

**SECTION 01010**  
**SUMMARY OF WORK, WORK SEQUENCE, AND SPECIAL CONDITIONS**

**1.00 GENERAL**

**1.01 SECTION INCLUDES**

- A. General project description
- B. Work by others
- C. Access to the Site and Use of Premises
- D. University occupancy
- E. Review of existing conditions
- F. Hazardous materials procedure
- G. Codes, Ordinances, and regulatory requirements
- H. Use of University equipment
- I. Construction Phases - Delays in Completion – Liquidated Damages
- J. Project staff
- K. Project Coordination and Site survey requirements
- L. Special Considerations
- M. Recommended Work Sequence

**1.02 RELATED SECTIONS**

- A. Contract General Conditions
- B. Technical Specifications

**1.03 GENERAL PROJECT DESCRIPTION**

- A. The work shall conform to the contract drawings and to the specifications, which form a part of this package.

Work of this contract includes but is not limited to the construction of alterations to existing engineering laboratories located in the Engineering and Technology Building at California State University, Los Angeles, to create a Core facility.. The project includes demolition and removal of existing laboratory cabinets, countertops, partitions, ceilings, flooring and finishes, mechanical and electrical systems. The project includes construction of new partition walls, ceilings, wall and floor finishes, new laboratory casework, new mechanical and electrical systems, data/telecom cabling and modifications to existing wet pipe utility systems. The work includes modifications to existing wave tank equipment, and installation of new laboratory equipment.

**1.04 WORK BY OTHERS**

- A. The University reserves the right to let other contracts in accordance with the General Conditions of the Contract.
- B. The Contractor shall coordinate and cooperate with other contractors and shall execute the work of this contract in a timely manner so as to cause no delay in the work of other contracts. Where installations to be performed and provided under this contract are in common, or in connection with the work of another contract, the Contractor shall afford the other contractors ample opportunity to execute their work.

#### **1.05 ACCESS TO THE SITE AND USE OF PREMISES**

- A. Limit use of site and premises to allow:
  - 1. University occupancy of adjacent interior and exterior spaces and buildings
  - 2. Work by Others and Work by the University
  - 3. Use of adjacent site and premises by students and faculty
  - 4. Unimpeded access by fire fighting or rescue equipment
  - 5. Exiting from existing facilities for life safety
  - 6. Accessibility to adjacent buildings, walkways, roadways, and spaces for the disabled.
- B. Site access shall be via accessways from Parking Lot 9, via Parking Lot 10, and Circle Drive. Temporary protection of internal corridor finish materials shall be constructed by the contractor for the duration of the project, and removed at the completion of the project.
- C. Contractor shall be responsible for the full and complete costs associated with replacing and/or repairing all damage to on-campus roads, sidewalks, landscape, hardscape, etc., used by construction vehicles coming to the job.
- D. The Contractor is required to observe all campus driving and access restrictions. Each driver must have a valid California driver's license. Contractor shall access campus interiors only for specific service-related needs (i.e., unloading or emergency response only) with prior authorization/permit. Contractor is required to obtain an access permit for each vehicle that must access campus interiors. A limited number of access permits are available through the Public Safety department. Each vehicle used by the Contractor to access any area on campus must have a sign on the side of each vehicle that identifies the contractor or subcontractor for which the driver is employed.
- E. Contractor must never exceed posted speed limits and must use discretion when a slower speed may be more appropriate due to congestion. Contractor must use caution at pedestrian crossings (i.e., intersections, crosswalks, and other unmarked areas where frequent crossing occurs). Contractor must ensure that the pedestrian has the right of way. Contractor must park vehicles so as to not block traffic crosswalks, disabled access routes, fire lanes, building entrances, fire hydrants, and walkways. Driving on lawns and landscaped areas is prohibited.
- F. Contractor shall be required to maintain fire equipment access through established fire lanes at all times and shall provide trench plates, etc., as necessary to ensure access for fire equipment. Contractor shall be required to maintain access for all truck deliveries, trash removal, etc.

- G. The Contractor's employees (including sub-contractors, materials suppliers, manufacturer's representatives, etc.) must purchase a parking permit to park in Parking Lot 7, or in marked spaces on campus roadways. Parking in any other parking lot or area within the campus will result in the vehicle being cited and / or towed at the owner's expense. The current parking rates consist of the following but may change without notice.  
Daily - \$6.00 – available at permit dispensers located throughout the campus.  
Contractor Permits – Available at the Parking Transportation Service Center for \$30 per permit per 30 day period. For more information, contact the Office of Parking Services at (323) 323-3705.
- H. The University has adopted a strict policy prohibiting sexual or racial harassment of any kind on campus. The Contractor shall be responsible for cautioning and reminding the Contractors employees, including subcontractors, materials suppliers and others, to refrain from initiating verbal or physical conduct of a sexual or racial nature. The Contractor shall be responsible for their employee's actions and communications, including those of the subcontractors, material suppliers and others, while working on campus. Failure on the Contractors part to inform their employees concerning the University policy prohibiting sexual and racial harassment and discrimination will be due cause by the University to request the Contractor to stop work and to remove the Contractor's employee from the project site. Any damages and cost accrued by such work stoppage shall be borne at the sole expense of the Contractor and at no additional cost to the University.
- I. The University has adopted the policy of a Smoke-Free environment. Contractor shall not allow employees or subcontractors, visitors, manufacturer's representatives, etc., to smoke in new or existing buildings and / or buildings under construction or within twenty (20) feet of an entrance to a University building, near the fresh air supply or near operable windows.
- J. The University requires that the Contractor observed all posted regulations for accessing campus facilities. This includes the requirement that no food and drink is allowed at any time within University facilities unless designated otherwise.
- K. The Contractor shall comply with University policy pertaining to a drug-free workplace. The Contractor shall adhere to this policy at all times.
- L. Contractor must provide and post pedestrian and vehicular detour signs and disabled accessible route signs as required providing clear direction around any obstruction caused by construction. The University shall approve all signage prior to fabrication and installation by the contractor.
- M. The Contractor must maintain all utilities affected by the construction of this project in an operable and functioning condition (including irrigation systems) to all buildings, facilities, parking lots, and services on the campus. All costs for providing temporary utilities must be included in the base bid.

If any utility is interrupted which affects any occupied facility, the Contractor must provide a temporary connection to the affected utility / facility / area within the time frame noted below with due diligence, at no additional cost to the University. The Contractor is not allowed to shutdown valves or take other measures to secure utilities except in extreme life threatening situations. The Contractor must **immediately** notify Facilities Planning & Construction at (323) 343-5776 between the hours of 8:00 a.m. and 5:00 p.m. or University Police at (323) 343-3700 between the hours of 5:00 p.m. and 7:00 a.m. of any utility interruption.

If the contractor does not perform repairs with due diligence within the noted time frames, the University will enforce the terms and conditions of the General Conditions for Contractor's failure to perform work in a timely manner.

Fire Alarm System:	By the end of same work day or post fire watch.
Security Alarm System:	By end of same work day
Radio Communication System:	By end of same work day
Telecommunications System – Voice and Data including payphones, fiber backbone, copper network, etc.	Within 4 hours of occurrence
University Master Clock System:	Within 8 hours of occurrence
Exterior Lighting / Street Lighting:	By end of same work day
Building Power:	Within 4 hours of occurrence
Potable Water:	Within 6 hours of occurrence, depending on impact of loss of water as determined by the University.
Gas:	Within 4 hours of occurrence
Sewer:	Within 6 hours of occurrence, depending on impact of loss of water as determined by the University.
Storm Drain:	Within 48 hours of occurrence
Irrigation:	Within 48 hours of occurrence - provide alternate methods of irrigation if needed during outages to prevent damage to landscape.

#### **1.06 UNIVERSITY OCCUPANCY**

- A. The University will occupy this building, adjacent buildings, walkways, roadways, and parking areas adjacent to this project during the entire period of construction for the conduct of normal operations.
- B. Cooperate with University to minimize conflict and to facilitate University's operations as noted in these specifications and plans.
- C. Schedule the Work to accommodate these requirements.

#### **1.07 REVIEW OF EXISTING CONDITIONS**

- A. Record drawings are available for review by the Contractor at the Facilities Planning and Construction Office at Golden Eagle 220. Hours are normally 8:00 a.m. – 5:00 p.m., Monday through Friday. Copies can be requested after Award of Contract. Request for copies should be made in writing a minimum of seven (7) working days in advance of the Contractor's need for these documents.
- B. Before commencing work, the Contractor shall review the as-built drawings for the areas in question to determine probable locations of utilities and other structures that will impact construction.

#### **1.09 CODES, ORDINANCES AND REGULATORY REQUIREMENTS**

- A. Comply with all ordinances, laws, and regulations applicable to the Work. Contractor shall be fully responsible for any results of carelessness or violations in this respect and shall hold the State of California, the Trustees of the California State University, the University, the Architect, and the officers, employees, representatives, and agents of each of them, harmless from any damage arising there from. Nothing in the Specifications or Drawings shall be construed to permit Work not in complete conformance with any Federal, State, or local code or ordinance.
- B. During the entire construction period, it shall be the sole responsibility of the Contractor to maintain conditions at the project site to meet the requirements of the Federal Occupational Safety and Health Administration (OSHA). This provision shall cover the Contractor's employees and all other persons working upon or visiting the site. To this end, the Contractor shall inform themselves and Contractor's representatives of the Federal OSHA standards.
- C. Obtain copies of the applicable regulations and keep at the project site for use of all parties.
- D. Contractor shall provide an Injury and Illness Prevention Plan (IIPP). All requirements of Title 8 – Cal-OSHA are to be adhered to. The contractor and its subcontractors are to submit an IIPP for the University's review prior to the start of construction. The IIPP is a written program describing the policies used by an employer to provide a safe and healthy workplace for their employees. The IIPP is required to include, but is not limited to, the following information (per Title 8, CCR 3203):
  - 1. Identify the person responsible for implementing the plan by name.
  - 2. Include a system for ensuring employee compliance with the plan.
  - 3. Include a system for communicating health and safety information to employees.
  - 4. Include a procedure for correction of unsafe conditions.
  - 5. Include a procedure for investigating injuries and illnesses.
  - 6. Include procedures for identifying and evaluating workplace hazards, including inspections of work site; when the program is first established, whenever new substances, processes, or equipment changes occur; and whenever the employer is made aware of a new or unrecognized hazard.

