall have its own number.
  5. Each activity, except for start and finish activities shall have at least one preceding and succeeding activity and each may have more than one.
  6. Line shall be drawn to the length as dictated by the item scale to indicate the activity's duration including both target duration and percent complete to date.
  7. Each activity shall be placed at its proper calendar location as determined by the time scale.
  8. Float shall be shown in its proper time scale for all activities. Float on specific activities shall be defined as the late finish date minus the early finish date. Total Float shall be the Contract Time less the duration of the critical path, or the amount of time non-critical activities can be delayed without causing the Contract Time to be exceeded.
  9. The path of critical activities shall be illustrated or accented in red, thereby easily distinguished from non-critical activities. There should only be one defined critical path.
  10. Milestones or intermediate completion dates shall be clearly shown.
  11. Substantial Completion Date on the WPS shall coincide with time of completion indicated in the Contract Documents.
  12. The duration of each activity shall be shown in work days and include anticipated days lost due to inclement weather based on the Rainfall Table in the Supplemental General Conditions.
  13. Upon review and acceptance of the WPS by the A/E and the ODR, the target bars shall be locked showing comparison between anticipated schedule and actual schedule.
  14. The original schedule shall be saved as the baseline schedule and each monthly update shall be saved as a different name or version.
5. Submittals: Submit two (2) copies each of the bar chart and two (2) copies each of the computer generated reports to the A/E and to the ODR. Also submit a digital copy of the WPS to the ODR. The ODR and A/E will request revisions, if necessary, and return to the Contractor.
6. Distribution: Following the initial submittal to and response by the A/E and ODR, print and distribute WPS to A/E, ODR, the principal subcontractors, suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. Post copies in the project meeting room and temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed their assigned Work and are no longer involved in performance of scheduled Work.
- a. As major revisions are made during construction, distribute current

issues to the same entities listed above and make postings accordingly.

7. Reports: Computer generated printouts with data regarding each activity shown on the schedule shall include the following:
  - a. Description of the activity.
  - b. Activity number.
  - c. Duration.
  - d. Early start, late start, early finish, late finish, actual start and actual finish dates.
  - e. Float.
  - f. Show dates as calendar dates.
  - g. Target start and target finish dates.
8. Report format shall be sorted in accordance with following format with “a” being the highest priority:
  - a. List of activities in ascending order according to activity number.
  - b. List of activities by amount of total float with activities having lowest float listed first, followed by activities with next lowest float.
  - c. List activities by early start date.
9. Submit two (2) color copies each of the updated WPS to the ODR and the A/E and an electronic copy (current/active version) to the ODR at the Monthly Progress Meeting each month, illustrating the following:
  - a. Show progress on all active items.
  - b. Show actual completed Work as contrasted to estimated Work (i.e. target bar schedule).
  - c. Show critical path activities marked to distinguish them from non-critical path activities.
  - d. Show target bars from the baseline schedule.
10. Submit a detailed, written analysis describing deviations from the previous month's schedule as follows:
  - a. Description of the critical path with changes from the previous month.
  - b. Changes in the network diagram and logic from the previous month.
  - c. Addition/deletion of activities.
  - d. Activities not finishing on the late finish date, the reason for the delay, the impact on the project and corrections to the project timeline.
  - e. Activities impacting meeting the Contract completion date and the reason and the corrective measures taken to correct the situation.
  - f. Any other items deviating from or impacting the WPS in relation to the previous month's WPS which would have an adverse effect on

- the Project.
- g. Change Orders causing modifications in the Work which affect the duration, start or finish date of activities to the extent that the critical path is changed.

Note: Each of the above items shall be addressed monthly in this report.

- 11. Revisions to the schedule, including those created by Change Orders, shall be made at no cost to the Owner.
- 12. Time Extensions: Contract time extensions will not be granted unless a Change Order causes either of the following:
  - a. An increase in the duration of the Critical Path.
  - b. The available float of a non-critical activity is consumed causing the activity to become critical and thereby altering the critical path.
- 13. Time extensions shall be limited to the duration of the revised critical path less the Contract Time.
- 14. Project Summary Schedule: A summary project bar chart schedule shall be submitted monthly. The summary activities will match the construction items found on the Schedule Of Values. The recommended method of producing this schedule is through the use of hammock activities. All of the underlying construction activities should be linked to a hammock activity and the scheduled value for that item should be loaded onto the hammock activity. The monthly submittal of this schedule should include the originally submitted schedule as a target schedule and the current status of that activity. In addition a cost weighted plan versus actual overall project progress curve should be submitted. Immediately after the WPS has been accepted by the ODR a projected cash flow chart shall also be developed from this target schedule and transmitted to the ODR. This cash flow chart shall show graphically projected total billings versus actual total billings. This chart shall be updated monthly and submitted along with the Payment Application. It is a requirement for approval of the Payment Application.

#### 1.04 DAILY REPORTS:

- A. Prepare a daily report, recording the following information concerning events at the Site; and submit in eBuilder:
  - 1. List of Subcontractors at the Site with a brief description of the work being performed.
  - 2. Approximate count of personnel at the Site.
  - 3. High/low temperatures, general weather conditions.
  - 4. Accidents (refer to accident reports).
  - 5. Meetings and significant decisions.
  - 6. Unusual events (refer to special reports).
  - 7. Stoppages, delays, shortages, losses.
  - 8. Meter readings and similar recordings, as required.
  - 9. Emergency procedures, field orders.

10. Orders/requests by governing authorities.
11. Visitors.
12. Services connected, disconnected.
13. Equipment or system test and/or start-ups.
14. Partial completions, occupancies.
15. Status of long lead items that affect the critical path.

## PART 2 - PRODUCTS

NOT USED

## PART 3 - EXECUTION

NOT USED

END OF SECTION

## SECTION 01 33 00

### SUBMITTAL PROCEDURES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General submittal information.
- B. List of proposed Subcontractors and suppliers.
- C. List of proposed materials.
- D. Schedule of Values (SOV).

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 32 00 - Construction Progress Documentation.
- D. Section 01 34 00 - Shop Drawings, Product Data, and Samples.
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 77 00 - Closeout Procedures.
- G. All Divisions of Facility Services Subgroup - Additional submittal requirements

##### 1.03 GENERAL REQUIREMENTS (see UGSC):

- A. General: Prepare a complete schedule of work-related submittals. Submit this submittal in eBuilder within twenty-one (21) days after the effective date of the Notice to Proceed with construction (per UGSC). Correlate this submittal schedule with the listing of subcontractors and with the "list of materials" as specified in the Contract Documents.
- B. Form: Prepare the submittal schedule in chronological order of submittals. Show category of the submittal, name of Subcontractor, a generic description of work covered, related section numbers, activity or event number on WPS, the scheduled date for the first submission, resubmittal, and the final release or approval by A/E. There should be sufficient time allowed for the approval process, including resubmittals, between the submission time and the required approval. The Contractor should typically follow the critical timing of these submittals in accordance with the WPS.
- C. Delivery: Submittals shall be logged into eBuilder.
- D. Approval: When approval is required, if resubmittals are necessary they shall be made in the manner described for the original submission, unless specified otherwise.

##### 1.04 LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS:

- A. General: Not later than thirty (30) days after award of Contract, submit the names of Subcontractors and material suppliers tabulated by each portion of the Work, in addition to the requirements set forth in the UGSC. Performance or non-performance of any Subcontractor or material supplier will not relieve the Contractor of its responsibility for Work as called for in the Contract Documents.

1.05 LIST OF PROPOSED MATERIALS:

- A. Submit list of materials within forty-five (45) days after issuance of Notice to Proceed in accordance with the UGSC.
- B. Materials List: Submit a list of the following types of materials proposed for installation:
  - 1. Material(s) not specified. (Refer to Section 01 25 00, Substitution Procedures).
  - 2. Material(s) selected from a Specification naming more than one manufacturer or supplier.
  - 3. Material(s) selected to conform to a reference specification when no manufacturer has been named.
- C. It will be assumed that materials omitted from the list will be furnished as specified when only one manufacturer has been specified. When more than one manufacturer has been named or when reference specifications have been used the A/E's selection will govern.
- D. The list shall be complete and tabulated by, each Specification section and/or portion of the Work. Include name of manufacturer of each material. For materials specified by reference standards, also include the following with the listing of each such product:
  - 1. Address of manufacturer.
  - 2. Trade name.
  - 3. Model or catalogue designation.
  - 4. Manufacturer's data, including performance and test data and referenced standards.

1.06 SCHEDULE OF VALUES (see UGSC):

- A. General:
  - 1. Submit a Schedule of Values (SOV) in sufficient time to allow review and approval by the ODR and A/E prior to submitting first Application for Payment. (Refer to UGSC)
  - 2. Upon request by A/E or ODR, furnish additional data to support SOV values given that will substantiate their correctness.
  - 3. Approved SOV will be used as basis for reviewing Contractor's Applications for Payment.
  - 4. No payment will be made to the Contractor until the ODR and the A/E have approved the SOV.
- B. Form and Content:
  - 1. Use the Owners componetization categories (delivered at the preconstruction meeting) for preparing the SOV.
  - 2. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments.
  - 3. Line item costs shall not include General Contractor fee/overhead and profit; but, shall reflect the direct cost for labor and materials to General Contractor.
  - 4. Separate line item cost for each of the following General Contractor cost items:

- a. Bonds.
  - b. Field supervision and layout.
  - c. Temporary facilities and controls.
  - d. General Contractor overhead and profit.
5. Separate items into labor amounts and material amounts for each item.
  - a. Labor Costs: Estimated installation costs including labor, applicable taxes, insurance, fringe benefits, erection equipment and tools.
  - b. Materials Costs: Include estimated material and manufactured equipment costs including delivery, taxes and insurance.
6. Combined total of all costs listed in SOV shall equal Contract Sum.

C. Review and Resubmittal:

1. After initial review by ODR and A/E, revise and resubmit as required.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

END OF SECTION



## SECTION 01 34 00

### SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General submittal information.
- B. Architect's and Engineer's action.
- C. Shop drawings, product data and samples.
- D. Field mock-ups and field samples
- E. Color schedules
- F. Brick selection.
- G. Precast architectural concrete and cut stone approvals.
- H. Required submittals.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 32 00 - Construction Progress Documentation.
- E. Section 01 33 00 - Submittal Procedures.
- F. Section 01 60 00 - Product Requirements.
- G. Section 01 77 00 - Closeout Procedures.
- H. Other Technical Sections: Additional submittal requirements.

##### 1.03 SUBMITTALS, GENERAL:

- A. In addition to the requirements outlined in the Uniform General and Supplementary Conditions, Contractor shall comply with the following duties and responsibilities.
- B. The Contractor shall submit to the A/E for review all shop drawings, product data, samples and other submittals for all items required in the Technical Sections of the Specifications and for all items proposed for use in the Work. Do not combine submittals for specified work with requests for substitutions. Submit requests for substitutions in accordance with Section 01 25 00. The Contractor will also submit one (1) complete set of review shop drawings, product data, samples and other submittals for all items proposed for use in the Work in eBuilder "For Review Only".
- C. The Contractor shall review and stamp approval and submit, with reasonable promptness and in orderly sequence, all shop drawings, product data and samples required.
- D. Submit shop drawings, product data and samples far enough in advance to allow ample time for A/E's review, resubmittal if required, and fabrication without creating any delay in the Work, or the work of any other contractor or subcontractor.
  - 1. Make architectural submittals a minimum of thirty (30) days prior to needed return date.

2. Make structural, mechanical and electrical submittals a minimum of thirty (30) days prior to needed return date.
3. Allow more review time for requests of substitutions.
4. Shop drawings will be submitted via eBuilder.
5. The A/E, after review and approval of submittals, will place submittal in an Approved Submittal folder in eBuilder Docs/07 Construction/Submittals/Approved Submittals.
6. The use of eBuilder submittals will be discussed at the Pre-Construction Conference.

E. Submittal Content Requirements:

1. Shop drawings shall be completely detailed and dimensioned with types, sizes, and gauges of materials noted. Where shop coat of paint is required on materials, brand name, and chemical content shall be noted on the drawings.
2. Shop drawings shall be neatly, accurately, and legibly drawn, noted and referenced.
3. Each item contained in the submittal shall be clearly referenced and noted establishing the item's location in the finished work.
4. Member and item designations shall be the same as those used on the A/E's drawings, except that, where the A/E's has used the same designation for more than one member or item, the Contractor may add a suffix to the designation to differentiate between these members.
5. Where published standard exist (such as ACI Standard 315-99 Details and Detailing of Concrete Reinforcement), these shall be followed in the preparation of shop drawings. Where no such standards are published by the industry or trade concerned, the shop drawings shall be prepared in a suitable form acceptable to the A/E.

F. Submittal Format Requirements:

1. Submittal Preparation: Mark each submittal with a permanent label or title block, as appropriate, for identification with the following information on the label or title block for proper processing and recording of action taken.
  - a. Title of submittal and date submitted.
  - b. Sheet number and number of sheets included (as applicable). Number drawings consecutively.
  - c. Project Name, Project Number, and location of Project.
  - d. Name of Architect and Architect's Project Number.
  - e. Name of Contractor, subcontractor, fabricator supplier, and manufacturer, as appropriate.
  - f. Name of drawing and scale (as applicable).
  - g. Name and date of each revision.
  - h. Cross reference to A/E's Drawings and Specification Sections, as appropriate.
  - i. Provide a space on the label or adjacent to title block for the Contractor's review and approval markings, and appropriate space for the Architect's or Engineer's "Action" stamp.
  - j. Name of each item on each sheet submitted and indicate its location in the Project Work.
2. Submittal Numbering System: To expedite review of shop drawings, product data,

samples and other submittals, all submittals shall be assigned a submittal number clearly visible on all transmittal forms and on each copy of each submittal adjacent to Contractor's review stamp. Numbering system shall track Specifications format. In the example 03 30 00-001.0, the number represents the following:

- a. First Six Numbers: Specification Section; Section 03 00 00 in example.
- b. Seventh Through Ninth Numbers: Numerical log of submittals within each Division; Submittal number 001 in example.
- c. Last Number: Initial or re-submittal of each submittal; .0 for initial submittal, .1 for first re-submittal, and so forth.

3. Transmittal Form: Provide a letter of transmittal with each submittal, in duplicate, accurately describing the complete contents of the submittal, including the following:
  - a. Project name.
  - b. Date.
  - c. To:
  - d. From:
  - e. Names of subcontractor, manufacturer and supplier.
  - f. References.
  - g. Category and type of submittal.
  - h. Submittal purpose and description of number of sheets, type of data, equipment and product types, finishes, submittal number, and similar data.
  - i. Submittal and transmittal distribution record.
  - j. Signature of transmitter.
  - k. Record relevant information and requests for data on the transmittal form. On the transmittal form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including minor variations and limitations.
4. Submit Plumbing, Mechanical and Electrical items specified in each individual Section at the same time. Partial submittals will not be considered.
5. Bind each of the Plumbing, Mechanical and Electrical submittals into a single file; individual submittals will not be accepted. Each complete brochure shall contain a Table of Contents showing the order in which the items are arranged in the file. Arrange items in the same order in each file. Where manufacturer's literature contains information on more than one product, clearly mark the item being submitted, using the symbol or designation used to identify the item on the Drawings or in the Specifications.
6. Group only like or related items together in a single submittal. Do not combine submittals for specified work with requests for substitutions. Submit requests for substitutions as specified in Section 01 25 00.

G. Contractor Duties and Responsibilities:

1. Coordinate requirements for submission of each shop drawing, product data and sample as required to properly execute the Work and as necessary to maintain satisfactory progress of the Work in accordance with the WPS and Submittal Schedule.

