SECTION 01 11 00

SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The following subjects are included in this section:
   1. Project Description
   2. Project Phasing
   3. Contractor Use of Premises / Work Restrictions
   4. Superintendent / Supervisory Staff
   5. Special Project Requirements
   6. Protection of Work
   7. Owner Furnished / Contractor Installed
   8. Permits, Licenses, & Fees
   9. Partnering

1.3 PROJECT DESCRIPTION

A. This project proposes to replace the boilers and associated plumbing within the Behavioral & Social Sciences (BSS) and the Kinesiology & Athletics (KA) buildings located on the California State Polytechnic University, Humboldt (the University) campus located in Arcata, California. The Work shall consist of all labor, materials, equipment, and services necessary to complete the work described by the project plans, specifications, and general conditions. The Work generally includes the following tasks:
   1. Site preparation
   2. Coordination with the University, including protection of occupied spaces outside of the work area and scheduling of utility shutdowns
   3. Site utilities including trenching and backfill
   4. Removal of existing boiler units, vent piping, and associated plumbing and electrical
   5. Installation of new boiler units, vent piping, and associated plumbing and electrical
   6. Component anchorage and bracing including piping, ductwork, and electrical distribution systems
   7. Repair of fire-rated assemblies impacted as a result of the Work
   8. Commissioning of installed boiler units including all associated monitoring and connections to the existing Building Management Systems
   9. Balancing of hydronic systems including pre-balance requirements
   10. Debris removal and site cleanup

B. Contract Time: **150 days.**
   1. The contract time shall begin upon issuance of the fully executed NTP. Onsite construction shall commence on May 15, 2024 and shall be substantially complete no later than August 9, 2024. Total completion shall be no later than September 6, 2024.

C. Liquidated Damages: **$500.00 per day.**

1.4 PROJECT PHASING

A. Phasing Plan/Sequence of Work: Refer to drawings "KA Boiler Replacement" and "BSS Boiler Replacement" for phasing and sequence of work.

B. Owner Occupancy: Work will occur in an operating University environment. Entrances to building(s) affected by the Work shall not be obstructed. Contractor shall provide at least 10 business days' notice to the University prior to any utility shutoffs, crane work, full or partial roadway closures, or other work that is likely to disrupt building operations.

C. Maintenance and Operation: Contractor shall provide all startup and commissioning work necessary to deliver a fully functional boiler system. Contractor shall conduct a training session for the University to brief staff on the operation and maintenance of the installed equipment and systems.

D. Work Under Separate Contract (Refer to Contract General Conditions)

1. The Trustees reserve the right to award separate contracts for performance of work within or adjacent to the project site. Work may be conducted simultaneously with work under this contract. Contractor shall cooperate fully with separate contractors and coordinate work so that work under separate contract may be carried out efficiently, without interfering or delaying Contractor's work.

2. Disagreements between Contractor and entities performing work under separate contract concerning concurrent use of work areas and access to site which are not resolved by the participants shall be referred to the University Representative. Contractor agrees to abide by the University Representative's determination as to concurrent use or priority of access, and to perform work in compliance with the University Representative's resolution at no additional cost.

3. Relationship to Work Under the Contract: Work under the Contract shall include all provisions necessary to make such concurrent work under separate contracts complete in every respect and fully functional, including field finishing. Provide necessary backing, supports, piping, conduit, conductors and other such provisions from point of service to point of connection, as shown on Drawings and specified herein. See Section 01 31 13 - Coordination for additional requirements.

4. Documents for Work Under Separate Contracts: University's Representative will make available, in a timely manner, drawings and specifications of work under separate contracts for coordination and further description of that work.
   a. If available, such information will include drawings, specifications, product data, lists and construction schedules for such work.
   b. Information concerning work under separate contracts or directly by University will be provided for convenience only and shall not to be considered Contract Documents.

5. Permits, Notices and Fees for Work under Separate Contracts: Notices required by and approvals required of, authorities having jurisdiction over work under separate contracts and related fees, will be solely the responsibility of University.

1.5 CONTRACTOR USE OF PREMISES / WORK RESTRICTIONS (Also refer to Contract General Conditions)

A. General

1. Contractor shall at all times conduct the work so as to impose no hardship on the Trustees or others engaged in the Trustees' work nor cause any unreasonable delay or hindrance thereto.

2. Construction activities will be scheduled to minimize disruption to the University and to Campus users.

3. The Contractor may not interrupt any Campus utilities without prior written permission from the Trustees. Requests for utility shutdowns shall be submitted a minimum of 14 calendar days in advance of the requested shutdown date.

4. The Work of the Project is to be completed within an operating University, and that University operations and construction activities by others will be in progress at the Work Site during the course of this Contract. Refer to Section 01 14 00 – Work Restrictions for additional requirements.

B. Surrounding Site Condition Survey

1. Prior to commencing the work, the Contractor and the University Representative shall tour the Project Site together to examine and record damage to existing buildings, landscape, hardscape and other improvements, both on and adjacent to the project site. The resulting record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed by parties involved in the tour using Site Survey form 702.08 which is part of the contract documents. Any damage to existing improvements not noted in the original survey, but subsequently discovered, shall be reported to the University Representative immediately.

C. Protection of Existing Structures and Utilities (also refer to Contract General Conditions)

1. Locate all known existing utility installations before proceeding with construction operations which may cause damage to such installations. The existing utilities shall be protected and maintained in continual service at the Contractor's expense. Where existing utilities cross or are adjacent to the work of this contract, the Contractor shall notify the University Representative a minimum of 48 hours in advance of commencement of work and receive approval for the method of uncovering the utility. The Contractor shall locate the existing utility(s) by hand digging, pot holing, locator device, ground penetrating radar, x-ray, or other methods recommended by the Contractor and approved by the Construction Administrator. Repair of damage to existing utility(s) shall be at the Contractor's expense.

2. In the event that undocumented existing structures or utilities are encountered, the contractor shall immediately notify the University Representative and request direction concerning how to proceed with the work.

3. Should the Contractor damage any existing structure or utility, the Contractor shall take immediate action to ensure the safety of both persons and property.

4. Contractor shall visit existing building(s) and grounds and thoroughly familiarize itself with existing conditions. Existing record drawings are available for Contractor review at [*state location*]

5. Contractor shall include all necessary pipe offsets, fittings, etc. as required to complete the work in the base bid. No additional costs due to the Contractor's failure to survey existing conditions and review available record drawings will be allowed.

6. Contractor shall note all utility items (utility meters, junction boxes, valve boxes, post indicator valves, manhole covers, etc.) at or above grade in the vicinity of the project site prior to commencing with trenching operations. These items indicate the presence of underground utilities in the area which shall be located and kept in continual service. This requirement shall apply regardless of inclusion of these utilities on existing record documents.

7. When cutting, removal or alteration of existing work is required to form connections with new work or otherwise to meet the requirements of the contract documents, perform such work so as not to damage the work that will remain in place. Refer to sections for cutting, patching and repair requirements.

8. Contractor shall provide all necessary materials, equipment and labor to adequately protect existing structures, floors, architectural finishes, utilities, landscape and hardscape which may be impacted by the work of this contract.

D. Allowable Work Schedule

1. Normal construction activities shall be performed Monday through Friday between the hours of 7:00 am and 6:00 pm, excluding holidays.

2. Shutdown of existing utilities or other activities which impact Campus operations shall be scheduled in advance with the University Representative in accordance with paragraph 1.05.A.3 above and shall be scheduled during off-hours at the discretion of the University and at no additional cost to the University.

3. Contractor shall submit an "Off-hours work Schedule Request" a minimum of 72 hours prior to any anticipated weekend or holiday work. A request must also be submitted for work outside of normal working hours.

E. Site Decorum

1. Contractor is to control the conduct of labor forces and prevent unwanted interaction initiated by workers with the University staff, students, or other individuals other than those associated with the project.

2. In the event that any worker initiates unwanted interaction, utilizes profanity, or (in the opinion of the University Representative) conducts him/herself in an offensive or unprofessional manner, the Contractor shall immediately remove the worker from the project and replace said worker with another of equivalent technical skill at no additional cost to the University.

3. No smoking is allowed within any University facility, including new buildings under construction which have reached a point in construction where the building is partially enclosed.

4. No radios, other than 2-way communication type, shall be allowed on the project site.

5. Contractor shall provide an ANSI Class II - Heavy Duty Safety Vest and Hard Hat for every employee, every subcontractor, every sub-tier subcontractor, and subcontractor employee working on-site. Vests are not optional. Failure to comply with this requirement will result in a $1,000.00 credit to the University via credit change order. Contractor shall maintain a supply of vests on site at all times.

F. University Keys

1. Contractor shall provide a written request to the University for keys to existing facilities. In accordance with University policy, the Contractor shall be assessed a refundable deposit of $50 per change key and $100 for maintenance or building master keys issued for use in conjunction with the work. The deposit may be made in the form of cash, cashier’s check, company check or personal check. Deposits must be received prior to issuance of keys by the Physical Plant Management Key Shop. The deposit will be refunded upon completion of the project and receipt of the keys by the

Campus Physical Plant Management Key Shop. If the Contractor fails to return a key, a lost key fine shall be charged for the actual cost of re-keying campus locks up to a maximum of $5,000 per building.

2. Site fences shall be locked with the University standard lock in order to allow the University 24 hour access for maintenance and inspection, or response to an emergency condition. Should Contractor wish to use a different lock, it shall be double-locked with the University standard lock at all times that the site is secured.

G. Waste Diversion and Tracking

1. Waste steams generated by the Contractor shall be properly characterized, contained, documented, and disposed of according to applicable regulations. Universal Waste (if any) within the project area shall be segregated from the waste stream and properly disposed of by the Contractor. If previously unidentified hazardous materials are encountered onsite, then work in that area shall stop, the area demarcated, and the observed locations/quantities immediately transmitted by the Contractor to the University.
2. The Contractor shall submit a Contractor's Construction Waste and Recycling Plan (CSU from 01 74 19A) to the University before generating waste. As applicable, the Contractor shall review any plan line items marked as miscellaneous construction debris (M/C) to evaluate whether such waste streams can be further segregated to divert salvage and/or recyclables to the extent practical.
3. The Contractor shall submit a Contractor's Construction Waste and Recycling Report (CSU from 01 74 19B) to the University at the conclusion of the project. Documentation of the disposal dates and weights for the various waste streams generated (landfill and diverted) shall be provided along with the submittal of CSU form 01 74 19B, and/or at any other time as requested by the University.

1.6 SUPERINTENDENT / SUPERVISORY STAFF

A. The following requirements are in addition to the requirements of the Contract General Conditions:

1. The Contractor shall employ a competent Superintendent able to read, write and communicate fluently in English. The Superintendent shall be on site at all times during which work occurs on the project site and shall be fully authorized to represent Contractor in all matters pertaining to the work of this contract. All communications and agreements with the Superintendent shall be binding upon Contractor. The Superintendent shall be acceptable to the University and shall continue in the capacity of Superintendent for the duration of the project unless the Superintendent ceases employment with Contractor or the University otherwise agrees. The Superintendent shall not be employed on any other project by the Contractor during the course of this project.

2. Work shall not occur on the site except under the direct supervision of the Superintendent. Failure to maintain a Superintendent on the Project site at all times that work is occurring will result in the issuance of a stop work notice by the University Representative. Any schedule impact resulting from said stop work order shall be the responsibility of the Contractor; no additional costs for delay will be due Contractor, nor will assessment of liquidated damages be suspended to account for the work stoppage.

3. In addition to the Superintendent, Contractor shall assign a full time project manager solely dedicated to the work of this project for the duration of the project.

1.8 PROTECTION OF WORK

A. Protect the Work from theft, vandalism, and unauthorized entry. The Contractor shall have the sole responsibility for job site security.

B. During Off-Work Hours. During all hours that Work is not being prosecuted, furnish such watchman's services as Contractor may consider necessary to safeguard materials and equipment in storage on the Project site, including Work in place and in process of fabrication, against theft, acts of malicious mischief, vandalism, and other losses or damages.

1.9 OWNER-FURNISHED/CONTRACTOR-INSTALLED PRODUCTS

A. Owner-Furnished/Contractor-Installed (OFCI) Products: University will furnish, for installation by Contractor, products which are identified on the Drawings and in the Specifications as "OFCI (Owner-Furnished/Contractor-Installed)", "installed by General Contractor," or similar terminology. See Drawings for identification of such products. Refer to Section [*Add appropriate sections*] - Owner-Furnished Products.

B. Relationship to Work under the Contract: Work under the Contract shall include all provisions necessary to fully incorporate such products into the Work, including, as necessary, fasteners, backing, supports, piping, conduit, conductors and other such provisions from point of service to point of connection, and field finishing, as shown on Drawings and specified herein. See Section 01 60 00 - Product Requirements.

1.10 PERMITS, LICENSES AND FEES

A. Permits, Licenses and Fees, General: Refer to Contract General Conditions.

B. Licenses: Contractor shall obtain and pay all licenses associated with construction activities, such as business licenses, contractors' licenses and vehicle and equipment licenses. All costs for licenses shall be included in the Contract Amount.

C. Parking Fees: Contractor shall obtain and pay for all parking permits and fees for vehicles parked off of the Construction Site. Refer to Section 01 55 00, Vehicular and Pedestrian Controls for additional parking requirements.

1.11 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 Contract Drawings and Specifications.

END OF SECTION

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The following subjects are included in this section.

1. Submittals
2. Work Plans
3. Contractor's use of Premises
4. Contractor's Use of Project Area
5. Time Restrictions
6. Noise and Vibration Restrictions
7. University's use of Site and Premises

1.3 SUBMITTALS

A. Submit each Work Plan for review and approval a minimum of 21 calendar days prior to the start of construction in areas affecting University operations. Participate in review of proposed Work Plan with the Construction Manager, Architect and University. Within 3 calendar days after joint review, submit revised Work Plan.

B. Format/Submittal Requirements

1. Contractor's Work Plans shall be in the form of marked-up drawings, sketches and/or original drawings that clearly convey the nature and location of Contractor's planned activities. Drawings shall be supplemented by written descriptions of the work. Work Plans shall be submitted in written narrative form where without drawings where deemed adequate by the Construction Administrator to fully describe construction activities, impacts and protectionary measures.
2. Work Plans shall be submitted in accordance with the requirements of Section 01 33 00.

1.4 WORK PLANS

A. Contractor shall submit comprehensive written work plans for all activities affecting University operations, including but not limited to, the following:

1. Barricade and Fencing locations
2. Haul routes
3. Routing of vehicular and pedestrian traffic around specific construction area(s)
4. Utility shutdowns/tie-in to existing utilities
5. Disabled access routes
6. Fire Department access to University buildings
7. Vehicular traffic access to buildings
8. Parking spaces impacted
9. Construction site and contractor parking access

10. Large equipment access (cranes, loaders, backhoes, etc.)
11. Work within pedestrian thoroughfares and campus roads
12. Work within the inner-Campus area

B. The Work Plans shall be used to communicate Project impacts to the campus community.

C. When Contractor's work requires the use of a crane or truck-mounted boom lift, a crane/boom lifting plan (Lift Safety Plan) shall be submitted to the University for review and approval at least three (3) working days prior to the commencement of work requiring such equipment. The Lift Safety Plan shall include/describe the location and schedule for the work, type of equipment, licensure for operator(s), safety measures in place during the work (barricades, spotters, etc.), and any necessary road, parking area, or pedestrian walkway closures.

D. Contractor shall cooperate with the University to minimize conflicts and facilitate University operations.

1. Off-hours and weekend work may be required for existing utility shutdowns and other work of major impact to the University. No additional costs shall be paid by the University due to this requirement.

1.5 CONTRACTOR'S USE OF PREMISES (Also refer to Contract General Conditions)

A. General

1 Contractor shall at all times conduct the work so as to impose no hardship on the Trustees or others engaged in the Trustees' work nor cause any unreasonable delay or hindrance thereto.
2. Construction activities will be scheduled to minimize disruption to the University and to Campus users.
3. The Contractor may not interrupt any Campus utilities without prior written permission from the Trustees. Requests for utility shutdowns shall be submitted a minimum of seven (7) calendar days in advance of the requested shutdown date in writing to the Construction Administrator.
4. The Contractor may not direct any deliveries to the University's Shipping and Receiving Department; all deliveries to the University's Shipping and Receiving Department will be refused.
5. The Contractor may not use any University tools, vehicles, or resources, during the course of the work.
6. Contractor shall be responsible to protect adjacent areas from dust, smells, and noise resulting from the Contractor's work using mitigation methods that meet University approval prior to performing any work or installation which may generate such nuisances.