#### **1.10 USE OF UNIVERSITY EQUIPMENT**

- A. The Contractor will not be allowed the use of University equipment such as work tools, disposal bins, trash carts, or the like.

- B. The Contractor shall furnish all equipment necessary for completion of work as outlined in the contract documents.

#### **1.11 DELAYS IN COMPLETION - LIQUIDATED DAMAGES**

The time period for completion of the project shall be One Hundred and Twenty (120) calendar days from the date of the Notice to Proceed and shall commence as directed by the University after receipt of fully executed Agreement.

Liquidated damages shall be \$1,500.00 for each calendar day completion is delayed beyond the time prescribed for the Liquidated project. Refer to Item 7.02 of the General Conditions for additional information.

#### **1.12 PROJECT STAFF**

- A. Contractor shall employ a competent project staff, including but not limited to a Project Manager and Project Superintendent. The Project Superintendent shall be in full-time attendance at the project site during the progress of the work. The project staff shall represent the Contractor, and all communications given to the project staff shall be as binding as if given to the Contractor. Contractor shall provide a management organizational chart and a list of personnel comprising the project staff at time of contract award. All references to the Superintendent elsewhere in the Contract Documents shall mean the Superintendent and Superintendent's staff.
- B. With the exception of the Project Manager, the project staff shall be in attendance at the project site full time and / or at all times that any work is taking place on the project site, unless the work is stopped due to a general strike or conditions beyond the control of the Contractor, or until termination of the contract is accordance wit the Contract Document. The project staff must be fully capable for this project and must be acceptable to the University. Failure to provide appropriate documentation of qualifications and suitable experience shall be sufficient reason for the University to disqualify and disallow such person for the required position of Project Manager or Project Superintendent on this project.
- C. Failure to maintain a Superintendent on the project site at all times the work is in progress, including second and third shift, weekends, after-hours, holidays, etc., and including when work is being performed by subcontractor(s), shall be considered a material breach of the contract, entitling the University to terminate the contract, or alternatively, to issue a Stop Work Order until the Superintendent is on the project site. If, by virtue of issuance of said Stop Order, Contractor fails to complete the project within the time required by Contract, the University will not be held liable for any cost associated with the Contractor's delay.

#### **1.13 PROJECT COORDINATION AND SITE SURVEY REQUIREMENTS**

- A. Coordinate the work and do not delegate responsibility for coordination to any subcontractor or manufacturer.
- B. Anticipate the interrelationship of all subcontractors and manufacturers and their relationship with the work.
- C. Resolve differences or disputes between the subcontractors concerning coordination, interference, or extent of work between sections.

- D. Coordinate the work of subcontractors so that portions of the work are performed in a manner that minimizes interference with the progress of the work.
- E. Do not obstruct spaces and installations until they have been inspected and approved and required certificates of inspection issued.
- F. Do not obstruct spaces and installations that are required to be clear by Applicable Code Requirements.
- G. Remove and replace all work that does not comply with Contract Documents. Repair or replace any other work or property damaged by these operations at no additional cost to the University.
- H. Perform a survey of the project site, and record conditions in and adjacent to the project site including but not limited to all pathways and travel ways around the project. Contractor and Inspector of Record shall attend the pre-construction survey. At the start of the project, a video of the existing conditions shall be made by the Contractor with the Inspector of Record in attendance during taping. The Contractor shall provide one (1) copy of the pre-construction survey videotape to the University within fourteen (14) calendar days after completion of taping. Contractor shall provide one (1) copy of the pre-construction survey videotape to the University within fourteen (14) calendar days after completion of taping. The videotape shall act as the official record for verification of existing conditions prior to the start of construction.

#### **1.14 SPECIAL CONSIDERATIONS**

- A. Prior to any coring, drilling or saw cutting of concrete or masonry construction all existing reinforcing steel shall be positively located as necessary to prevent damage to the existing reinforcing steel during the coring, drilling or saw cutting procedure. The Contractor shall employ an appropriate method such as x-ray or pachometer survey to positively locate the reinforcing steel. In no instance shall the extent of the drilled or cored hole be closer to any existing reinforcing than 1-½ inches. The Contractor shall notify the Structural Engineer of Record prior to proceeding with any coring, drilling or saw cutting where the existing placement of reinforcing interferes with the intended location. Coring or drilling shall not commence until the Structural Engineer of Record has adequately reviewed and dispositioned any such interference.
- B. Work adjacent to or within occupied portions of the building shall not disrupt University operations. At the end of each work day, Contractor materials and equipment shall be removed and stored, all debris and refuse removed, and area cleaned, including removal of all dust generated by construction activities in all areas affected by work to be performed under this contract. All furniture, equipment, and miscellaneous items shall be protected in such a manner as to prohibit any damage due to weather, dust, construction activities, etc. The Contractor shall be responsible for any damage incurred to the furniture, equipment, or miscellaneous items while performing work. If the University determines that the Contractor's activities are interrupting University operations in occupied areas, the Contractor shall work with the University to determine alternate methods or times for completing work. Work using alternate methods and / or times shall be completed at no additional cost to the University.
- C. The Contractor will be held responsible for and be required to make restitution, at their own expense, for all damage to persons or property caused by the Contractor or subcontractor, or the agents, or employees of either during the progress of the Work until its Final Acceptance.

#### **1.15 RECOMMENDED WORK SEQUENCE**

- A. The Contractor shall provide the University with a work plan that ensures that the project will be completed within the required time of completion.
- B. Construct work in stages to accommodate the University's operation. All activities shall be coordinated a minimum of three (3) weeks in advance with the University unless noted otherwise in these specifications.

**2.00 PRODUCTS**

Not Used

**3.00 EXECUTION**

Not Used

**END OF SECTION**

## Section 01035 - Alteration Project Procedures

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 General Description and Requirements

- A. Coordinate the work of trades and schedule elements of alterations and renovation work by procedures and methods to expedite completion of the work.
- B. In addition to demolition specifically shown, cut, move or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
  - 1. Repair or removal of hazardous or unsanitary conditions.
  - 2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.
  - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.
  - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.
- C. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a smooth and clean transition to adjacent new items of construction.

#### 1.03 Sequence and Schedules

- A. Schedule work in the sequences specified in Section 01010, Summary of Work.

#### 1.04 Alterations, Cutting and Protection

- A. Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in a manner to minimize the possibility of damage to each type of work, and provide means of returning surfaces to appearance of new work.
- B. Perform cutting and removal work with minimal disruption and in a manner to avoid damage to adjacent work.
- C. Cut finish surfaces such as masonry, tile, plaster or metals, by methods which terminate surfaces in a straight line at a natural point of division.
- D. Perform cutting and patching as specified in Section 01045.

- E. Protect existing finishes, equipment, and adjacent construction that is scheduled to remain, from damage.
  - 1. Protect existing and new work from weather and extremes of temperature.
  - 2. Maintain existing interior work above 60 degrees F.
  - 3. Provide weather protection, waterproofing, heat and humidity control as needed to prevent damage to remaining work and to new work.

## Part 2 Products

### 2.01 Products for Patching, Extending and Matching

- A. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing.
- B. Generally the Contract Documents will not define products or standards of workmanship present in existing construction; determine products by inspection and necessary testing, and determine quality of workmanship by using existing as a sample for comparison.
- C. The presence of a product, finish, or type of construction requires that patching, extending or matching shall be performed as necessary to make work complete and consistent with identical standards of quality.

## Part 3 Execution

### 3.01 Performance

- A. Patch and extend existing construction using skilled workers capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.

### 3.02 Adjustments

- A. Where partitions are removed, patch floors, walls, and ceilings with finish materials to match existing.
  - 1. Where removal of partitions results in adjacent spaces becoming one, re-work floors and ceilings to provide smooth and clean planes without breaks, steps, or bulkheads.
  - 2. Where extreme change of plane of one inch or more occurs, request instructions from Architect as to method of making transition.
- B. Trim and refinish existing doors as necessary to clear new floor finishes.

### 3.03 Damaged Surfaces

- A. Patch and replace any portion of an existing finished surface which is found to be damaged, lifted, discolored, or shows other imperfections, with matching material.
  - 1. Provide adequate support of substrate prior to patching the finish.

2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over the entire surface.
  3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.
- 3.04 Transition from Existing to new work
- A. When new work abuts or finishes flush with existing work, make a smooth and clean transition. Patched work shall match existing adjacent work in texture and appearance so that the patch or transition is invisible at a distance of five feet.
  - B. When finished surfaces are cut in such a way that a smooth and clean transition with the new work is not possible, notify Architect. Terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface, or as otherwise directed by Architect.
- 3.05 Cleaning
- A. Perform periodic and final cleaning as specified in Section 01700.
    1. Clean Owner-occupied areas daily.
    2. Clean spillage, over-spray, and heavy collection of dust in Owner-occupied areas immediately.
  - B. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
  - C. At completion of alteration work in each area, provide final cleaning and return space to a condition suitable for use by Owner.

End of Section 01035

## Section 01040 - Coordination

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. Section includes: requirements for project coordination and electrical and mechanical coordination of "tight" conditions involving work of the Project.