2. Review shop drawings, product data, and samples prior to submission to A/E. By submitting shop drawings, product data, and samples, Contractor represents that it has verified field measurements, field construction criteria, catalog numbers and similar data, and has coordinated each submittal with requirements of the Work and of the Contract Documents. Contractor's responsibility for errors and omissions in submittals is not relieved by A/E's review of submittals. Submittals received from sources other than Contractor will be returned to sender without A/E's review "action".
  3. Contractor shall certify by stamped, signed, and dated notation on each submittal, that "Submittal is in compliance with requirements of Contract Documents without deviation." Submittals without Contractor's stamp and submittals which, in A/E's or ODR's opinion, are incomplete, contain numerous errors, have not been checked, or have been checked only superficially, will be returned without disposition. Delays resulting there from shall be Contractor's responsibility.
  4. Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by A/E's review of shop drawings, product data, and samples unless Contractor has specifically informed the A/E in writing of such deviation at time of submission and A/E has given written acceptance to the specific deviation.
  5. Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples, to revisions other than those requested by A/E on previous submittals.
  6. Contractor shall give prompt written notice to A/E of inability to comply with exceptions noted on the returned submittals or if unsatisfactory results are anticipated. Document specific reasons for inability to comply or specific unsatisfactory results that are anticipated. Propose substitution to comply with intent of the Contract Documents and produce satisfactory results in accordance with the substitution requirements of Section 01 25 00.
  7. No portion of the Work requiring submission of a shop drawing, product data or sample shall be commenced until submittal has been reviewed with "No Exceptions Taken" status by A/E, except as otherwise provided in this Section.
  8. All portions of the Work shall be in accordance with approved submittals.
- H. Submittal Quantity: The Contractor shall furnish Shop Drawings submittals in eBuilder. Submit minimum of three samples of materials requiring choice of color, texture or finish. Large job site samples shall be limited to one for each approval submittal.
- I. Reproduction and Distribution of Submittals After A/E's Review: A/E shall move Approved Submittals to a folder in eBuilder labeled Approved Submittals. Retain job site mock-ups and samples until removal is approved by A/E and ODR.
- J. There will be no payment made for submittal preparation.
- 1.04 ARCHITECT'S AND ENGINEER'S ACTION (UGSC):
- A. Upon receipt of submittals requiring review, the A/E will review submittals and return them to the Contractor with results of the review indicated as follows:
1. REVIEWED; NO EXCEPTIONS TAKEN: Submittal has been reviewed for the limited purpose of checking for conformance information given and design concept

expressed in the Contract Documents and no exceptions are taken; Contractor may proceed with work represented in submittal, provided no deviation to Contract Documents.

2. REVIEWED; EXCEPTIONS NOTED: Submittal has been reviewed as stated above and certain exceptions are noted. Contractor may proceed with work represented in submittal, unless otherwise noted. Revise submittal, incorporating exceptions noted, and resubmit to A/E until "Reviewed; No Exceptions Taken" status is given.
3. REVIEWED; REVISE AND RESUBMIT: Submittal has been reviewed as stated in paragraph 1 above, Contractor may not proceed with work represented in submittal, and submittal is not acceptable for one of the following reasons:
  - a. Not enough information is provided to make a determination.
  - b. Submittal contains too many errors or omissions to make a determination.
  - c. Information provided does not conform with the information given in the Contract Documents.
4. REJECTED; SUBMIT SPECIFIC ITEM: Submittal has been reviewed as stated in paragraph 1 above, work represented in submittal has not been accepted in accordance with procedures specified in Section 01 25 00; submit specified item.

#### 1.05 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES (UGSC):

##### A. Shop Drawings: Comply with "Submittals, General" and the following:

1. Definition: The term Shop Drawings refers to original drawings prepared by the Contractor, Subcontractor, supplier, fabricator or distributor illustrating a portion of the Work including fabrication drawings, manufacturing drawings, erection drawings, setting drawings, patterns, coordination drawings, schedules, design mix formulas, Contractor's engineering calculations, and layout drawings including ceiling layouts if different from the Contract Documents. Do not submit Contract Documents for Shop Drawings.
2. Format: Prepare drawings on minimum 8-1/2" x 11" to maximum 30" x 42" sheets. Draw plan and section details at a scale of 1" = 1' - 0", details shall be drawn at a scale of 3" = 1' - 0" or larger scale. In addition to "Submittals, General" requirements, each drawing shall be cross-referenced to A/E's Drawings.
3. Content: Shop Drawings shall include, but not be limited to the following:
  - a. The size thickness of members.
  - b. The method of anchoring and securing parts.
  - c. The quantity and location of each item.
  - d. Other pertinent data necessary to show the work to be done, where, and how it is to be done.
  - e. Materials and finishes.
  - f. How item fits to abutting work and requirements for related construction.
  - g. Required connections.
  - h. Overall size and weight.
  - i. Clearances and tolerances.
  - j. Verification of field conditions prior to fabrication.
  - k. Coordination of Shop Drawings and data with requirements for related construction.
  - l. Refer to Section 01 31 00 - Project Management and Coordination for other requirements.

B. Product Data:

1. Definition: Manufacturer's standard product specifications, installation instructions, rough-in diagrams and templates, standard wiring diagrams, printed performance and operational range diagrams, mill reports, operating and maintenance manuals, color charts, data sheets, brochures, drawings and diagrams, and other standard illustrative and descriptive data to clearly identify pertinent data, models and materials, uses, limitations, actual dimensions and clearances required, and technical performance data including wiring diagrams and controls. **Specific item must be identified on catalog cut sheets.**
2. Mark out information not applicable to this Project and supplement standard product data to show compliance with requirements.

C. Samples:

1. Definition: Samples include:
  - a. Partial sections of manufactured or fabricated work.
  - b. Small cuts or containers of materials.
  - c. Complete units of repetitively-used materials.
  - d. Swatches showing full range of color, texture and pattern.
  - e. Color range sets.
  - f. Units of work to be used for independent inspection and testing.
  - g. Units of work to be used as a standard to judge materials and workmanship.
2. Provide samples for items where specified and for items requiring a choice of color, texture or finish. Samples shall illustrate the materials and workmanship and establish standards by which to judge the completed work.
3. Typical office samples shall be approximately 12" square or 12" long unless otherwise noted and shall clearly illustrate the applicable function, corners, joints, related parts, attachment devices, specified finish and full range of colors. Full size approved samples may be incorporated into the Work unless otherwise noted.

1.06 FIELD MOCK-UPS AND FIELD SAMPLES (UGSC):

- A. The Contractor shall erect and maintain mock-ups and field samples as required by the various sections of the specifications. Mock-ups and field samples are required for, but not limited to the following:
1. Concrete sidewalk finishes.
  2. Exterior face brick wall complete with required tooled mortar, sealants, related stonework, windows, glazing, roofing systems, flashings and other related exterior building materials. (see UGSC - Keep mock-ups clean and dry until approved).
- B. Field samples and job site mock-ups shall be erected at the Project Site at a mutually agreed location. Contractor shall request approval for location on which to construct mock-up of field sample prior to proceeding. Each field sample or mock-up shall be complete and illustrate the range of finish and workmanship required in the completed Work and will be used by A/E and ODR, upon approval, as a standard to judge subsequent work.

- C. Where several mock-ups of alternate construction techniques or finishes are required and prepared, each shall be labeled for clear identification indicating base construction finish material, special techniques used and where important for duplication of effect line pressures, grit classification, lengths of exposure, surface preparation, undercoats, strength of reagents, etc.
- D. Contractor shall request review of mock-up or field sample upon completion prior to proceeding with actual construction work.
- E. Contractor shall protect mock-up or field samples from damage, inclement weather, dirt and discoloration prior to and after A/E's and Owner's approval. Retain on the job as a standard reference for materials, workmanship and appearance until removal is authorized. Do not alter, move or destroy mock-up or field sample until so authorized. Remove and dispose of mock-up only after approval is given by the ODR.

#### 1.07 COLOR SCHEDULES:

- A. After receipt of all samples, A/E will present to the ODR a proposed comprehensive color schedule for review and approval.
  - 1. Once approved, the colorboard will be sent to and kept at the job site for reference. A second set of approved colors, in a 3-ring binder, must be provided to the ODR.
  - 2. The Contractor must insure that required submittals for all items requiring color selection are accomplished in a timely manner. The A/E cannot prepare the colorboard for approval by the ODR until all items requiring color selection have been submitted.
- B. The approved color schedule will then be released to the Contractor for ordering materials.
- C. No color selection will be released until all colors are approved in the comprehensive color schedule. Any "early" selections requested, and acted upon by the Contractor, shall be at its own risk and understanding that material of color differing from the approved color schedule will be rejected.
- D. If the Contractor is unable to submit all exterior color selections/samples within sixty (60) days or all interior color selections/samples within ninety (90) days after "Notice to Proceed", the A/E may proceed with preparation of the color schedule using the color selections of a specified product. The Contractor shall be required to match the selected colors at no additional cost to the Owner of the specified product selected by the A/E.

#### 1.08 BRICK SELECTION

Brick selection is a very important item from the Owner's perspective and timely submittals by the Contractor are important to prevent delay.

#### 1.09 PRECAST ARCHITECTURAL CONCRETE AND CUT STONE APPROVALS (if applicable)

Contract may require a project sample of precast architectural concrete or cut stone to be constructed. After the project sample is erected, the ODR will arrange for appropriate personnel to inspect and approve the sample.

## 1.10 REQUIRED SUBMITTALS:

### A. General:

1. In addition to the requirements outlined in the UGSC, Special Conditions, Division 1 and in the Technical Sections of the Specifications, the Contractor shall submit shop drawings, product data, samples, color samples, warranties, and other pertinent data as briefly scheduled herein.
2. Refer to each individual Section of the Specifications for specific requirements of each submittal item.
3. Where requirements are not specifically indicated, provide sufficient data as required to incorporate each item into the work.
4. All subcontractors, suppliers, and manufacturers shall provide a warranty of materials and workmanship of not less than one year duration, and as otherwise specified (see UGSC).

### B. Submittal Legend: The following abbreviations are used in remarks column of the Submittals:

1. SD: Shop Drawings
2. M: Manufacturer's Data
3. C: Color Selection Required
4. S: Physical Samples
5. R: Additional Replacement Materials
6. MO: Maintenance and Operating Manuals
7. IO: Instruction of Owner's Personnel
8. G1, G5, Etc: Guarantee with number of years duration
9. TR: Test Reports
10. CR: Certifications

### C. Submittals:

#### **Division 1 - General Requirements**

List of Subcontractors	within 30 days after notification of Contract Award (per UGSC)
List of Materials	within 45 days after issuance of Notice to Proceed (per UGSC)
Initial WPS	within 10 days after issuance of Notice to Proceed (per UGSC)
WPS	within 30 days after issuance of Notice to Proceed
General Contractor's Maintenance Warranty	G1
Schedule of Values	not later than 45 days after issuance of Notice to Proceed and each month thereafter (per UGSC).
Contract Warranty and Guarantee	additions noted herein
Guarantees	additions noted herein
Project Sign	SD within 30 days
Maintenance	MO 4 sets prior to Final Acceptance and payment



Coordination Drawings

All items requiring Color Selection within 60 days  
Soil, Concrete Mix Designs M, S  
within 90 days after issuance of Notice to Proceed  
and 10 days prior to work taking place

**Division 2 - Existing Conditions (Not Used)**

**Division 3 - Concrete**

Concrete Formwork	SD
Concrete Reinforcement & Assemblies	M, TR, CR, SD, G1
Cast-in-Place Concrete	M, TR, SD, CR, G1
Post Tension Concrete	M, SD, TR, CR, G1
Architectural Precast Concrete	M, SD, S, TR, CR, G1

**Division 4 - Masonry**

Unit Masonry	M, S, C, CR, G1
Granite Veneer & Marble Stone	M, SD, S, CR, C, G5
Granite Stone Counter Tops	M, SD, S, CR, C, G1
Limestone Veneer	M, SD, CR, C, G5

**Division 5 - Metals**

Structural Steel	M, SD, CR, TR, G1
Metal Roof Decking	M, SD, CR, TR, G1
Cold Formed Metal Framing	M, SD, CR, G1
Miscellaneous Metals	M, CR, C, S, SD, G1
Metal Stairs	M, SD, TR, CR, G1
Handrails and Railings	M, SD, CR, G1
Ornamental Handrails	M, SD, CR, S, G1
Ornamental Pipe Handrails	M, SD, S, CR, G1

**Division 6 – Wood, Plastics and Composites**

Rough Carpentry	M, CR, G1
Glue-Laminated Wood	M, SD, S, C, G1
Finish Carpentry	S, SD, G1
Wood Paneling	M, S, SD, C, G1

**Division 7 - Thermal and Moisture Protection**

Fluid Applied Waterproofing	M, S, CR, SD, G10
Flexible Flashing	M, S, CR, G1
Dampproofing	M, G1
Vapor Retarder	M, G1
Building Insulation	M, S, CR, G1
Cementitious Fireproofing	M, TR, G1
Firestopping	M, SD, G1, Schedule

Standing Seam Metal Roofing	M, SD, S, C, CR, G5/20
Roofing	M, SD, S, CR, C, MO, IO, G10
Flashing and Sheet Metal	M, SD, S, CR, G2
Roof Accessories	M, SD, G5
Skylights	M, SD, CR, C, G5
Joint Sealers	M, SD, S, CR, C, G5

## **Division 8 - Openings**

Metal Doors and Frames	M, SD, CR, G1
Wood Doors	M, SD, S, C, CR, G(Life)
Access Doors	M, SD, G1
Overhead Rolling Grills	M, SD, S, G1
Aluminum Storefront	M, SD, S, C, CR, TR, G5
Aluminum Windows	M, SD, S, TR, CR, C, G5
Finish Hardware Schedule	M, SD, S, G1/5
Glass and Glazing	M, SD, S, C, G1/5 (mirrors)

## **Division 9 - Finishes**

Lath and Plaster	M, S, CR, C, G1
Gypsum Board Systems	M, S, CR, TR, G1
Tile	M, S, C, CR, R, G1
Acoustical Ceiling Systems	M, SD, S, R, CR, G1
Acoustical Wall Surfaces	M, S, SD, G1
Wood Flooring and Ceiling	M, S, C, G1
Stone Flooring	M, SD, S, CR, C, R, G5
Terrazzo	M, SD, S, CR, C, MO, G1
Resilient Flooring	M, SD, S, CR, R, C, G1
Carpeting	M, SD, S, C, TR, R, G15
Elastomeric Liquid Flooring	M, S, CR, C, G2
Painting	M, SD, S, C, CR, R, G1
Wallcovering	M, S, C, G1

## **Division 10 - Specialties**

Markerboards	M, SD, S, C, G1/50 (writing surface)
Toilet Partitions	M, SD, S, C, CR, G1
Metal Wall Louvers	M, SD, S, CR, C, G1
Identifying Devices	M, SD, S, C, G1
Fire Extinguishers and Cabinets	M, SD, C, G1
Operable Partitions	M, SD, S, C, G2
Toilet Accessories	M, SD, C, CR, S, G1
Wardrobe Specialties	M, G1

## **Division 11 - Equipment**

Projection Screens	M, SD, S, G10
Loading Dock Equipment	M, SD, CR, G5
Appliances	M, SD, C, S, G1 (manufacturer's warranties)

Darkroom Equipment	M, SD, S, C, G1
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**Division 12 - Furnishings**

Manufactured Casework	M, SD, S, C, CR, G2
Horizontal Blinds	M, SD, S, C, G1
Foot Grilles	M, SD, C, S, G1
Multiple Seating	M, SD, S, CR, C, G1
Entrance Matts	M, SD, S, G1

**Division 13 - Special Construction (Not Used)**

**Division 14 - Conveying Equipment**

Hydraulic Elevators	M, SD, S, C, MO, IO, G1
Traction Elevators	M, SD, SC, MO, IO, G1

**Divisions 21 to 28 – Facility Services Subgroup**

Refer to the various Division Sections specific submittal requirements	M, SD, S, C, MO, IO, G1
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**Division 31 – Earthwork**

Select Structural Fill Borrow Material	TR, S, G1
Lime Stabilization	TR, G1
Compaction and Testing	TR, Special Provisions
Soil Treatment	M, G5
Drilled Pier Report	M, TR, G1

**Division 32 – Exterior Improvements**

Concrete Pavers	M, S, TR, G1
Sidewalk Finish Sample	S, G1
Concrete and Reinforcing Steel	M, TR, SD, G1
Granite Pavers	M, TR, S, C, SD, R, G5
Pavement Marking	M, C, SD, G1
Chain Link Fence	M, SD, S
Bicycle Racks	M, SD, G1
Site Furniture	M, S, C, G1

**Division 33 – Utilities**

Water Service System	M, SD, TR, G1
Fire Hydrants	M, TR, G1
Storm Sewer System	M, G1
Sanitary Sewer System	M, SD, G1

**Division 34 – Transportation (Not Used)**

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

## SECTION 01 42 00

### REFERENCES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Reference Requirements.
- B. Governing Regulations and Authorities.
- C. Definitions

##### 1.02 REFERENCE REQUIREMENTS:

- A. Materials, equipment and operations specified by reference to published standards and specifications of a technical society, trade association, or other agency standard, shall comply with the requirements of the current edition of the listed document that is in effect on the issue date of the Specifications or Addendum page making reference thereto, unless otherwise specified. Make copies of referenced documents available at site, as the ODR or A/E may request.
- B. No provision of a reference standard, specification, manual, or code shall change the duties and responsibilities of the Owner, the Contractor, the A/E and their consultants, their agents and employees from those duties and responsibilities set forth in the Contract Documents.
- C. Acronyms for names of technical societies, associations, and agencies referenced in the Contract Documents shall be interpreted as follows:

AA            Aluminum Association  
              900 19<sup>th</sup> St., NW, Suite 300; Washington, DC 20006;  
              202-862-5100  
              [www.aluminum.org](http://www.aluminum.org)

AABC        Associated Air Balance Council  
              1518 K Street, NW, Suite 503; Washington, DC 20005  
              202-737-0202  
              [www.aabchq.com](http://www.aabchq.com)