B. Site Condition Survey

1. Prior to commencing the work, the Contractor and the University Representative shall tour the Project Site together to examine and record damage to existing buildings, landscape, hardscape and other improvements, both on and adjacent to the project site. The contractor and the campus shall video record the condition of all areas where work is to take place. The video shall be turned over to the University prior to the Notice to Proceed along with Site Survey and Acceptance Form # 702.08.

2. The resulting record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed parties involved in the tour. Any damage to

existing improvements not noted in the original survey, but subsequently discovered, shall be reported to the University Representative immediately.

C. Protection of Existing Structures and Utilities (also refer to Contract General Conditions)

1. Locate all known existing utility installations before proceeding with construction operations that may cause damage to such installations. The existing utilities shall be protected and maintained in continual service at the Contractor's expense. Where existing utilities cross or are adjacent to the work of this contract, the Contractor shall notify the University Representative a minimum of 48 hours in advance of commencement of work. The Contractor shall locate the existing utility(s) by hand digging; repair of damage to existing utility(s) shall be at the Contractor's expense.
2. In the event that undocumented existing structures or utilities are encountered, the Contractor shall immediately notify the University Representative and request direction concerning how to proceed with the work.
3. Should the Contractor damage any existing structure or utility, the Contractor shall take immediate action to ensure the safety of both persons and property.
4. Contractor shall visit existing building(s) and grounds and thoroughly familiarize itself with existing conditions. Existing record drawings are available for Contractor review at the University Facilities Management building located at 1441 B Street, Arcata, CA 95521. Contact Scott Harris, Facilities Management – Planning, Design & Construction, at: (707) 826-3646.
5. Contractor shall include all necessary pipe offsets, fittings, etc. as required to complete the work in the base bid. No additional costs due to the Contractor's failure to survey existing conditions and review available record drawings will be allowed.
6. Contractor shall note all utility items (utility meters, junction boxes, valve boxes, post indicator valves, man-hole covers, etc.) at or above grade in the vicinity of the project site prior to commencing with trenching operations. These items indicate the presence of underground utilities in the area that shall be located and kept in continual service. This requirement shall apply regardless of inclusion of these utilities on existing record documents.
7. When cutting, removal or alteration of existing work is required to form connections with new work or otherwise to meet the requirements of the contract documents, perform such work so as not to damage the work that will remain in place. Refer to Sections 01 35 16 and 01 73 29 for cutting, patching and repair requirements.
8. Contractor shall provide all necessary materials, equipment and labor to adequately protect existing structures, floors, architectural finishes, utilities, landscape and hardscape that may be impacted by the work of this contract.
9. Trenching and/or installing new utilities (water, power, data, telecommunications, gas) – The Contractor shall layout proposed utility trenches 14 days prior to doing work. The Contractor will layout and mark all utilities shown on the drawings and examine the site for other potential utilities which may cross the site. After which CSUN Physical Plant Management will verify and mark additional utilities. After which the Contractor shall hire a ground penetrating radar firm to scan the entire trench line and determine all utility locations; GPR cost will be paid for by the Contractor. After GPR scanning has been completed, the Contractor shall hire a vacuum utility locating service to physically pothole and physically locate all utilities identified on the drawings, through Physical Plant Management review, and GPR scanning. After all of the above has been completed the contractor may proceed with trenching operations.

D. Allowable Work Schedule

1. Onsite construction shall commence on May 15, 2024 and be substantially complete no later than August 9, 2024. Normal construction activities shall be performed Monday through Friday between the hours of 7:00 am and 6:00 pm, excluding holidays.

2. Shutdown of existing utilities or other activities which impact Campus operations shall be scheduled in advance with the University Representative in accordance with paragraph 1.4-A-3 above, and shall be scheduled during off-hours at the discretion of the University and at no additional cost to the University.
3. Contractor shall submit an "Off-hours Work Schedule Request Form" (attached) a minimum of 72 hours prior to any anticipated weekend or holiday work. A form must also be submitted for work outside of normal working hours. The form to be utilized is included at the end of this section.

E. Site Decorum

1. Contractor is to control the conduct of labor forces and prevent unwanted interaction initiated by workers with the University staff, students or other individuals other than those associated with the project.
2. In the event that any worker initiates unwanted interaction, utilizes profanity, or (in the opinion of the University Representative) conducts him/herself in an offensive or unprofessional manner, the Contractor shall immediately remove the worker from the project and replace said worker with another of equivalent technical skill at no additional cost to the University.
3. No smoking is allowed on the University Campus.
4. No radios, other than 2-way communication type, shall be allowed on the project site.
5. Contractor shall provide an ANSI Class II - Heavy Duty Safety Vest (Item#:SV59G-Green/SV59O-Orange) and hard hat for every employee, every subcontractor, every sub-tier subcontractor, and subcontractor employee working on-site. Vests are not optional. Failure to comply with this requirement will result in a $1,000.00 credit to the University via credit change order. Contractor shall maintain a supply of vests on site at all times.

F. University Keys

1. Contractor shall provide a written request to the University for keys to existing facilities. In accordance with University policy, the Contractor shall be assessed a refundable deposit of $50 per change key and $100 for maintenance or building master keys issued for use in conjunction with the work. The deposit may be made in the form of cash, cashier’s check, company check or personal check. The Physical Plant Management Key Shop must receive deposits prior to issuance of keys. The CSUN Physical Plant Management Key Shop will refund the deposit upon completion of the project and receipt of the keys. If the Contractor fails to return a key, a lost key fine shall be charged for the actual cost of re-keying campus locks up to a maximum of $5,000 per building.
2. Site fences shall be locked with the University standard lock in order to allow the University 24-hour access for maintenance and inspection, or response to an emergency condition. Should Contractor wish to use a different lock, it shall be double-locked with the University standard lock at all times that the site is secured.

1.3 CONTRACTOR'S USE OF PROJECT AREA

A. Location of Work: The Work shall be accomplished within areas indicated on Drawings as Project Area or, if not indicated, to areas as directed by University's Representative. Use of other areas, including parking areas, shall be subject to approval by University's Representative. Refer to Section 01 55 29 - Construction Staging Areas and Section 01 55 00 - Vehicular and Pedestrian Controls for additional requirements.
1. Contractor shall not unreasonably encumber the site with materials or equipment.
2. Contractor shall assume full responsibility for protection and safekeeping of products stored on the premises.
3. Contractor shall move any stored products which interfere with operations of University or contractors performing work under separate contracts for University.

4. Temporary closures or restrictions of use of public thoroughfares, necessary to accomplish the Work, shall be made only as approved in advance by public safety and parking authorities having jurisdiction, as directed in writing by the University's Representative.
5. Refer to Drawings for trenching work limitations.
6. Once the Contractor begins Work on a trenching heading, the Work shall proceed on a minimum eight (8) hours per day continuous basis, as weather permits, without stopping until the open trenches are backfilled and the surfaces are re-established.

B. Unless otherwise specified or indicated on the Drawings, during the construction period the Contractor shall have full use of the designated Project Area for construction operations, including use of the site. Contractor's use of Project Area shall be limited only by University's right to perform construction operations with its own forces or to employ separate contractors on portions of the Project in accordance with the Contract General Conditions.

C. Continued Use of Existing Building: Maintain existing building in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

D. Cooperation with Others:
1. The Contractor shall at all times cooperate with, coordinate the Work with and provide access to the University, University Contractors, and buildings operating in the vicinity of the Project Site to the extent necessary for the Work and ongoing operations at the University may progress in an orderly manner. The Contractor shall implement measures to minimize disruption to ensure the Contractor’s actions and methods of operation will not result in interference with ongoing operations at the University. The Contractor shall have no claim against the University as a result of these other activities. If Contractor’s Work causes disruption to ongoing campus operations, Contractor shall work irregular hours and/or implement other measures, at the Contractor’s expense, to avoid any disruption to ongoing University operations.
2. The Contractor agrees and acknowledges that the Work of the Project is to be completed within an operating University, and that University operations and construction activities by others will be in progress at the Work Site during the course of this Contract.
3. The Contractor shall coordinate construction activities with the Construction Manager to minimize interference with all parties concerned.

E. Protection of Existing Improvements and Facilities: Contractor shall protect property adjacent to the Project Area and all existing improvements and facilities within the Project Area, including paving and landscaping indicated to remain.
1. All existing improvements and facilities, except those specifically indicated for removal or reconstruction shall be protected with temporary barriers, enclosures and passageways.
2. After completion of Work, existing improvements and facilities shall be restored to original condition and location. Project Area shall be cleaned and restored to presentable condition, equivalent to or better than the condition prior to start of Work.
3. Should existing improvements and facilities be damaged or soiled beyond renovation or repair, new products shall be provided by Contractor equivalent to existing products, as directed by University's Representative.

F. Project Area Access: Limit access to site to indicated routes and access points as identified. If routes and access points are not indicated, access shall be as approved and as directed by University's Representative. Do not restrict access to adjacent facilities and do not restrict access for those performing work under separate contracts for University.
1. Access to and egress from Project Area shall be in strict conformance to prearranged routes approved by University's Representative, with the understanding that curtailment of construction traffic or revision of access routes may be required on short notice if

University's operations mandate such changes because of excessive noise or problems of safety, service or supply.

2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to service and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
   a. Schedule deliveries to minimize use of driveways and entrances.
   b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

G. Emergency Access: Provide pathways, drives, gates, directional signage and other provisions as required by authorities having jurisdiction for emergency access to Project Area and adjoining campus facilities.

H. Emergency Egress: Maintain all pathways, drives, gates, and other means of egress during construction as required by public safety authorities having jurisdiction.

1.4 TIME RESTRICTIONS

A. Contractor's Work Hours: Work shall be limited to Monday through Friday, except University-observed holidays and periods when classes are not in session, during hours of 7:00 am to 6:00 pm.
   1. Work on other days and at other hours shall be only with written approval of University's Representative.
   2. Work during final exam periods at ends of class sessions shall be restricted to minimize noise, vibrations and other distracting and inhibiting activities.
   3. If it becomes necessary to perform Work on weekends and holidays, in order to meet milestone and final completion dates, Work shall be performed at no change in Contract Amount unless authorized by written Change Order or Field Instruction by the Construction Administrator.

B. Utility Outages and Shutdown: Schedule utility outages and shutdowns to times and dates acceptable to and approved by University's Representative.
   1. Time and duration of outages and shutdowns shall not hinder normal campus activities except as authorized in writing by University's Representative.
   2. Provide seven (7) calendar days' notice in writing to University's Representative of all utility outages and shutdowns. Describe Work to be performed, which utilities will be interrupted and time and duration of interruption.
   3. Contractor shall provide temporary utilities to occupied facilities and adjacent properties when utilities must be interrupted for more than two hours, unless otherwise directed by University's Representative.
   4. Power interruptions beyond the authorized time shall be subject to liquidated damages in the amount of $500 per day.
   5. Refer also to requirements for temporary utilities specified in Section 01 51 00, Temporary Utilities.

1.5 NOISE AND VIBRATION RESTRICTIONS

A. Noise Restrictions: Minimize noise from construction activities. Limit loud construction activities to times when classes are not in session in adjacent spaces.

B. Vibration Restrictions: Do not perform activities that cause vibrations in adjacent occupied spaces, including spaces above and below location where Work is performed. If vibrations transmit through structure, perform Work at times when University activities are not being conducted.

1.6 UNIVERSITY'S USE OF SITE AND PREMISES

A. University's Use of Site and Premises: University reserves the right to occupy and to place and

install equipment in completed or partially completed areas of buildings and site. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Full University Occupancy: University will occupy site and existing buildings during entire construction period. Cooperate with University during construction operations to minimize conflicts and facilitate University usage. Perform the Work so as not to interfere with University's operations.
2. Partial University Occupancy: University reserves the right to occupy and to place and install equipment in completed areas of building provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
3. Before University occupancy, mechanical, electrical, and fire safety systems shall be fully operational, and required tests and inspections shall be successfully completed. Any occupancy of a building is contingent upon a certificate of temporary or final occupancy provided by the State Fire Marshal. Unless otherwise agreed, University will provide operation and maintenance of mechanical and electrical systems in portions of the building used by University. Unless otherwise agreed in writing by the University, warrantee periods shall not begin until date established by Notice of Completion filed at Contract closeout.
4. Upon occupancy, University will assume responsibility for maintenance and custodial service for occupied portions of building.

PART 2 - PRODUCTS

Not Applicable to this Section

PART 3 - EXECUTION

Not Applicable to this Section

END OF SECTION

SECTION 01 21 00

ALLOWANCES PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Allowances indicated in the Bid Proposal Form to be included in Contract Amount.

1. 1. Bid allowances are typically included in base bids as estimates for work that shall be completed under the base construction contract, but the exact costs are unknown at the time of bid. These amounts are later adjusted to actual costs, once the work is completed.
2. Allowances can be used in lieu of metering for temporary construction site utility services or funds to be returned to the Trustees by deductive change order.
3. Selected materials and equipment, and in some cases, their installation, are shown and specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by change order.

1.3 RELATED SECTIONS

A. Section 01 51 00 - Temporary Utilities: Coordination with Allowance for temporary power and water.

1.4 MEASUREMENT AND PAYMENT

A. Contractor shall submit cost data and other descriptive data to establish basis used by Contractor for determining costs in Contract Amount attributable to each Allowance.

B. Any amount not fully consumed shall be adjusted by change order.

1. Allowances are part of the base contract work; therefore no additional mark-up is allowed to the Contractor for work performed within the allowance by the Contractor.
2. Any unused allowances shall be returned to the Trustees using a credit change order for the full amount of the value unused plus six percent mark-up.
3. Mark-ups on work performed by Trade Contractors or Subcontractors in accordance with the change order provisions of the contract may be considered as part of the reimbursed costs of performing work within an allowance. No credit mark-up from the Trade Contractor or Subcontractor is appropriate for the balance of an allowance that is credited back to the Trustees.
4. Additional work performed in excess of an allowance is subject to normal markups in accordance with the Contract General Conditions, Article 6.00.

1.5 ALLOWANCE COSTS FOR CONTRACTOR-PROVIDED PRODUCTS

A. Contractor-Provided Products: Amount for each Allowance, for procurement of products to be selected by University's Representative or Architect after execution of the Agreement, shall include:

1. Net cost of product(s) to Contractor. Trade discounts and rebates shall be included.
2. Delivery to site.
3. Labor, equipment and related consumable products required for application, installation and finishing of product when Allowance is indicated to include costs for incorporation into

completed construction.

4. Applicable taxes, permits and fees.

B. Costs Included in Contract Amount: In addition to amount identified for each Allowance, include in Contract Amount all costs for:

1. Handling and storage at site, including unloading, uncrating, and protective measures.
2. Protection from weather, soiling and physical damage.
3. Labor, equipment and related consumable products necessary for application, installation or finishing, except when Allowance is indicated to include costs for incorporation into completed construction.
4. Contractor's and all subcontractor's field and home office overhead expenses, bonds, insurance and profit.
5. All other costs attributable to incorporation of Allowance into completed construction, such as design fees and reworking of adjoining construction.

1.6 ALLOWANCE COSTS FOR EXECUTION

A. Owner-Furnished/Contractor-Installed (OFCI) Products: Amount for each Allowance, for application, installation and finishing of products provided by University (Owner-Furnished/ Contractor-Installed products), shall include:

1. Delivery to site, unless specifically noted otherwise.
2. Applicable taxes, permits and fees.
3. Handling and storage at site, including unloading, uncrating, and protective measures.
4. Protection from weather, soiling and physical damage.
5. Labor, equipment and related consumable products required for application, installation and finishing of product when Allowance is indicated to include costs for incorporation into completed construction.
6. Contractor's and all subcontractor's field and home office overhead expenses, bonds, insurance and profit.
7. All other costs attributable to incorporation of Allowance into completed construction, such as design fees and reworking of adjoining construction.