#### 1.03 Related Sections

- A. Section 01300, "Submittals: Shop Drawings"

#### 1.04 Project Coordination

##### A. General

1. Coordinate the work; do not delegate responsibility for coordination to any subcontractor.
2. Anticipate the interrelationship of all subcontractors and their relationship with the total work.
3. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interference, or extent of work between sections.
4. Coordinate the work of subcontractors and material suppliers, so that their work is performed in a manner to minimize interference with, and to facilitate the progress of the work.
5. Be responsible for providing anchorage, blocking, joining and other detailing as required to provide complete project.
6. Do not obstruct spaces required by Code in front of electrical equipment, access doors, etc.
7. Do not cover any piping, wiring, ducts, etc., until properly inspected and approved and until proper certificates have been issued.
8. Remove and replace any and all work under any section which is not in accordance with the Contract Documents with other materials and work which is in conformance with the Contract Documents. Repair or replace all other work damaged by these operations at no increase in contract price.
9. Coordination with Other Contracts: Coordinate work of this Contract with other contracts and contractors as appropriate.
10. This work shall be coordinated with all associated work in a manner that will insure that all work will be accomplished as rapidly as the progress of the project will permit and so that no work will be delayed for want of associated work.

- B. Electrical and Mechanical Coordination
1. Work out all "tight" conditions involving work of various sections in advance before installation. If necessary, and before work proceeds in these areas, prepare supplementary drawings for review showing all work in "tight" areas.
  2. Provide supplementary drawings and additional work necessary to overcome "tight" conditions at no increase in contract price. Refer to Section 01300, Article titled "Shop Drawings."
  3. Coordinated layout shop drawings shall be dimensionally accurate and detailed, giving complete dimensions of all locations, elevations, and clearances. Show exact locations of the following:
    - a. Ductwork
    - b. Piping, including fire protection systems.
    - c. Valves and piping specialties, including all air vents and drains.
    - d. Dampers
    - e. Access doors
    - f. Control and electrical panels
    - g. Adjustable frequency controllers
    - h. Motor control centers and transformers
    - i. Disconnect switches
    - j. Elevator equipment
    - k. Electrical cable trays and main conduits
    - l. Owner-furnished, Contractor-installed equipment.
  4. Coordinated layout shop drawings shall show actual architectural and structural constraints and site conditions.
  5. Coordination:
    - a. Fully coordinate work between trades with actual architectural, structural, and site conditions.
    - b. Coordinate all adjustments required. Clearly identify by circling these adjustments on the coordinated layout shop drawings.
    - c. If Contractor has specific questions regarding coordination of the installation with structural, architectural and site conditions and work between trades, submit same with appropriate shop drawings documenting areas in question with Contractor's proposed installation.
  6. Submission and review of coordinated layout shop drawings:
    - a. Prepare reproducible drawings.
    - b. Submit to each trade for review of space allocated to all trades.
    - c. Revise drawings to compensate for review by each trade.
    - d. Review revisions with each trade.
    - e. Submit to Architect for review.
    - f. Review of coordinated layout shop drawings is only for verification that Contractor has performed coordination work as specified herein.
      - (1) Review does not include verification of exact dimensions, clearances, arrangements and/or compliance with codes.

7. Final coordinated layout shop drawings shall show that all trades affected have made reviews and shall be signed by each trade at completion of coordination.
  - a. General Contractor is to assure that each trade has coordinated work with other trades.
  - b. Include stamp with labeled space for each trade to sign on each submittal indicating that layout shop drawing has been coordinated.
  - c. No layout shop drawing will be reviewed without stamped and signed coordination assurance by General Contractor.
8. Coordinated layout shop drawings showing work of all trades are required. Individual trade layout shop drawings will not be accepted.

#### 1.05 Use of Elevators

- a. Use of elevators must be approved in advance and in writing by the Owner.
- b. It shall be the sole responsibility of the Contractor to prepare the elevator to accommodate any and all material moving so as to protect elevator(s) from damage. By use of the elevator, Contractor accepts full responsibility for repair of any and all damage or breakage that occurs during the time of material transfer. If the Contractor fails or refuses to repair the damage promptly, the Owner may have the necessary work performed and charge the cost to the Contractor.
- c. Contractor shall make every effort to accommodate and allow access to handicapped persons for use of elevator when needed. To this end, at least one (1) elevator in the building must be operable at all times during construction to provide access for disabled persons.
- d. Whenever the contractor uses an elevator which requires that member(s) of the general public share the elevator (i.e. in the event that the contractor's means and methods require joint use of the elevator with the general public), Contractor shall name the general public as additionally insured.

#### 1.06 System Startup, Interruption or Shutdown

- a. Systems critical to building safety or security (such as fire protection system(s), and building security systems) which are required to be interrupted, altered, relocated or temporarily shut down as a result of any of this Work shall only be shut down upon advance notification to the Owner and upon implementation of a procedure approved by the Owner and which is in compliance to prevailing codes and standards (including but not limited to providing an NFPA Fire Watch when a Fire Protection System is interrupted or shut down, and providing fire sprinkler piping relocation in compliance with NFPA 13). Development of these procedures is the responsibility of the Contractor and these procedures shall be approved as

part of the Work Plan process.

End of Section 01040

## Section 01045 -Cutting and Patching

### Part 1 - General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. This Section specifies administrative and procedural requirements for cutting and patching.
- B. Work included in this Section
  1. Cutting and patching not required to be performed as part of the work of other sections.
  2. Cutting and patching existing work altered or disturbed to accommodate new construction.
  3. Cutting and patching existing work damaged or defaced during new construction as required to restore to existing or better condition at the time of award of Contract.
  4. Cutting and patching required to:
    - a. Install or correct non-coordinated work.
    - b. Remove and replace defective and non-conforming work.
    - c. Remove samples of installed work for testing.
- C. Refer to other Sections and drawings for specific requirements of the extent and limitations applicable to cutting and patching, demolishing, or altering existing work of individual parts of the Work.
  1. Requirements of this Section also apply to mechanical and electrical installations. (Refer to Division-15 and Division-16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations).

#### 1.03 Submittals

- A. Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:
  1. Describe the extent of cutting and patching required and how it is to be performed.
  2. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.

3. List products to be used and firms or entities that will perform work.
4. Indicate dates when cutting and patching is to be performed.
5. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
6. Where cutting and patching involves addition of reinforcement to structural elements, submit details to show how reinforcement is integrated with the original structure.
7. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.
8. Effects on University operations and on concurrent operations construction by other contractors.

#### 1.04 Quality Assurance

A. Requirements for Structural Work: Do NOT cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.

1. Obtain APPROVAL from the Architect of the cutting and patching proposal BEFORE cutting and patching the following structural elements:

Bearing and retaining walls

Structural concrete

Structural steel

Lintels

Timber and primary wood framing

Structural decking

Stair systems

Miscellaneous structural metals

Equipment supports

Piping, ductwork, vessels and equipment

B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

1. Obtain APPROVAL of the cutting and patching proposal BEFORE cutting and patching the following operating elements or safety related systems:

Primary operational systems and equipment

Air or smoke barriers

Water, moisture, or vapor barriers

Membranes and flashings

Fire protection systems

Noise and vibration control elements and systems

Control systems

Communication systems

Electrical wiring systems

- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace work cut and patched in a visually unsatisfactory manner.
- D. If possible retain the original installer or fabricator throughout construction phases to cut and patch the following categories of exposed work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm:
  - Concrete finishes
  - Masonry
  - Stucco and ornamental plaster
  - Acoustical ceilings
  - Painting
  - Wall covering
  - HVAC enclosures, cabinets or covers

## Part 2 - Products

### 2.01 Materials

- A. Use materials that are identical to existing materials unless not available.
  - 1. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect, (BEFORE PROCEEDING CONTRACTOR SHALL OBTAIN APPROVAL OF THE ARCHITECT).
  - 2. Use materials whose installed performance will equal or surpass that of existing materials.

## Part 3 - Execution

### 3.01 Inspection

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.
  - 1. Before proceeding, meet at the site with parties involved in cutting and patching, including asbestos abatement, mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

### 3.02 Preparation

- A. Temporary Support: Provide temporary support of Work to be cut where required.

- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

### 3.03 Performance

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations.
  - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
  - 4. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
  - 5. Provide fire-safe seals to maintain fire rating at all penetrations.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  - 3. Where removal of walls or partitions extends one finished area into

another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.

- a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat.
  4. Patch, repair or re-hang existing ceilings as necessary to provide an even plane surface of uniform appearance.
  5. Replace concrete walkways to nearest construction joint.
- D. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated.

### 3.04 Cleaning

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

End of Section 01045

## Section 01050 - Field Engineering

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 References

- A. Section includes: Quality Control, Submittals, and Project Record Documents.
- B. See related Section 01700, "Contract Closeout: Project Record Documents."

#### 1.03 Quality Control

- A. The Contractor is solely responsible for the complete, timely and accurate layout of the work including, but not necessarily limited to, horizontal and vertical control and dimensional coordination as necessary to construct the work in accordance with the Contract Documents.
- B. Employ a Land Surveyor or a Civil Engineer, registered in the State of California to perform survey work.
- C. Employ a Professional Engineer of the discipline required for specific service on the project and licensed in the State of California where required in the technical specifications.

#### 1.04 Survey Reference Points

- A. Existing basic horizontal and vertical control points are shown on the Contract Documents.
- 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 Architect.
  - 2. Report to Architect when any reference point is lost or destroyed.
  - 3. Require a surveyor to replace project control points which may be lost or destroyed.
    - a. Establish replacements based on original survey control.

#### 1.05 Submittals

- A. Submit, name, address, and telephone number of Surveyor and Engineer before starting survey work.

- B. On request of Architect, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by the Engineer and/or Land Surveyor, licensed to practice in the State of California, certifying that elevations and locations of improvements are in conformance with the requirements of the Contract Documents, or if in non-conformance, an explanation of the discrepancy.

1.06 Project Record Documents

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.
- C. Submit Record Documents under provisions of Section 01700.

End of Section 01050

## Section 01060 - Regulatory Requirements

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. Section includes: Certain Codes and Standards and relevant requirements applicable to the Work required under this Contract.