AAMA        American Architectural Manufacturers Association  
              1827 Walden Office Square, Ste 550; Schaumburg, IL 60173-4268  
              847-303-5664  
              [www.aamanet.org](http://www.aamanet.org)

ANLA        American Nursery & Landscape Association

1000 Vermont Ave., NW, Ste 300; Washington, DC 20005-4914  
202-789-2900  
[www.anla.org](http://www.anla.org)

- ACI American Concrete Institute  
38800 Country Club Drive; Farmington Hills, MI, 48331;  
248-848-3700  
[www.concrete.org](http://www.concrete.org)
- ACIL American Council of Independent Laboratories  
1629 K Street, NW, Suite 400; Washington, DC 20006-1633  
202-887-5872  
[www.acil.org](http://www.acil.org)
- ADC Air Diffusion Council  
1000 E. Woodfield Road, Suite 102; Schaumburg, IL 60173-5921  
847-706-6750  
[www.flexibleduct.org](http://www.flexibleduct.org)
- AGC Associated General Contractors of America  
333 John Carlyle Street, Suite 200; Alexandria, VA 22314  
703-548-3118  
[www.agc.org](http://www.agc.org)
- AIA America Institute of Architects  
1735 New York Avenue, NW; Washington DC 20006  
202-626-7300  
[www.aia.org](http://www.aia.org)
- AIC American Institute of Constructors  
466 94<sup>th</sup> Avenue North; St. Petersburg, FL 33702  
727-578-0317  
[www.aicnet.org](http://www.aicnet.org)
- AISC American Institute of Steel Construction, Inc.  
One East Wacker Drive, Suite 3100; Chicago, IL 60601-2001  
312-670-2400  
[www.aisc.org](http://www.aisc.org)
- AISI American Iron and Steel Institute  
1140 Connecticut Avenue, Suite 705; Washington, DC 20036  
202-452-7100  
[www.steel.org](http://www.steel.org)
- AMCA Air Movement and Control Association  
30 West University Drive; Arlington Heights, IL 60004-1893

	847-394-0150 <a href="http://www.amca.org">www.amca.org</a>
ANSI	American National Standards Institute 1819 L. Street, NW, 6 <sup>th</sup> Floor; Washington, DC 20036 202-293-8020 <a href="http://www.ansi.org">www.ansi.org</a>
APA	American Plywood Association P.O. Box 11700; Tacoma, WA 98411-0700 253-565-6600 <a href="http://www.apawood.org">www.apawood.org</a>
ARI	Air Conditioning and Refrigeration Institute 4100 North Fairfax Drive, Suite 200; Arlington, VA 22203 703-524-8800 <a href="http://www.ari.org">www.ari.org</a>
ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers, Inc. 1791 Tullie Circle, NE; Atlanta, GA 30329 404-636-8400 <a href="http://www.ashrae.org">www.ashrae.org</a>
ASME	American Society of Mechanical Engineers 3 Park Avenue; New York, NY 10016 212-591-7000 <a href="http://www.asme.org">www.asme.org</a>
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive; West Conshohocken, PA 19428-2959 610-832-9500 <a href="http://www.astm.org">www.astm.org</a>
AWI	Architectural Woodwork Institute 1952 Isaac Newton Square West; Reston, VA 20190 703-733-0600 <a href="http://www.awinet.org">www.awinet.org</a>
AWPA	American Wood Preservers' Association P.O. Box 388; Selma, Alabama 36702-0388 <a href="http://www.awpa.com">www.awpa.com</a>
AWS	American Welding Society, Inc. 550 Le Jeune Road, NW; Miami, FL 33126 305-443-9353

[www.aws.org](http://www.aws.org)

AWWA	American Water Works Association 6666 West Quincy Avenue; Denver, CO 80235 303-794-7711 <a href="http://www.awwa.org">www.awwa.org</a>
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Ave., 17 <sup>th</sup> Floor; New York, NY 10017 212-297-2122 <a href="http://www.buildershardware.com">www.buildershardware.com</a>
BIA	Brick Institute of America 11490 Commerce Park Drive, Suite 300; Reston, VA 20191 703-620-0010 <a href="http://www.bia.org">www.bia.org</a>
BICSI	Building Industry Consulting Services International 8610 Hidden River Parkway; Tampa, FL 33637 800-242-7405 <a href="http://www.bicsi.org">www.bicsi.org</a>
CE	Corps of Engineers (U.S. Department of the Army)
CPA	Composite Panel Association 18922 Premiere Court; Gaithersburg, MD 20879 301-670-0604 <a href="http://www.pbmdf.com">www.pbmdf.com</a>
CPSC	Consumer Product Safety Commission National Injury Information Clearinghouse 4330 East-West Hwy.; Bethesda, MD 20814-4408 301-504-6816 <a href="http://www.cpsc.gov">www.cpsc.gov</a>
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road; Schaumburg, IL 60173-4758 847-517-1200 <a href="http://www.crsi.org">www.crsi.org</a>
DHI	Door and Hardware Institute 14150 Newbrook Drive, Suite 200; Chantilly, VA 20151-2223 703-222-2010 <a href="http://www.dhi.org">www.dhi.org</a>
FM	Factory Mutual Engineering and Research Organization



1151 Boston-Providence Turnpike; Norwood, MA 02062-5001  
781-762-4300

FS	Federal Specification (General Services Administration) Specifications Unit (WFSIS)
GA	Gypsum Association 810 First Street, NE, Suite 510; Washington, DC 20002 202-289-5440 <a href="http://www.gypsum.org">www.gypsum.org</a>
IEEE	Institute of Electrical and Electronics Engineers 445 Hoes Lane; Piscataway, NJ 08854 732-981-0660 <a href="http://www.ieee.org">www.ieee.org</a>
IESNA	Illuminating Engineering Society of North America 120 Wall Street, Floor 17; New York, NY 10005 212-248-5000 <a href="http://www.iesna.org">www.iesna.org</a>
IGCC	Insulating Glass Certification Council c/o ETL Testing Labs, P.O. Box 9, Henderson Harbor, NY 13651 315-646-2234 <a href="http://www.igcc.org">www.igcc.org</a>
ILI	Indiana Limestone Institute of America 400 Stone City Bank Building, Bedford, IN 47421 812-275-4426 <a href="http://www.iliai.com">www.iliai.com</a>
LPI	Lightning Protection Institute 3335 N. Arlington Hts. Road, Suite E; Arlington Hts., IL 60004 847-577-7200 <a href="http://www.lightning.org">www.lightning.org</a>
MIL	Military Standardization Documents (U.S. Dept. of Defense)
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park Street, NE; Vienna, VA 22180-4602 703-281-6613 <a href="http://www.mss-hq.com">www.mss-hq.com</a>
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Avenue, Suite 1000; Chicago, IL 60603

	312-332-0405 <a href="http://www.naamm.org">www.naamm.org</a>
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive; Herndon, VA 20171-4662 703-713-1900 <a href="http://www.ncma.org">www.ncma.org</a>
NEC	National Electric Code (by NFPA) National Elevator Industry, Inc. 1677 County Route 64, P.O. Box 838; Salem, NY 12865-0838 518-854-3100 <a href="http://www.neii.org">www.neii.org</a>
NEMA	National Electrical Manufacturers Association 1300 North 17 <sup>th</sup> Street; Rosslyn, VA 22209 703-841-3200 <a href="http://www.nema.org">www.nema.org</a>
NFPA	National Fire Protection Association One Batterymarch Park; Quincy, MA 02269-9101 617-770-3000 <a href="http://www.nfpa.org">www.nfpa.org</a>
NIST	National Institute of Standards and Technology (formerly National Bureau of Standards; U.S. Dept. of Commerce) Gaithersburg, MD 20899-3460 301-975-6478 <a href="http://www.nist.gov">www.nist.gov</a>
NPCA	National Paint and Coatings Association 1500 Rhode Island Ave., NW; Washington, DC 20005 202-462-6272 <a href="http://www.paint.org">www.paint.org</a>
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600; Rosemont, IL 60018-5607 847-299-9070 <a href="http://www.nrca.net">www.nrca.net</a>
NSF	National Sanitation Foundation P.O. Box 130140, 789 N. Dixboro Rd; Ann Arbor, MI 48113-0140 734-769-8010 <a href="http://www.nsf.org">www.nsf.org</a>
NTMA	The National Terrazzo and Mosaic Association, Inc.

201 N. Maple Avenue, Suite 208; Purcellville, VA 20132  
800-323-9736  
[www.ntma.com](http://www.ntma.com)

NWWDA National Wood Window and Door Association (formerly NWMA)  
1400 E. Touhy Avenue #G54; Des Plaines, IL 60018  
708-299-1286  
[www.nwwda.org](http://www.nwwda.org)

OSHA Occupational Safety & Health Administration (U.S. Department of Labor)  
Government Printing Office  
200 Constitution Avenue, NW; Washington, DC 20210  
[www.osha.gov](http://www.osha.gov)

PCA Portland Cement Association  
5420 Old Orchard Road; Skokie, IL 60077  
847-966-6200  
[www.portcement.org](http://www.portcement.org)

PCI Precast/Prestressed Concrete Institute  
209 W. Jackson Blvd, Suite 500.; Chicago, IL 60606-6938  
312-786-0300  
[www.pci.org](http://www.pci.org)

PDI Plumbing and Drainage Institute (c/o Saul Baker)  
45 Bristol Drive; South Easton, MA 02375  
800-589-8956  
[www.pdionline.org](http://www.pdionline.org)

PS Product Standard of NBS (U.S. Department of Commerce)

RFCI Resilient Floor Covering Institute  
401 E. Jefferson Street, Suite 102; Rockville, MD 20850  
301-340-8580  
[www.rfci.com](http://www.rfci.com)

RIS Redwood Inspection Service (Grading Rules)  
405 Enfrente Drive, Suite 200; Novato, CA 94949  
415-382-0662

SDI Steel Deck Institute  
P.O. Box 25; Fox River Grove, IL 60021  
847-458-4647  
[www.sdi.org](http://www.sdi.org)

SDI	Steel Door Institute 30200 Detroit Road; Cleveland, OH 44145-1967 440-899-0010 <a href="http://www.steeldoor.org">www.steeldoor.org</a>
SIGMA	Sealed Insulating Glass Manufacturers Association 401 N. Michigan Avenue, Suite 2400; Chicago, IL 60611 312-644-6610
SMACNA	Sheet Metal & Air Conditioning Contractors National Association, Inc. 4201 Lafayette Center Drive; Chantilly, VA 20151-1209 703-803-2980 <a href="http://www.smacna.org">www.smacna.org</a>
SPIB	Southern Pine Inspection Bureau (Grading Rules) 4709 Scenic Highway, Pensacola, FL 32504-9094 850-434-2611 <a href="http://www.spib.org">www.spib.org</a>
SSPC	The Society for Protective Coatings 40 24 <sup>th</sup> Street, 6 <sup>th</sup> Floor; Pittsburgh, PA 15222-4656 877-281-7772 <a href="http://www.sspc.org">www.sspc.org</a>
TCA	Tile Council of America, Inc. 100 Clemson Research Blvd.; Anderson, SC 29625 864-646-8453 <a href="http://www.tileusa.com">www.tileusa.com</a>
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance 2500 Wilson Blvd., Suite 300; Arlington, VA 22201 703-907-7700 <a href="http://www.tiaonline.org">www.tiaonline.org</a>
UL	Underwriter's Laboratories 333 Pfingsten Road; Northbrook, IL 60062 847-272-8800 <a href="http://www.ul.com">www.ul.com</a>
WCLIB	West Coast Lumber Inspection Bureau (Grading Rules) P.O. Box 23145; Portland, OR 97281 503-639-0651 <a href="http://www.wclib.com">www.wclib.com</a>

WWPA            Western Wood Products Association  
522 SW 5<sup>th</sup> Avenue, Suite 500; Portland, OR 97204-2122  
503-224-3930  
[www.wwpa.org](http://www.wwpa.org)

#### 1.03 GOVERNING REGULATIONS/AUTHORITIES:

- A. The A/E has contacted the appropriate authorities having jurisdiction for the listed regulations and codes to obtain information for preparation of the Contract Documents. The Contractor may contact authorities having jurisdiction directly for information and decisions having bearing on the Work.
1. Life Safety Code, NFPA 101, latest edition, and all codes referenced therein.
  2. International Building Code, latest edition, International Code Council, Inc., (for all items not covered by Life Safety Code).
  3. National Fire Codes, NFPA.
  4. State Energy Conservation Design Standard (ASHRAE 90.1-2004 Energy Standard).
  5. Other applicable ASHRAE Standards
  6. International Plumbing Code, latest edition, International Code Council, Inc.
  7. Building Service Piping, ASME/ANSI B 31.9.
  8. Texas Accessibility Standards (TAS), Texas Department of Licensing and Regulations, Architectural Barriers Act, Chapter 469, Government Code.
  9. American Disabilities Act, Part III, 28 CFR 36, July 26, 1991.
  10. Safety Code for Elevators and Escalators, ASME A 17.1 & A 17.3.
  11. TIA/EIA Standards.
  12. Texas Commission on Environmental Quality – (SWPPP)

#### 1.04 DEFINITIONS:

- A. Require and Similar Words: As needed to complete the Work and as directed by A/E, unless stated otherwise.
- B. Perform: Contractor, at its expense, shall perform operations necessary to complete the Work, including furnishing of necessary labor, tools and equipment, and further including furnishing and installing of materials indicated, specified or required to complete such performance.
- C. Provide: Contractor, at its expense, shall furnish and install the Work complete in place and ready for use, including furnishing of necessary labor, materials, tools, equipment and transportation. Definitions apply same to future, present and past tenses, except word "provide" may mean "contingent upon" where such is context.
- D. Other Acceptable Manufacture, Equal, Or Equal, Equivalent and Words of Similar Import: It shall be understood such words are followed by expression "in opinion of A/E" unless stated otherwise.

- E. Acceptable, Acceptance or Words of Similar Import: Acceptance or similar import of A/E is intended unless stated otherwise.
- F. At No Extra Cost to Owner, With No Extra Compensation to Contractor, at Contractor's Expense or Terms of Similar Import: Such terms shall be understood to mean that Contractor shall perform or provide specified products, materials or operations of the Work at no increase to Contract Sum stated in executed Contract.
- G. NIC: Work which is not being performed or provided as part of Contract; term shall mean "Not In This Contract" or "Not a Part of the Work to be Performed or Provided by Contractor." "NIC" work is indicated as an aid to Contractor in scheduling the amount of time and materials necessary for completion of Contract.
- H. Indicated: The term "indicated" is a cross-reference to graphics, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- I. Directed, Requested or Similar Words: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by the ODR, A/E," "requested by the ODR, A/E," and similar directions by the ODR and A/E. However, no such implied meaning will be interpreted to extend Owner's and A/E's responsibility into Contractor's area of construction supervision.
- J. Approve: Where used in conjunction with Owner's and A/E's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of the term "approved" will be held to limitations of Owner's and A/E's responsibilities and duties specified in General Conditions. In no case will "approval" by Owner and/or A/E be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.

## PART 2 - PRODUCTS

NOT USED

## PART 3 - EXECUTION

NOT USED

END OF SECTION

## SECTION 01 43 00

### QUALITY ASSURANCE

#### PART I - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Owner's Quality Assurance Testing.
- B. Below Grade Inspections.
- C. Concrete Inspections.
- D. Wall Closure and Above Ceiling Inspections.
- E. Pre-final Inspection.
- F. Final Inspection
- G. Final Acceptance
- H. One Year Inspection.

##### 1.02 RELATED SECTIONS:

- A. Section 01 34 00 - Shop Drawings, Product Data, and Samples

##### 1.03 GENERAL REQUIREMENTS FOR OWNER'S QUALITY ASSURANCE TESTING (see UGSC):

- A. The Owner/Owner's Designated Representative (ODR) will employ a testing laboratory and/or geotechnical engineering service to perform quality assurance tests and to transmit copies of test reports to Contractor. Sampling and testing that the Owner/ODR may require is specified in this section and in the various technical sections requiring quality assurance testing. Cooperate with Owner/ODR's testing laboratory personnel, provide access to the Work, to manufacturer's and fabricator's operations, furnish incidental labor and facilities, and samples for test and inspections, as specified.
  - 1. Employment of testing laboratory to perform quality assurance tests is for benefit of Owner/ODR in confirming that performance and quality of the Work is in conformance with the Contract Documents.
  - 2. Employment of a testing laboratory by Owner/ODR in no way relieves Contractor's obligation to perform the Work in accordance with Contract Documents.
  - 3. Owner/ODR's testing laboratory shall not be the same as Contractor's testing laboratory used for design and certification testing unless otherwise acceptable to the A/E and Owner/ODR.
  - 4. Where the terms "Inspector" and "Laboratory" are used, they mean and refer to an officially designated and accredited inspector of the testing laboratory engaged by the Owner/ODR.
  - 5. The testing firm shall make all inspections and perform all tests in



accordance with the rules and regulations of the building code, local authorities, the Specifications of the ASTM and these Contract Documents.