PART 2 - PRODUCTS

2.1 LUMP SUM ALLOWANCES *(NOT USED)*

PART 3 - EXECUTION

3.1 ADJUSTMENT COSTS

A. Should the net cost of the Allowance be more or less than the amount included in the Contract Amount, the Contract Amount shall be adjusted in accordance with provisions of the Contract General Conditions and a Change Order shall be executed.

B. Adjustment shall be made only for:

1. Increase or decrease in handling costs at site, labor, installation costs, overhead, profit, and other expenses resulting from final selection under Allowance in accordance with the Contract General Conditions.
2. Increase or decrease in product cost resulting from final selection under Allowance.
3. Increase or decrease in product cost from data provided by University's Representative or Architect and used to determine Allowance product cost.
4. Increase or decrease in product, application, installation and finishing costs resulting from change in quantity stated in Allowance.

C. Contractor shall submit claim and supporting documentation for cost increase or decrease within ten (10) days of execution of Construction Change Directive. Failure to submit documentation within designated time shall constitute a waiver of claims for additional costs.

3.4 SCHEDULE OF ALLOWANCES

A. Schedule of Allowances shall be as shown on the Bid Proposal.

B. The allowance amounts listed in the specifications shall be included in the base bid.

END OF SECTION

SECTION 01 26 13
REQUESTS FOR INTERPRETATION (RFI)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Procedures for submitting requests for interpretation (RFI).

B. Limitations on use of RFI to obtain interpretation and clarification.

1.3 RELATED SECTIONS

A. Section 01 31 13 - Coordination: Requirements for organizing and coordinating the Work.

B. Section 01 31 26- Electronic Communications Protocol

B. Section 013 33 00 - Submittal Procedures: Restriction on use of submittals for changes in materials, products, equipment and systems.

C. Section 01 60 00 – Product Requirements: Procedures for requesting substitutions of materials, products, equipment and systems.

1.4 DEFINITIONS

A. Request for Interpretation: A document submitted by the Contractor requesting clarification of a portion of the Contract Documents, hereinafter referred to as an RFI.

1.5 CONTRACTOR'S REQUESTS FOR INTERPRETATION (RFIs)

A. Contractor's Requests for Interpretation (RFIs): Should Contractor be unable to determine from the Contract Documents the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of Work is described differently at more than one place in the Contract Documents; the Contractor shall request that the Architect make an interpretation of the requirements of the Contract Documents to resolve such matters. Contractor shall comply with procedures specified herein to make Requests for Interpretation (RFIs).

B. Submission of RFIs: RFIs shall be prepared and submitted electronically on a form provided by the Contractor and approved by the University Representative.

1. Forms shall be completely filled in and submitted via an Electronic Project Management (EPM) System agreed upon by the University Representative.

2. Each RFI shall be given a discrete, consecutive number.

3. Each page of the RFI and each attachment to the RFI shall bear the University's project name, project number, date, RFI number and a descriptive title.

4. Contractor shall sign all RFIs attesting to good faith effort to determine from the Contract Documents the information requested for interpretation. Electronic signatures are acceptable and subject to authentication. Frivolous RFIs shall be subject to reimbursement from Contractor to University for fees charged by Architect, Architect's consultants and other design professionals engaged by the University.

C. Subcontractor-Initiated and Supplier-Initiated RFIs: RFIs from subcontractors and material suppliers shall be submitted through, be reviewed by and be attached to an RFI prepared, signed and submitted by Contractor. RFIs submitted directly by subcontractors or material suppliers will be returned unanswered to the Contractor.

1. Contractor shall review all subcontractor- and supplier-initiated RFIs and take actions to resolve issues of coordination, sequencing and layout of the Work.

2. RFIs submitted to request clarification of issues related to means, methods, techniques and sequences of construction or for establishing trade jurisdictions and scopes of subcontracts will be returned without interpretation. Such issues are solely the Contractor's responsibility.

3. Contractor shall be responsible for delays resulting from the necessity to resubmit an RFI due to insufficient or incorrect information presented in the RFI.

D. Requested Information: Contractor shall carefully study the Contract Documents, in particular, the Contract General Conditions, to ensure that information sufficient for interpretation of requirements of the Contract Documents is not included. RFIs that request interpretation of requirements clearly indicated in the Contract Documents will be returned without interpretation.

1. In all cases in which RFIs are issued to request clarification of issues related to means, methods, techniques and sequences of construction, for example, pipe and duct routing, clearances, specific locations of Work shown diagrammatically, apparent interferences and similar items, the Contractor shall furnish all information required for the Architect or University's Representative to analyze and/or understand the circumstances causing the RFI and prepare a clarification or direction as to how the Contractor shall proceed.

2. If information included with this type RFI by the Contractor is insufficient, the RFI will be returned unanswered.

E. Unacceptable Uses for RFIs: RFIs shall not be used to request the following:

1. Approval of submittals (use procedure specified in Section 01 33 00 - Submittals Procedures)

2. Approval of substitutions (refer to Section 01 60 00 - Product Requirements)

3. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Contract General Conditions)

4. Different methods of performing Work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Contract General Conditions).

F. Disputed Requirements: In the event the Contractor believes that a clarification by the University's Representative results in additional cost or time, Contractor shall comply with the Contract General Conditions.

G. RFI Log: Contractor shall prepare and maintain a log of RFIs, and at any time requested by the University's Representative, the Contractor shall furnish copies of the log showing all outstanding RFIs.

H. Review Time: Architect will return RFIs to Contractor and University's Representative within seven calendar

days of receipt. RFIs received after 5:00 pm shall be considered received on the next regular working day for the purpose of establishing the start of the seven-calendar day response period.

PART 2 - PRODUCTS

Not Applicable to this Section.

PART 3 - EXECUTION

Not Applicable to this Section.

END OF SECTION

SECTION 01 31 13

PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Requirements for Project Coordination and electrical and mechanical coordination or "tight" conditions involving Work under Contract.

1.3 RELATED SECTIONS

A. Section 01 11 00 - Summary of the Work: Various types of Work to be coordinated, including Owner-Furnished/Contractor-Installed products and work under separate Contracts.

B. Section 01 60 00 - Product Requirements: Coordination of products, especially general requirements for system completeness and product substitutions.

1.4 COORDINATION

A. Coordination, General:

1. Coordinate the Work according to provisions stated in Contract General Conditions. Do not delegate responsibility for coordination to any subcontractor.
   a. Anticipate the interrelationship of all subcontractors and their relationship with the total work.
   b. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interference, or extent of work between sections. The Contractor's decisions, if consistent with the Contract Documents, shall be final. The Architect is not required to coordinate work between sections and will not do so.
   c. 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.
   d. Provide detailing for a complete project.

2. Coordinate Work under the Contract with work under separate contracts by University.

3. Coordinate utility and building services shut downs and closures of vehicular and pedestrian thoroughfares, including access to buildings and parking areas, to minimize disruption of University activities.

4. Be responsible for providing anchorage, blocking, joining and other detailing as required to provide complete project.

5. Do not obstruct spaces required by Code in front of electrical equipment, access doors, etc.

6. Do not cover any Work (piping, wiring, ducts, etc.), until properly inspected and approved.

7. 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.

8. 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. Coordination of OFCI Products: Contractor shall cooperate with University and others as directed by University's Representative in scheduling and sequencing the incorporation into the Work of Owner Furnished/Contractor Installed (OFCI) products identified in the Contract Drawings and Specifications.

C. Relationship of Contract Documents: Drawings, Specifications and other Contract Documents in the Project Manual are intended to be complementary. What is required by one shall be as if required by all. What is shown or required, or may be reasonably inferred to be required, or which is usually and customarily provided for similar work, shall be included in the Work.

D. Discrepancies in Contract Documents: In the event of error, omission, ambiguity or conflict in Drawings or Specifications, Contractor shall bring the matter to attention of the Architect in a timely manner during the bidding period, for determination and direction by the Architect in accordance with provisions of the Contract General Conditions.

E. Construction Interfacing and Coordination: Layout, scheduling and sequencing of Work shall be solely the Contractor's responsibility.

1. Contractor shall verify, confirm and coordinate field measurements so that new construction correctly and accurately interfaces with conditions existing prior to construction.

2. Contractor shall bring together the various parts, components, systems and assemblies as required for the correct interfacing and integration of all elements of Work. Contractor shall coordinate Work to correctly and accurately connect abutting, adjoining, overlapping and related elements, including work under separate contracts by University, utility agencies and companies.

1.5 COORDINATION OF SUBCONTRACTS AND SEPARATE CONTRACTS

A. Superintendence of Work: Contractor shall appoint a field superintendent and a project manager, who shall directly and full time supervise and coordinate all Work of the Contract.

B. Subcontractors, Trades and Materials Suppliers: Contractor shall require all subcontractors, trades, crafts and suppliers to coordinate their portions of Work with the Contractor's field superintendent to prevent scheduling, sequencing, dimensional and other conflicts and omissions.

C. Coordination with Work under Separate Contracts: Contractor shall coordinate and schedule Work under the Contract with work being performed for Project under separate contracts by University, serving utilities and public agencies. Contractor shall make direct contacts with parties responsible for work of the Project under separate contracts, in order to provide timely notifications and to facilitate information exchanges.

1.6 MECHANICAL AND ELECTRICAL COORDINATOR

A. Mechanical and Electrical Coordinator: Contractor shall employ and pay for services of a person, technically qualified and administratively experienced in field coordination for the type of mechanical and electrical

Work required for this Project, for the duration of the Work.

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 01 33 00 – Submittal Procedures.

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 and communication 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 such as: Structural footings, walls, beams, columns, etc. which pose potential conflicts with required and/or specified horizontal and vertical dimensions; Architectural elements or elevation requirements conflicting with available interstitial space between ceilings and structure above.

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.

9. Verify that utility requirement characteristics of all operating equipment including associated work by others are compatible with the building utilities. Coordinate the Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

1.7 SUBMITTALS

A. Coordination Documents: Coordinate shop drawings, diagrams and other specified in various product Sections of the Contract Specifications. Submit coordination drawings and schedules as specified below, prior to submitting shop drawings, product data, and samples.

PART 2 - PRODUCTS

Not Applicable to this Section.

PART 3 – EXECUTION

3.1 COORDINATION REQUIRED

A. Coordinate Work specified in Division 13 - Special Construction, Division 23 – Heating, Venting, and Air Conditioning and Division 26 - Electrical within each Division, between these Divisions and with Work specified in other Divisions.

B. Coordinate progress schedules, including dates for submittals and for delivery of products.

C. Conduct meetings with suppliers, installers and others concerned with the Work, to establish and maintain coordination of layout, sequencing and completion of various elements of Work.

D. Conduct meetings with installers and others concerned with the Work, to properly integrate various mechanical and electrical systems, to facilitate construction and to provide proper access and work space for maintenance, renovation and improvement of system components. Include participation by representatives of University, including maintenance personnel.

E. Assist in resolution of conflicts by providing technical advice, coordination drawings and three dimensional representations of integrated system components, including computer and physical models as necessary.

F. At construction progress meetings, report on progress of Work to be adjusted under coordination requirements and any necessary changes in sequencing and scheduling of Work.

G. Transmit minutes of coordination meetings and reports to University's Representative, Architect, Architect's consultants (as applicable) and to meeting participants.

3.2 COORDINATION DOCUMENTS

A. Coordination Drawings and Models: Contractor shall prepare coordination drawings and three-dimensional models, in computer form and in physical form as necessary, to organize layout and installation of mechanical and electrical products for efficient use of available space, for proper sequence of installation, for integration with building structure, for future maintenance and renovation, and to identify potential conflicts between systems and elements.

B. System Services: Contractor shall identify on coordination drawings and models all plumbing and electrical power and signal services required for each component of each system.

1. Contractor shall certify that characteristics of services and controls are correct for each component.

2. Certification shall be in written form and signed by Contractor and mechanical and electrical coordinator.

C. Responsibility and Services Matrix: Contractor shall prepare schedule matrix identifying elements of mechanical and electrical Work requiring coordination, as specified in each Section in division of the Contract Specifications.

1. Include identification of parties having responsibilities related to each element of Work and describe what that responsibility shall be.

2. Include required off-site and on-site tests and inspections for various elements of Work.

3. Include identification of administrative activities related to each element of mechanical and electrical Work, such as product data, shop drawings, coordination drawings, samples, mock-ups, test reports for each element of Work.

4. Include identification of elements of Work requiring temporary services.

D. Maintenance and Disposition of Coordination Documentation: Maintain coordination documents, including models, for duration of the Work, recording all changes. After review of original and revised documents and models by University's Representative and Architect, submit documents and models as part of Project record documents. See Section 01 78 39, Project Record Documents.

3.3 COORDINATION OF SUBMITTALS

A. Submittal Reviews by Mechanical and Electrical Coordinator: In addition to specified review actions by Contractor, specified in Section 01 33 00 - Submittals Procedures, all product data, shop drawings and samples shall be reviewed by the mechanical and electrical coordinator for proper coordination of various elements of Work, as described in the preceding Article titled "Coordination Documents."

1. Include Owner-furnished/Contractor-installed (OFCI) products.

2. Include products to be provided (furnished and installed) under separate contracts by University, to the extent that information is provided in the Contract Documents and supplemental instructions from University's Representative.

3. Review by Contractor shall be completed prior to submission of product data, shop drawings and samples to Architect for review.

4. Indicate review actions by Contractor by signed review stamp and other appropriate notations on submittals.

5. Coordinate with other review actions to be taken by Contractor, as specified in Section 01 33 00 - Submittals Procedures.

B. Field Conditions: Contractor shall verify field dimensions and clearances and relationship to available space and anchoring provisions. Report conflicts in writing to the Architect and the University's Representative.

C. Product Characteristics: Contractor shall:

1. Verify compatibility of equipment and other elements requiring plumbing, HVAC and electrical services and signals with services to be provided.

2. Verify motor voltages and control characteristics.

3. Coordinate controls, interlocks, wiring of pneumatic switches, and relays.

4. Coordinate wiring and control diagrams.

5. Review the effect of changes in one element of the Work of other elements of the Work. Identify conflicts and report conflicts in written and graphic form to the Architect and the University's Representative.

6. Verify information provided in maintenance and operating instructions and coordinate preparation of maintenance and operation data. See Section 01 78 23 - Operation and Maintenance Data.

3.4 COORDINATION OF SUBSTITUTIONS AND MODIFICATIONS

A. Review of Proposed Substitutions: See Section 01 25 00- Substitution Procedures. Product Substitution Contractor shall review Contractor's proposals and requests for substitution prior to submission to Architect.

1. Contractor shall verify compliance with Contract Documents and shall certify compatibility with other elements of the Work, including proper integration with building structure, load limitations, operating and maintenance space and accessibility provisions, and suitability for available building services, including plumbing and electrical power and signal systems.

2. Contractor shall prepare and submit recommendation for action regarding proposals, including identification of related changes in other elements of the Work.

3.5 SYSTEM AND EQUIPMENT START-UP

A. Observations of System and Equipment Activation and Start-Up: Contractor shall observe activation and start-up of systems and equipment, including all Work specified in Divisions 2 through 48 with connections to utilities, building services and controls.

1. Contractor shall verify that utilities, building services and control systems are properly connected, complete and functional within criteria of manufacturer and criteria indicated in the Contract Documents.

2. Contractor shall verify that activated elements are properly anchored and that operating components operate properly according to the component's intended design.

3. Contractor shall verify that activated elements of the Work are in operable condition according to normal operating characteristics required by the manufacturer and the Contract Documents.

4. Should adjustments be necessary to activated elements, Contractor shall advise the Architect and University's Representative of necessary actions and shall observe that proper actions are performed to achieve required operating characteristics.

B. Observations of System and Equipment Demonstrations: Contractor shall observe performance demonstrations including equipment demonstrations to Architect and University's Representative. Record times and additional information required for operation and maintenance manuals.

C. Documentation of Observations of Activation, Start-Up, Adjustment and Demonstration: Contractor shall keep written record of activation, start-up, operational tests and inspections and necessary adjustments and re-tests and re-inspections.