#### 1.03 Statutory and Jurisdictional Regulations

- A. Perform the Work in accordance with Applicable Code Requirements and applicable requirements of all other regulatory agencies including, but not limited to, the following:
  - 1. State of California Code of Regulations (CCR), Title 24 State Building Standards
    - 1. 2010 California Building Standards Administrative Code (Part 1, Title 24)
    - 2. 2010 California Building Code (CBC) Part 2, Volumes 1 and 2, Title 24 C.C.R.
    - 3. 2010 California Electrical Code (CEC) Part 3, Title 24 C.C.R
    - 4. 2010 California Mechanical Code (CMC) Part 4, Title 24 C.C.R
    - 5. 2010 California Plumbing Code (CPC) Part 5, Title 24 C.C.R
    - 6. 2010 California Energy Code, Part 6, Title 24, C.C.R.
    - 7. California Fire Code , Part 9, Title 24 C.C.R
- B. Unless otherwise specified, specific references to codes, regulations, standards, manufacturers' instructions, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the edition of each in effect as identified in the Contract Documents.

#### 1.04 Conflicts

- A. Unless otherwise directed by the Architect, if a conflict exists between referenced regulatory requirements, comply with the one establishing more stringent requirements.
- B. Unless otherwise directed by the Architect, if a conflict exists between referenced regulatory requirements and the Contract Documents, comply with the more stringent requirements.

End of Section 01060

## Section 01095-Reference Standards and Definitions

### Part 1 - General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Definitions

- A. General: Basic Contract definitions are included in the Contract General Conditions.
- B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. There is no limitation on location.
- C. Directed: Terms such as directed, requested, authorized, selected, approved, required, and permitted mean directed by the Architect, requested by the Architect, and similar phrases.
- D. Approve: The term approved, when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. Regulation: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. Furnish: The term furnish means supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. Install: The term install describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. Provide: The term provide means to furnish and install, complete and ready for the intended use.
- I. Installer: An Installer is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

- J. Project Site is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project.
  - K. Testing Agencies: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- 1.03 Specification Content Explanation
- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 27-Division format.

End of Section 01095

## Section 01100 - Special Project Procedures

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. The requirements for the following subjects are included in this Section:

1. Environmental Protection Plan.
2. Smoke/Odor Control.
3. Noise Control.
4. Dust and Air Pollution Control.
5. Welding and Burning.
6. Erosion and Sediment Control.
7. Disposal Operations.
8. Cultural Resources.

#### 1.03 Environmental Protection Plan

- A. The requirements of the Article are in addition to those of Article 4.03 of the Contract General Conditions.
- B. During the progress of the work, keep the premises occupied in a neat and clean condition and protect the environment both on site and off site, throughout and upon completion of the construction project.
- C. In coordination with the Campus, develop an Environmental Protection Plan in detail and submit to the Architect within 30 calendar days from the date of commencement specified in the Notice to Proceed. Distribute the approved plan to all employees and to all subcontractors and their employees. The Environmental Protection Plan shall include, but not be limited to, the following items:
  1. Copies of required permits.
  2. Proposed sanitary landfill site.
  3. Other proposed disposal sites.
  4. Noise Control.
  5. Dust Control.
  6. Erosion and Sediment Control.
  7. Copies of any agreements with public or private landowners regarding equipment, materials storage, borrow sites, fill sites, or disposal sites. Any such agreement made by the Contractor shall be invalid if its execution causes violation of local or regional grading or land use regulations.
- D. Requirements: All operations shall comply with all federal, state and local regulations pertaining to water, air, solid waste and noise pollution.

E. Definitions of Contaminants:

1. Sediment: soil and other debris that have been eroded and transported by runoff water.
2. Solid waste: rubbish, debris, garbage and other discarded solid materials resulting from construction activities, including a variety of combustible and non-combustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves and tree trimmings.
3. Chemical waste: includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, disinfectants, organic chemicals and inorganic wastes. Some of the above may be classified as "hazardous."
4. Sanitary wastes:
  - a. sewage: domestic sanitary sewage.
  - b. garbage: refuse and scraps resulting from preparation, cooking, dispensing and consumption of food.
5. Hazardous materials: except as otherwise specified, in the event the Contractor encounters on the site material reasonable believed to be asbestos, polychlorinated biphenyl (PCB), or other hazardous materials which have not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Trustees in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Trustees and Contractor if in fact the material is asbestos, PCB, or other hazardous materials and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos, PCB, or other hazardous materials, or when such materials have been rendered harmless.

F. Protection of Natural Resources:

1. General: it is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their existing condition or be restored to an equivalent or improved condition upon completion of the work. Confine construction activities to areas defined by the public roads, easements, and work area limits shown on the drawings. Return construction areas to their pre-construction elevations except where surface elevations are otherwise noted to be changed. Maintain natural drainage patterns. Conduct construction activities such that ponding of stagnant water conducive to mosquito breeding habitat will not occur at anytime.
2. Land Resources: do not remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not remove, deface, injure or destroy trees within the work area without permission from the Architect. Such improvements shall be removed and replaced, if required, by the Contractor at his own expense.
  - a. Protection: protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or be attached to any existing nearby trees or shrubs for anchorages.

- b. Trimming: refer to Tree and Plant Protection Section.
  - c. Excavation Around Trees: refer to Tree and Plant Protection Section.
  - d. Repair or Restoration: repair or replace any trees or other landscape feature scarred or damaged by equipment or construction operations as specified below. The repair and/or restoration plan shall be reviewed and approved by the Architect prior to its initiation.
  - e. Temporary Construction: remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Architect. Level all temporary roads, parking areas and any other areas that have become compacted or shaped. Any unpaved areas where vehicles are operated shall receive a suitable surface treatment or shall be periodically wetted down to prevent construction operations from producing dust damage and nuisance to persons and property, at no additional cost to the Trustees. Keep haul roads clear at all times of any object which creates an unsafe condition. Promptly remove any contaminants or construction materials dropped from construction vehicles. Do not drop mud and debris from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.
3. Water Resources: investigate and comply with all applicable federal, state and local regulations concerning the discharge (directly or indirectly) of pollutants to the underground and natural waters. Perform all work under this Contract in such a manner that any adverse environmental impacts are reduced to a level that is acceptable to the Architect and regulatory agencies. Refer to Earthwork Section, paragraph on control of water for "dewatering" water disposal requirements.
- a. Oily Substances: at all times, special measures shall be taken to prevent oily or other hazardous substances from entering the ground, drainage areas or local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable impact upon the areas. Any soil or water which is contaminated with oily substances due to the Contractor's operations shall be disposed of in accordance with applicable regulations.

#### 1.04 Smoke/Odor Control

- A. Primary fresh air intakes to existing buildings must be protected from exhaust from internal combustion engines, paint and solvent fumes and other noxious fumes and vapors.
- B. Control methods such as snorkels from engines exhausts to 50 feet away from air intakes must be implemented by the Contractor.
- C. All other activities generating fumes must be limited to a distance of at least 50 feet from the air intake grille.

- D. If fume generating procedures must occur within 50 feet of an air intake the Contractor is responsible for the following:
1. Notify the Architect at least 14 days in advance.
  2. Complete the work when it least impacts the University (evenings, weekends, or particularly windy days).
  3. Provide carbon filter media, plastic barriers, or other control methods to assure fresh air only enters into the building ventilation system.

1.05 Noise Control

- A. The requirements of the Article are in addition to those of Article 4.03 of the Contract General Conditions.
- B. Maximum noise levels within 1,000 feet of any classroom, laboratory, residence, business, adjacent buildings, or other populated area: noise levels for trenchers, pavers, graders and trucks shall not exceed 90 dBA at 50 feet as measured under the noisiest operating conditions. For all other equipment, noise levels shall not exceed 85 dBA at 50 feet.
- C. Equipment: equip jack hammers with exhaust mufflers and steel muffling sleeves. Air compressors should be of a quiet type such as a "whisperized" compressor. Compressor hoods shall be closed while equipment is in operation. Use electrically powered rather than gasoline or diesel powered fork-lifts. Provide portable noise barriers around jack hammering, barriers constructed of 3/4 inch plywood lined with 1 inch thick fiberglass on work side.
- D. Operations: keep noisy equipment as far as possible from noise-sensitive site boundaries. Machines should not be left idling. Use electric power in lieu of internal combustion engine power wherever possible. Maintain equipment properly to reduce noise from excessive vibration, faulty mufflers, or other sources. All engines shall have properly functioning mufflers.
- E. Scheduling: schedule noisy operations so as to minimize their duration at any given location, and to minimize disruption to the adjoining users. Notify the Trustees and the Architect in advance of performing work creating unusual noise and schedule such work at times mutually agreeable.
- F. Do not play radios, tape recorders, televisions, and other similar items at construction site.

1.06 Dust and Air Pollution Control

- A. The requirements of this Article are in addition to those of Article 4.03 of the Contract General Conditions.
- B. Employ measures to avoid the creation of dust and air pollution.

1. Unpaved areas shall be wetted down, to eliminate dust formation, a minimum of twice a day to reduce particulate matter. When wind velocity exceeds 15 mph, site shall be watered down more frequently.
  2. Store all volatile liquids, including fuels or solvents in closed containers.
  3. No open burning of debris, lumber or other scrap will be permitted.
  4. Properly maintain equipment to reduce gaseous pollutant emissions.
- C. Exposed areas, new driveways and sidewalks shall be seeded, treated with soil binders, or paved as soon as possible.
- D. Cover stockpiles of soil, sand and other loose materials.
- E. Cover trucks hauling soil, debris, sand or other loose materials.
- F. Sweep project area streets at least once daily.
- G. Appoint a dust control monitor to oversee and implement all measures listed in this Article.

#### 1.07 Welding and Burning

- A. Eliminate welding and burning of steel as much as possible. Where unavoidable, perform welding and burning with all possible precaution to avoid fire hazard. Provide a fire watch for minimum of 30 minutes after burning stops. Provide protection for all adjacent surfaces.

#### 1.08 Erosion and Sediment Control

- A. Discharge construction runoff into small drainage's at frequent intervals to avoid build-up of large potentially erosive flows.
- B. Prevent runoff from flowing over unprotected slopes.
- C. Keep disturbed areas to the minimum necessary for construction.
- D. Keep runoff away from disturbed areas during construction.
- E. Direct flows over vegetated areas prior to discharge into public storm drainage systems.
- F. Trap sediment before it leaves the site, using such techniques as check dams, sediment ponds, or siltation fences.
- G. Remove and dispose of all project construction-generated siltation that occurs in offsite retention ponds.
- H. Stabilize disturbed areas as quickly as possible.