6. Commercial Testing Laboratories: In general, all Contracts awarded by SSC will require that testing not performed by the Contractor (i.e., hydrostatic testing of piping) or by the A/E (i.e., spot checking of air flow by the Engineer) will be performed by a commercial testing laboratory selected by the Owner/ODR. The cost of such commercial testing will be paid directly by SSC. Retesting will also be paid by the Owner/ODR, but will be re invoiced at cost to the Contractor. The number of copies of test reports will be determined for each individual project but in general will include:

Two copies for the Contractor;  
One copy for the A/E;  
One copy for SSC; and  
One copy for the Construction Project Inspector.

Employment of the testing laboratory is for the benefit of the Owner/ODR for confirming that performance and quality of the Work is in conformance with the Contract Documents.

7. The engagement of a testing laboratory by the Owner/ODR in no way relieves the Contractor of its responsibility, for full compliance of the Contract. The Contractor remains liable for the quality of the materials, products/equipment installed, and satisfactory work performance.

- B. Owner/ODR's quality assurance testing and sampling may include the following testing and other services to ensure Contract performance.

1. Compacted Fill and Backfill: Perform field density tests on existing subgrade at each lift.
2. Footing Subgrades: Perform tests and visual comparisons of footing subgrades to verify design bearing capacities.
3. Asphalt Paving and Base Material.

- C. Limits of Testing Laboratory Authority: Laboratory is not authorized to:

1. Approve or reject any portion of the Work.
2. Perform any duties of the Contractor and Subcontractors.
3. Revoke, alter, relax, expand, or release any requirement of the Contract Documents or to approve or accept any portion of the Work, except where such approval is specifically called for in the Specifications.
4. Laboratory technicians do not act as foremen, or perform other duties for Contractor. Work will be checked as it progresses, but failure to detect any defective work or materials shall not, in any way, prevent later rejection when such defect(s) are discovered.

#### 1.04 BELOW GRADE INSPECTIONS (see UGSC)

- A. Before the covering or backfilling of any improvement below grade, cover up inspections will be conducted to see that all items meet the plans and specs. Only after all the deficiencies have been corrected will the Contractor be allowed to install any backfill.

#### 1.05 CONCRETE INSPECTIONS

- A. Before the placing of any cast-in-place concrete structure, an inspection will be conducted to see that all items meet the intent of the plans or specs. Only after all the deficiencies have been corrected will the Contractor be allowed to proceed.

#### 1.06 WALL CLOSURE/ABOVE-CEILING INSPECTIONS (see UGSC)

- A. Before the installation of any ceiling or the closing of walls and chases, an inspection will be conducted to see that all items fully meet the plans and specs before being covered. Only after all the deficiencies have been corrected will the Contractor be allowed to install the ceiling or close-up the wall.
- B. As a minimum, the following should be in place before an above-ceiling inspection is scheduled:
  - 1. All light fixtures installed and working;
  - 2. All plumbing installed and insulation complete;
  - 3. All rigid and flexible ducts installed;
  - 4. All required valve identification tags installed;
  - 5. All air devices installed and connected;
  - 6. All controlled air tubing installed; and
  - 7. The ceiling support structure installed.
- C. Walls and chases will be inspected to verify the presence of blocking and bridging, and to verify electrical conduit and boxes are installed and supported properly.
- D. Those in attendance at these inspections shall include the A/E (as required), selected personnel from SSC, the General Contractor, plumbing, electrical and mechanical subcontractors.
- E. A minimum of fourteen (14) days notice shall be given to the ODR prior to these inspections.

#### 1.07 A/E AND PROJECT INSPECTOR'S SUBSTANTIAL COMPLETION INSPECTION (see UGSC)

- A. When the Contractor feels that the Work is complete and ready for the Owner's use, it will notify the A/E and the ODR in writing fourteen (14) days prior to the date that the Work is anticipated to be complete and ready for a Substantial Completion Inspection. The A/E, along with representatives of SSC, User Coordinator, and the University will make a detailed inspection of all Work included in the Contract and the A/E will furnish to the Contractor a list of incomplete items. When all these items have been completed by the Contractor (within 30 days), the A/E and the ODR

will be notified that all items of the Substantial Completion Inspection have been completed.

#### 1.08 FINAL INSPECTION AND ACCEPTANCE (see UGSC)

- A. Upon verification by the A/E and the ODR that the deficiencies found during the Substantial Completion Inspection have been corrected, and the Work is ready for Final Inspection and Acceptance, the ODR will, within ten (10) calendar days after receiving written verification by the A/E, make a Final Inspection. When the Work is found acceptable under the Contract Documents (within 7 days) without any exceptions and the Contract is fully performed, then final payment will be made to the Contractor. Those in attendance at the Final Inspection will include the A/E, representatives of SSC, User Coordinator and Texas A&M University.

#### 1.09 FINAL ACCEPTANCE (see UGSC)

- A. When the Work is fully complete, the A/E and construction project manager will notify SSC, recommending final acceptance of the Work. SSC will prepare a Report of Final Inspection and Acceptance.

#### 1.10 ONE YEAR INSPECTION

- A. All Contracts awarded by SSC contain a one (1) year workmanship and material guarantee as stated in Uniform General and Supplementary Conditions, Articles 13.2 and 13.5. Defects which might result in damage to the facility or other property should be called to the attention of the Project Manager, SSC, who will notify the A/E and the Contractor.

### PART 2 – PRODUCTS

NOT USED

### PART 3 – EXECUTION

#### 3.01 EARTHWORK AND STRUCTURAL FILL

- 1. Soils Testing:
  - a. Tests on existing subgrade and borrow material - Test for suitability, representative samples of existing subgrade, proposed fill and backfill materials (proctor curve and plasticity index).
  - b. Provide one optimum moisture-maximum density curve for each type of soil encountered.
  - c. Field density test reports - Perform “In-Place” field density and moisture tests (one test per each 5000 S.F.) for the existing subgrade and each lift to assure that specified compaction requirements are maintained throughout placement and compacting operations.

- d. Contractor shall pay for (*not from allowance amount*) additional compaction testing in the event of failed tests during the earthwork and fill activities.

### 3.02 ASPHALT PAVING

- 1. Base Material:
  - a. Tests on base material - Test for suitability, representative samples of proposed materials (proctor curve and plasticity index).
  - b. Provide one optimum moisture-maximum density curve for base material.
  - c. Field density test reports - Perform “In-Place” field density and moisture tests (one test per each 100 L.F.) to assure that specified compaction requirements are maintained throughout placement and compacting operations.
- 2. Asphaltic Concrete:
  - a. Sampling and testing for quality control during placement of asphalt, one sample per day.
  - b. Field density test reports - Perform “In-Place” field density and moisture tests (one test per each 100 L.F.) to assure that specified compaction requirements are maintained throughout placement and compacting operations.

### 3.03 PIER DRILLING OPERATION

- A. Provide services herein specified.
- B. A representative of the soils testing laboratory shall make continuous inspections to determine that proper bearing stratum is obtained and utilized for bearing and that shafts as are properly clean and dry before pouring concrete.
- C. Soils testing laboratory shall furnish complete pier log showing the diameter, top and bottom elevations of each pier, casing required or not required, bell size, actual penetration into bearing stratum, elevation of top of bearing stratum, and volume of concrete used.
- D. Request probe holes when deemed necessary to confirm safe bearing capacity.

### 3.04 REINFORCING STEEL MECHANICAL SPLICES

- A. Visually inspect and report on the completed condition of each mechanical splice of reinforcing steel.
- B. Each mechanical splice shall be visually inspected to ensure compliance with building code and the manufacturer's published criteria for acceptable completed splices.

- C. Special emphasis shall be placed on inspection of the end preparation of each bar to be spliced, as required by the building code.
- D. Submit copies of manufacturer's published criteria for acceptable completed splices prior to observing mechanical splices.
- E. Reports on each mechanical splice shall indicate location of the splice, size of bars spliced, and acceptability or rejection of splice. Reasons for rejection shall be shown on each report.

### 3.05 CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES

- A. Inspect all concrete reinforcing steel prior to placing of concrete for compliance with Contract Documents and approved shop drawings. All instances of noncompliance with Contract Documents and approved shop drawings shall be immediately brought to the attention of the Contractor for correction and then, if uncorrected, reported to the A/E.
- B. Observe and Report on the Following:
  - 1. Number and size of bars.
  - 2. Bending and lengths of bars.
  - 3. Splicing.
  - 4. Clearance to forms including chair heights.
  - 5. Clearance between bars or spacing.
  - 6. Rust, form oil, and other contamination.
  - 7. Grade of steel.
  - 8. Securing, tying, and chairing of bars.
  - 9. Excessive congestion or reinforcing steel.
  - 10. Installation of anchor bolts and placement of concrete around such bolts.
  - 11. Fabrication of embedded metal assemblies, including visual inspection of all welds.
  - 12. Visually inspect studs and deformed bar anchors on embedded assemblies for compliance with Contract Documents. Check number, spacing and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud or bar, such stud or bar shall be struck with a hammer and bent 15 degrees off perpendicular and then bent back into position. Anchors failing this test shall be replaced.

### 3.06 CONCRETE INSPECTION AND TESTING

- A. Receive and evaluate all proposed concrete mix designs submitted by the Contractor. If the mix designs comply with the Drawings and Specifications, the laboratory shall submit a letter to the A/E certifying compliance. Mix designs not complying with the Drawings and Specifications shall be returned by the laboratory as unacceptable.

- B. Secure composite samples of concrete at the jobsite in accordance with ASTM C 172.
- C. Mold and cure three specimens from each sample in accordance with ASTM C 31. Supervise the curing and protection provided (by others) for test specimens in the field, and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
- D. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at seven days for information.
- E. Make one strength test (three cylinders) for each 100 cubic yards or fraction thereof, of each mix design of concrete placed in any one day.
- F. Make one slump test for each set of cylinders following the procedural requirements of ASTM C 243 and ASTM C 172. Make additional slump tests whenever the consistency of concrete appears to vary. Do not permit placement of concrete having a measured slump outside the limits given on the Drawings, except when approved by the A/E. Slump tests corresponding to samples from which strength tests are made shall be reported with the strength test results. Other slump tests need not be reported.
- G. Determine total air content of air entrained normal-weight concrete sample for each strength test in accordance with ASTM C 231.
- H. Determine temperature of concrete sample for each strength test.
- I. The testing agency shall furnish and maintain a competent inspector at the mixing plant at the start of each day's mixing. The inspector shall examine concrete materials for compliance with Specifications and approved mix design, weighing and measuring devices, proportioning and mixing of materials, the water and cement content of each batch, the general operation of the plant and the transportation of concrete to the jobsite. The inspector shall verify that the amount of free surface moisture contained in the fine and coarse aggregate has been properly accounted for in the concrete mixing to achieve the required consistency and water cement ratio.
- J. The testing laboratory shall monitor the addition of water to the concrete at the jobsite and the length of time the concrete is allowed to remain in the truck before placement. The personnel shall compare the mixture with the criteria on the approved mix design and report any significant deviation to the A/E, ODR, Contractor and concrete supplier. Do not permit the addition of water which will exceed the maximum water/cement ratio for the mix as given on the approved mix design.

- K. Observe the placing of all concrete, except non-structural slabs-on-grade and sitework. Observe and report on placing method, consolidation, cold joints, length of drop, and displacement of reinforcement. Report deficiencies to the Contractor immediately for corrective action. Inspections may be reduced to a periodic basis when all procedures have been deemed satisfactory by the laboratory.
- L. The testing laboratory shall certify each delivery ticket indicating class of concrete delivered (or poured), amount of water added and the time at which the cement and aggregate was dispensed into the truck, and the time at which the concrete was discharged from the truck.
- M. Evaluation and Acceptance:
  - 1. If the measured slump, or air content of air entrained concrete, falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed to meet the requirements of the specifications, and shall not be used in the structure.
  - 2. The strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutive strength test results are equal to, or exceed specified strength and no individual test result (average of two cylinders) is below specified strength by more than 500 psi.
  - 3. Completed concrete work will be accepted when the requirements of "Specifications for Structural Concrete for Buildings," ACI 301, Chapter 18, have been met.
- N. Concrete Test Reports:
  - 1. Reports shall be made and distributed immediately after the respective tests or inspections are made.
  - 2. Where reports indicate deviations from the Contract Documents, they shall also include a determination of the probable cause of the deviation and, where applicable, a recommendation for corrective action.
  - 3. Whenever the testing laboratory recognizes a trend of decreasing quality in the concrete due to changing seasons, conditions of curing, or other cause; this shall be brought to the attention of the A/E and the ODR, along with a recommendation for corrective action to be taken before the materials fall below the requirements of these Specifications.
- O. Comply with ACI 311, "ACI Manual of Concrete Inspection".
- P. Inspect the application of curing compound and monitor all curing conditions to assure compliance with specification requirements. Report curing deficiencies to the Contractor immediately and submit a written report to the A/E and the ODR.

### 3.07 POST-TENSIONING OF CONCRETE

- A. Verify certification of calibration of jacking equipment used in post-tensioning operations.
- B. Observe and report on placement and anchorage of tendons immediately prior to concreting.
- C. Provide a Registered Professional Engineer experienced in post-tension operations to observe and report on the placement, post-tensioning and elongation measurement of each tendon.
- D. The Contractor shall log and submit detailed reports of the stressing and elongation of each tendon. The laboratory representative shall observe the recording of information by the Contractor and make such spot checks as are necessary to verify the accuracy of the post-tensioning reports.
- E. Receive and review final stressing and elongation reports prepared by the Contractor. Compare the actual and required elongation of each tendon and the actual and required load on each tendon. Grant permission to cut the tails of tendons which are within specified tolerance, unless otherwise noted on the Drawings, and submit reports of those which are not within specified tolerance along with recommended corrective action, to the Architect for further evaluation. Forward a copy of all stressing reports to the Architect for record.
- F. Observe and report on grouting of tendons noted to be bonded.

### 3.08 MASONRY

- A. Inspection:
  - 1. Provide a qualified inspector to inspect all structural masonry work on a periodic basis. Masonry requiring inspection includes load bearing walls and other grouted and reinforced masonry shown on the Drawings. Inspect the Work in progress at least once for each 5000 square feet of wall laid, but not less than once each day, to check compliance with the Contract Documents and applicable building code.
  - 2. Inspect the following:
    - a. Preparation of masonry prisms for testing.
    - b. Placement of reinforcing
    - c. Grout spaces (prior to grouting and prior to closing cleanouts, if any).
    - d. Mortar mixing operations.
    - e. Bedding of mortar for each type of unit and placing of units.
    - f. Grouting operations.
    - g. Condition of units before laying for excessive absorption.
  - 3. Provide a report of each inspection.



B. Field Compressive Test for Mortar:

1. Secure composite samples of mortar at the jobsite in accordance with ASTM C 780.
2. Mold and cure three cube specimens in accordance with ASTM C 109 and ASTM C 780. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The specimens shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 780.
3. Test specimens in accordance with ASTM C 780. Two specimens shall be tested in 28 days for acceptance and one shall be tested at 7 days for information.
4. Make one strength test (three cubes) for each 5000 square feet of wall area.

C. Field Compressive Tests for Grout:

1. Secure composite samples of grout at the jobsite in accordance with ASTM C 172.
2. Mold and cure three, 3" x 6", cylindrical specimens from each sample in accordance with ASTM C 31. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
3. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one specimen shall be tested at 7 days for information.
4. Make one strength test (three cylinders) for each 10 cubic yards of grout poured but not less than one strength test for each 5000 square feet of wall area.

D. Prism Tests:

1. Prism tests are required for load bearing brick masonry only.
2. Make prism tests in advance of operations using materials under same conditions, and with same bonding arrangement, as for structure. In building prisms, moisture content of unit at time of laying, consistency of mortar and width and thickness of mortar joints shall be same as used in the structure.
3. Cure and test prisms in accordance with applicable provisions of ASTM E 447. Test five specimens of each type of masonry unit before delivering material to jobsite and submit results for approval. During construction, test three specimens of each type of masonry unit for each 5000 square feet of wall placed.
4. The standard age of test specimens is 28 days, but 7 day tests may be used,

provided relation between 7 day and 28 day strengths is established by test for materials used.

5. Build brick prisms one brick width and length in plan and five bricks high, using full bed joints as specified. Compute ultimate compressive strength by dividing ultimate load by gross area of masonry units.
6. Build prisms on job using same materials and methods as for wall construction. Store prisms in a place where they will be undisturbed for 2 days and have approximately same curing conditions as wall construction. After 2 days, transport to laboratory in a manner which will not disturb mortar bond and then cure and test as set forth under ASTM E 447.
7. When the average strength of a set of prisms falls below the specified compressive strength, the masonry corresponding to the test shall be deemed unacceptable. In such case, notify the Architect and Contractor immediately.