1. Documentation shall include record of time and date of activation, start-up, operational tests and inspections and shall include measured results of tests and inspections.

2. Documentation shall be submitted to University's Representative and Architect.

3.6 INSPECTION AND ACCEPTANCE OF EQUIPMENT

A. Contract Completion Review:

1. Prior to Contract Completion review, Contractor shall verify that each component and system has been properly adjusted, cleaned, lubricated, inspected and tested, and is ready for operation and use.

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 REQUIREMENTS INCLUDED

A. Preconstruction meeting.

B. Construction progress meetings.

C. Pre-installation conferences.

D. Change Order review meetings

E. Monthly Progress Payment Meetings

F. Contract Closeout Meeting

G. Partnering

1.3 RELATED REQUIREMENTS

A. Section 01 45 00 - Quality Control: General requirements for construction quality, to be reviewed at construction progress meetings.

B. Section 01 32 16 - Construction Progress Schedules: General requirements for construction progress schedules, to be reviewed at construction progress meetings.

C. Section 01 32 00 - Construction Progress Documentation: General requirements for construction progress reports, to be reviewed at construction progress meetings.

D. Section 01 33 00 - Submittal Procedures: Status of submittals to be reviewed at construction progress meetings.

E. Section 01 77 00 - Contract Closeout Procedures: Contract Completion Review.

1.4 PRECONSTRUCTION MEETING

A. Preconstruction Meeting: University's Representative will administer a preconstruction meeting immediately prior to Contractor mobilization onto the project site.

1. Representatives of the Trustees, the Contractor, selected Subcontractors, and other campus representatives, as appropriate, will attend.

B. Schedule: Schedule preconstruction meeting within five days of construction start date established in the Notice to Proceed.

C. Location: Preconstruction meeting will be held at a location as directed by the University's Representative.

D. Agenda: Preconstruction meeting shall cover the following topics as a minimum.

1. Special Project Procedures: Site access restrictions, if any, and requirements to avoid disruption of operations at adjoining facilities. Present University's requirements for use of premises.

2. Designation of Key Personnel: The Trustees, Architect, and Contractor shall designate key personnel and provide a name and address list that includes the following.
   a. The Trustees: The University Representative, Inspector of Record, and others authorized to act in certain capacities for the University.
   b. Architect: Principal and Project Administrator as appropriate.
   c. Contractor: Project Manager and Superintendent.
   d. Major subcontractors (as required): Principal/Project Manager and Superintendent.
   e. Major materials suppliers (as required): Contact person.

3. Subcontractors List: Distribute and discuss list of subcontractors and suppliers.

4. Coordination: Review requirements for Contractor's coordination of Work. Review sequence and schedule for work being performed for University under separate contracts. Discuss coordination of construction to minimize impacts on continuing Campus operations.

5. Project Communication Procedures: Review administrative requirements for written and oral communications.

6. Construction Schedule: Distribute and discuss preliminary schedule, initial baseline construction schedule and critical work sequencing of major elements of Work, including coordination of Owner-Furnished/Contractor-Installed (OFCI) products and work under separate contracts by serving utility agencies and companies and University.

7. Campus and Site Security: Review requirements for Contractor to develop and implement site security.

8. Safety Program: Review requirements for Contractor to develop and implement safety program in compliance with Contract General Conditions and the Owner Controlled Insurance Program (OCIP).

9. Site Access by University's Representative and Architect: Review requirements and administrative procedures Contractor may wish to institute for identification and reporting purposes.

10. Permits and Fees: Review Contract requirements and review schedule and process for obtaining permits and paying fees.

11. Project Layout: Review requirements for laying out of Work, including surveying requirements.

12. Construction Facilities: Designate storage and staging areas, construction office areas and parking areas and review site access requirements.

13. Temporary Utilities: Requirements for establishing and paying for temporary water, power, lighting and other utility services during construction, including metering and allowances. Refer to Section 01 51 00 - Temporary Utilities.

14. Construction Progress Schedules: Review requirements for preparation and submittal of updating of construction progress and submittals schedules.

15. Payment Procedures: Review requirements for preparation and submission of applications for progress payments and for final payment.

16. Change Procedures: Review requirements and administrative procedures for Change Orders, Field Instructions and Contractor's Requests for Interpretation (RFI).

17. Submittals Administration: Review administrative procedures for shop drawings, product data and samples submittals and review of preliminary Submittals Schedule.

18. Materials and Equipment: Review substitution or equal product requirements; review schedule for major equipment purchases and deliveries; review materials and equipment to be provided by University (OFCI products).

19. Testing and Inspection: Review tests and inspections to be performed by the following.
    a. Independent testing and inspection agencies.
    b. Manufacturers and installers.
    c. Service utilities and public agencies.
    d. Authorities having jurisdiction (i.e.: State Fire Marshal, Health Dept., etc.).

20. Operation and Maintenance Data: Format and content of operation and maintenance manuals. Refer to Section 01 78 23 - Operation and Maintenance Data.

21. Instruction of University's Personnel: Review requirements and scheduling of instruction of personnel specified for Demonstration and Training and in various Sections in Divisions 2 through 17 of the Specifications.

22. Starting and Adjusting Procedures: Review requirements of starting and adjusting operating components. Refer to Section 01 75 00 - Starting and Adjusting.

23. Project Record Documents: Review requirements and procedures for preparing, reviewing and submitting project record drawings and specifications.

24. Construction Cleaning: Review requirements for progress and final cleaning specified in Section 01 74 00 - Cleaning Requirements.

25. Contract Closeout: Review requirements specified in Section 01 77 00 - Contract Closeout Procedures, including procedures for filing of Notice of Completion, final payment and submittals.

1.5 CONSTRUCTION PROGRESS MEETINGS

A. Construction Progress Meetings: Meetings will be held to review progress and quality of construction. The essence of the discussion of each meeting shall be entered into the written record (minutes) of the meeting by the Architect or the University Representative designee.

B. Schedule: Construction progress meetings shall be periodically scheduled throughout progress of the Work. Frequency shall be as determined necessary for progress of Work. Generally, it is intended that construction progress meetings be held at weekly intervals.

C. Administration: The University’s Representative shall make physical arrangements for meetings. Architect shall prepare agenda with copies for participants, preside at meetings, record minutes and distribute copies within two working days to University's Representative, Contractor, participants and those affected by decisions made at meetings (theses duties may be shared with the University’s Representative or their designee and shall be determined at the preconstruction meeting). Each discussion item at construction progress meetings shall be numerically identified and carried through subsequent meeting minutes until resolved.

D. Attendance: Contractor's project manager and jobsite superintendent shall attend each meeting. Contractor's subcontractors and suppliers may attend as appropriate to subject under discussion. University's Representative will attend each meeting. Architect's consultants will also attend, as appropriate to agenda topics for each

meeting and as provided in University-Architect Agreement.

E. Suggested Agenda for Each Construction Progress Meeting:

1. Meeting Minutes: Review and correct, if necessary, minutes of previous meeting.
   a. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
   b. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
   c. Challenge to minutes shall be settled as priority portions of "old business" at the next regularly scheduled meeting.

2. Progress of the Work: Since last meeting and proposed progress.
   a. Identify potential problems which might impede progress.
   b. Develop corrective measures and procedures, including but not necessarily limited to additional manpower to regain planned schedule.
   c. Review three-week "look ahead" construction schedule (current week plus two weeks ahead), including identification of conflicts and delays.

3. Ordering Status: Review status of long-lead time equipment and materials delivery affecting construction progress.

4. RFI Status: Review status of Requests for Interpretation (RFI) status.

5. Submittals Status: Review shop drawings, product data and samples submission and review status.

6. Contract Modifications: Pending Change Orders and Field Instructions. Review status of proposed substitutions.

7. Old Business: Active discussion topics carried over from previous meetings.

8. New Business: New topics of discussion affecting construction progress and quality.

9. Quality Control: Review maintenance of quality standards and identification of non-conforming Work, including proposed remedial measures to be taken by Contractor.

10. Project Record Documents: Status of project record drawings and specifications.

11. Environmental and Safety Issues.

12. Other items affecting progress and quality of the Work.

F. Meeting Time and Location: As mutually agreed by the Architect, the Contractor, and the University's Representative at on-site location.

G. Special Meetings: As necessary, the Architect, the Contractor, or the University's Representative may convene special meetings to discuss specific construction issues in detail and to plan specific activities.

H. Infrastructure Projects
Contractor is to provide a twelve-week (12-week) look ahead schedule. This schedule shall be updated every two weeks. The schedule for the first eight (8) weeks shall be firm with no changes or deviations permitted, unless specifically approved or directed by the Trustees. All modifications shall be made in the period of week nine (9) through week twelve (12). The Contractor and the University Representative shall review the twelve-week schedule weekly to identify early any unforeseen conflicts which could result in schedule changes and shall, to the extent possible, avoid modifications to the initial first eight weeks of the planned schedule.

1.6 PRE-INSTALLATION CONFERENCES

A. Pre-Installation Conferences: When specified in individual product specification Sections, convene a pre-installation conference prior to commencing Work specified in individual product Sections.

1. Require attendance by representatives of firms whose activities directly affect or are affected by Work specified in the Section.

2. Review conditions of installation, preparation and installation procedures and coordination with related Work and work under separate contracts.

3. Distribute written notice of agenda, meeting time, and location a minimum of 4 calendar days in advance.

A. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

1. Contract Documents.
2. Options.
3. Related Change Orders.
4. Review of mockups.
5. Possible conflicts.
6. Compatibility problems.
7. Time schedules.
8. Weather limitations.
9. Manufacturer's written recommendations.
10. Installation procedures.
11. Warranty requirements.
12. Compatibility of materials.
13. Acceptability of substrates.
14. Testing and inspecting requirements.
15. Required performance results.

B. Record significant conference discussions, agreements, and disagreements.

C. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

1.7 CHANGE ORDER REVIEW MEETING

A. Subsequent to the weekly project meeting, a Change order review meeting shall be held to discuss in detail the status of all project change documents. The Contractor, University Representative and Architect (as necessary) shall be in attendance. The following items shall be reviewed at this meeting:

1. Cost Request Bulletins (both previously issued and necessary for progress of construction).
2. Change Orders.
3. Contractor Change Order Requests.
4. Field Instructions (both previously issued and necessary for progress of construction).

1.8 MONTHLY PROGRESS PAYMENT MEETING

A. A meeting shall be conducted by the University Representative each month prior to Contractor's submission of the Payment Application. This meeting shall be held subsequent to the regular project meeting which precedes the required date for submission of the Payment Application.

1. Each line item of the payment application shall be reviewed to confirm agreement with the stated percentage complete for the specific item of work. The University Representative will advise Contractor of percentages which are not acceptable and will red-line a copy of the draft payment application indicating necessary revisions required in order for processing of the payment application.
2. The Contractor shall make necessary revisions in accordance with the red-line comments provided by the University Representative prior to official submission of the payment application.

1.9 CONTRACT CLOSEOUT MEETING

A. Contract Closeout Meeting: As specified in Section 01 77 00 - Closeout Procedures.

B. Approximately four (4) to six (6) weeks prior to the scheduled completion of the Project, for the convenience of the contractor, the University Representative will include in the standard meeting agenda a Project Close-out meeting.

The purpose of the close-out meeting 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 Required Regulatory Inspections
    - Removal of Temporary Facilities
    - Final Cleaning and Pest Control
    - Landscape Maintenance
    - Commissioning/Equipment Startup
    - Acceptance
    - Notice of Completion
    - Final Payment
    - Occupancy

1.10 PARTNERING

A. The Trustees intend to encourage the foundation of a cohesive partnership with the Contractor and the Architect. This partnership will be structured to draw on the strengths of each organization in order 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.

In order implement to this partnership, the parties are encouraged to organize and attend a partnership development seminar. Participation in such a seminar by the contracting parties shall be totally voluntary. Any associated cost shall be shared equally between the University and the Contractor with no change in the contract price.

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION

SECTION 01 31 26
ELECTRONIC COMMUNICATIONS PROTOCOL

PART 1- GENERAL

1.1 DESCRIPTION

A. This Section is in addition to the Contract General Conditions.

B. The Contractor shall be required to use an Electronic Project Management (EPM) system for electronic construction management document control and communications between the University, Architect of Record, other project-related consultants, and the Contractor (collectively known as the Project team). Unless otherwise designated by the University, the system will be maintained and owned by the Contractor but operated collaboratively by the Project Team. The EPM that the Contractor chooses shall be approved by the University. The Contractor shall be responsible for training the members of the Project team on how to use the EPM at no additional costs to the contract.

C. The Contractor shall be primarily responsible for the scanning, uploading, and logging of all electronic documents for the project as indicated below.

D. The Contractor shall provide personnel and equipment as required by their employees to electronically submit all necessary documents.

E. The EPM system shall contain the following information which shall be made available by the Contractor for the project team:

1. Submittal Information (shop drawings, product data, etc.) and Logs
2. Requests for Information and Logs
3. Inspection Requests / Reports
4. Non-Compliance Inspection Reports
5. Project Photographs
6. Project Meeting Minutes
7. Project FTP Site
8. Contract Documents (including specifications, drawings, reference materials, sketches, ASIs, etc.)
9. Other Documentation as determined by the University’s Representative and the Project team.

F. All Request for Information (RFIs) and Inspection Requests shall be submitted by the Contractor to the University electronically through the EPM.

G. The University will **NOT** except faxed and/or handwritten documentation of RFIs, RFI Sketches, and/or Inspection Requests.
   1. The Contractor shall be solely responsible for data entry via the chosen EPM Website for the generation of RFIs.
   2. The Contractor shall be solely responsible for the scanning of sketches / drawings as necessary for the electronic submittal and attachment of necessary information related to RFIs.
   3. Contractor shall supply field personnel all necessary computer equipment necessary to enter RFIs and other documentation electronically.

H. Submittals shall be submitted via Section 01 33 00 Submittals.

1.2 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor shall have sufficient computer(s) with capabilities to access the EPM system at their on-site and off-site project offices. At the pre-construction meeting, the Contractor shall provide to the University's Representative the contact information (including email addresses) of all Contractor personnel that the Contractor chooses to provide coordination for the EPM system and information. At a minimum, this will include the Contractor's Project Engineer and/or other technical staff as required. These personnel shall have sufficient computer skills required to access the Internet and do basic trouble shooting of the EPM system. The Contractor shall provide training and technical support to the Project team personnel for use of the EPM system. The Contractor shall plan on an average of 4-hours training for each of the Project team personnel who will be using the system. Having the above capability in place onsite is a condition precedent to processing the Contractor's first payment request.

1.3 OFFICIAL RECORDS

A. The documentation and records maintained on the EPM system will be the "Official Records" for the project (not including as-builts created by the Architect). At the conclusion of the project all records shall be made available via Adobe "pdf" and/or other electronic filing methods approved by the University Representative for import/export.

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Section Includes:
   1. Requirements for Construction Progress Documentation (CPM) schedules and associated reports.
   2. Requirements for Contractor Work Plans.

1.3 CPM CONSTRUCTION SCHEDULES AND REPORTS

A. General: Comply with the Contract General Conditions.

B. Submittals:

   1. Initial Construction Schedule
      a. Submit a “Draft” 3-Week Look-ahead Schedule at the Pre-construction Meeting.
      b. Within 30 calendar days after issuance of Notice to Proceed, Contractor shall submit a detailed Initial Construction Schedule that includes all construction activities, from Notice to Proceed through Project completion.
      c. Within 15 calendar days, the Construction Administrator will review the Initial Construction Schedule and provide comments.
      d. Contractor shall revise the Initial Construction Schedule in accordance with University comments and resubmit within 15 calendar days. Upon approval by the University, the schedule shall be designated as the Contract Construction Schedule.
      e. No change to the content or CPM logic of the Contract Construction Schedule shall be made by Contractor without prior approval by the Construction Administrator.
   2. Schedule Updates
      a. The Contract Construction Schedule shall be updated and submitted monthly in accordance with the Contract General Conditions.
         1) The updated Contract Construction Schedule shall accurately represent the as-built condition of all completed and in-progress work activities as of the schedule data date.
         2) The Contract Construction Schedule shall use activity codes that allow for logical summarization of like activities. A Summary Schedule of not less than 20 activities shall be submitted monthly with the detailed Contract Construction Schedule.
         3) Prior to preparing the first update of the approved Contract Schedule, Contractor shall designate the approved Contract Schedule as the baseline, or “target schedule”. All schedule updates shall include the original (i.e. target) information, including start dates, finish dates, durations, successors, predecessors, etc. for each activity. The actual progress for each activity shall be shown directly below the target bar.