- I. Remove mud from tires of earth moving trucks and equipment before traversing project area streets.

1.09 Disposal Operations

- A. Solid Waste Management: supply solid waste transfer containers. Daily remove all debris such as spent air filters, oil cartridges, cans, bottles, combustibles and letter. Take care to prevent trash and papers from blowing onto adjacent property. Encourage personnel to use refuse containers. Convey contents to a sanitary landfill.
- B. Washing of concrete containers where waste water may reach adjacent property, storm drains or natural water courses will not be permitted. Remove any excess concrete to the sanitary landfill.
- C. Chemical Waste and Hazardous Materials Management: furnish containers for storage of spent chemicals used during construction operations. Dispose of chemicals and hazardous materials in accordance with applicable regulations.
- D. Garbage: store garbage in covered containers, pick up daily and dispose of in a sanitary landfill.
- E. Dispose of vegetation, weeds, rubble, and other materials removed by the clearing, stripping and grubbing operations off site at a suitable disposal site in accordance with applicable regulations.
- F. Excavated Materials:
  - 1. Native soil complying with the requirements of Earthwork Section, may be used for backfill, fill and embankments as allowed by that section.
  - 2. Spoil Material: remove all material which is excavated in excess of that required for backfill, and such excavated material which is unsuitable for backfill, from the site.
    - a. Excess suitable backfill material shall be hauled off site. No additional compensation will be paid to the Contractor for such off haul. Include all such costs in the lump sum prices bid for the project.
    - b. Unsuitable backfill material will be disposed of off site in accordance with applicable regulations, in a disposal site indicated in the Environmental Protection Plan. Remove rubbish and materials unsuitable for backfill immediately following excavation. Remove material in excess of that required for backfill immediately following backfill operations.
- G. Rubbish shall consist of all materials not classified as suitable materials or rubble and shall include shrubbery, trees, timber, trash and garbage.

1.10 Cultural Resources

- A. The requirements of this article are in addition to those of Article 4.03 of the Contract General Conditions.
- B. The project does not pass through any known archaeological sites. However, it is conceivable that unrecorded archaeological sites could be discovered during construction.
- C. In the event that artifacts, human remains, or other cultural resources are discovered during subsurface excavations at locations of the Work, the Contractor shall protect the discovered items, cease work for a distance of 35 feet radius in the area, notify the Architect and comply with applicable law.
- D. The Trustees may retain an Archaeologist to monitor and recover data and artifacts during period that work has ceased.
- E. All items found which are considered to have archaeological significance are the property of the Trustees.

End of Section 01100

## Section 01200 - Project Meetings

### Part 1 General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Preconstruction Conference

- A. A meeting will be scheduled at the Campus by the Trustees' Representative immediately prior to Contractor move-in. Representatives of the Trustees, the Contractor, selected Subcontractors, Architect, and appropriate campus representatives will be present as needed. Job site procedures and the following items will be discussed.
  - 1. Procedures for maintaining record documents.
  - 2. Trustees' and Architect's requirements.
  - 3. Construction facilities and controls.
  - 4. Temporary utilities.
  - 5. Security and Construction area clearing.
  - 6. Materials testing and inspection.
  - 7. Requirements of start-up trades.
  - 8. Project Layout.
  - 9. Safety Program.
  - 10. Coordination of construction impacts on Campus.
  - 11. Review preliminary schedule.
  - 12. Progress payments.
  - 13. Change order procedures.
  - 14. Project closeout.

#### 1.04 Progress Meetings

- A. A meeting will be conducted bi-weekly, by the Trustees Project Manager and/or the Architect for the purpose of coordinating the work. It is expected that the Contractor's Project Manager and the Contractor's Superintendent be in attendance. The Owner reserves the right to call additional meetings should this be required to address urgent project issues as they arise.
- B. The meeting will be held in the job office or other designated location on a regularly scheduled basis. The date and hour will be announced by the Trustees' Representative.
- C. Contractor is to provide at least a three week (3-wk) look ahead schedule. This schedule shall be updated every two weeks. The Project Manager and Architect shall review this schedule to identify any early scheduling changes and/or conflicts.

D. Standard Site-Meeting Agenda

1. Job Status/Schedule
  - a. Construction schedule
    1. Three-week look ahead schedule
    2. Status of Contractor Base Schedule submittal/Base Schedule monthly update submittals
  - b. Long-lead procurement items effecting schedule
  - c. Owner-induced delays, if any
  - d. Contractor-caused delays, if any
  - e. RFIs - review responses effecting schedule
  - f. Shop drawing - review submittals and/or responses effecting schedule
  - g. Change Order items effecting schedule, if any.
2. Old Business
3. New Business
4. Non-conformance Items
5. Status of As-Builts
6. Other Current Problem Areas/Resolutions
7. Environmental/Safety Considerations
8. Change Order Meeting

E. The essence of the discussion of each meeting will be entered into the minutes and copies will be furnished by the Trustees' Project Manager or the Architect to all interested parties within one week.

1.05 Project Close-out Meeting

- A. Approximately four (4) to six (6) weeks prior to the scheduled completion of the Project, for the convenience of the contractor, the Trustees' Representative will include in the standard meeting agenda a Project Close-out meeting.
- B. The purpose is to produce an action-list of major items required to be completed prior to the issuance of the Notice of Completion.
  1. The action-list shall assign an action-responsibility and a projected action-completion date to EACH item.
  2. The contractor shall be solely responsible for the timely completion of all required close-out items.
  3. Items to be considered include:
    - Punch list
    - O & M manuals
    - HVAC Balance Report
    - Spare Parts/Materials
    - Keys/Keying
    - Warrantees
    - As-built Drawings and Specifications
    - As-built Schedule

- State Fire Marshal Inspection
- Elevator Inspection
- Other Regulatory Inspection
- Removal of Temporary Facilities
- Final Cleaning and Pest Control
- Landscape Maintenance
- Commissioning/Equipment Startup
- Acceptance
- Notice of Completion
- Final Payment
- Occupancy
- Other close-out items

1.06 Partnering

- A. The Trustees intend to encourage the foundation of a cohesive partnership with the Contractor and its Subcontractors; the Architect and its consultants; and the Trustees. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contractor performance, intended to achieve completion within budget, on schedule, and in accordance with the plans and specifications.

End of Section 01200

## Section 01300 - Submittals

### Part 1 - General

#### 1.01 Related Documents

- A. Contract General Conditions.
- B. Section 01305, Submittal List

#### 1.02 Summary

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
  - 1. Contractor's construction schedule
  - 2. Submittal schedule
  - 3. Shop Drawings
  - 4. Product Data
  - 5. Samples.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
  - 1. Permits
  - 2. Applications for payment
  - 3. Performance and payment bonds
  - 4. Insurance certificates
  - 5. List of Subcontractors.

#### 1.03 Submittal Procedures

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. The Architect shall return without action any submittals requiring coordination with other submittals until related submittals are coordinated.
  - 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
    - a. See General Conditions and Supplementary General Conditions for

- additional requirements.
    - b. If an intermediate submittal is necessary, process the same as the initial submittal.
    - c. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
  - B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
    - 1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
    - 2. Include the following information on the label for processing and recording action taken:
      - a. Project name
      - b. Date
      - c. Name and address of Architect
      - d. Name and address of Contractor
      - e. Name and address of subcontractor
      - f. Name and address of supplier
      - g. Name of manufacturer
      - h. Number and title of appropriate Specification Section
      - i. Drawing number and detail references, as appropriate.
  - C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
    - 1. On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

#### 1.05 Shop Drawings

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:

Dimensions

Identification of products and materials included

Compliance with specified standards

Notation of coordination requirements

Notation of dimensions established by field measurement.

- C. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 30" x 42".
- D. Submittals: Submit one correctable translucent reproducible print and six (6) blue- or black-line print for the Architect's review; the reproducible and one print will be returned.
  - 1. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

1.06 Product Data

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
  - 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
    - Manufacturer's printed recommendations,
    - Compliance with recognized trade association standards,
    - Compliance with recognized testing agency standards,
    - Application of testing agency labels and seals,
    - Notation of dimensions verified by field measurement,
    - Notation of coordination requirements.
  - 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- B. Submittals: Submit a minimum of six (6) copies of each required submittal as well as additional copies as required by the Architect, (the actual number of submittals and distribution required shall be determined by the Trustees Representative at the Preconstruction Conference). The Architect will return two sets marked with action taken and corrections or modifications required.
- C. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
  - 1. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.

2. Do not permit use of unmarked copies of Product Data in connection with construction.

#### 1.07 Samples

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
  1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to include the following:
    - Generic description of the Sample
    - Sample source
    - Product name or name of manufacturer
    - Compliance with recognized standards
    - Availability and delivery time.
  2. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
- B. Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
  1. Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.
- C. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit 3 sets; one will be returned marked with the action taken.
  1. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
- D. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work.
  1. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.

#### 1.08 Architect's Action

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
  1. Compliance with specified characteristics is the Contractor's responsibility.

- B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked to indicate the action taken.
- a. Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
  - b. Note: Any work performed prior to receiving a FULLY APPROVED submittal shall be done at the contractors own risk and is subject to being replaced if any of the submittal requirements are not met.

Part 2 - Products

Part 3 - Execution

End of Section 01300

## Section 01400 - Quality Control

### Part 1 - General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Quality control services include inspections and tests and related actions including reports, performed by independent agencies, and governing authorities. They do not include Contract enforcement activities performed by the Trustees or Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.

#### 1.03 Responsibilities

- A. The Trustees will engage and pay for the services of an independent agency to perform inspections and tests specified as the Trustees' responsibility.
  - 1. Where the Trustees have engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Trustees, unless otherwise agreed in writing with the Trustees.
- B. Retesting: The Contractor is responsible for the cost of retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
  - 1. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- C. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested.
- D. Coordination: The Contractor, Project Manager/Inspector, and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay.