E. Absorption Tests:

1. Perform a field test of water absorption on three representative clay units, at least once for each 5000 square feet of wall, before laying.
2. The field test shall consist of drawing a 1 inch diameter circle with a wax pencil (the diameter of a quarter). Place 20 drops of water from a medicine dropper in rapid succession within the circle. If all of the water is absorbed into the brick in less than 90 seconds, the units are too dry and should be prewetted.

### 3.09 STRUCTURAL STEEL

A. Inspect all structural steel during fabrication and during and after erection for conformance with Contract Documents and Shop Drawings. Any cases of insufficient bracing or guying, or other unsafe conditions shall be immediately called to attention of the Contractor and reported to A/E and the ODR.

B. Shop Inspection:

1. Examination of all steel for straightness and alignment.
2. Examination of all fabricated pieces and checking of same with erection plans and detail drawings.
3. Visual examination of welding.
4. Ultrasonic testing of all full penetration welds.
5. Examination of galvanizing.
6. Examination of installation of shop welded shear studs.
7. Examination of shop painting.

C. Field Inspection:

1. Proper erection of all pieces.
2. Proper installation of all bolts.

3. Plumbness of structure and proper bracing.
  4. Proper field painting.
  5. Visual examination of all field welding.
  6. Inspect all shop fabricated members, upon their arrival at the jobsite, for defects incurred during transit and handling.
- D. Qualifications of Welders: Fabricator and erector shall provide the testing laboratory with names of welders to be employed to work, together with certification that each of these welders has passed qualification tests within the last year using procedures covered in the American Welding Society "Structural Welding Code - Steel," latest edition. Verify all welder qualifications.
- E. Inspections of shop and field welding shall be "verification inspection," in accordance with the AWS Structural Welding Code and as follows:
1. Visually inspect the welding of all shop fabricated members and note the location of all cover plates, connectors, bearing stiffeners, splices, and fillet welds for proper return around ends and check for seams, folds and delaminations.
  2. Warped or out-of-plumb connectors shall be reported prior to any further welding.
  3. Ultrasonically test all penetration welds in accordance with ASTM # 164.
  4. Surfaces to be welded and all filler metal shall be carefully inspected. Surface preparations, fit-up and cleanliness of surface shall be noted. Electrodes shall be checked for size, type and condition.
  5. Welds shall be sound, clean metal, free of slag inclusions and porosity. Filler metal shall be completely fused with base metal and shall completely penetrate the joint. Root passes shall be checked for penetration from the back side of joint. Welds showing inclusions, porosity, lack of fusion, incomplete penetration or uneven contour (sagging or overlaps) shall be ordered gouged out and rewelded. Welds showing any undercut shall have a small stringer bead ordered to be run in along the toe of under cut using a smaller diameter electrode than that which made the original weld. No craters shall be left in welds. Any welding defects, including porosity, fusion and undercuts in excess of that allowed, shall be cause for rejection. Where craters occur, the inspector shall order them to be filled out with weld metal.
  6. The inspector shall check that all welds have been marked with the welder's symbol. The inspector shall mark the welds requiring repairs and shall make a reinspection. The inspector shall maintain a written record of all welds. Work completed and inspected shall receive an identification mark by the inspector. Unacceptable material and work shall be identified by the word "reject" or "repair" marked directly on the material.
  7. The testing agency shall advise the ODR and the A/E of any shop and/or field conditions which, in its opinion, may require further tests and examination by means other than those specified. Such further tests and examinations shall be performed as authorized by the ODR and the A/E.

8. The Owner/ODR reserves the right to use ultrasonic or radiographic inspection to verify the adequacy of all welds. Testing procedures and acceptance criteria shall be as specified in AWS D1.1.
- F. Inspection of bolted construction shall be in accordance with AISC Specification for Structural Steel Buildings and as follows:
1. All bolts shall be visually inspected to ensure that the plies have been brought into snug contact.
- G. Inspection of stud field welding shall be in accordance with the AWS Structural Welding Code, latest edition and as follows:
1. A minimum of two shear studs shall be welded at the start of each production period in order to determine proper generator, control unit, and stud welder setting. These studs shall be capable of being bent 45 degrees from vertical without weld failure.
  2. Visually inspect studs for compliance with contract documents. Check number, spacing, and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud, such stud shall be struck with a hammer and bent 15 degrees off perpendicular to the nearest end of the beam. Studs failing under this test shall be replaced.

### 3.10 EXPANSION BOLT INSTALLATION

- A. Inspect the drilling of each hole and installation of each expansion bolt for compliance with the Contract Documents and shop drawings.
- B. Verify the installation torque for each expansion bolt for compliance with manufacturer's installation instructions.

### 3.11 METAL FLOOR DECK

- A. Field inspection shall consist of the following:
1. Checking types, gauges and finishes for conformance with Contract Documents and Shops Drawings.
  2. Examination for proper erection of all metal deck, fastenings, reinforcing of holes, deck reinforcing, miscellaneous deck supports, hanger tabs, shear studs, deck closures, painting or other coating.
  3. Certification of welders.
  4. Field welded shear studs used to fasten metal floor decking to supporting steel shall be inspected and tested as described in the paragraph addressing structural steel.

### 3.12 METAL ROOF DECK

- A. Field inspection shall consist of the following:
1. Checking types, gauges, and finishes for conformance with Contract Documents and Shop Drawings.
  2. Examination for proper erection of all metal deck, including fastenings at supports and side laps, reinforcing of holes, and miscellaneous deck supports.
  3. Certification of welders.
  4. Visual inspection of at least 25 percent of all welds.

END OF SECTION

## SECTION 01 45 00

### QUALITY CONTROL

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Contractor's Testing Laboratory Services.
- B. Submittals.
- C. Reference Standards.

##### 1.02 RELATED SECTIONS:

- A. Section 01 34 00 - Shop Drawings, Product Data, and Samples  
Section 01 33 00 – Submittal Procedures

##### 1.03 GENERAL REQUIREMENTS FOR CONTRACTOR'S LABORATORY SERVICES (see UGSC):

- A. Contractor's Design and Certification Testing: Provide services of an independent testing laboratory or facility acceptable to the A/E and the ODR to perform design and certification testing services.
  - 1. Submit written description of testing laboratory giving qualifications of personnel, laboratory facilities and equipment, and other information as may be requested by A/E and ODR.
  - 2. Contractor's testing laboratory shall not be the same as Owner's testing laboratory used for quality assurance testing unless otherwise acceptable to the A/E and ODR.
- B. Contractor's design testing and certification testing includes:
  - 1. Earthwork: Identify suitable soil material at borrow material location, sampling soil material, and testing of soil material samples.
  - 2. Performing certified welding procedure qualification and requalification testing specified.
  - 3. Testing of materials when mill certificates are unavailable.
  - 4. Additional testing when source of material is changed after initial tests have been performed.
  - 5. Other testing required by other Sections of the Specifications.

##### 1.04 QUALIFICATIONS:

- A. Laboratory Qualifications and Procedures:
  - 1. Meet "Recommended Requirements for Independent Laboratory Qualification," latest edition published by American Council of Independent Laboratories. Testing firms shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."

2. The inspection and testing services of the testing firm shall be under the direction of a Registered Engineer licensed in the State of Texas and having at least five years engineering experience in inspection and testing of construction materials.
3. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
4. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection. Include memorandum of remedies of deficiencies reported by this inspection.
5. Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to National Bureau of Standards.
6. Tests and inspections shall be conducted in accordance with specified requirements and if not specified, in accordance with applicable standards of the American Society for Testing and Materials and other recognized authorities, as approved.
7. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified ASW Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector.

B. Laboratory Duties: Cooperate with A/E, ODR and Contractor. Upon notice, provide qualified personnel to perform required tests and inspections. In performing tests and inspections, Laboratory shall:

1. Comply with specified standards. Comply with building code requirements for "Special Inspection" whether or not such inspections are specified herein.
2. Ascertain compliance of materials with requirements of Contract Documents. If the material furnished and/or work performed fails to meet requirements of Contract Documents, laboratory inspector shall promptly notify the Contractor, A/E and the ODR of such failure.
3. Promptly notify ODR, Contractor and A/E of observed irregularities or deficiencies in the Work.
4. A representative of the Owner's testing laboratory, who has reviewed and is familiar with the Project and Specifications, shall participate in all preconstruction conferences. The testing firm shall coordinate material testing and inspection requirements with the Contractor and its Subcontractors consistent with the planned construction schedule. The laboratory personnel shall attend, throughout the course of the Project, such conferences as may be required or requested to address quality control issues.
5. Laboratory personnel shall inspect and/or test materials, assemblies, specimens, and work performed, including design mixes, methods and techniques and furnish report(s) to the A/E and the ODR of the progress thereof.

C. Contractor's Responsibilities:

1. Cooperate with laboratory personnel, provide access to the Work, and to manufacturer's and fabricator's operations wherever the Work is in preparation or progress.
2. Secure and deliver to the laboratory, without cost to Owner, adequate quantities of

- representative samples of materials proposed to be used and which require testing.
3. Furnish Incidental Labor and Facilities:
    - a. To provide access to work to be tested.
    - b. To obtain and handle samples at the Project Site or at the source of the product to be tested.
    - c. To facilitate inspections and tests. Furnish such labor as required to assist laboratory personnel in obtaining and handling samples at the Project Site.
    - d. For safe storage and curing of concrete test cylinders at Project Site and other test samples as required for field curing by ASTM C31.
  4. Costs of tests, samples, and mock-ups of substitute material, where the substitution is requested by the Contractor and the tests are necessary in the opinion of the A/E to establish equality with specified items, shall be borne by the Contractor.
  5. Costs of tests, samples, and mock-ups performed solely for the benefit or convenience of the Contractor shall be borne by the Contractor.
  6. Notify laboratory sufficiently in advance of construction operations to allow laboratory to make assignment of personnel and scheduling of tests to complete any required checks or tests.
  7. Owner's testing laboratory will conduct additional tests at Contractor's expense when initial quality control testing indicates work is defective or does not conform to requirements. Materials and workmanship not meeting the required standards or performance obligations are to be removed and replaced. Replacement and subsequent testing shall be at the expense of the Contractor.
  8. Furnish concrete mix designs, in accordance with ACI 301, made by an independent testing laboratory or qualified concrete supplier. When mix designs by an independent testing laboratory are required, the laboratory shall be selected by the Contractor, approved by the A/E and ODR, and paid by the Contractor.
  9. Obtain required inspections or approvals of the building official when required. All inspection requests and notifications required by the building code, are the responsibility of the Contractor.
  10. Provide current welder certifications for each welder to be employed.
  11. Furnish fabrication/erection inspection and testing of all welds in accordance with AWS D1.1, Chapter 6.
  12. Prequalification of all welding procedures to be used in executing the Work.

#### 1.05 SUBMITTALS:

- A. General: Testing laboratory shall promptly submit written report of each and every test and inspection. Each report shall include:
  1. Date issued.
  2. Project title and number.
  3. Testing laboratory name, address, and telephone number.
  4. Name and signature of laboratory personnel.
  5. Date and time of sampling or inspection.
  6. Record of temperature and weather conditions.
  7. Identification of product and Specification section.
  8. Date of test.
  9. Location of sample or test in the Project.
  10. Type of inspection or test.
  11. Results of tests and observation regarding compliance with Contract Documents.



12. Interpretation of test results, when requested by Architect.

- B. State in report all details of each inspection and test. Indicate compliance or noncompliance with requirements of the Contract Documents. Also state in report any and all unsatisfactory conditions.
- C. In addition to furnishing a written report, notify the A/E, the ODR and the Contractor verbally of any uncorrected conditions or failures to comply with the requirements of the Contract Documents.
- D. At completion of each trade or branch of the Work requiring inspecting and testing, submit a final certificate attesting to satisfactory completion of the Work and full compliance with requirements of Contract Documents.
- E. Upon completion of building, testing laboratory shall furnish, to ODR and A/E, statement that all required tests and inspections were made in accordance with requirements of Contract Documents.

#### 1.06 REFERENCED STANDARDS

- A. The latest edition of all standards references in this section shall apply, unless noted otherwise. In case of conflict between these Contract Documents and a referenced standard, the Contract Documents shall govern. In case of conflict between these Contract Documents and the building code, the more stringent shall govern.

#### PART 2 – PRODUCTS

NOT USED

#### PART 3 - EXECUTION

NOT USED

END OF SECTION

## SECTION 01 50 00

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General requirements.
- B. Temporary utilities and services
- C. Construction aids
- D. Barriers and enclosures.
- E. Security.
- F. Parking, access roads and traffic
- G. Temporary controls.
- H. Project identification and signs
- I. Field Offices

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 74 00 - Cleaning.
- C. Section 01 77 00 - Closeout Procedures

##### 1.03 GENERAL REQUIREMENTS:

- A. Contractor shall provide all construction facilities and temporary controls specified in this Section and as necessary for the proper and expeditious prosecution of the Work.
- B. The Contractor shall make or have made and pay all charges for all connections to and distribution from existing services and sources of supply. **(Note: Contractor will not be billed for utilities when the utilities are obtained from an existing building where the existing utilities are available. Verify exact requirements with Campus Utilities (as specified herein) for construction of new buildings and work on other facilities that do not have the required temporary and/or permanent utility services utilities or are not currently metered.)**
- C. Requirements of service and utility companies relating to the Work shall be ascertained by Contractor. Comply with all requirements, including those relating to continued protection and maintenance until completion of Work.
- D. Materials and construction for construction facilities and temporary controls may be new or used, must be adequate in capacity for required usage, and must not create unsafe conditions. Comply with requirements of federal, state and local authorities

having jurisdiction.

- E. Construction facilities and temporary controls shall be maintained by Contractor in usable condition at all times until completion of Work or when their removal is authorized by A/E or ODR.
- F. Relocate temporary services and facilities as required by progress of construction, by storage or work requirements, to accommodate legitimate requirements of the Owner and other contractors employed at the Site, and when directed by the ODR.
- G. When any portions of permanent systems are in operating condition, that part of the system may be used for construction purposes provide that the Contractor:
  - 1. Obtains ODR's approval,
  - 2. Assumes full responsibility for the system used,
  - 3. Pays all costs for operation, maintenance, cleaning, and restoration of the system to as new condition,
  - 4. Operates the system under the supervision of the Subcontractor responsible for system installation and ultimate performance,
  - 5. Does not effect specified warranty.
- H. Completely remove temporary services and facilities when their use is no longer required and/or at completion of Project, when directed by ODR.
- I. Clean and repair damage caused by temporary services and facilities to new condition for new Work and to a condition as good as or better than existed prior to start of Work for existing construction, services, and facilities.

#### 1.04 TEMPORARY UTILITIES AND SERVICES:

- A. General
  - 1. New temporary utility connections and metering for construction purposes
  - 2. Existing utility service connections and metering in renovation and construction
  - 3. Permanent new utility service upgrades, connections, and metering, for construction or renovation
  - 4. Utility connections, investigations and Contractor charges for construction or renovation
- B. College Station: Texas A&M University maintains and operates full service utility production and distribution assets which serve the College Station campus. Temporary and/or permanent utility services and metering required for a project may include primary and secondary type Electrical Distribution Systems, Chilled Water, Heating Hot Water, Domestic Cold Water, Domestic Hot Water, Sanitary

Sewer, and Refuse Collection.

- C. College Station: Unless otherwise noted in the contract documents, Texas A&M University, Utility Energy Services (TAMU UES) will investigate, approve, extend and activate all temporary and permanent utility services and metering to construction sites, campus facilities, buildings and structures. The extent of service connection responsibilities may differ considerably between projects and will be clearly denoted on the contract drawings. The guidelines and procedures for utility services including forms can be found at <http://utilities.tamu.edu/guidelines-and-procedure-for-utility-service/>

#### 1.05 TEMPORARY UTILITY CONNECTIONS AND METERING FOR CONSTRUCTION

- A. Temporary Telephone Service: Provide and maintain telephone service with a minimum of one direct line instrument in the Contractor's field office. The Contractor shall pay for costs of installation, maintenance and removal and service charges for local calls. Toll charges shall be paid by party who places the call, except toll calls made by Owner's and A/E's personnel related to project business shall be paid for by Contractor.
- B. Temporary Toilets and Sanitation: Provide service, clean, and maintain sanitary conveniences with proper enclosures, in conformance with requirements of local laws and ordinances governing such installations. Post notices, take such precautions as may be necessary, and do cleaning necessary to keep the building and the premises in a sanitary condition. From start of the Work, provide suitable temporary toilets and enclosures for the use of the workmen on the Project. Maintain these facilities in a sanitary condition. Use of Owner's existing toilet facilities will not be permitted.
- C. Temporary Fire Protection: Construction practices, including cutting and welding, and fire protection during construction shall be in accordance with applicable requirements of federal, state, and local authorities having jurisdiction. Provide prominently located multi-purpose portable fire extinguishers, with at least one in each wing on each floor.
  - 1. Gasoline and other flammable liquids shall be stored in Underwriter's Laboratories listed safety containers. Storage shall not be permitted within the building.
  - 2. Do not light fires of any kind in or about the premises. The use of salamanders is prohibited.
  - 3. Schedule the Work so that the permanent fire protection system is installed and made operable at the earliest possible date. At such time, the Contractor shall furnish sufficient hose to provide adequate coverage of each floor.
  - 4. All tarpaulins that may be used for any purpose during the construction of the

Work shall be made of material which is resistant to fire, water, and weather.