4) Monthly submittals shall include the following items.
   a) Schedule electronic files
   b) Detailed network diagram (D size)
   c) Summary schedule (8-1/2" x 11")
   d) Detailed bar chart graphics (8-1/2"x 11")
   e) Tabular reports (8-1/2" x 11")

b. A 3-week look-ahead schedule (current week plus two weeks forward), derived directly from the Contract Construction Schedule, shall be updated and submitted for review during each weekly progress meeting. The 3-week look-ahead schedule shall be a sub-network of the Contract Construction Schedule; hand drawn schedules, marked-up versions of previous schedules, or schedules generated using alternate scheduling software will not be accepted.

C. Basic Requirements of Contractor's Scheduling System

1. The Contract Construction Schedule shall be prepared, updated and maintained using the latest version of Primavera Project Planner for Windows (or equal). Should Contractor request the use of an alternate scheduling software system, a formal Request for Substitution shall be submitted in accordance with section 01 25 00. Should the University approve use of an alternate system, Contractor shall be required to provide one legally licensed copy of the software to the Construction Administrator, as well as necessary training in the use of the system, at no additional cost.
2. The system shall be operated by on-site personnel at terminals located in Contractor's site office. On-site management shall be capable of using the system to address all project activities and resources on a real time interactive basis, and capable of rapidly evaluating alternative means and methods in response to job conditions and as required to optimize project management. Contractor's scheduling system shall be capable of providing the following minimum on-site reporting functions:
   a. Precedence Diagram Method (PDM) schedules
   b. Progress reports in tabular formats
   c. Network comparisons
   d. Super and sub-networks
   e. Resource reporting
   f. Report writer allowing flexible formatting and summarization
   g. Graphic output to a laser jet printer or full-size plotting device

D. CPM Schedule Format

1. Activities shall be coded in a logical manner to allow for sorting and grouping of like characteristics, including but not limited to such items as: phase, work shift, project area, activity type (i.e. submittal, agency review, const. activity, etc.), trade, etc.
2. Include activities and milestones as requested for work completed by University under separate contract, University furnished materials, move in, etc.
3. The schedule duration shall be calculated using Critical Path Method for the Initial Construction Schedule, Contract Construction Schedule, and all schedule updates.
4. Work activities shall be divided so that no schedule activity shall be less than one (1) nor more than 30 calendar days.
5. A minimum of 5% of the schedule activities shall be designated as milestone activities.
6. Identify workdays and non-workdays on the schedule.
7. Contractor shall work in conjunction with each subcontractor and supplier to ensure that all relevant submittal, procurement, delivery and installation dates for the various trades are accurately represented in the Initial Construction schedule and each subsequent schedule update.
8. Contractor's Superintendent shall be integrally involved in production of the Initial Construction Schedule and each subsequent update.

9. Include activities for all project submittals as required under Section 01 33 00 and the technical specifications (Divisions 2 through 33).
10. Failure by Contractor to include any element of the work required for performance of the Contract shall not relieve Contractor of the obligation to complete the entire Work of the Contract in accordance with the Contract Completion Date.

E. Construction Analysis

1. The Contractor shall provide the University the following minimum information in the Initial Construction Schedule and subsequent Monthly Updates:
   a. Activity identification code keyed to Summary and Detailed Construction Schedules.
   b. Activity description
   c. Status date and remaining duration
   d. Activity duration
   e. Early start/early finish and late start/late finish
   f. Total float
   g. Free float
   h. Predecessor and successor activity for each individual activity
   i. A listing of all constraints for each individual activity
   j. A comparison between the current update and the Initial Construction Schedule (baseline schedule).
   k. No more than 20% of the total project activities shall be critical or near critical (less than 5 working days of total float).
2. The Initial Construction Schedule and subsequent Monthly Schedule Updates shall include, but not limited to, the following major milestones:
   a. NTP Date, mobilization, coordination review and detailing activities.
   b. Submittal preparation by Contractor and review and approval by the Architect and Construction Administrator, including shop drawings, technical manuals and all other submittals. Contractor shall allow at least 21 calendar days for review of submittals.
   c. Order, manufacture, fabrication, delivery and checkout of all long lead and major construction material.
   d. Off-site improvements
   e. Demolition of existing structures
   f. Earthwork – excavation, backfill and compaction
   g. Foundation
   h. Structural – columns and beams, deck, roof
   i. Masonry
   j. Waterproofing
   k. Elevator superstructure, support
   l. Rough-outs – mechanical, plumbing, electrical, telecommunications, HVAC, fire-alarm, sprinkler system
   m. Exterior finishes – walls, roof
   n. Building Dried-In
   o. Miscellaneous metals and equipment installation
   p. M/E/P finishes - mechanical, plumbing, electrical, telecommunications, HVAC, fire-alarm, sprinkler system, elevator motors
   q. Elevator cabs
   r. Interior drywall/plaster
   s. Interior finishes – painting, flooring, finish cabinetry, hardware
   t. Sitework – curbs, gutters, hardscape, roads
   u. All utility interfaces
   v. Landscaping
   w. Punch List
   x. Performance and acceptance testing
   y. Contractor close-out documentation and training

z. Contractor punch list corrective work
aa. Final cleanup
bb. Identification of all holidays and non-working days.

3. The Contractor shall show all tasks and milestones applicable for the project. The Construction Administrator shall be the final arbitrator on the tasks and milestones that should be included in the Initial Construction Schedule and subsequent updates.

F. Submittal Schedule

1. The University Representative will provide a schedule of all required submittals at the Pre-construction Meeting. Contractor shall input anticipated submission dates for each submittal item. Within 21 calendar days after award of Contract, and before submitting items for review, submit 2 copies of the completed submittal schedule. The submittal numbers designated by University Representative shall be used for identification of all submittals.

G. Responsibility for Completion

1. Should any monthly or weekly update of the Contract Construction Schedule indicate that the critical path has been extended, thus impacting the Contract Completion Date, Contractor shall submit a written action plan for bringing the schedule into compliance with the Contract Completion Date. Contractor shall initiate corrective actions, as approved by the Construction Administrator, at no additional cost. These actions shall include, but not be limited to, one or more of the following:
   a. Increase construction manpower in certain or all trades in order to bring the completion date into compliance with Contract requirements.
   b. Increase the number of labor shifts, working hours per shift, or working days per week as required to bring the completion date into compliance with Contract requirements.
   c. Reschedule activities in order to achieve the maximum number of concurrent work activities.
   d. Arrange and pay for acceleration of fabrication schedules for long lead material items.
   e. Arrange and pay for alternate shipping or delivery methods in order to expedite material procurement.
2. Comments provided by the Construction Administrator concerning the Initial Construction Schedule, Contract Construction Schedule, or any schedule update shall not relieve Contractor from the responsibility for compliance with the entire requirements of the Contract Documents.

0.1 CONSTRUCTION PROGRESS REPORTS

A. Daily Log: Contractor shall maintain a written daily log at the job site with the following information as a minimum:

1. Date.

2. Weather conditions.

3. Subcontractors and trades performing Work under the Agreement on the Site, and number of workers each and number of hours worked by each worker.

4. Others on the Site performing work for University under separate contracts.

5. List of visitors to site, giving name, company or agency affiliation and telephone number.

6. Descriptions of situations and circumstances which could delay normal progress of Work or which could be basis of claim for change in Contract Time or Contract Sum.

7. Changes to Work and who authorized changes.

8. Comments as Contractor determines are appropriate for Project record.

9. Reports shall include photos and/ or videos as needed to illustrate a particular circumstance more accurately.

B. Submission of Logs: Submit one copy of daily logs to University's Representative and Architect at weekly intervals, for review at Construction Progress Meetings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Administrative requirements

B. Construction Progress Schedule Submittal

C. Contractor's review of submittals.

D. Architect's review of submittals.

E. Product data submittals.

F. Shop drawing submittals.

G. Sample submittals.

H. Manufacturer’s Instructions

I. Reports of results of tests and inspections.

J. Operations and Maintenance Data submittals

K. Certificates

1.3 RELATED SECTIONS

A. Section 01 31 13 – Project Coordination

B. Section 01 31 26 – Electronic Communications Protocol

C. Section 01 45 00 - Quality Control: Test and inspection reports.

D. Section 01 77 00 - Closeout Procedures: Submittals for occupancy, Acceptance and Final Payment.

E. Section 01 78 23 - Operation and Maintenance Data: Requirements for preparation and submission.

1.4 DEFINITIONS

A. Shop Drawings, Product Data and Samples: Instruments prepared and submitted by Contractor, for Contractor's benefit, to communicate to Architect the Contractor's understanding of the design intent, for review and comment by Architect on the conformance of the submitted information to the general intent of the design. Shop drawings, product data and samples are not Contract Documents. Drawings, diagrams, schedules and illustrations, with related notes, are specially prepared for the Work of the Contract, to illustrate a portion of the Work.

B. Product Data: Standard published information ("catalog cuts") and specially prepared data for the Work of the Contract, including standard illustrations, schedules, brochures, diagrams, performance charts, instructions and other information to illustrate a portion of the Work.

C. Samples: Physical examples that demonstrate the materials, finishes, features, workmanship and other characteristics of a portion of the Work. Accepted samples shall serve as quality basis for evaluating the Work.

D. Other Submittals: Technical data, test reports, calculations, surveys, certifications, special warranties and guarantees, operation and maintenance data, extra stock and other submitted information and products shall also not be considered Contract Documents but shall be information from Contractor to Architect to illustrate a portion of the Work for confirmation of understanding of design intent.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Administrative Requirements for Submittals: Submittals shall be made in accordance with requirements specified herein and in other Divisions of the Specifications. See also the Contract General Conditions for additional requirements; especially those regarding requests for alternatives or equals and for substitutions.

1. All required submittals, with the exception of O&M manuals, close-out submittals, and mock-ups required to be installed concurrent with specific construction activities, shall be submitted within 90 calendar days after Notice to Proceed.

B. Contractor Coordination of Submittals: 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 will return without action submittals requiring coordination with other submittals until related submittals are coordinated.

C. Submittal Log: Prior to proceeding with affected work, Contractor shall prepare and submit a Submittal Log, which lists submittal items per the product specifications for review and approval by University's Representative and Architect. Contractor shall allow seven (7) calendar days for Trustees review. Submittal Log shall identify all specified submittals to be made and shall serve as checklist for submittals.

1. Maintain accurate submittal log for duration of Contract. Indicate current status of all submittals at all times. Submit log at progress meeting and as otherwise requested by University Representative or Architect.
2. Format shall be suitable for Project and shall be subject to acceptance by University's Representative and the Architect. Comply with directions by University's Representative and the Architect for scope and format of Submittals List.

3. Submittals list shall include the following submittal types and headings:

SD = Shop Drawings are required
PD = Product Data required
SA = Samples required
CO = Color samples required
SS = Site Sample installations are required
LM = List of Materials
RD = Record Drawings required
CE = Certificates are required
PR = Manufacturer's instructions or specifications required
OM = Operation and Maintenance manuals are required
EQ = Maintenance materials/equipment are required
WA = Warranties and/or guarantees are required
LR = Laboratory Reports are required
FT = Factory Test reports are required
ST = Site Test reports required
RP = Submittal to the Architect for record purposes only and not for review or approval
O = Other submittal requirements as specified in Section

2. Sample Table:

Section	SD	PD	SA	CO	SS	LM	RD	CE	PR	OM	EQ	WA	LR	FT	ST	RP	O
05120	x					x											
09250		x			x	x		x					x		x		
10810		x	x														

D. Transmission of Submittals: Submittals shall be processed electronically (with exceptions such as product and material samples or otherwise designated or approved by the University Representative). Transmit all submittals from Contractor to Architect via Electronic Project Management (EPM) system, unless otherwise directed, using a transmittal form for each one. Submittals received from sources other than the Contractor will be returned without action. Include all information specified below for identification of submittal and for monitoring of review process.

1. Architect will provide example Letter of Transmittal, if requested.

2. Submittals shall be concurrently made available via EPM to University's Representative for review.

E. Timing of Submittals: Make submittals sufficiently in advance of construction activities to allow shipping, handling and review by the Architect and Architect's consultants. Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

1. The Architect will make desired corrections and consolidate relevant Trustees comments within fifteen (15) calendar days and return the submittal to the Contractor via EPM system. Submittals, which require coordination with other submittals, may require more than fifteen (15) calendar days review time. Submittals that require selection of colors will be reviewed. Color selection may not be provided until all submittals requiring color selection have been received and reviewed, and color selections have been approved by the Trustees.

2. Make corrections required by the Architect and submit via EPM system for final review and distribution.

3. If an intermediate submittal is necessary, process the same as the initial submittal.

4. 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.

F. Submittals Identification:

1. Provide a space on all submittals electronically approximately four-inches by five-inches on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken. Include the following information on the label for processing and recording action taken:

   a. Project name and Trustees project number
   b. Submission 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.

2. Identify each element on submittal by reference to Drawing sheet number, detail, schedule, room number, assembly or equipment number, Specifications article and paragraph, and other pertinent information to clearly correlate submittal with Contract Drawings. On the submittal transmittal form or separate sheet record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information submitted complies with requirements of the Contract Document. The Architect's review of such submittals or shop drawings or product data shall not relieve the Contractor of responsibility for deviations from the drawings or specifications.

3. Identify each submittal by Specification Section number followed by a number indicating sequential submittal for that Section. Resubmittals shall use same number as original submittal, followed by a letter indicating sequential resubmittal. For example:

   09 26 13-01-01 First submittal for Section 09 26 13 - Gypsum Veneer Plastering.
   09 26 13-02-01 Second submittal for Section 09 26 13 - Gypsum Veneer Plastering.
   09 26 13-02-02 Resubmittal of second submittal for Section 09 26 13 - Gypsum Veneer Plastering.
   09 26 13-02-03 Second resubmittal of second submittal for Section 09 26 13 - Gypsum Veneer Plastering.

4. Place a permanent label or title block on each submittal electronically for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

G. Grouping of Submittals: Unless otherwise specifically permitted by the Architect, make all submittals in groups containing all associated items. The Architect may reject partial submittals as incomplete or hold them until related submittals are made.

H. Unsolicited Submittals: Unsolicited submittals may be returned without being reviewed.

I. Record Submittals: When record submittals are specified, submit in accordance with the Electronic Project Management System requirements. Record submittals will not be reviewed but will be retained for historical and maintenance purposes.

J. Revisions: Revisions to original submittal list and schedule will only be accepted by University Representative and Architect when revisions are required by circumstances not reasonably anticipated by Contractor during preparation of original schedule. Submit revisions not later than 20 calendar days following the date that the need for revision became necessary.

1.6 CONSTRUCTION PROGRESS SCHEDULE SUBMITTAL

A. Submit as specified in the Contract General Conditions under Schedule and Section 01 32 00 for Construction Progress Documentation.

1.7 CONTRACTOR'S REVIEW OF SUBMITTALS

A. Contractor's Review of Submittals: Prior to submission to Architect for review, Contractor shall review each submittal for completeness and conformance to specified requirements. Contractor shall stamp each submittal with a review action stamp and sign each copy of submittal. Submittals without stamp and signature will not be reviewed and will be returned. Electronic signatures are acceptable but will need to be authenticated during the submittal process. Contractor's submittal action stamp shall certify the following actions by Contractor:

1. Field measurements have been determined and verified.

2. Conformance with requirements of Contract Drawings and Specifications is confirmed.

3. Catalog numbers and similar data are correct.

4. Work being performed by various subcontractors and trades is coordinated.

5. Field construction criteria have been verified, including confirmation that information submitted has been coordinated with the work being performed by others for University and actual site conditions.