In addition the Contractor shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The Contractor is responsible for communicating to the Project manager/Inspector the scheduling times for inspections, tests, taking samples and similar activities.

#### 1.04 Inspections

- A. General: All construction work shall be subject to inspection by the Trustees (hereinafter referred to as Owner) and the Architect and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the Owner.
  1. The Owner will provide project personnel, including inspectors, to be available at the project site.
  2. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction, including plans and specifications. Inspections presuming to give authority to violate or cancel the provisions of code or of plans and specifications shall not be valid.
  3. It shall be the duty of the contractor to cause the work to remain accessible and exposed for inspection purposes. Neither the Inspector nor the Owner or Architect shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.
- B. Inspection Requests: It shall be the duty of the contractor doing the work to notify the Inspector that such work is ready for inspection. The Owner requires that such work is ready for inspection. The Owner requires that every request for inspection be filed at least two working days (48 hours) before such inspection is desired. Such requests shall be in writing.
- C. Approval Required: Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the Inspector. The Inspector, upon notification, shall make the requested inspections and shall either indicate in writing that portion of the construction is satisfactory as completed, or shall notify the Contractor that same fails to comply with plans and specifications. Any portions which do not comply shall be corrected by the Contractor and such portion shall not be covered or concealed until authorized by the Inspector.
  1. There shall be a final inspection and approval of all buildings and structures when completed and ready for occupancy and use.
- D. Inspection Coordination: Contractor shall provide, on a weekly basis, an anticipated Inspection Requirements Schedule, coordinated with the three-week look ahead schedule, showing the anticipated inspection needs for the following three weeks to facilitate appropriate campus coordination and interface as well as mobilization of required inspection staffing.
- E. Required Inspections: Reinforcing steel, structural framework, or interior wall and/or ceiling support framing of any part of any building or structure shall not be

covered or concealed without first obtaining the approval of the Inspector.

1. Listed below are the **minimum** inspection requirements:
  - a. Frame Inspection: To be made after all framing, fire blocking and bracing are in place and all pipes and vents are complete and the rough electrical, plumbing and heating wires, pipes and ducts are approved.
  - b. Mechanical and Electrical Rough-In Inspection: To be made after all mechanical and electrical rough-in work is completed.
  - c. Lath or Gypsum Board Inspection: To be made after all lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.
  - d. Final Inspection: To be made when the building is completed and ready for occupancy.
  - e. Other Inspections: In addition to the called inspections specified above, the inspector may make or require other inspections of any construction work to ascertain compliance with the provisions of the plans and specifications.
  - f. Re-inspections: A re-inspection fee may be assessed for each inspection or re-inspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.
  
2. The Contractor is responsible for reviewing all of the Contract Documents for any additional inspection requirements.

#### 1.05 Submittals

- A. The Trustees' independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, (2 copies), the Trustees, the Contractor, and the Project Manager/Inspector.
  
- B. Report Data: Written reports of each inspection test or similar service shall include, but not be limited to:

Date of issue,  
Project title and number,  
Name, address and telephone number of testing agency,  
Dates and locations of samples and tests or inspections,  
Names of individuals making the inspection or test,  
Designation of the Work and test method,  
Identification of product and Specification Section,  
Complete inspection or test data,  
Test results and an interpretation of test results,  
Ambient conditions at the time of sample-taking and testing,  
Comments or professional opinion as to whether inspected or tested  
Work complies with Contract Document requirements,

Name and signature of laboratory inspector,  
Recommendations on retesting.

3.01 Repair and Protection

- A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Document requirements for "Cutting and Patching."
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

End of Section 01400

## SECTION 01500

### CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

#### 1.1 GENERAL

- A. Contractor shall furnish and install temporary construction facilities complete as specified or required.
- B. Contractor shall comply with controls as specified.

#### 1.2 USE OF EXISTING FACILITIES

- A. Contractor shall coordinate use of existing facilities including utilities with University's Representative. At no time shall utilities be wasted. Contractor shall discharge any worker creating a nuisance on premises.
- B. Temporary guards, barricades, and lights:
  - 1. Contractor shall provide construction canopies, barricades, fences, guards, railings, lights, and warning signs necessary and required by law, and take necessary precautions required to avoid injury or damage to any and all persons or property.
  - 2. Contractor shall provide and/or maintain such protective fences, as Contractor may deem necessary to protect construction yard, storage areas and Work in place, subject to approval as to type and appearance. Hog-wire fencing is not acceptable. Contractor shall be responsible for removal of fences and barricades upon project completion.
  - 3. Barricades provided by Contractor shall be concrete barricades, blue barrels filled with water or similar items that cannot be easily moved by hand. After University has made individual areas available, it shall be Contractor's responsibility to keep unauthorized people out during construction.
- C. Temporary fire protection and safety:
  - 1. Contractor shall take necessary precautions to guard against and eliminate fire hazards and to prevent damage to construction Work, building materials, equipment, temporary field offices, storage sheds and public and private property. Contractor shall be responsible for providing, maintaining, and enforcing following conditions and requirements during construction.
    - a. Contractor's Superintendent shall inspect entire project at least once a week to make certain these conditions and requirements are being adhered to.
    - b. Employees shall not be allowed to start fires with highly flammable materials. No open fires shall be allowed.
    - c. Only a reasonable working supply of flammable building material shall be located inside of, or on roof of, any storage facilities.
    - d. Oil soaked rags, papers and other highly combustible materials shall be stored in closed metal containers at all times and shall be removed from site at close of each day's Work, and more often where necessary. Metal containers shall be provided with tight-hinged lids.
  - 2. Gasoline and other flammable or polluting liquids/materials shall not be poured into sewers, manholes, or taps, but shall be disposed of, together with flammable or waste material subject to spontaneous combustion, in a safe manner meeting applicable laws, codes and ordinances. Appropriate arrangements shall be made for storing these materials outside of building.

3. Portable fire extinguishers shall be conveniently located throughout construction area. In building or enclosed areas, one fire extinguisher for each 5,000 square feet of floor area or less, but not less than four extinguishers shall be provided. Fire extinguishers shall be ten-pound ABC type. Extinguishers shall meet approval of Underwriter's Laboratory and shall be inspected at regular intervals and recharged as necessary.
4. Contractor shall obtain a welding permit from University's Office of Environmental Health and Safety before starting any welding operations.

### 1.3 PROTECTION OF EXISTING FACILITIES

- A. Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other utilities which are known to University. Reference drawings as are available will be made available to Contractor for review upon request.
- B. Location of known existing installations shall be determined before proceeding with construction operations, which may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract sum.
- C. If any other structures or utilities are encountered, Contractor shall request University's Representative to provide direction on how to proceed with Work.
- D. If any structure or utility is damaged, appropriate action shall first be taken to ensure safety of persons and property and then repair completed expeditiously.
- E. Contractor shall be responsible for preventing overloading of any part of facilities beyond their safe calculated carrying capacity by placing of materials and/or equipment, tools, machinery, or any other items thereon.
- F. Contractor shall employ watchman services as are necessary to properly protect and safeguard Work and material and University's interests. If Contractor fails to adequately protect University's interests, University may provide such watchman services. Any protection provided by University will be at Contractor's expense and shall not relieve Contractor of responsibility for safety and condition of Work and material until completion and acceptance thereof.

### 1.4 USE OF ROADS AND PREMISES

- A. Contractor shall make its own investigation of condition of available public thoroughfares, and of clearances, restrictions, bridge load limits, and other limitations affecting transportation, and shall not load vehicles beyond capacity recommended by manufacturer of vehicles or prescribed by any applicable State or local law or regulation.
- B. Approximate location of University constructed and maintained roads is indicated on vicinity plan and shall be used by Contractor for ingress and egress to construction site, within limits indicated on Drawings. Contractor shall coordinate and cooperate with University's authorities to use roads in conjunction with other Contractors who may be constructing and maintaining roads; shall use roads in accordance with regulations and directions issued by such authorities and Contractors and as University's Representative may direct; shall perform such usage in a manner to prevent damage to roadways and structures in place; shall not load hauling or construction equipment in a manner that material or debris will spill or be distributed on County, State or University's roads; shall take immediate steps to clean up material or debris in event of spillage; and shall bear costs of repairs for damage resulting from his improper usage or failure to conform to requirements specified. Contractor shall be responsible for obtaining required permits.

1.5 SPECIAL CONTROLS

- A. Vehicles and power machinery used by Contractor shall be equipped with mufflers so as to comply with State and local ordinances.
- B. Self-propelled construction equipment, except light service trucks, panels, pickups, station wagons, crawler type cranes, power shovels and draglines, whether moving alone or in combination, shall be equipped with a reverse signal alarm.

1.6 CONTRACTOR PARKING

- A. Contractor will be responsible for providing (i.e., obtain and pay for) all parking permits for all construction personnel. The current parking cost is \$30 per permit per month.

1.7 TELEPHONE/FAX SERVICE

- A. Provide, maintain and pay for telephone and fax services to field office from time of project mobilization through project completion and acceptance. Order the services thru the local phone service provider and pay for installation, usage, and removal. Coordinate with University for access to existing telephone system.

1.8 TEMPORARY ELECTRICITY

- A. Contractor to provide and pay for temporary power service required for the construction operations from University. Provide a meter and pay for temporary power at a cost of twelve cents (\$0.12) KWH.
- B. The contractor shall furnish all meters, distribution lines, wiring, breakers fuses, transformers and other appurtenances for all the temporary power needs.
- C. Coordinate all installations with the University.
- D. Do not disrupt Owner's need for continuous service.
- E. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required.
- F. Provide adequate distribution equipment, wiring, and outlets for power and lighting. Provide disconnect as required.

1.9 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain lighting for construction operations at all times.

1.10 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for suitable quality water service required for construction operations.
- B. Water will be furnished by the University at a cost of \$3.50 per HCF. Contractor shall furnish all meters, distribution lines, fittings, valves and other appurtenances.