- D. Elevators: Temporary use of elevators will be permitted only if acceptable to the ODR and elevator installer. Prior to such approved temporary use, provide the following:
1. Arrange and pay for necessary approvals, elevator manufacturer's acceptance, and temporary use permits.
  2. Install temporary protection over hoistway entrances and doors, car doors and frames, car front returns and enclosures so that elevator work will be without damage at completion of Project. Repair or replace damaged work prior to Final Inspection.
  3. Provide and pay for power, operators, necessary signaling and safety devices, lights and other equipment, temporary protection and enclosures required for safe elevator operation.
  4. After temporary elevator use is discontinued, remove temporary protections and enclosures.
  5. Refer to appropriate section in Division 14 of these Specifications for additional requirements.

#### 1.06 TEMPORARY AND PERMANENT SERVICE FOR NATURAL GAS

- A. Natural gas services are the responsibility of the Local Distributing Company (LDC). When approved for a specific project, it shall be the responsibility of the Contractor to apply for temporary gas services directly with the LDC.
- B. A Contractor shall notify the Owner of its intent to establish temporary natural gas service with the LDC. Liquefied gas, such as propane, is prohibited unless otherwise authorized in the contract documents. Liquid fuels stored and used on a construction site must be coordinated with and approved by ODR, and conform to all applicable University safety guidelines.
- C. Permanent gas services to a new or existing structure, as may be required under a construction contract, including the meter installation and service extensions shall be coordinated directly with the ODR and the LDC. Utilities Energy Services will provide proper billing account information for establishing the permanent billing account upon attaining substantial completion.

For College Station: The guidelines and procedures including forms for temporary and permanent service for natural gas can be found at <http://utilities.tamu.edu/guidelines-and-procedures-for-utility-service/>

- D. All costs associated with temporary or permanent gas service, up to the date the Owner has determined a date of substantial completion of the building, which include connection fees, fixed and/or variable monthly charges, late fees,

transactions costs, disputed charges, and any other administrative costs associated with the Contractor's natural gas service account with the LDC is the sole responsibility of the Contractor.

- E. A permanent natural gas account will be transferred from the Contractor to the permanent customer at substantial completion.

#### 1.07 PERMANENT UTILITY SERVICES IN CONSTRUCTION CONTRACTS

- A. The guidelines and procedures for utility services including forms can be found at <http://utilities.tamu.edu/guidelines-and-procedure-for-utility-service/>

#### 1.08 METERING FOR PERMANENT UTILITY SERVICES

- A. Most new campus facilities and major renovations of existing facilities will include work scope for establishing electronic utility metering. Metering devices will be certified "revenue-quality", be of the type TAMU UES has standardized on, and will be connected electronically by the Owner to the campus building automation system or power monitoring system via campus Ethernet.
- B. Other Campuses
- C. Metering points in this project may include, but are not limited to, Electrical, Chilled Water flow and temperature difference, Heating Hot Water flow and temperature difference, Domestic Cold Water, Domestic Hot Water, and Steam. Together with the contract drawings, refer to Division 23 Mechanical, Division 26 Electrical, Division 27 Communications, and other relevant divisions for meter specification and installation on all required utility metering and for project coordination.

#### 1.09 CONSTRUCTION AIDS:

- A. Material and Personnel Hoists: The Contractor shall provide material hoists as required for normal use by all trades, without charge. The Contractor shall also provide a personnel hoist for the transportation of all workmen as required for normal use, without charge.
  - 1. Employ qualified, skilled operators for the material and personnel hoists.
  - 2. Provide all necessary guards, signals, safety devices, required for safe operation, and suitable runways from hoists to each floor level and roof.
  - 3. The construction and operation of the hoists shall conform to all applicable requirements for the American Standard Safety Code for Building, the "Manual of Accident Prevention in Construction" of the AGC, and shall be approved by the insurance underwriters.

B. Temporary Stairs, Ladders, Scaffolds, Runways, and Similar Facilities:

1. Provide and maintain all temporary equipment and construction such as temporary stairs, ladders, ramps, scaffolds, hoists, runways, derricks, chutes, and similar facilities as necessary for the proper execution of the Work. Derricks, cranes, and similar facilities shall comply with local airport restrictions.
2. Provide temporary protective treads, handrails, and wall coverings at stairways.
3. Scaffolding shall be furnished, installed, maintained, and removed as necessary for proper execution of the Work and shall be erected on the side of the wall on which facing work occurs. Scaffolding shall not be built into any finish facing material.

1.10 BARRIERS AND ENCLOSURES:

- A. General: Construct temporary barricades, warning signs, hazard and warning lights, walks, passage-ways, and similar temporary barriers and enclosures that are necessary to protect persons and property from hazards or damage due to construction operations, and required by university, city, state or federal laws, ordinances or codes.
- B. Construction Fences: Contractor shall furnish and install construction fences and gates within the "limits of construction", prior to beginning of work so as maintain area free of unauthorized personnel and which includes Project working area and storage locations allocated by the Owner to the Contractor. Keep adjacent property free from disturbance, dust, and noise as much as feasible.
- C. Non-Movable Fences: Fencing and gates shall be minimum 6'-0" high, new material, chain link fabric tightly stretched between line posts (1-5/8" O.D. galvanized iron) at not more than 10 foot centers. Tree protection posts shall be on 8 foot centers. Posts in earthen areas shall be plumbed and aligned, and firmly anchored in the ground at least 24" deep. Corner and gate posts (2-3/4" O.D. galvanized iron) shall have line posts within 6' and braced using clamps at posts. Posts that are machine pounded must be cut off flush and level at top. Gates shall be substantially constructed of materials similar to fence, equipped with hinges of adequate size and strength for operation and to maintain the gate level. Provide security chain and padlock at each gate with 2 keys furnished to ODR. In sensitive and high visibility areas, and where noted on the Drawings, install redwood slats vertically in the fence fabric to reduce public view of unsightly areas. Fence posts in permanently paved and sidewalk areas shall be set in 4" thick concrete bases, 24" square or 30" round.
- D. Movable Fences: Fences that need to be moved frequently for access to the Site or to be movable tree protection shall be 6' high posts, using 5" non-climb wire fabric, 12.5 gauge galvanized wire, 2" wide x 4" high openings, attached to posts set in

concrete within an old tire to prevent post bases from marring pavements and sidewalks.

- E. Tree and Plant Protection: Coordinate with SSC Grounds Maintenance – Work shall typically be performed by SSC Grounds Maintenance. If work is not performed by SSC Grounds Maintenance then Contractor shall provide barricades, fences, and guards as necessary to prevent damage to existing trees and shrubs indicated to remain including, but not limited to, the following construction operations:
1. Compaction of root area by equipment or material storage,
  2. Trunk damage by moving equipment, material storage, nailing or bolting,
  3. Strangling by tying ropes or guy wires to trunks or large branches,
  4. Poisoning by pouring solvents, gas, paint and other toxic materials on or around trees and roots,
  5. Cutting roots by excavating, ditching and similar operations,
  6. Damaging branches by improper pruning; notify ODR for required pruning,
  7. Drought damage from failure to water or by cutting or changing normal drainage pattern past roots,
  8. Changes in soil pH factor by disposal of lime and other alkali based materials such as plaster, concrete, mortar and grout,
  9. Machine excavating within the drip line of trees; conduct all excavating within drip line by hand. Do not cut roots 1-1/2" in diameter and over.
- F. Tree Damage: When trees other than those indicated or approved for removal are destroyed, killed or badly damaged as a result of construction operations, the Contract Sum will be reduced by the amount determined from the following International Shade Tree Conference formula:  $D \times D \times 0.7854 \times \$28.00$ , where D is the diameter of the trunk measure 12" above grade.
- G. Fence Maintenance and Removal: All fencing and gates shall be maintained deep, straight and level, having a neat and uniform appearance during the construction period and upon completion, before acceptance of the Work, shall be removed from the Site and post hole filled to original condition.
- H. Temporary Enclosures and Protection:
1. Provide temporary weather-tight enclosure at exterior walls for successive areas of the building as work progresses, as necessary to provide acceptable working conditions, provide weather protection for interior materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
  2. Temporary Partition and Ceiling Enclosures: Framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.
    - a. Close joints between sheet materials, and seal edges and intersections



- with existing surfaces, to prevent penetration of dust or moisture.
    - b. Provide temporary doors with self-closing hardware and padlocks as required for security.
    - c. Provide removable portions of enclosures as necessary for work and for handling of materials.
  - 3. Protection of Installed Work: Provide protection for installed Work so that it will be without damage at time of acceptance by ODR. Control traffic to minimize damage. Provide protective coverings at walls, projections, jambs, sills and soffits of openings. Protect finish floors and stairs from traffic, movement of heavy objects, storage and similar construction operations. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped areas.
    - a. Concrete, cement, mortar, grout, sludge, plaster and similar materials shall not be placed in or washed down storm and sanitary sewers, plumbing lines or fixtures.
  - 4. Protect improvements on Owner's and adjoining properties.
- I. Site: Unless otherwise specified or directed, carefully protect existing walks, lawns, other buildings, and other work on Site, whether specifically indicated on the Drawings or not. Damaged areas of curbs, walks and paving will not be permitted to be patched; remove entire section between expansion joints in which the damage occurs and replace with construction to match existing adjacent work.
- J. The Contractor is responsible for damage to the Work and injury to persons due to failure of barriers and enclosure of work to adequately protect it; and wherever evidence is found of such damage, the Owner may order the Work so damaged to be immediately removed and replaced by the Contractor. All costs and expenses for such occurrences shall be the responsibility of the Contractor at no additional expense to Owner. The Contractor's responsibility for maintenance of barriers and enclosure work, shall not cease until the Project has been completed and is accepted by the Owner.

#### 1.11 SECURITY:

- A. The Contractor shall provide a security program and facilities to protect the Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, and theft. Coordinate with Owner's security program. Project security within "limits of construction" is Contractor's responsibility.

#### 1.12 PARKING, ACCESS ROADS AND TRAFFIC:

- A. Parking: Parking for workmen employed on the Site may be provided within construction limits or at a remote location, if needed, to the extent that space for that purpose may be available without interference with the activities related to performance of the Work. On campus parking, other than within construction limits,

shall only be as approved by ODR. Contractor shall pay all associated parking fees.

- B. Provide temporary roads as required to bring vehicles onto the Site. Restore new paving used for construction operations to new condition prior to acceptance of Work by Owner.
  - 1. Restrict vehicles from doing unnecessary damage to the Site and any existing paving.
  - 2. Restore all new or existing improvements damaged by this Work to original condition, as acceptable to Owner or other parties having jurisdiction.
- C. Traffic Control: Prior to start of Work, examine construction vehicle routing, and establish safeguards and procedures necessary to carry out the Work. In addition, be responsible for and observe the following:
  - 1. Be responsible for controlling construction traffic within and adjacent to the Site.
  - 2. Provide all entrances, lifts and safeguards required or necessary to the progress of the Work, and effectively control such traffic to provide minimum hazard to the Work and all persons.
  - 3. Route all construction equipment, trucks, and similar vehicles on existing public streets to and from the Site as approved by the ODR or as indicated on the Drawings.
  - 4. Construct and maintain temporary walks for pedestrians. Keep streets adjacent to the Site open to vehicular and pedestrian traffic.
  - 5. Maintain constant access for police, fire and ambulance service.
  - 6. Provide and maintain for proper control of traffic and safety:
    - a. All necessary barricades, suitable and sufficient lights, reflectors, and danger signals,
    - b. Warning and closure signs, directional, and detour signs,
    - c. All traffic control devices furnished and installed in compliance with the Texas Manual on Uniform Traffic Control Devices as prepared by the State Department of Highways and Public Transportation.
  - 7. The Contractor shall provide on a 24 hour basis for all restricted and dangerous conditions existing on or adjacent to the Site:
    - a. For nighttime safety illuminate barricades, danger signals, warning signs and obstructions,
    - b. Keep warning lights burning from sunset until sunrise.

#### 1.13 TEMPORARY CONTROLS:

- A. Cleaning During Construction: Contractor at all times shall keep the premises free from accumulation of waste materials and rubbish caused by operations for the Work. Provide a collection can at each area used for eating. Pick up garbage daily. Keep Project Site free of garbage, trash, vermin and rodent infestation. Contractor,

by agreement, shall require each Subcontractor to collect and deposit waste and rubbish caused by Subcontractor operations at pre-designated location. Clean interior areas prior to start of finish Work. Maintain areas free of dust and other contaminants during finishing operations.

- B. Noise Control: In and around occupied areas, minimize use of noise producing equipment. Work with noise-producing is subject, at all times, to ODR's approval of entire procedure. Use only on a scheduled basis as agreed with ODR prior to start of Construction operations.
- C. Water Control: Provide methods to control surface water to prevent damage to Project, site of adjoining properties. Control fill, grade and ditch to direct surface drainage away from excavations, pits, tunnels and other construction areas. Direct drainage to proper runoff.
  - 1. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.
  - 2. Dispose of drainage water in a manner to prevent flooding, erosion or other damage to any portion of site or to adjoining areas.
  - 3. Refer to the appropriate section in Division 2 of these Specifications for TPDES requirements.
- D. Pollution Control:
  - 1. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious or hazardous substances from construction operations.
  - 2. Provide equipment, personnel and perform emergency measures required to contain any spillages, and to remove contaminated soil or liquids. Excavate and dispose of contaminated earth off site and replace with suitable compacted fill and topsoil.
  - 3. Take special measures to prevent harmful substances from entering public waters. Prevent disposal of wastes, effluents, chemicals or other such substances adjacent to streams or in sanitary or storm sewers.
  - 4. Provide systems for control of atmospheric pollutants. Prevent toxic concentrations of chemicals. Prevent harmful dispersal of pollutants into atmosphere.
- E. Erosion Control:
  - 1. Plan and execute construction and earthwork by methods sufficient to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
    - a. Hold areas of bare soil exposed at one time to minimum.
    - b. Provide temporary control measures such as berms, dikes, and drains.

2. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
  3. Periodically inspect earthwork to detect any evidence of start of erosion, apply corrective measures as required to control erosion.
- F. Dust Control: Provide positive methods and apply dust control materials to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from dispersing into atmosphere.

#### 1.14 PROJECT IDENTIFICATION AND SIGNS:

Project signs will not be required nor allowed on main campus. For projects on west campus or off campus facilities see the requirements listed below.

- A. Provide one construction sign shown on Contract Drawings and as specified below. No other signs may be installed anywhere on the Site (except delivery route signs deemed necessary by ODR), including signs advertising the sale of salvage.
1. Face Size: 4'-0" wide x 8'-0" high x 3/4" thick, located approximately 3'-0" above grade.
  2. Sign Faces: New 3/4" exterior grade medium density overlay plywood.
  3. Location of Sign, and Layout: By the A/E.
  4. Sign faces shall be painted a white background color. All lettering shall be accomplished by a professional sign painter and shall be in Helvetica Medium style, upper and lower case, in black color and shall include, but not be limited to the following information:
    - (1) Project Name.
    - (2) Architect's Name.
    - (3) General Contractor's Name.