6. All deviations from requirements of Drawings and Specifications have been identified and noted.

7. Contractor shall certify that submittals have been reviewed and approved:

Stamp Submittals utilizing the following language:

> "The undersigned certifies this submittal has been reviewed and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto; and also warrants that this submittal complies with the Contract Documents and comprises no variation thereto.
>
> Signature: _____Date:_____
> Name Printed: _____Title_____
> Contractor Name:_____

8. Submittals not certified by being stamped and signed by Contractor electronically will be returned without action, as will submittals which, in University Representative's or Architect's opinion, have not been adequately reviewed and coordinated by Contractor.

B. Changes in Work: Changes in the Work shall not be authorized by submittal review actions. No review action, implicit or explicit, shall be interpreted to authorize changes in the Work. Changes shall only be authorized by separate written direction from the University Representative, in accordance with the Contract General Conditions.

C. Allow sufficient review time so that installation will not be delayed as result of time required to process submittals, including time for resubmittals.

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 Work so processing will not be delayed by need to review submittals concurrently for coordination.
   a. University Representative and Architect reserve right to withhold action on submittal requiring coordination with other submittals until related submittals are received.
3. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.
4. If intermediate submittal is necessary, process same as initial submittal.

5. Allow same time for reprocessing each submittal as allowed for processing original submittal.
6. No extension of Contract Time will be authorized because of failure to transmit submittals to University Representative sufficiently in advance of Work to permit processing.

D. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to University Representative using Submittal Transmittal form attached at the end of this section.

1. Submittals received from sources other than Contractor will be returned without action.
2. Number each submittal and resubmittal as indicated in approved Submittal Schedule.
3. Submittals forwarded without a completed Submittal Transmittal form will be returned without review.
4. Submittals shall be submitted electronically unless they are related to materials and products.

1.8 REVIEW OF SUBMITTALS BY UNIVERSITY'S REPRESENTATIVE AND ARCHITECT

A. Review of Submittals by University's Representative and Architect: Submittals shall be a communication aid between Contractor and Architect by which interpretation of Contract Documents requirements may be confirmed in advance of construction.

1. Reviews by University's Representative, Architect and Architect's consultants shall be only for general conformance with the design concept of the Project and general compliance with the information given in the Drawings and Specifications.

2. The Architect’s review shall not be construed as an “approval,” or to relieve the Contractor(s) and material suppliers of responsibility for errors or omissions in the submitted documents.

3. Acceptance of a specific item does not include acceptance of the assembly of which the item is a component.

4. 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 via EPM system.

B. Review Action: Architect will stamp each submittal with a uniform, self-explanatory action stamp.

1. Stamp will be appropriately marked as follows to indicate the action taken:

a. Action 1 (no exception taken): Means fabrication, manufacture, or construction may proceed providing submittal complies with Contract Documents.

b. Action 2 (make corrections noted; no resubmission required): Means fabrication, manufacture, or construction may proceed providing submittal complies with Architect's notations and Contract Documents. (Note: If Contractor cannot comply with notations, make revisions and resubmit.)

c. Action 3 (make corrections noted; submit corrected copy): Means fabrication, manufacture, or construction may proceed; however, submittal did not fully demonstrate full extent of all conditions, details and coordination with other surrounding work and therefore requires additional information and rework as noted. Resubmit shop drawings for final Action 1 or 2. Should Contractor proceed with fabrication, manufacturing or construction, it shall do so at its own risk.

d. Action 4 (rejected, revise and resubmit): Means submittal does not comply with design intent of Contract Documents. Do not use submittals stamped Action 3.

Make revisions and resubmit.

e. Action 5 (rejected, submit specified item): Means submittal varies from specified item or system specified in Contract Documents and is not acceptable for use on the project. Do not use submittals stamped Action 4. Make revisions and resubmit.

f. Action 6 (resubmit with related assembly items): Means submittal of related assembly item(s) are required in conjunction with the submittal for proper review.

g. Action 7 (rejected; incorrect transmittal): Means the Submittal Transmittal form specified for use on the Project was not included, incomplete, or incorrectly completed.

h. Action 8 (No Action): Means documents have not been reviewed by Architect and submittal is returned to Contractor for several possible reasons: submittal not requested, submittal not complete, submittal not coordinated, or submittal bears no resemblance to design intent.

i. Action 9 (submitted to consultant for review): This code is for the use of the Architect to indicate routing to various A/E consultants. Any submittals marked Action 6 by Architect will be returned to Contractor without review.

j. Record Submittals: Specifications require certain information and calculations be submitted for record purposes only. Such submittals will not be acted upon, stamped or returned to Contractor.

2. Do not permit submittals marked "Rejected, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.

3. Note: Any work performed prior to receiving a fully approved submittal shall be done at the Contractor's risk and shall be subject to being replaced if Contract requirements are not met.

C. Contract Requirements:

1. Review actions by Architect and Architect's consultants shall not relieve the Contractor from compliance with requirements of the Contract Drawings and Specifications.

a. Acceptance of submittals with deviations shall not relieve Contractor from responsibility for additional costs of changes required to accommodate such deviations.

b. Deviations included in submittals without prior acceptance will be considered an exception from review of submittals whether noted or not on returned copy.

2. No review action, implicit or explicit, shall be interpreted to authorize changes in the Work. Changes shall only be authorized by separate written Change Order or Field Instruction, in accordance with the Contract General Conditions.

3. When professional certification of performance criteria of materials, systems or equipment is required by Contract Documents, University Representative and Architect shall be entitled to rely upon accuracy and completeness of such calculations and certifications.

4. Notations by University Representative or Architect which increase contract cost or time of completion shall be brought to University Representative’s and Architect's attention before proceeding with Work.

D. Resubmittals:

1. Subject to same terms and conditions as original submittal.

2. University Representative and Architect will accept not more than one resubmittal.

a. Should additional resubmittals be required, Contractor shall reimburse Trustees for University Representative and Architect's accounts for time spent in processing additional resubmittals at rate of 2.5 times rate of Direct Personnel Expense (DPE). Direct Personnel Expense is defined as direct salaries of University Representative's and Architect's personnel engaged on Project and portion of costs of mandatory, and customary contributions and benefits related thereto, including employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions, and similar contributions and benefits.

1.9 PRODUCT DATA SUBMITTALS

A. Product Data: Catalog cuts, photographs, illustrations, standard details, standard schedules, performance charts, material characteristics, color and pattern charts, test data, roughing-in diagrams and templates, standard wiring diagrams and performance curves and listings by Code authorities and nationally-recognized testing and inspection services. Where product data must be specially prepared because standard manufacturer data is not suitable for use, submit according to requirements for shop drawings specified below.

B. Modifications to Standard Product Data: Modify manufacturer's standard catalog data to indicate precise conditions of the Project.

1. Provide space for review action stamps and, if required by authorities having jurisdiction, license seal of Engineer and/or design consultant, if applicable.

2. Mark each copy to show applicable choices and options. Where manufacturer's product data includes information on several products, some of which are not required, mark copies to highlight applicable information.

3. Include the following information:

a. Manufacturer's literature with recommendations,
b. Compliance with recognized trade association standards,
c. Compliance with recognized testing agency standards,
d. Application of testing agency labels and seals,
e. Notation of dimensions verified by field measurement,
f. Notation of coordination requirements,
g. Environmental Product Declaration (EPD)'s information.

Environmental Product Declaration: Independently verified document created and verified in accordance with International Organization for Standardization (ISO) 14025 for Type III environmental declarations that identifies the global warming potential emissions of the facility- specific material or product through a product stage life cycle assessment.

The legislation was introduced as Assembly Bill (AB) 262. It targets the embedded carbon emissions of certain construction materials used in public works projects. AB 262 requires that these materials have a global warming potential that falls below a limit set by the Department of General Services.

The following materials or products are subject to the Buy Clean California Act, and shall have EPD's submitted for all products listed below:

Material or product	Material specifications: CSI Uniformat

Carbon steel rebar	Section 03 20 00, "Bar Reinforcement"
Structural steel	Section 05 12 00, “Structural Steel”
Flat glass	Section 08 80 00, “Glazing”
Mineral wool board insulation	Section 07 21 13.19 “Mineral Board Insulation”

4. Do not submit product data until compliance with requirements of the Contract Documents has been confirmed.

5. Proceed with installation only using reviewed copy of product data with appropriate action stamp as indicated in Section 1.8 B1 above. Do not permit use of unmarked copies of product data in connection with construction.

C. Copies: Submit electronic copies of catalog pages with applicable data highlighted and cross-referenced to Drawings and Specifications requirements. Paper copies will not be acceptable unless specifically authorized by the University Representative. Distribution of approved submittals shall be electronic unless otherwise noted.

1.10 SHOP DRAWINGS SUBMITTALS

A. Shop Drawings: Drawings, diagrams, schedules and other graphic depictions to illustrate fabrication and installation of a portion of the Work. Shop Drawings shall include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:

1. Identification of products and materials included

2. Compliance with referenced standards

3. Notation of coordination requirements

4. Dimensions

5. Notation of dimensions established by field measurement.

B. Coordination: Show all field dimensions and relationships to adjacent or critical features of Work.

C. Preparation of Shop Drawings: Prepare and submit electronically 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.

1. Provide space for review action stamps and, if required by governing authorities having jurisdiction, license seal of Architect and Architect's design consultant, if applicable.

2. Prepare shop drawings submitted in electronic format that shall be printable on minimum sheet size of 17-inches by 22-inches, or smaller if a multiple of 8-1/2 inches by 11-inches. Maximum size shall be 30-inches by 42-inches.

3. Except as otherwise approved by the University Representative, submit all shop drawings electronically using the Contractor’s Electronic Project Management system.

4. Do not use Shop Drawings without an appropriate final review stamp indicating action taken in connection

with construction.

D. Distribution of Reviewed Shop Drawings: Electronic distribution of reviewed shop drawings will be by Contractor and must be stamped by the Architect.

1.11 SAMPLE SUBMITTALS

A. Samples: Full-size, fully-fabricated samples cured and finished as specified and physically identical with the material or product proposed. Samples shall 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:

a. Project name and location

b. Manufacturer and supplier.

c. Name, finish, and composition of material.

d. Location where material is to be used.

e. Specification Section number.

f. Submittal number.

g. Contractor's review stamp.

h. Space for Architect's review stamp.

i. Compliance with recognized standards

j. 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.

3. Submit actual samples. Photographic or printed reproductions will not be accepted.

4. Field samples specified in individual Sections are special types of samples. Field samples shall be full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be evaluated.

B. Preliminary or Selection Submittals: Where samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit full set of choices for the specified material or product.

1. Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

C. Quantity: Except for samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit three sets. One sample 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.

2. Unless otherwise noted, full-size and complete samples will be returned and may be incorporated into field mock-ups. Samples may be incorporated into the Work (completed construction) only with written approval of the Architect and the University Representative in advance of sample preparation.

3. Other samples shall be produced and mounted on cardstock in 8-1/2" by 11" format, three-hole punched and suitable for inclusion in product sample binders. Contractor shall provide binders as directed.

4. Contractor shall prepare and distribute additional samples to subcontractors, manufacturers, fabricators, suppliers, installers, and others as necessary for performance of the Work.

5. Accepted samples will form standard of comparison for finished Work. Defects and deviations in excess of those in accepted samples, are unacceptable and are subject to rejection of completed Work.

D. Color Samples: Architect will review and select colors for Project only after all colors are received, so that colors may be properly coordinated.

E. Review of Field Samples: Review by Architect of field samples will be made for the following products if not otherwise required and if requested by Contractor.

****
THE FOLLOWING ARE EXAMPLES. EDIT TO SUIT ACTUAL PRODUCTS USED FOR PROJECT.
****

1. Casework.

2. Portland cement concrete paving: Trowel finish, imprinted texture, colors, abrasive blasting, exposed aggregate and acid washing.

3. Exterior plaster finish color and texture.

4. Gypsum board textures and finishes.

5. Gypsum plaster textures and finishes.

6. Field-applied paint colors and finishes: Draw-downs and brush-outs.

7. [_____].

1.12 MANUFACTURER'S INSTRUCTIONS

A. Manufacturer's Instructions: Submit manufacturer's instructions for preparation, mixing, assembly, handling, application and installation of products, as applicable and as specified in product sections of the Specifications.

1. Include applicable ICBO ES Evaluation Reports. Evaluation Reports shall be current and shall be annotated for applicable products.

2. Include applicable Safety Data Sheets (SDS), for Project record only.

3. Include written recommendations, as applicable, from manufacturer for Project conditions.

4. Identify conflicts between manufacturers' instructions and Contract Documents.

B. Copies: Electronic distribution will be required. If requested and agreed to by the University Representative, copies may be distributed as necessary.

C. Reviews by Architect and University's Representative: Manufacturer's instructions shall be for information and will not be reviewed by Architect or University's Representative.

1.13 REPORTS OF RESULTS OF INSPECTIONS AND TESTS

A. Reports of Results of Inspections and Tests: Submit technical data, test reports, calculations, surveys, and certifications based on field tests and inspections by independent inspection and testing agency and by authorities having jurisdiction.

1. Reports of results of inspections and tests shall not be considered Contract Documents.

2. Refer to Section 01 45 00 - Quality Control for additional requirements.

1.14 OPERATION AND MAINTENANCE DATA SUBMITTALS

A. Operation and Maintenance Data Submittals: Refer to requirements specified in Section 01 78 23 - Operation and Maintenance Data. Include operation and maintenance data submittals in Construction Progress Schedule. Refer to Contract General Conditions.

1.15 CERTIFICATES

A. When specified in individual specification Sections, submit manufacturers' certificates to Architect through Electronic Project Management system for review as specified.

B. Submit in form of letter or company standard forms, signed by officer of manufacturer.

C. Each certification shall include the following:

1. Project name and location.

2. Contractor's name and address.

3. Quantity and date or dates of shipment or delivery to which certificate applies.

4. Manufacturer's name.

D. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

E. Certificates may be recent or previous test results on material or product, but must be acceptable to University Representative and Architect.

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION

SECTION 01 35 00

SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

1. Environmental protection procedures
2. Smoke/odor control procedures
3. Noise control procedures
4. Dust and air pollution control procedures
5. Hazardous materials procedures
6. Welding and burning mitigation procedures
7. Erosion and sediment control procedures (Storm Water Pollution Protection Plan)
8. Disposal operations procedures
9. Cultural resources procedures
10. Alteration project procedures.

1.3 RELATED SECTIONS

A. Section 01 73 29 - Cutting and Patching: General requirements for procedures and limitations for cutting and patching the work.

1.4 ENVIRONMENTAL PROTECTION PROCEDURES

A. Environmental Protection Procedures: General requirements specified in this Section are in addition to those of the Contract General Conditions.

1. 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.

2. In coordination with the Campus, develop an Environmental Protection Plan in detail and submit to University's Representative for approval within 30 calendar days from the date of commencement specified in the Notice to Proceed. Distribute approved plan electronically to all employees and to all subcontractors and their employees. Environmental Protection Plan shall include, but not be limited to, the following items:

    a. Required permits

b. Proposed sanitary landfill site
c. Other proposed disposal sites
d. Noise Control
e. Dust Control
f. Erosion and Sediment Control
g. Any agreements with public or private landowners regarding equipment, materials storage, borrow sites, fill sites, or disposal sites. Such agreements made by Contractor shall be invalid if their execution causes violation of local or regional grading or land use regulations.

B. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result.

1. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

2. Comply with noise control requirements specified below.

C. Construction Operations: All construction operations shall comply with all applicable Federal, State and local Codes, ordinances, statutes and regulations pertaining to water, air, solid waste and noise pollution. It shall be Contractor's responsibility to identify and determine necessary measures to be taken to comply with such Codes, ordinances, statutes and regulations.

D. 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.

E. Hazardous Materials: See also Section below titled "HAZARDOUS MATERIALS PROCEDURES."

1. Except as otherwise specified, in the event the Contractor encounters on the site material reasonably believed to be asbestos, lead, 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.

2. Work in affected areas shall not thereafter be resumed except by written agreement of the Trustees and Contractor if in fact the material is asbestos, lead, PCB, or other hazardous materials and has not been rendered harmless.