1.11 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosure.

1.12 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Weekly broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site weekly at a minimum and more frequently as needed and dispose off-site.

1.13 TEMPORARY FIELD OFFICE FOR OWNER'S REPRESENTATIVE

- A. Provide a temporary field office for Owner's representative. Office may be constructed on-site or utilize a trailer.
- B. Office shall remain property of the Contractor.
- C. Office shall be weather tight and shall be approximately 10 foot by 20 foot in size with a minimum ceiling height of 8 feet.
- D. Within the temporary field office, provide one separate office (minimum 120 square feet).
- E. Provide at least Two (2) windows with security bars in the field office with at least one window for each room. Provide blinds for windows.
- F. Provide two entrance doors to the field office, one at each end. Provide cylinder lock and dead bolt and key on each door. Provide two sets of keys to the University's Representative.
- G. Line walls and ceiling with insulation.
- H. Provide refrigerated air conditioning. Provide heating system. HVAC system shall maintain a temperature indoors of 65 degrees F. to 75 degrees F. regardless of outdoor conditions at the site.
- I. Provide hot and cold water, electricity, telephone service with two lines. Telephone service shall have line roll over and voice mail for both. Provide a dedicated fax line. Provide at least one telephone in each office and one plain paper fax machine.
- J. Provide bottled drinking water service with hot and cold dispenser.
- K. Provide toilet facilities for the exclusive use of the Owner's representative.
- L. Provide janitorial service with one cleaning per week.
- M. Pay the costs for electrical service. Pay telephone installation cost and monthly service charge for all lines. Contractor shall pay for all telephone calls.
- N. Accessory Equipment for office:

1. One 3' x 6' desk with drawers and locks.
  2. One cushioned office swivel chair for desk.
  3. Two cushioned chairs for visitors.
  4. One metal filing cabinet, 12" W x 30" D x 52" H, with four drawers and locks.
  5. One bookcase, 12" D x 48"L with one 12 inch high shelf and one 18 inch high shelf.
  6. One wastebasket.
  7. One 36" plan rack with six 36" metal stickfiles.
  8. Computers with laser-quality printer, high resolution scanner and software: Dell Pentium, 1 gb rams, 100 gb hard drive, with 17" flat screen monitor. HP color printer with 11" x 17" printing capabilities. Minimum software required on the computer be MS Windows XP, Office XP. Provide a high speed internet access (DSL or Cable Modem). Pay for all the charges for the high speed internet access.
- O. Accessory Equipment for workroom
1. One 4' x 8' flat tables with two cushioned chairs each.
  2. One wastebaskets.
  3. One metal filing cabinet, 12" W x 30" D x 52" H, with four drawers and locks.
  4. One plan rack with five metal stickfiles.
  5. One wall-mounted marker board 4' x 4' minimum with three markers each in colors red, green, blue and black.
  6. One wall-mounted cork board for thumbtacks, 4' x 4' minimum.
  7. Plain paper, programmable high speed fax with dedicated phone line.
  8. Wall Clock (battery driven).
  9. Copy machine: Minolta model 5400 or Canon model 4050 or equal. Contractor to provide paper, toner, and all required supplies to operate copy machine, fax machines and printer.

1.14 All equipment is to be new, or like new. Used and/or rebuilt equipment is conditionally acceptable provided it is state of the art and does not experience excessive breakdowns or outages (An outages two times in one month on the same piece of equipment is considered excessive). The Contractor shall maintain or replace failed or malfunctioning equipment within 48 hours as directed by the Owner's representative. The Owner reserves the right to lease/purchase replacement equipment at the Contractor's expense. At end of project, all equipment to be returned to Contractor.

1.15 PROJECT SIGN

- A. Provide all supports, hardware and other accessories required for a 4 foot by 8 foot color construction sign.
- B. Sign shall be professionally lettered.
- C. Provide drawing of final layout and lettering for approval by Architect and Owner.
- D. The sign to include project and project team's information.

1.16 REMOVAL OF TEMPORARY CONSTRUCTION

- A. Temporary facilities including toilets, storage sheds, fences, and other construction of a temporary nature shall be removed from site as soon as progress of Work permits. Contractor shall recondition and restore portions of site occupied by same, to a condition acceptable to University's Representative.

1.17 TRAFFIC RELATED ITEMS

- A. Contractor shall conduct its operations so as to provide reasonable access to adjacent area and have no greater quantity of Work under construction than can be properly prosecuted with a minimum of inconvenience to public and other Contractors engaged on adjacent or related Work.
- B. When entering or leaving roadways carrying public traffic, Contractor's equipment, whether empty or loaded, shall yield to public traffic.
- C. Existing stop signs and street signs shall be maintained in visible locations.
- D. Full compensation for conforming to this paragraph shall be considered as included in various Contract items of Work involved, and no additional compensation will be allowed therefore.

\*\*\*\*END OF SECTION\*\*\*\*

## Section 01540- Security

### Part 1 General

#### 1.01 References

- A. Contract General Conditions.

#### 1.02 Summary

- A. The requirements for project security are included in this section, and are as follows:
  1. Security program.
  2. Entry control.
  3. Permanent keys.

#### 1.03 Security Program

- A. Protect the Work from theft, vandalism, and unauthorized entry. The Contractor shall have sole responsibility for job site security.
- B. Initiate program and coordinate with the Trustees for approval and job mobilization.
- C. Maintain program throughout construction period until the University's occupancy or acceptance precludes the need for the Contractor's security.
- D. Provide keying different from permanent keying of locks and include organized, locked, and supervised storage for receiving and dispensing items of finish hardware throughout construction period.
- E. Project Inspector's access: provide the Trustees' Project Inspector with keys necessary to gain access to locked areas of the Work. The Project Inspector will be responsible for such keys and will return them to the Contractor at acceptance of the project or area is complete.

#### 1.04 Entry Control

- A. Restrict entrance of persons and vehicles into project site.
- B. Allow entrance only to authorized persons with proper identification.

#### 1.05 Permanent Keys

- A. Immediately upon receipt of permanent keys for whatever purpose (finish hardware, mechanical equipment, casework, dispensers, lockers, switches, equipment items, etc.), tag or otherwise clearly identify keys according to one approved system and turn them over to the Trustees' Representative prior to any opportunity of access to keys by parties other than the Trustees.

End of Section 01540

## Section 01545 - Safety and Health

### Part 1 General

#### 1.01 References

- A. Contract General Conditions.

- 1.02 It is intended that all asbestos shall be removed prior to commencing this work. However, the Contractor shall provide immediate notice to the Owner if any suspect material is identified and proper precautions shall be implemented to insure the safety of anyone in the area.

#### 1.03 Submittals

- A. Accident Reporting: A copy of each accident report, which the Contractor or Subcontractors submit to their insurance carriers, shall be forwarded to the Architect and to the Trustees' Representative as soon as possible, but in no event later than seven (7) calendar days after the day the accident occurred.
- B. Other Submittals: If agreed to in writing at the preconstruction safety meeting, other submittals shall be required. One such submittal that may be included is a plan of action for handling hazardous materials to contain the following:
1. Number, type, and experience of employees to be used for the Work.
  2. Description of how safety and health regulations and standards shall be met.
  3. Type of protective equipment and work procedures to be used.
  4. Emergency procedures for accidental spills or exposures.

### Part 2 Products

#### 2.01 General

- A. Special facilities, devices, equipment, clothing, and similar items used by the Contractor in the execution of the Work shall comply with applicable regulations.

#### 2.02 Hazardous Materials

- A. The Contractor shall bring to the attention of the Trustees, any material suspected of being hazardous which he encounters during execution of the Work. The Trustees shall perform tests to determine if the material is hazardous. If the material is found hazardous and additional protective measures are needed, a Contract Change Order may be required, subject to the requirements of the General Conditions.

### Part 3 Execution

#### 3.01 Stop Work Orders

- A. When the Contractor or its Subcontractors are notified by the Trustees' Representative of any noncompliance with the provisions of the Contract, and the

action(s) to be taken, the Contractor shall immediately, if so directed, or within 48 hours after receipt of a notice of violation correct the unsafe or unhealthy condition. If the Contractor fails to comply promptly, all or any part of the work being performed may be stopped by the Trustees' Representative with a "Stop Work Order." When, in the opinion of the Trustees' Representative, satisfactory corrective action has been taken to correct the unsafe and unhealthy condition, a start order will be given immediately. The Contractor shall not be allowed any extension of time or compensation for damages by reason of or in connection with such work stoppage.

3.02 Protection

- A. The Contractor shall take all necessary precautions to prevent injury to the public, building occupants, or damage to property of others. For the purposes of this contract, the public or building occupants shall include all persons not employed by the Contractor or a Subcontractor working under the Contractor's direction.
- B. Work shall not be performed in any area occupied by the public or Owner's employees unless specifically permitted by the Contract or the Owner and unless adequate steps are taken for the protection of the public and the Owner's employees.
- C. Whenever practicable, the work area shall be fenced, barricaded, or otherwise blocked off from the public or building occupants to prevent unauthorized entry into the work area.
- D. Alternate Precautions: When the nature of the Work prevents isolation of the work area, and the public or building occupants may be in or pass through, under or over the work area, alternate precautions such as the posting of signs, the use of signal persons, the erection of barricades or similar protection around particularly hazardous operations shall be used as appropriate.
- E. Public Thoroughfare: When Work is to be performed over a public thoroughfare such as a sidewalk, lobby, or corridor, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When the exposure to heavy falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR 1910/1926 shall be provided.
- F. Fences and barricades shall be removed upon completion of the project to the satisfaction of the Trustees' Representative.
- G. Storing, positioning or use of equipment, tools, materials, scraps, and trash in a manner likely to present a hazard to the public or building occupants by its accidental shifting, ignition, or other hazardous qualities is prohibited.

End of Section 01545

## Section 01700 Project Close-out

### Part 1 - General

#### 1.01 Related Documents

- A. Contract General Conditions.