#### 1.15 FIELD OFFICES AND SHEDS: (As Required, typically only for New Construction)

- A. The Contractor shall provide its own field office and storage sheds on the Site and shall maintain until removal upon completion of the Work.
1. Provide weathertight construction office for Contractor with sufficient light, heating, air conditioning, ventilation, and insulated roof. General arrangement, construction, and equipment for office shall be reviewed with A/E and approved by ODR prior to starting construction. Provide adequate tables, conference area with seating for eight, plan racks, desk chairs, file cabinets of sufficient capacity to accommodate a copy of submittals and correspondence concerning the Project, and non-pay telephone.
  2. ODR Office (As Required): In a separate field office, provide a minimum of 672 sq. ft. with a minimum dimension of 12 feet for the exclusive use of the ODR and A/E. Minimum interior finish shall be 1/4" gum on fir plywood,

good on one side for walls and ceiling, with vinyl composition tile floor. Walls, floor and ceiling shall be insulated with full thickness batt insulation. Exterior doors shall have locks with one key for each occupant. All exterior doors and windows shall also be secured with approved burglar type bars. General arrangement, construction and equipping of office must meet with the approval of the ODR. The office shall be equipped with the following:

- a. Separate Direct Line Telephone: Contractor shall pay for installation, maintenance, removal and all charges for use of three (3) telephone lines including project related long distance calls. The telephone lines shall remain until the full completion of the Work and shall be removed when directed by ODR. These lines will be used for telephone/FAX and a computer line out. Contractor shall also arrange for and pay for an internet provider service for the exclusive use of the owner. Contractor shall provide a minimum of three (3) instruments which are capable of handling two lines each. Where available provide high speed internet service in lieu of one (1) standard phone line.
  - b. Heating, Ventilating and Cooling shall be accomplished through a central type unit that shall maintain 70 degrees F while heating and 75 degrees F while cooling. Maintenance and filter changes shall be by the Contractor.
  - c. One (1) office desks: 30" x 60" minimum size with swivel chair.
  - e. Layout Counter: 30" x 60" minimum size with drafting stool.
  - f. Filing Cabinet: Two (2) four drawer legal size with lock.
  - g. Lighting shall be of sufficient quantity to provide for proper office atmosphere.
  - i. Convenience Outlets: A minimum of two duplex convenience outlets per office.
  - j. Window: Operable windows minimum equal in size to 10% of the floor area, located to provide view to construction area.
  - k. Waste Baskets: Two (2).
  - l. Shelving: Six feet of 10" deep shelving.
  - m. Maintenance: Keep office weather-tight, warm, cool, comfortable, and swept clean and remove refuse twice weekly. Provide soap, paper towels, toilet paper.
  - n. Provide within Owner's Field Office, a toilet room with door and one (1) lavatory equipped with hot water and one (1) water closet.
  - o. Provide bottled water.
3. Provide and maintain suitable, substantial, weather-tight storage facilities of acceptable appearance in which to store materials which would be damaged by the weather. Storage space shall be of sufficient size to hold all such materials required on Site at one time, and if the storage space is outside the building, it shall have floors raised at least 6" above the ground on heavy joists or sleepers. Provide fenced areas for storage of materials and

workmen's parking of the sizes and of locations designated on the drawings. Should the Contractor require additional storage area beyond that indicated on the Site, contractor shall arrange for such storage facilities off-campus, at no additional cost to the Owner. Contractor may use areas within the immediate construction area for storage only with the approval of the ODR. However, such approval will not be given if such storage encumbers the working space, loads the structure prematurely, or exceeds the design live load for the specified area of the structure.

4. Building materials, Contractor's equipment and similar items necessary for prosecution of the Work may be stored on the premises, the placing and handling of same shall be such that they can be inspected at all times.
5. When any area in the building is used for a storeroom, shop or similar use, the Contractor shall be responsible for repairs, patching, and cleaning arising from such use. All such replacement costs and expenses shall be borne by contractor at no additional expense to Owner.

## PART 2 – PRODUCTS

NOT USED

## PART 3 – EXECUTION

NOT USED

END OF SECTION

## SECTION 01 60 00

### PRODUCT REQUIREMENTS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General Requirements.
- B. Manufacturer's Instructions
- C. Transportation and Handling.
- D. Storage and Protection.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 33 00 - Submittal Procedures: List of Materials.
- E. Section 01 34 00 - Shop Drawings, Product Data and Samples.
- F. Section 01 50 00 - Temporary Facilities and Controls: Material Storage Facilities.
- G. Section 01 77 00 - Closeout Procedures.

##### 1.03 GENERAL REQUIREMENTS:

- A. In addition to Uniform General and Supplementary Conditions (UGSC) requirements, Contractor shall use materials and equipment that are:
  - 1. New, unless otherwise specified, and that are of good quality, free from faults and defects, and in conformance with the requirements of the Contract Documents.
  - 2. Suitable for use and function intended.
  - 3. Corresponding in quality to related materials in the absence of a complete specification.
  - 4. Of quality appearance where exposed to view.
  - 5. Of one manufacturer or source for the same specific purpose, with uniform appearance and physical properties.
  - 6. Interchangeable and be the same, when required to be supplied in quantity.
  - 7. Free of name, trade mark, or other insignia which is intended to identify the manufacturer, vendor, or other source(s) which is surface applied or affixed to any manufactured articles, materials, and items of equipment in any public area or similar locations within the Project. Any manufactured articles, materials, and items of equipment which bears evidence that an insignia, name, or trade mark has been removed shall not be used. Code required labels, such as Underwriters Laboratory labels, and other identification

required by the Contract Documents are accepted.

- B. Product Color, Texture, or Pattern Selection: No work requiring the A/E's review for color, texture and pattern selection shall be fabricated, delivered or installed prior to review and selection by the A/E.
1. Contractor shall select products of a named manufacturer that complies with the specified requirements and submit the full range of available colors, textures, patterns, including custom colors, textures and patterns for the A/E's selection. All subsequently approved products of other manufacturers are approved contingent upon availability of equivalent colors, textures, and patterns available to the A/E for selection.
  2. When "match existing color" is indicated or specified, Contractor shall, in addition to material and construction requirements specified elsewhere, match existing color, texture, and pattern in every respect, as approved by the A/E.
  3. When materials have a natural range of color, texture, and pattern such as natural stone, brick, tile, anodized aluminum finish and other exposed materials and finishes, the Contractor shall submit required number of sets of ranges of color, texture, and pattern, including representative naturally occurring defects as appropriate, for the A/E's review. All work fabricated and installed shall be within range of samples approved by the A/E. In addition, Contractor shall refer selection of raw materials containing defects within limits of the A/E's approved range of samples, to the A/E to provide distribution of such throughout required work so as to avoid patterns and concentrations of such defects.
- C. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each item of the Work.
1. When specified products are available from only sources that do not or cannot produce an adequate quantity to complete Project requirements in a timely manner, consult with the A/E for a determination of what product qualities are most important before proceeding. The A/E will designate those qualities, such as visual, structural, durability, or compatibility, that are most important. When Architect's determination has been made, select products from those sources that produce products that possess the most important qualities, to fullest extent possible.
- D. Compatibility of Options: Where product options are permitted, select products that are compatible with other products to be incorporated into the Work, including products previously selected.



#### 1.04 MANUFACTURER'S INSTRUCTIONS:

- A. Install products in accordance with manufacturer's printed instructions. Obtain and distribute copies of such instructions to installer, including one copy to the A/E and one to the ODR. Maintain one set of complete instructions at the Site during installation and until completion.
- B. Manufactured articles, materials, and items of equipment shall be handled, stored, applied, installed, connected, erected, used, cleaned, adjusted, conditioned, and protected in accordance with manufacturer's printed instructions and specifications for the Project conditions indicated, within manufacturer's published limitations, and requirements specified.
- C. Should any manufactured articles, materials, and items of equipment be found to be damaged, deteriorated, or otherwise contrary to the requirements of the Contract Documents, remove and replace such damaged or deteriorated articles, materials, and items of equipment, no matter in what stage of completion and replace with new materials.
- D. Should Project conditions or specified requirements be in conflict with manufacturer's instructions, request written clarification from the A/E before proceeding. Do not proceed with work without clear instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.
- E. Keep a copy of material safety data sheets for all products used in the Work, at Contractor's field office.

#### 1.05 TRANSPORTATION AND HANDLING (see UGSC):

- A. Arrange deliveries of materials and products in accordance with Construction Progress Schedule.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to ensure that products comply with requirements of the Contract Documents and approved submittals, that quantities are correct, and products are undamaged.

## 1.06 STORAGE AND PROTECTION:

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products, including factory-finished items and similar work, in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions. Comply with applicable laws, ordinances and regulations for protective storage of potentially dangerous materials.
- B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- C. Store loose granular materials on solid surfaces in a well-drained area and prevent mixing with foreign matter.
- D. Arrange storage to provide access for inspection at all times. Periodically inspect to assure products are free from damage or deterioration, and are maintained under required conditions.
- E. At end of each day's work, cover new work likely to be damaged. Provide substantial coverings necessary to protect installed products from damage, traffic, and subsequent construction operations. Refer to Section 01 50 00 for additional requirements, including removal of temporary protections.
- F. Contractor shall provide inspection of Subcontractor's material for compliance with submittals on proper storage.

## PART 2 - PRODUCTS

NOT USED

## PART 3 - EXECUTION

NOT USED

END OF SECTION

## SECTION 01 72 50

### FIELD ENGINEERING

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Performance requirements.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 77 00 – Closeout Procedures.

##### 1.03 PERFORMANCE REQUIREMENTS:

- A. General: Provide and pay for field engineering services including survey, layout, civil, structural or other licensed professional engineering services specified, or required to execute the Work.

#### PART 2 - PRODUCTS

NOT USED

#### PART 3 - EXECUTION

##### 3.01 PREPARATION:

- A. Verify locations of survey control points with the ODR prior to starting Work.
- B. Verify all dimensions and compare to existing conditions prior to laying out the Work. Promptly notify the A/E of discrepancies discovered. Extra compensation will not be allowed because of differences between actual measurements and indicated dimensions.

##### 3.02 SURVEY AND LAYOUT REQUIREMENTS:

- A. Establish a minimum of two (2) permanent bench marks on the Site, referenced to data established by survey control points. Record locations, with horizontal and vertical data, on Project record documents. Data to be verified by licensed surveyor.

- B. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.
  - 1. Make no changes or relocations without prior written notice to A/E.
  - 2. Report to A/E when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
  - 3. Require surveyor to replace Project control points which may be lost or destroyed. Establish replacements based on original survey control.
  - 4. Maintain a complete, accurate log of all control and survey Work as it progresses.
- C. Establish adequate and clearly defined reference lines and levels required for execution of Work; locate and lay out, by instrumentation and similar appropriate means, controlling lines and levels required for the various trades.
- D. From time to time verify layouts by the same methods.
- E. Underground Obstructions:
  - 1. Pipelines, existing underground installations and underground structures in vicinity of Work are diagrammatically shown on Drawings according to best information available. Accuracy of information is not warranted.
  - 2. Verify location of underground utilities and pipe lines, conduits and structures with ODR and by prospecting in advance of excavation.
  - 3. Repair damage to existing utilities made during construction process as part of Work to satisfaction of Owner.

### 3.03 SURVEY:

- A. On completion of foundation walls and major site improvements, prepare survey by licensed surveyor showing dimensions, locations, angles, and elevations of construction.

END OF SECTION

## SECTION 01 73 50

### CUTTING AND PATCHING

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Submittals required.
- B. Materials required.
- C. Procedures for cutting and patching.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 60 00 - Product Requirements.
- E. Other Technical Sections:
  - 1. Cutting and patching required being performed incidental to Work of the Section.
  - 2. Advance notification to trades responsible for Work of other Sections
  - 3. Coordination of trades responsible for Work of other Sections.

##### 1.03 SUBMITTALS:

- A. Submit written request sufficiently in advance to allow ODR and A/E time to adequately review and make a determination of approval of cutting, drilling, or alteration which affects:
  - 1. Work of Owner or any separate Contractor.
  - 2. Structural value or integrity of any element of Project.
  - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
  - 4. Efficiency, operational life, maintenance, or safety of Project equipment elements.
  - 5. Visual qualities of sight-exposed elements.
  - 6. Damage to existing Work or utilities.
- B. Include in request:
  - 1. Identification of Project.
  - 2. Location and description of affected Work.
  - 3. Necessity for cutting, drilling, alteration, or excavation.
  - 4. Effect on Work of Owner or any separate Contractor, or on structural or weatherproof integrity of Project.
  - 5. Description of proposed Work:
    - a. Scope of cutting, patching, alteration or excavation.
    - b. Trades who will perform the Work.
    - c. Products proposed to be used.
    - d. Extent of refinishing to be done.
  - 6. Alternative to cutting, drilling, patching, and excavation.
  - 7. Written permission of separate contractors who's work is affected.

8. Date and time Work will be performed.

## PART 2 - PRODUCTS

### 2.01 MATERIALS:

- A. Provide materials and procedures required for original installation.
- B. For any change in materials, submit request for substitution under provision of Section 01 25 00 - Substitution Procedures.

## PART 3 - EXECUTION

### 3.01 GENERAL:

- A. Field Conditions: Check and verify Contract Documents and field conditions before proceeding with Work. If there are any questions regarding these or other coordination questions, the Contractor is responsible for obtaining clarification from the A/E before proceeding with Work or related Work in question.
- B. Execute cutting, drilling, and patching, including excavation and fill as required to complete the Work, and to:
  1. Fit the several parts together, to integrate with other Work.
  2. Uncover Work to install ill-timed Work.
  3. Remove and replace defective and non-conforming Work.
  4. Remove samples of installed Work for testing.
  5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
  6. Uncover Work to allow for A/E's and ODR's observation of Work which has been covered prior to observation by A/E and ODR.

### 3.02 INSPECTION:

- A. Inspection: Carefully examine the premises to determine the extent of Work and the condition under which it must be done, including elements subject to movement or damage during cutting, patching, excavating and backfilling. No extra payments will be allowed for claims for additional work that could have been determined or anticipated by such inspection. After uncovering Work, inspect conditions affecting installation of new products.
- B. Beginning of cutting, drilling, or patching means acceptance of existing conditions.

### 3.03 PREPARATION:

- A. Preparation Prior to Cutting: Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

- B. Protection: Provide barricades, coverings, fences, supports, and similar temporary protections necessary to protect persons and property from injury or damage as a result of Work of this Section. Confine operations to required limits and take reasonable precautions to protect remainder of property from damage.
- C. Dust Control: Control dust resulting from cutting and patching to prevent the spread of dust to adjacent occupied areas and to avoid creation of a nuisance in the adjacent surrounding area. Use of water will be permitted as indicated. Provide drop cloths or other suitable barriers to prevent dust from traveling to adjacent areas. Seal off return air registers or other mechanical systems to prevent dust from entering such systems.

#### 3.04 PERFORMANCE:

- A. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- B. Employ original installer to perform cutting and patching for weather-exposed, moisture-resistant elements, sight-exposed surfaces, and to preserve Owner's warranties and bonds for Work of this Contract and related work of other contracts.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior written approval by the ODR.
- D. Restore Work which has been cut or removed using new products in accordance with requirements of Contract Documents.
- E. Fit and seal interior Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Fit and seal for watertightness all penetrations through exterior envelope and through slabs.
- F. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal all voids with fire stopping and sealant material, full thickness of the construction element to provide a smoke seal and penetration rating equivalent to adjacent rated construction. Refer to appropriate sections of Division 7 in these Specifications for requirements.
- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit as follows:
  - 1. Walls: From floor to ceiling and between the nearest corner. New gypsum board construction meeting existing construction in same plane shall be flush with no visible joint showing,
  - 2. Ceiling: The complete surface,
  - 3. Floor: The complete surface unless otherwise shown or unless a matching patch in applied finishes can be made acceptable to A/E and ODR,
  - 4. Openings: The entire unit including frame,
  - 5. Painted Cabinets: The entire painted surface,
  - 6. Transparent Finish Cabinets: Finish new surfaces to match existing,
  - 7. Base: Between the nearest corners.

- H. Excavation: Refer to appropriate sections of these Specifications.
- I. Damage: Restore accidental or careless damage to Work to a condition as good as or better than existed before Work was commenced and at no additional cost to the Owner.

END OF SECTION



## SECTION 01 74 00

### CLEANING AND WASTE MANAGEMENT

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. General requirements for cleaning.
- B. Materials for cleaning.
- C. Procedures for cleaning.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 33 00 - Submittal Procedures.
- C. Section 01 50 00 - Temporary Facilities and Controls.
- D. Section 01 77 00 - Closeout Procedures.

##### 1.03 GENERAL REQUIREMENTS:

- A. General: In addition to Uniform General and Supplementary Conditions, Article 3 (see UGSC), provide progress and final cleaning as specified in this section.
- B. Progress Cleaning: Keep premises and public properties free from accumulations of waste, debris and rubbish, caused by operations. Maintain Project in accord with State and local safety, health, and insurance standards.
- C. Final Cleaning: At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces of building and Project Site, including crawl spaces; leave Project clean and ready for occupancy.
- D. Final Inspection: Prior to final inspection, clean all surfaces and remove all debris from project.

#### PART 2 - PRODUCTS

##### 2.01 CLEANING MATERIALS:

- A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. Use only materials and methods recommended by manufacturer of material being cleaned.

#### PART 3 - EXECUTION

##### 3.01 CLEANING:

- A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces affected by Work of this Contract.