3. Work in affected areas shall be resumed in the absence of asbestos, lead, PCB, or other hazardous materials, or when such materials have been rendered harmless.

F. Protection of Natural Resources: 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 any time.

1. Land resources protection: 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 Project area without permission from University's Representative. Such improvements shall be removed and replaced, if required, by the Contractor at no change in Contract Time and Contract Sum.

2. Landscaping protection: Protect trees that are located near the limits of Project area 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. Refer to additional requirements specified in Section 01 56 00 - Temporary Barriers and Controls.
   a. Trimming: Refer to Section 01 56 39 - Tree and Plant Protection.
   b. Excavations around trees: Refer to Section 01 56 39 - Tree and Plant Protection.
   c. Repair and restoration: Repair or replace trees or other landscape feature scarred or damaged by equipment or construction operations as specified below. Repair and restoration plan shall be reviewed and approved by University's Representative prior to its initiation.

3. Temporary construction:
   a. 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 University's Representative.
   b. Level all temporary roads, parking areas and any other areas that have become compacted or shaped.
   c. Unpaved areas where vehicles have been operated shall receive 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.
   d. Keep haul roads clear at all times of any object that 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.

4. Water resources: Comply with all applicable Federal, State and local Codes, ordinances, statutes and regulations pertaining to discharge (directly or indirectly) of pollutants to underground and natural waters.
   a. Perform all Work under the Contract in a manner that any adverse environmental impacts are reduced to a level that is acceptable to University's Representative and authorities having jurisdiction.
   b. Refer to Division 2 - Site Construction, earthwork Sections, and Civil Drawings for specific requirements on control of storm water and disposal of water from dewatering activities.

5. 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. All soil or water that is contaminated with oily substances due to Contractor's operations shall be disposed of in accordance with applicable regulations, at no change in Contract Time and Contract Sum.

1.5 SMOKE/ODOR CONTROL PROCEDURES

A. Smoke/Odor Control: Protect primary fresh air intakes to existing buildings from exhaust from internal combustion engines, paint and solvent fumes and other noxious fumes and vapors.

1. Implement control methods such as snorkels from engines exhausts to 50 feet away from air intakes.

Provide carbon filters on air intakes as necessary, including periodic replacement of filters to ensure effectiveness.

2. All other activities generating fumes shall be limited to minimum distance of 50 feet from air intake grilles.

3. If fume-generating procedures must occur within 50 feet of an air intake, Contractor shall do the following:
   a. Notify University's Representative at least 14 calendar days in advance of such activities.
   b. Perform Work when it least impacts the University (evenings, weekends or particularly windy days).
   c. Provide carbon filter media, plastic barriers, or other control methods to ensure fresh air only enters into the building ventilation system.

1.6 NOISE CONTROL PROCEDURES

A. Noise Control Procedures, General: Requirements of this Section are in addition to those of the Contract General Conditions. Maximum noise levels within 1,000 feet of classrooms, laboratories, residences, businesses, adjacent buildings and other populated areas:

1. Noise levels for trenchers, pavers, graders and trucks: Not exceeding 90 dBA at 50 feet as measured under noisiest operating conditions.

2. Noise levels for all other equipment: Not exceeding 85 dBA at 50 feet.

B. Noise Control of Equipment:

1. Equip jackhammers with exhaust mufflers and steel muffling sleeves.

2. Use air compressors of a quiet type such as a "whisperized" compressor. Compressor hoods shall be closed while equipment is in operation.

3. Use electrically-powered rather than gasoline or diesel powered fork-lifts.

4. Provide portable noise barriers around jack hammering, with barriers constructed of 3/4-inch plywood lined with 1-inch thick duct-liner type fiberglass on Work side.

C. Noise Control of Construction Operations:

1. Keep noisy equipment as far as possible from noise-sensitive site boundaries.

2. Machines shall not be left idling.

3. Use electric power in lieu of internal combustion engine power whenever possible.

4. Maintain equipment properly to reduce noise from excessive vibration, faulty mufflers, or other sources. All engines shall have properly functioning mufflers.

D. Scheduling of Noisy Operations: Schedule construction activities to minimize time of noisy operations and disruption to occupants of adjoining facilities. Notify University's Representative in advance of performing Work creating unusual noise and schedule such Work at times mutually agreeable.

E. Accessory Noise: Do not play radios, tape recorders, televisions, and other similar items at construction site.

1.7 DUST AND AIR POLLUTION CONTROL PROCEDURES

A. Dust and Air Pollution Control Procedures, General: Requirements of this Section are in addition to those of Article 4.03 of the Contract General Conditions. Employ measures to prevent or minimize creation of dust and air pollution. Contractor shall appoint a dust control monitor to oversee and implement all measures specified in this Article.

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 on-site burning of debris, lumber and other scrap shall be permitted.

4. Properly maintain equipment to reduce gaseous pollutant emissions.

5. Exposed areas, new driveways and sidewalks shall be seeded, treated with soil binders or paved, as appropriate, as soon as possible.

6. Cover stockpiles of soil, sand and other loose materials.

7. Cover trucks hauling soil, debris, sand or other loose materials.

8. Sweep project area streets at least once daily. Refer to Section 01 74 00 - Cleaning Requirements.

B. Contractor shall be responsible to protect adjacent areas from dust, smells, and noise resulting from the Contractor's work using mitigation methods that meet University approval prior to performing any work or installation which may generate such nuisances.

1.8 HAZARDOUS MATERIALS PROCEDURES

A. Identified Hazardous Materials:

1. Limited hazardous materials investigations have been conducted by the University, the results of which are detailed in the hazardous material memorandum provided in the bid documents. This memorandum is furnished to Contractor as Information Available to Contractor.

2. Contractor shall perform hazardous materials abatement in compliance with requirements described in the document identified above. Costs and time associated with abatement of hazardous materials identified in this report shall be included in the Contract Sum and Contract Time.
   a. Comply with California Code of Regulations, Title 8, Sections 1529, 1532.1 and 5208.
   b. Comply with hazardous materials requirements in "California State University, {insert name of campus}, Contractor Safety Handbook," provided to Contractor under separate cover by University's Representative.

3. Architect assumes no responsibility relating to existence of any hazardous materials, and Architect assumes no responsibility or liability for performance of Work described in the report identified above.

B. Unidentified Hazardous Materials:

1. Information regarding known asbestos containing material (ACM) is available from University's office of Industrial Health & Instructional Safety.

2. Except as otherwise specified, in the event that Contractor encounters on the project site material reasonably 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 University's Representative.

3. Work in the affected area shall not be resumed except by written agreement between University and Contractor if in fact the material is asbestos, PCB, or other hazardous materials and has not been rendered harmless.

4. 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.

C. Notification and Disclosure: Refer to Contract General Conditions for Asbestos Notification and Disclosure requirements. Refer to the bid documents for information available to Contractor.

1. In the event that hazardous materials are discovered on site during performance of the Work, Contractor shall notify the University's Representative and request directions for abatement of hazardous materials.

2. University will ensure that the identified hazardous waste and/or hazardous materials are handled and disposed in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code Division 20, Chapter 6.5).

1.9 WELDING AND BURNING MITIGATION PROCEDURES

A. Welding and Burning Mitigation Procedures: 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.

1.10 EROSION AND SEDIMENT CONTROL PROCEDURES

A. Erosion and Sediment Control Procedures: Refer to runoff control requirements specified in Section 01 57 00 - Temporary Controls. Obtain and comply with Storm Water Pollution Protection Plan (SWPPP) and project-specific requirements indicated on Civil Drawings.

1.11 DISPOSAL OPERATIONS PROCEDURES

A. Solid Waste Management:

1. Supply solid waste transfer containers. Daily remove all debris such as spent air filters, oil cartridges, cans, bottles, combustibles and litter. Take care to prevent trash and papers from blowing onto adjacent property. Encourage personnel to use refuse containers. Convey contents to a sanitary landfill.

2. Washing of concrete containers where wastewater may reach adjacent property, storm drains or natural water courses will not be permitted. Remove any excess concrete to the sanitary landfill.

B. 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.

C. Garbage: Store garbage in covered containers, pick up daily and dispose of in a sanitary landfill.

D. Grading Spoil and Landscape Debris: 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 Federal, State and local Codes, ordinances, statutes and regulations.

E. Excavated Materials:

1. Native soil complying with the requirements of applicable Division 2 - Site Construction earthwork Section, may be used for backfill, fill and embankments as allowed in applicable by that section.

2. Remove all material which is excavated in excess of that required for backfill. Dispose of unsuitable excavated material from the site and dispose of it legally.
   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 Contract Sum.
   b. Unsuitable backfill material shall be disposed of off-site in accordance with applicable regulations, in a disposal site indicated in the Environmental Protection Plan.
   c. Remove rubbish and materials unsuitable for backfill immediately following excavation.
   d. Remove material in excess of that required for backfill immediately following backfill operations.

F. Waste Characterization:

1. Waste steams generated by the Contractor shall be properly characterized, contained, documented, and disposed of according to applicable regulations. Universal Waste (if any) within the project area shall be segregated from the waste stream and properly disposed of by the Contractor. If previously unidentified hazardous materials are encountered onsite, then work in that area shall stop, the area demarcated, and the observed locations/quantities immediately transmitted by the Contractor to the University.

2. The Contractor shall submit a Contractor's Construction Waste and Recycling Plan (CSU from 01 74 19A) to the University before generating waste. As applicable, the Contractor shall review any plan line items marked as miscellaneous construction debris (M/C) to evaluate whether such waste streams can be further segregated to divert salvage and/or recyclables to the extent practical.

3. The Contractor shall submit a Contractor's Construction Waste and Recycling Report (CSU from 01 74 19B) to the University at the conclusion of the project. Documentation of the disposal dates and weights for the various waste streams generated (landfill and diverted) shall be provided along with the submittal of CSU form 01 74 19B, and/or at any other time as requested by the University.

1.12 CULTURAL RESOURCES PROCEDURES

A. Cultural Resources Procedures: Requirements specified in this Section are in addition to those required by Article 4.03 of the Contract General Conditions.

1. Project does not pass through any known archaeological sites. However, it is conceivable that unrecorded archaeological sites could be discovered during construction.

2. 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 University Representative and comply with applicable law.

3. Trustees may retain an Archaeologist to monitor and recover data and artifacts during period that work has ceased.

4. All items found which are considered to have archaeological significance are the property of the University.

1.13 ALTERATION PROJECT PROCEDURES

A. Perform Alteration Procedures in accordance with Section 01 35 16-Alteration Procedures.

PART 2 - PRODUCTS

2.1 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

3.1 CUTTING AND PATCHING

A. Perform cutting and patching as specified in Section 01 73 29 - Cutting and Patching.

END OF SECTION

SECTION 01 35 23

OWNER SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Procedures for health and safety protection and requirements for reporting accidents.

1.3 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 University's Representative as soon as possible, but in no event later than seven (7) calendar days after the day the accident occurred.

B. Contractor shall submit a copy of its Injury and Illness Prevention Plan (IIPP) adhering to all requirements of California Code of Regulations (CCR) Title 8 prior to start of construction.

C. Contractor will not be given a Notice-to-Proceed without approval of a complete IIPP to the University's EH&S Department.

D. The Contractor's IIPP shall describe the policies it uses to provide a safe and healthy workplace for employees. The IIPP submittal shall include but is not limited to the following required information (per Title 8, CCR 3203):

1. Identification of the person responsible (by name) for implementing the plan.
2. Describe the system used for insuring employee compliance with the plan.
3. Describe the system used for communication health and safety information to employees.
4. Describe the procedure used for correction of unsafe conditions.
5. Describe the procedure used for investigating injuries and illnesses.
6. Describe the procedure used for identifying and evaluating workplace hazards including:
    a. Establishing IIPP program on site
    b. Inspection of the worksite.
    c. Evaluation of new substances, processes, or equipment
    d. Awareness of new or previously unrecognized hazards
7. Describe how safety and health regulations and standards shall be met.
8. Describe type of protective equipment and work procedures to be used.
9. Describe emergency procedures for accidental spills or exposures.
10. Describe methods for hazard detection and air sampling of confined spaces
11. Describe procedures used to safely enter confined spaces

1.4 FACILITIES AND EQUIPMENT

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

1.5 HAZARDOUS MATERIALS

A. The Contractor shall bring to the attention of the University, any material suspected of being hazardous which he encounters during execution of the Work. The University 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.

1.6 SMOKING POLICY

A. California State University, Northridge is a Tobacco and Smoke-free Campus. Smoking and use of Tobacco and/or electronic cigarettes is prohibited within the campus, buildings, grounds, site, and parking lots.

B. Definition: Smoking means inhaling, exhaling, burning and carrying a lighted cigarette, cigar, pipe, or other smoking apparatus.

C. The University regulations are intended to mitigate exposure to secondhand smoke.

1. Smoking is prohibited in all University buildings (including facilities under construction) and leased space (including space within buildings shared with others). This prohibition shall apply to any area enclosed by the perimeter (outermost) walls of the building, including restrooms, warehouse and storage space. Atriums, balconies, stairwells, and other similar building features are to be considered "within a building."
2. Smoking is prohibited in state/university-owned vehicles. This prohibition includes passenger vehicles and all other state-owned mobile equipment, including light and heavy-duty trucks, cargo and passenger vans, buses, and any other mobile equipment with an enclosed or enclosable driver/passenger compartment.
3. Smoking is prohibited within 25 feet of doorways/buildings.
4. Smoking is prohibited on major walkways throughout campus.
5. Specific outside areas for smoking will not be established or identified.
6. The Contractor will clearly display signs at the entrances/exits and other appropriate locations throughout the construction site to notify workers and the public that smoking is prohibited within the building.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 STOP WORK ORDERS

A. When the Contractor or its subcontractors are notified by the University's Representative of an incident of 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.

B. If the Contractor fails to comply promptly, all or any part of the work performed may be stopped by with a "Stop Work Order." When, in the opinion of the University's Representative, satisfactory corrective action has been taken to correct the unsafe and unhealthy condition, a start order will be given immediately.

C. The Contractor shall not be allowed any extension of time or compensation for damages by reason of or in connection with such work stoppage.

3.2 PROTECTION

A. Contractor shall take all necessary precautions to prevent injury to the public, building occupants, or damage to property of others. For the purposes of the 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 University.

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

SECTION 01 35 43

ENVIRONMENTAL PROCEDDURES HAZARDOUS MATERIAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Hazardous materials abatement.

1.3 IDENTIFIED HAZARDOUS MATERIALS

A. Identified Hazardous Materials:

1. Limited hazardous materials investigations have been conducted by the University, the results of which are in a technical memorandum provided in the bid documents. This memorandum is furnished as Information Available to Contractor. The report is included in the Project Manual.

2. Contractor shall perform hazardous materials abatement in compliance with requirements described in the document identified above. Costs and time associated with abatement of hazardous materials identified in this report shall be included in the Contract Sum and Contract Time.
   a. Comply with California Code of Regulations, Title 8, Sections 1529, 1532.1 and 5208.
   b. Comply with hazardous materials requirements in the University's Contractor Safety Manual, provided to Contractor under separate cover by University's Representative.

3. Architect assumes no responsibility relating to existence of any hazardous materials, and Architect assumes no responsibility or liability for performance of Work described in the report identified above.

1.4 UNIDENTIFIED HAZARDOUS MATERIALS

A. Unidentified Hazardous Materials:

1. Information regarding known hazardous materials is available from University's office of Environmental Health & Safety.

2. Except as otherwise specified, in the event that Contractor encounters on the project site material reasonably believed to be asbestos, lead, 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 University's Representative.

3. Work in the affected area shall not be resumed except by written agreement between University and Contractor if in fact the material is asbestos, lead, PCB, or other hazardous materials and has not been rendered harmless.

4. Work in the affected area shall be resumed in the absence of asbestos, lead, PCB or other hazardous materials, or when such materials have been rendered harmless.

B. Notification and Disclosure: Refer to Contract General Conditions for Asbestos Notification and Disclosure requirements. Refer to bid documents for information available to Contractor.

1. In the event that hazardous materials are discovered on site during performance of the Work, Contractor shall notify the University's Representative and request directions for abatement of hazardous materials.