#### 1.02 Summary

- A. This Section specifies administrative and procedural requirements for project close-out, including but not limited to:
  1. Final inspection procedures.
  2. Operating and maintenance manual submittal
  3. HVAC balance report
  4. Spare parts/materials
  5. Keys/keying
  6. Submittal of warranties
  7. Training
  8. As-built drawings
  9. As-built schedule
  10. State Fire Marshal inspection
  11. Other regulatory inspection
  12. Removal of temporary facilities
  13. Final cleaning and pest control
  14. Commissioning/equipment startup

#### 1.03 Punch-List Inspection

- A. When each building/phase is in the opinion of the Contractor, complete in all respects, the Contractor shall call for a punch-list inspection.
- B. Inspection Procedures: On receipt of a request for inspection, the Architect will schedule the Inspection. The Architect will then perform a preliminary, walk-through. If, in the judgment of the Architect, the project is not sufficiently complete in all respects, the Architect will so advise the Contractor and discontinue the inspection.
  1. The Architect will repeat inspection when requested and assured that the work has been completed.
  2. Results of the completed inspection will form the basis of requirements for final acceptance punch-list.

#### 1.04 Record Document Submittals

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Trustees' and the Architect's reference during normal working hours.

- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the work.
  2. Mark new information that is important to the University, but was not shown on Contract Drawings or Shop Drawings.
  3. Note related Change Order numbers where applicable.
  4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
  5. Upon completion of the work, submit Record Drawings to the Architect for further processing.
- C. Record Specifications: Maintain one complete copy of the Project Specifications, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
1. Upon completion of the work, submit record Specifications to the Architect for the University's records.
- D. Operating and Maintenance Manuals: Submit three (3) sets to the Architect for review and approval.

## Part 2 - Execution

### 2.01 Close-out Procedures: Close-out Meeting

- A. The Construction Engineer and the Inspector will call for a "Close-out" meeting approximately four to six weeks prior to the anticipated completion date.
1. At this meeting a completion Action List will be prepared listing all major items required to be completed prior to the issuance of the Notice of Completion.
  2. The action-list shall assign an action-responsibility and a projected action-completion date to EACH item.
  3. The contractor shall be solely responsible for the timely completion of all required closeout items.

## 2.02 Final Cleaning

- A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".
  
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
  - 1. Complete the following cleaning operations before requesting inspection for Certification of Completion.
    - a. Remove labels that are not permanent labels.
    - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
    - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
    - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
    - e. Clean the site, including landscape development areas, of rubbish, litter and foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits.
  
- C. Pest Control: Engage an experienced licensed exterminator to make a final inspection, and rid the project of rodents, insects and other pests.
  
- D. Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction.
  
- E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner. Where extra materials of value remaining after completion of associated work have become the University's property, arrange for disposition of these materials as directed.

## 2.03 Final Acceptance

- A. Preliminary Procedures: Before requesting final inspection for certification of Architects final acceptance complete the following:
  - 1. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated

by the Architect.

- B. Re-inspection Procedure: The Architect will re-inspect the work upon receipt of notice that the work, including inspection list items from earlier inspections, “(punch-list)”, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Trustees.
1. Upon completion of re-inspection, the Architect will prepare and submit to the Trustees, a certificate of final acceptance, or advise the Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
  2. Upon final acceptance by the Architect, the Inspector of Record, (IOR), will then prepare a letter to the Trustees stating that the project has been constructed in accordance with the contract documents and is complete in all respects.
  3. The University shall then submit a letter to the Trustees accepting the project as constructed.

End of Section 01700

## Section 01730 - Operating and Maintenance Data

### Part 1 General

#### 1.01 References

- A. Contract General Conditions.

#### 1.02 Requirements Included

- A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Contract.
  - 1. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent sections of Specification.
- B. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems.

#### 1.03 Quality Assurance

- A. Preparation of data shall be done by personnel:
  - 1. Trained and experienced in maintenance and operation of described products.
  - 2. Familiar with requirements of this Section.
  - 3. Skilled as technical writer to the extent required to communicate essential data.
  - 4. Skilled as draftsman competent to prepare required drawings.

#### 1.04 Form of Submittals

- A. Prepare data in form of an instructional manual for use by Owner's personnel.
- B. Format:
  - 1. Size: 8-1/2 in. by 11 in.
  - 2. Paper: Manufacturer's printed data, or neatly typewritten.
  - 3. Drawings:
    - a. Provide reinforced punched binder tab, bind in with text.
    - b. Fold larger drawings to size of text pages.
  - 4. Provide fly-leaf for each separate product, or each piece of operating equipment.
  - 5. Organize manual in order of specification Divisions and Sections.
    - a. Provide typed description of product, and major component parts of equipment.
    - b. Provide indexed tabs.
  - 6. Cover: Identify each volume with typed or printed title, "Operating and Maintenance Instructions." List:
    - a. Title of Project
    - b. Identity of separate structure as applicable.

c. Identity of general subject matter covered in the manual.

C. Binders:

1. Commercial quality three-ring binders with durable and cleanable plastic covers.
2. Maximum ring size: 2 inches per 1700 sheets
3. When multiple binders are used, correlate the data into related consistent groupings.

D. Review

1. Submit three (3) sets of the manual to the Architect for his/her review and approval. If the manual is acceptable, the Architect shall forward two of the sets to the University's Representative.

1.05 Content of Manual

A. Neatly typewritten table of contents for each volume, arranged in systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product required to be included, indexed to content of the volume.
3. List, with each product, name, address and telephone number of:
  - a. Subcontractor or installer.
  - b. Maintenance contractor, as appropriate.
  - c. Identify area of responsibility of each.
  - d. Local source of supply for parts and replacement.
4. Identify each product by product name and other identifying symbols as set for in Contract Documents.

B. Product Data:

1. Include only those sheets that are pertinent to the specific product.
2. Annotate each sheet to:
  - a. Clearly identify specific product or part installed.
  - b. Clearly identify data applicable to installation.
  - c. Delete references to inapplicable information.

C. Drawings:

1. Supplement product data with drawings as necessary to clearly illustrate:
  - a. Relations of Component parts of equipment and systems.
  - b. Control and flow diagrams.
2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
  - a. Do not use Project Record Documents as maintenance drawings.

D. Written text, as required to supplement product data for the particular installation:

1. Organize in a consistent format under separate headings for different procedures.
2. Provide logical sequence of instructions for each procedure.

- E. Copy of each warranty, bond and service contract issued.
  - 1. Provide information sheet for Owner's personnel, give:
    - a. Proper procedures in event of failure.
    - b. Instances that might affect validity of warranties or bonds.
- F. Copy of each Material Safety Data Sheet (MSDS) received with products or materials delivered to the site for incorporation into the Project, for Owner's future reference.

1.06 Manual for Materials and Finishes

- A. Submit three copies of complete manual in final form.
- B. Content, for architectural products, applied materials and finishes:
  - 1. Manufacturer's data, giving full information on products.
    - a. Catalog number, size, composition.
    - b. Color and texture designations.
    - c. Information required for re-ordering special manufactured products.
  - 2. Instructions for care and maintenance.
    - a. Manufacturer's recommendation for types of cleaning agents and methods.
    - b. Cautions against cleaning agents and methods that are detrimental to the product.
    - c. Recommended schedule for cleaning and maintenance.
- C. Content, for moisture-protection and weather-exposed products:
  - 1. Manufacturer's data, giving full information on products.
    - a. Applicable standards.
    - b. Chemical composition.
    - c. Details of installation.
  - 2. Instructions for inspection, maintenance, and repair.
- D. Additional requirements for maintenance data: Respective sections of Specifications.

1.07 Manual for Equipment and Systems

- A. Submit three copies of complete manual in final form.
- B. Content, for each unit of equipment and system, as appropriate:
  - 1. Description of unit and component parts.
    - a. Function, normal operating characteristics, and limiting conditions.
    - b. Performance curves, engineering data and tests.
    - c. Complete nomenclature and commercial number of replaceable parts.

2. Operating procedures:
  - a. Start-up, break-in, routine, and normal operating instructions.
  - b. Regulation, control, stopping, shut-down, and emergency instructions.
  - c. Summer and winter operating instructions.
  - d. Special operating instructions.
3. Maintenance Procedures:
  - a. Routine operations.
  - b. Guide to "trouble shooting".
  - c. Disassembly, repair and reassembly.
  - d. Alignment, adjusting and checking.
4. Servicing and lubrication schedule.
  - a. List of lubricants required.
5. Manufacturer's printed operating and maintenance instructions.
6. Description of sequence of operation by control manufacturer.
7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for Maintenance.
  - a. Predicted life of parts subject to wear.
  - b. Items recommended to be stocked as spare parts.
8. As-installed control diagrams by controls manufacturer.
9. Each contractor's coordination drawings.
  - a. As-installed color-coded piping diagrams.
10. Charts of valve tag numbers, with location and function of each valve.
11. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
12. Other data as required under pertinent sections of specifications.

C. Content, for each electric and electronic system, as appropriate:

1. Description of system and component parts.
  - a. Function, normal operating characteristics and limiting conditions.
  - b. Performance curves, engineering data and tests.
  - c. Complete nomenclature and commercial number of replaceable parts.
2. Circuit directories of panel boards.
  - a. Electrical service.
  - b. Controls.
  - c. Communications.
3. As-installed color-coded wiring diagrams.
4. Operating procedures:
  - a. Routine and normal operating instructions.
  - b. Sequences required.
  - c. Special operating instructions.
5. Maintenance procedures:
  - a. Routine operations.
  - b. Guide to "trouble-shooting."
  - c. Disassembly, repair and reassembly.
  - d. Adjustment and checking.

6. Manufacturer's printed operating and maintenance instructions.
  7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
  8. Other data as required under pertinent sections of specifications.
- D. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.
- E. Additional requirements for operating and maintenance data: Respective sections of specifications.
- 1.08 Instruction of Owner's Personnel
- A. Operating and maintenance manual shall constitute the basis of instruction.
1. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

End of Section 01730