- B. Hazards Control: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
- C. Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
- D. Remove waste, debris, and surplus materials from site. Clean paving areas, walks, drives and streets in the vicinity of the building; remove mud, rubbish, waste, stains, spills, and foreign substances from paved areas and sweep clean. Immediately clean any mud tracked out of the construction area to adjacent drives and streets by vehicles and equipment.
- E. Keep the entire construction area clean and at least weekly conduct a general clean-up operation.
- F. Keep grass/weeds cut at all times within the limits of construction; maximum time interval in growing season is two weeks.
- G. Periodically inspect, tighten and realign construction/tree protection fencing.
- H. Do not burn or bury rubbish and waste materials on the Project site.
- I. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm, sanitary drains or into the soil.
- J. Do not dispose of rubbish and wastes into streams or waterways.
- K. Do not dispose of excess concrete on the Project Site or campus.
- L. Wet down rubbish and waste to subdue dust and prevent it from blowing.
- M. Provide on Site containers for collection of waste, debris and rubbish. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Do not fence, block, cover, otherwise make inaccessible, for Owner's use, any waste containers located inside or outside construction limits.
- N. Remove temporary protection and labels not required to remain.
- O. Just prior to painting and similar finishing operations, clean interior areas ready to receive finish, and continue cleaning as needed, until building is ready for Substantial Completion.
- P. Disposal: Remove waste materials, debris and rubbish from the Project Site and provide for legal disposal at a Texas Department of Health (TDH) permitted solid waste facility. In hauling material from the Project Site, Contractor shall prevent debris from dropping from vehicles and littering the campus or area streets and roads. Contractor shall promptly remove any debris which falls from vehicles.

### 3.02 FINAL CLEANING

- A. Employ experienced workmen or professional cleaners and perform cleaning in accordance with manufacturer's written recommendations, using products approved by the manufacturer for material being cleaned.
- B. Prior to final inspection and the Owner's acceptance of the Work, perform final cleaning of all areas of the building and Project Site, performing all operations specified in the various Sections of Project Specifications. Final cleaning operations include, but are not limited to:
  - 1. Remove waste, debris, and surplus materials of any nature from Site. Clean paving areas in the vicinity of the building; remove stains, spills, and foreign substances from paved areas and sweep paved areas clean and rake clean other surfaces of grounds,
  - 2. Broom cleaning of all exposed concrete floors,
  - 3. Cleaning all stonework,
  - 4. Cleaning all exposed painted and unpainted metals,
  - 5. Cleaning all architectural woodwork,
  - 6. Cleaning all doors and polish hardware; removing excess paint and stains,
  - 7. Cleaning all glass areas, exterior and interior,
  - 8. Cleaning all storefront framing and doors, and glazed wall system members, exterior and interior,
  - 9. Cleaning all walls and floors,
  - 10. Cleaning of resilient flooring, ready for waxing by Campus Personnel
  - 11. Vacuum all carpeted floors,
  - 12. Cleaning all toilet partitions, fixtures, and accessories,
  - 13. Cleaning all exposed surfaces of light fixtures, including removal of construction dust, paint overspray, finger prints, and similar soiling from light fixture bodies, reflectors, and both sides of light fixture lenses,
  - 14. Removing and disposing of all temporary protections,
  - 15. Repair, patch and touch-up marred surfaces to match adjacent surfaces,
  - 16. Prior to Final Completion, inspect exposed interior and exterior surfaces and work areas to verify that entire work is clean.
- C. Clean finishes free of dust, stains, films, and other foreign substances.
- D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

END OF SECTION

## SECTION 01 77 00

### CLOSEOUT PROCEDURES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES:

- A. Instruction of using personnel.
- B. Submittals.

##### 1.02 RELATED SECTIONS:

- A. Section 01 10 00 - Summary of Work.
- B. Section 01 29 00 – Payment Procedures.
- C. Section 01 32 00 – Construction Progress Documentation.
- D. Section 01 33 00 – Submittal Procedures.
- E. Section 01 50 00 – Temporary Facilities and Controls.
- F. Section 01 74 00 – Cleaning and Waste Management.

##### 1.03 INSTRUCTION OF USING PERSONNEL:

- A. The Contractor will provide demonstrations; conduct training and familiarization sessions for physical plant/User personnel on the mechanical and electrical systems in the facility prior to Substantial Completion inspection. Arrangements for these instruction periods shall be made by the ODR. Operation and maintenance manuals must be available and used during this training period. Refer to Section 01 78 23 for requirements of Operating and Maintenance Manuals.

##### 1.04 SUBMITTALS:

- A. Refer to Section 01 29 00 - Payment Procedures for required administrative action and submittals which must precede or coincide with Contractor's final payment application. Contractor shall deliver these submittals to ODR, properly executed, prior to the request for final payment.
- B. Final Completion (see UGSC): Submit written request for Final Completion inspection and the following:
  - 1. Certification that Work is complete and Owner has full access and use of completed work, Contract Documents have been reviewed, and systems and equipment have been tested, are operational and User personnel have received proper instruction and training on equipment and systems.
  - 2. Copy of list of items to be completed or corrected from Substantial Completion Inspection, with each item initialed and showing date completed.
  - 3. Evidence of compliance with requirements of governing authorities:
    - a. Certificates of occupancy.
    - b. Certificates of final inspection for elevator, plumbing, mechanical, fire protection, electrical, and other systems required by governing authorities.
  - 4. List of all Subcontractors and material suppliers and product description. Provide

name, address, and complete phone number:

- a. Product manufacturer.
  - b. Installer (Subcontractor).
  - c. Local representative.
  - d. Local source of supply for parts and replacement.
5. Submit test/adjust/balance records; start-up performance reports, and other information relevant to Owner's occupancy.
  6. Clean-up: Project site and areas used by Contractor shall be cleaned in accordance with all requirements listed in the Project Manual and Drawings.
  7. Deliver all special tools and keys in relation to project equipment and devices to ODR.
  8. Instruction Logs for Instruction of Owner's Operating Personnel: Provide copies of sign in sheets and attendance records of all sessions held for instructing Owner's or ODR's personnel in the operation and maintenance of installed systems and equipment.
  9. Warranties: Provide a letter of warranty on Contractor's letterhead in compliance with the Uniform General and Supplementary Conditions. Provide copies of all warranties supplied to Contractor for systems or equipment installed as part of the Work.
  10. Keys, Keying Schedule, and Change over of Locks: For loaned keys and access cards for existing locks and security devices, return all loaned keys and access cards. For new locks and new security devices, refer to appropriate section in Division 8 of these Specifications for requirements.
  11. Spare Parts and Maintenance Material: Refer to appropriate Sections in this Specification for requirements.
  12. List of Contractor's incomplete work, recognized as exceptions to Owner's Certificate of Final Acceptance.
  13. Affidavit from Contractor attesting that all materials and equipment installed by Contractor are free of hazardous substances with supporting certificates from subcontractors and suppliers.
  14. Release of Liens: Submit the Release of Liens on the form provided by ODR.
  15. Record Drawings: Submit drawings documenting the Work as installed, including makes and model numbers for all scheduled equipment.
  16. Operations and Maintenance Manuals: Refer to Section 01 78 23, Operation and Maintenance Data for requirements.
  17. Consent of Surety: Submit consent of surety to final payment.
  18. Certificate of Insurance for Products and Completed Operations.
  19. Final Application for Payment.

## PART 2 – PRODUCTS

NOT USED

## PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 78 20  
FACILITIES MANAGEMENT DATA

PART 1 - GENERAL

1.01 SUMMARY

A. Description:

1. This section specifies the standards that the Contractor shall follow for their scope of work related to Facilities Management Data (FM Data) Requirements.
2. This section does not negate any other section that requires Commissioning or Operations and Maintenance Data.

1.02 RELATED SECTIONS:

- A. Section 01 77 00 - Closeout Procedures
- B. Section 01 78 23 – Operations and Maintenance

1.03 FACILITY EQUIPMENT DATA

A. Facility Equipment Information Required

1. The Contractor shall provide facilities information in a digital format acceptable to the Owner for all assets identified in Table 01 Asset Groups that are included in the project. The minimum required information per asset are Floor, Location Asset Group, Description, Manufacturer, Model Number, Serial Number and Tag. Contractor shall also provide Owner a photo of the SSC asset sticker, photo of the asset's name plate data, and a photo of each asset in its final location in digital format, at least 8 megapixels and in jpg format. (See photo examples)
2. Floor shall designate the level (Basement, 01, 02, 03 Roof) or the exterior by Outside.
3. Location shall be the final room numbers assigned to each space or by use of Roof or Outside.
4. Asset Group shall be one of the asset groups as identified in Table 01.
5. Description shall be a simple description of the asset. (ex. Air Handler Unit)
6. Manufacturer shall be the actual manufacturer's name of the asset from the approved submittal and as installed.
7. Model Number shall be the complete model number of the asset from the approved submittal and as installed

8. Serial Number shall be the serial number for the asset as installed.
9. Tag shall be the tag designation for the asset as installed. (ex. AHU-1)
10. See Table 02 for acceptable format (.xlsx) of data collection.
11. All photographs shall be named in the following format xxxx-yyyyy-zz.jpg where “xxxx” represents the building number, “yyyyy” represents SSC barcode number and “zz” represents the picture number sequence. (ex. 1416-28044-01)

B. Barcodes

1. Barcodes shall be provided by the Owner for Contractor to place on equipment in field. The Contractor shall request these barcodes from the Owner, providing the total number of equipment assets to the Owner.

C. Final Deliverables

1. The Contractor shall provide, on a USB drive, the asset information to the owner within two (2) weeks of the substantial completion date.

#### 1.04 MEETING

A. Contractor shall set up a meeting with the ODR and SSC to review asset groups on the project, quantity of assets on the projects, floor and location nomenclature for the project, placement of barcodes on assets and any other information necessary to complete the task prior to collecting the required information.

#### PART 2 - PRODUCTS

NOT USED

#### PART 3 - EXECUTION

## Table 01 Asset Groups

ACID NEUTRALIZING SYS  
AHU  
AIR BLOWER  
AIR COMPRESSOR  
AIR DEHUMIDIFIER  
AIR DRYER  
AIR HUMIDIFIER  
AMMONIA REFRIG SYS  
AUTOCLAVE  
AUTODOOR  
BACKFLOW PREVENTER  
BOILER  
BUILDING FIRE SYSTEM  
CENTRAL VACUUM EQUIPMENT  
CHAIR LIFT  
CHILLER  
CLOTHES DRYER  
COLD STORAGE ROOM  
COMMERCIAL DISHWASHER  
COMMERCIAL DISPOSAL  
COMPACTOR-TRASH  
CONDENSING UNIT  
CONVEYING SYSTEM  
COOKER/OVEN/STOVE  
DEHUMIDIFIER  
DESCALER  
DOCK LIFT  
DOOR-OVERHEAD  
DRINKING FOUNTAIN  
DUST COLLECTOR  
ELECTRIC GATE  
ELECTRICAL DISTRIBUTION  
ELEVATOR  
ENTHALPY WHEELS  
ENVIRONMENTAL CHAMBER  
ENVIRONMENTAL MONITORING  
ESCALATOR  
EXHAUST FAN  
FAN COIL UNIT  
FAN-RETURN  
FAN-STAIR  
FIRE BACKFLOW PREVENTER



FIRE PANEL  
FIRE PUMP  
FOUNTAIN - OUTDOOR  
GAS STORAGE TANK  
GAS SYSTEM  
GLYCOL FEED SYSTEM  
HAND/HAIR DRYER  
HEAT EXCHANGER  
HOOD-VENT  
ICE MACHINE  
INCINERATOR  
KITCHEN EQUIPMENT  
LAB EQUIP WASHING SYSTEM  
LAB FUME HOOD  
LAB VACUUM/LAB AIR  
LIFT-CRANE\_HOIST  
LIGHTNING PREDICTION  
LOUVER  
MEDICAL GAS SUPPLY SYS  
MIXING VALVE  
NAT-GAS-SYSTEM  
NITROGEN GENERATOR  
OVERHEAD DOOR  
PACKAGED AIR CONDITIONER  
PANELBOARDS  
PLAYGROUND STRUCTURES  
PUMP  
PUMP-CIRC  
PUMP-SUMP  
RADIATOR  
RESIDENTIAL DISHWASHER  
RO WATER SYSTEM  
ROOF SYSTEM  
SOLAR PANEL  
STOVE  
STRAINER  
SUPPLY AIR FAN  
SURGEON SCRUB SINK  
TANKLESS WATER HEATER  
TNK-ACID  
TNK-FUEL  
TNK-GREASE  
TRAP-PRIMER  
UNIT HEATER

UPS  
 VACUUM EQUIPMENT  
 VAV-FP  
 VAV-NP  
 VFD  
 WALL SYSTEM  
 WASHING MACHINE  
 WATER FILTRATION SYSTEM  
 WATER HEATER  
 WATER TREATMENT  
 WATER-DI  
 WATER-RO  
 WATER-SPECIAL  
 WINDOW A/C UNIT

Table 02 Data Collection

Asset #	Floor	Location	Asset Group	Description	Manufacturer	Model	Serial #	Tag
175166	01	158	PANELBOARDS	MSA1 - Main Distribution Panel	SQUARE D	HCP	143 810 194 303 10001	MSA1 Main SB
175167	01	119.A	FIRE PANEL	Fire Alarm Main Panel	Siemens	XLS		NA
175171	01	137	VAV-FP	137, 138 Music Rooms	Price	SDV5-001	1318991-030-001	VAV 3-3
175172	01	141	VAV-FP	141 Game Room NNW	Price	SDV5-003	1318991-029-001	VAV 3-1
175173	01	141	VAV-FP	141 Game Room NNE	Price	SDV5-003	1318991-050-001	VAV 3-31
175174	01	141	VAV-FP	141 Game Room NE	Price	SDV5-004	1318991-049-001	VAV 3-32
175175	01	134	VAV-FP	134, 135, 136 Gaming Rooms	Price	SDV5-001	1318991-031-001	VAV 3-4
175176	01	132	VAV-FP	132, 133 Office Key storage	Price	SDV5-001	1318991-039-001	VAV 3-15
175177	01	151	VAV-FP	151 Gallery NW	Price	SDV5-005	1318991-040-001	VAV 3-16
175178	01	C130	VAV-FP	C130 Corridor	Price	SDV5-001	1318991-033-001	VAV 3-6
175179	01	130	VAV-FP	130, 131 Res Storage Copy	Price	SDV5-001	1318991-036-001	VAV 3-9
175180	01	129	VAV-FP	129 Conference	Price	SDV5-001	1318991-035-001	VAV 3-8
175181	01	128	VAV-FP	128 Breakroom	Price	SDV5-001	1318991-034-001	VAV 3-7
175182	01	141	VAV-FP	141 Game room NW	Price	SDV5-004	1318991-048-001	VAV 3-30
175183	01	124	VAV-FP	124, 125 Staff Offices	Price	SDV5-002	1318991-032-001	VAV 3-5
175184	01	122	VAV-FP	122, 123 Staff Offices	Price	SDV5-002	1318991-037-001	VAV 3-10
175185	01	C115	VAV-FP	C115 121 Corridor, Storage	Price	SDV5-003	1318991-041-001	VAV 3-17
175186	01	120	VAV-FP	120 Catering	Price	SDV5-004	1318991-038-001	VAV 3-12
175187	01	119	VAV-FP	119 Electrical	Price	SDV5-004	1341602-004-001	VAV 3-13
175188	01	118	VAV-FP	118 MDF	Price	SDV5-003	1341602-003-001	VAV 3-11
175189	01	151	VAV-FP	151 Gallery SW	Price	SDV5-005	1318991-044-001	VAV 3-24

## Sample Photos



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END OF SECTION

## SECTION 01 78 23

### OPERATION AND MAINTENANCE DATA

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation manuals for systems, subsystems, and equipment.
  - 2. Maintenance manuals for the care and maintenance of systems and equipment.
- B. See Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

##### 1.2 SUBMITTALS

- A. Manual: Submit one copy of each manual in final form at least 30 days before final inspection. Architect will return comments within 15 days after receipt.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit each corrected manual within 15 days of receipt of Architect's comments.

#### PART 2 - PRODUCTS

##### 2.1 MANUALS, GENERAL

- A. Format: Provide the manuals electronically in Adobe™ Portable Document Format (pdf). Bookmark the first page of each division and section. Also bookmark the first page of each item listed in the table of contents.
- B. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.
- C. Title Page: Enclose title page. Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name, address, and telephone number of Contractor.
  - 6. Name and address of Architect.

7. Cross-reference to related systems in other operation and maintenance manuals.
- D. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single document.
1. Media: Flash Drive/Load into eBuilder.
  - a. Identify flash drive with "OPERATION AND MAINTENANCE MANUAL," Building name, Building number, Project title or name, Project number, and subject matter of contents. Indicate volume number for multiple-volume sets.

## 2.2 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.
- B. Descriptions: Include the following:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.3 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
  - 1. Product name and model number.
  - 2. Manufacturer's name.
  - 3. Color, pattern, and texture.
  - 4. Material and chemical composition.
  - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

## 2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, adjusting instructions, and demonstration and training videorecording if available, that detail essential maintenance procedures:

- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

### **PART 3 - EXECUTION**

#### **3.1 MANUAL PREPARATION**

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
- F. Comply with Division 01 Section "Project Closeout" for schedule for submitting operation and maintenance documentation.

**END OF SECTION**