2. Comply with hazardous materials requirements in the University's Safety Manual, provided to Contractor under separate cover by University's Representative (if available).

3. University will ensure that the identified hazardous waste and/or hazardous materials are handled and disposed in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code Division 20, Chapter 6.5).

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION

SECTION 01 35 53

SECURITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Contractor Security requirements.

1.3 SECURITY (Also refer to Contract General Conditions)

A. Protect the Work from theft, vandalism and unauthorized entry. Contractor shall have sole responsibility for job site security.

B. Maintain security throughout construction until the University's occupancy or acceptance.

C. Provide keying different from permanent keying of locks and include organized, locked and supervised storage for receiving and dispensing items of finish hardware throughout the construction.

D. Provide the 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 upon acceptance of the project or area as complete.

1.4 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into project site.

B. Allow building entrance only to authorized persons with proper identification.

1.5 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 University prior to any opportunity of access to keys by parties other than the University.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1.3 AUTHORITY AND PRECEDENCE OF CODES, ORDINANCES AND STANDARDS

A. Authority: All codes, ordinances and standards referenced in the Drawings and Specifications shall have the full force and effect as though printed in their entirety in the Specifications.

B. Precedence:

1. Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.

2. Where the Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, the Drawings and Specifications shall take precedence so long as such increase is legal.

3. Where no requirements are identified in the Drawings or Specifications, comply with all requirements of applicable codes, ordinances and standards of authorities having jurisdiction.

1.4 STATUTORY AND JURISDICTIONAL REGULATIONS

B. 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, 2013.
2. California State Fire Marshall.
3. Local City Fire Department - Public Assembly Unit *(based on project location)*.
4. Division of the State Architect.
5. Trustees Designated Plan Check Authority (P.C. Associates).
6. Trustees Designated Seismic Peer Review Authority.

C. Performance of the Work shall also comply with applicable requirements of California Code of Regulations (CCR) as follows:
   1. Title 19 - Public Safety.
   2. Title 22 - Social Security.

D. 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.

E. Contractor shall maintain copies of regulatory reference manuals and code books on the job site for reference during planning, submittal processing and field installation of specific work.

F. Contractor and each subcontractor or supplier engaged in construction of the project shall be thoroughly familiar with the codes and regulations applicable to their specific construction activities. Contractor's responsibility for familiarity with applicable codes and regulations shall extend to the entire scope of work specified in the Contract Documents.

1.5 CONFLICTS

1.5.1 Unless otherwise directed by the Architect, if a conflict exists between referenced regulatory requirements, comply with the one establishing more stringent requirements.

1.5.2 Unless otherwise directed by the Architect, if a conflict exists between referenced regulatory requirements and the Contract Documents, comply with the more stringent requirements.

1.5.3 Submittals

1.5.3.1 Submit to the University Representative copies of all permits, licenses, certifications, inspection reports, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records and other documentation established and/or required in conjunction with compliance with specified standards and regulations. Maintain copies of the aforementioned documents at the project site at all times.

2 PRODUCTS (Not Used)

3 EXECUTION (Not Used)

END OF SECTION

SECTION 01 42 00

REFERENCE STANDARDS AND ABBREVIATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Use of references in Drawings and Specifications, including requirements for copies of reference standards at Project site.

B. Definitions of terms used in Specifications and Drawings, including abbreviations, acronyms, names and terms which may be used in Specifications.

1.3 RELATED SECTIONS

A. Section 01 41 00 - Regulatory Requirements: Identification of applicable building Code and other codes, ordinances and regulations applicable to performance of the Work.

1.4 USE OF REFERENCES

A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.

1. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean the term used for University for purposes of the Contract.

2. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect or other responsible design professional for purposes of the Contract.

3. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications.

B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.

C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best and greatest of the alternatives or options for the intended use and prevailing conditions.

D. Copies of Reference Standards:

1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades and crafts are familiar with these generally-recognized standards of the construction industry.

2. Copies of reference standards may be obtained from publishing sources.

E. Jobsite Copies:

1. Contractor shall obtain and maintain at the Project site copies of reference standards identified on the Drawings and in the Specifications in order to properly execute the Work.

2. At a minimum, the following shall be readily available at the site (electronically or in print), as applicable to the Work:
   a. State Building Codes: As referenced in Section 01 41 00 - Regulatory Requirements.
   b. Safety Codes: Occupational Safety and Health Act (OSHA) regulations and State of California, California Administrative Code, California Code of Regulations (CCR), Title 8 - Industrial Relations, Chapter 4, Subchapter 7, General Industry Safety Orders (Cal-OSHA), to extent applicable to the Work.
   c. General Standards:
      1) CCR Title 24, Part 2, Volume 3: 2013 California Building Code (CBC) Material, Testing and Installation Standards.
      2) CCR Title 24, Part 12: 2001 California Referenced Standards Code.
      3) Underwriters Laboratories, Inc. (UL) Building Products Listing.
      4) Factory Mutual Research Organization (FM) Approval Guide.
      5) American Society for Testing and Materials (ASTM) Standards in Building Codes.
      6) American National Standards Institute (ANSI) standards.
   d. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.
   e. Common Materials Standards: American Concrete Institute (ACI), American Institute of Steel Construction (AISC), American Welding Society (AWS), Gypsum Association (GA), National Fire Protection Association (NFPA), Tile Council of America (TCA) and Woodwork Institute of California (WIC) standards to the extent referenced within the Contract Specifications.
   f. Research Reports: ICC Evaluation Service, Inc. (ICC-ES), formerly ICBO Evaluation Service, Inc. (ICBO ES) Research Reports and National Evaluation Service, Inc. Reports (NER), for products not in conformance to prescribed requirements stated in California Building Code (CBC).
   g. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.

F. Edition Date of References:

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of the [Agreement] [Contract Drawings and Contract Specifications].

2. All amendments, changes, errata and supplements as of the effective date shall be included.

G. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.5 DEFINITIONS OF TERMS

A. Basic Contract Definitions: Words and terms governing the Work are defined in the Contract General and Supplementary Conditions, as referenced in the Agreement.

B. Words and Terms Used on Drawings and in Specifications: Additional words and terms may be used in the Drawings and Specifications and are defined as follows:

1. "Applicable": As appropriate for the particular condition, circumstance or situation.

2. "Approve(d)": Approval action shall be limited to the duties and responsibilities of the party giving

approval, as stated in the Conditions of the Contract. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences and procedures of construction. Approval shall not relieve the Contractor from responsibility to fulfill Contract requirements.

3. "And/or": If used, shall mean that either or both of the items so joined are required.

4. "Directed": Limited to duties and responsibilities of the University's Representative or Architect as stated in the Contract General Conditions, meaning "as instructed by the University's Representative or Architect, in writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the University's Representative or Architect", "requested by the University's Representative or Architect", and similar phrases. No implied meaning shall be interpreted to extend the responsibility of the University's Representative, Architect or other responsible design professional into the Contractor's supervision of construction.

5. "Equal" or "Equivalent": As determined by Architect or other responsible design professional as being equivalent, considering such attributes as durability, finish, function, suitability, quality, utility, performance and aesthetic features.

6. "Furnish": Means supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

7. "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.

8. "Install": Describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.

9. "Installer"
   a. "Installer": refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
   b. "Experienced Installer": The term "experienced," when used with "installer" means having a minimum of 5 previous Projects similar in size to this Project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.

10. "Jobsite": Same as site.

11. "Necessary": With due considerations of the conditions of the Project and as determined in the professional judgment of the Architect or other responsible design professional as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences and procedures of construction.

12. "Noted": Same as "Indicated."

13. "Per": Same as "in accordance with," "according to" or "in compliance with."

14. "Products": Material, system or equipment.

15. "Project Site": Same as "Site."

16. "Proper": As determined by the Architect or other responsible design professional as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, which are solely the Contractor's responsibility to determine.

17. "Provide": Means "furnish and install, complete and ready for the intended use."

18. "Regulation": Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as and rules, conventions and agreements within the construction industry that control performance of the Work.

19. "Required": Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, such as:
    a. Regulatory requirements of authorities having jurisdiction.
    b. Requirements of referenced standards.
    c. Requirements generally recognized as accepted construction practices of the locale.
    d. Notes, schedules and graphic representations on the Drawings.
    e. Requirements specified or referenced in the Specifications.
    f. Duties and responsibilities stated in the Bidding and Contract Requirements.

20. "Scheduled": Same as "Indicated."

21. "Selected": As selected by the University's Representative, Architect or other responsible design professional from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, and texture or price range.

22. "Shown": Same as "Indicated."

23. "Site": Same as "Site of the Work" or "Project Site;" the area or areas or spaces occupied by the Project and including adjacent areas and other related areas occupied or used by the Contractor for construction activities, either exclusively or with others performing other construction on the Project. The extent of the Project Site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.

24. "Supply": See "Furnish."

25. "Testing Laboratory" or "Testing Laboratories": An independent entity engaged to perform specific inspections or tests, at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests. Refer to Section 01458 - Testing Laboratory Services.

26. "Testing and Inspection Agency": Same as "Testing Laboratory."

1.6 ABBREVIATIONS, ACRONYMS, NAMES AND TERMS, GENERAL

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web site addresses are subject to change and are believed to be accurate and up-to-date.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(202) 862-5100
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202

AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AFPA	American Forest & Paper Association (See AF&PA)	
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America	(800) 395-2522

	www.alca.org	(703) 736-9666
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts www.aosaseed.com	(505) 522-1437
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (212) 591-7722
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industries International) www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (See WCSC)	
AWI	Architectural Woodwork Institute www.awinet.org	(800) 449-8811 (703) 733-0600

AWPA	American Wood-Preservers' Association www.awpa.com	(334) 874-9800
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI www.bicsi.org	(813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
CCC	Carpet Cushion Council www.carpetcushion.org	(203) 637-1312
CCFSS	Center for Cold-Formed Steel Structures www.umr.edu/~ccfss	(573) 341-4471
CDA	Copper Development Association Inc. www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CGSB	Canadian General Standards Board www.pwgsc.gc.ca/cgsb	(800) 665-2472 (819) 956-0425
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPA	Composite Panel Association	(301) 670-0604

	www.pbmdf.com	
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(800) 463-6727 (416) 747-4000
CSI	Cast Stone Institute 10 West Kimball St. Winder, GA 30680-2535	(770) 868-5909
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.asce.org	(800) 548-2723 (703) 295-6300
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association	(315) 339-6937
FCI	Fluid Controls Institute www.fluidcontrolsinstitute.org	(216) 241-7333
FIBA	Federation Internationale de Basketball Amateur (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35

FM	Factory Mutual System (See FMG)	
FMG	FM Global (Formerly: FM - Factory Mutual System) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridaroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fscoax.org	52 951 5146905
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	Geosynthetic Research Institute (See GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (See NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (See CSA)	
IBF	International Badminton Federation www.intbadfed.org	(441-24) 223-4904
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369

ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance (The) www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(702) 567-8150
ITS	Intertek www.intertek.com	(800) 345-3851 (607) 753-6711
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association www.lma.org	(201) 664-2700
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864 (847) 577-7200
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association www.metalframingmfg.org	(312) 644-6610
MH	Material Handling Industry of America (See MHIA)	
MHIA	Material Handling Industry of America	(800) 345-1815

	www.mhia.org	(704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800)213-7193 x453
NAIMA	North American Insulation Manufacturers Association (The) www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(303) 697-8441

NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association www.nofma.org	(901) 526-5016
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (See RTI)	
NWWDA	National Wood Window and Door Association (See WDMA)	
OPL	Omega Point Laboratories, Inc. www.opl.com	(800) 966-5253 (210) 635-8100
PCI	Precast/ Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720

PGI	PVC Geomembrane Institute www.pgi-tp.ce.uiuc.edu	(217) 333-3929
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	(800) 644-2400 (312) 670-2400
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
RTI	Roof Tile Institute (Formerly: NTRMA - National Tile Roofing Manufacturers Association) www.ntrma.org	(312) 670-4177
SAE	SAE International www.sae.org	(724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 462-1930
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(516) 294-5424
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (See IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154

SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPI/SPFD	Society of the Plastics Industry, Inc. (The) Spray Polyurethane Foam Division (See SPFA)	
SPRI	SPRI (Single Ply Roofing Institute) www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(608) 833-5900
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 705-9898
UL	Underwriters Laboratories Inc. www.ul.com	(800) 285-4476 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463

WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (See WCSC)	
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 661-4261
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
WI	Woodwork Institute (Formerly: WIC – Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (See WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 548-0112
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

A. Abbreviations, General: The following are commonly-used abbreviations which may be found on the Drawings or in the Specifications:

AC or ac	Alternating current or air conditioning (depending upon context)
AMP or amp	Ampere
C	Celsius
CFM or cfm	Cubic feet per minute
CM or cm	Centimeter
CY or cy	Cubic yard
DC or dc	Direct current
DEG or deg	Degrees
F	Fahrenheit
FPM or fpm	Feet per minute
FPS or fps	Feet per second
FT or ft	Foot or feet
Gal or gal	Gallons
GPM or gpm	Gallons per minute
IN or in	Inch or inches
Kip or kip	Thousand pounds
KSI or ksi	Thousand pounds per square inch
KSF or ksf	Thousand pounds per square foot
KV or kv	Kilovolt

KVA or kva	Kilovolt amperes
KW or kw	Kilowatt
KWH or kwh	Kilowatt hour
LBF or lbf	Pounds force
LF or lf	Lineal foot
M or m	Meter
MPH or mph	Miles per hour
MM or mm	Millimeter
PCF or pcf	Pounds per cubic foot
PSF or psf	Pounds per square foot
PSI or psi	Pounds per square inch
PSY or psy	Per square yard
SF or sf	Square foot
SY or sy	Square yard
V or v	Volts

B. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

ADAAG	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office www.access.gpo.gov/nara/cfr	(888) 293-6498 (202) 512-1530
CRD	Handbook for Concrete and Cement Available from Army Corps of Engineers Waterways Experiment Station www.wes.army.mil	(601) 634-2355
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point www.dodssp.daps.mil	(215) 697-6257

C. Undefined Abbreviations, Acronyms, Names and Terms: Words and terms not otherwise specifically defined in this Section, in the Instructions to Bidders, in the Contract General Conditions, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:

1. Dictionary of Architecture and Construction, Fourth Edition (Cyril M. Harris, McGraw-Hill Book Company, 2006).

2. The American Institute of Architects (AIA) Document M101, "Glossary of Construction Industry Terms."

3. Encyclopedia of Associations, published by Gale Research Co., commonly available in public libraries.

PART 2 - PRODUCTS

Not Applicable to this Section.

PART 3 - EXECUTION

Not Applicable to this Section.

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Definitions

B. Responsibilities

C. Inspections

D. Submittals

E. Regulatory requirements for testing and inspection.

F. Contractor's quality control.

G. Quality of the Work.

H. Inspections and tests by authorities having jurisdiction.

I. Inspections and tests by serving utilities.

J. Inspections and tests by manufacturer's representatives.

1.3 RELATED SECTIONS

A. Section 01 31 13 - Coordination: Coordination of Work under Contract.

B. Section 01 41 00 - Regulatory Requirements: Compliance with applicable codes, ordinances and standards.

C. Section 01 45 29 - Testing Laboratory Services: Selection of independent testing and inspection laboratory; tests and inspections conducted by testing laboratory.

D. Section 01 60 00 - Product Requirements: Product options, substitutions, transportation and handling requirements, storage and protection requirements, and system completeness requirements.

1.4 DEFINITIONS

A. Quality control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by University Representative or Architect.

B. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.

1. Specific quality control requirements for individual activities are specified in Sections relative to those

activities.

2. Specified inspections, tests, and related actions do not limit Contractor's quality control procedures that facilitate compliance with Contract Document Requirements.

3. Requirements for Contractor to provide quality control services required by University Representative, Architect, or authorities having jurisdiction are not limited by provisions of this Section.

0.5 RESPONSIBILITIES

A. General: Comply with requirements of Contract General Conditions.

B. Unless otherwise indicated as the responsibility of another identified entity, Trustees will employ and pay for services of independent testing laboratory to perform inspections, tests, and other quality control services specified elsewhere in Contract Documents and required by authorities having jurisdiction.

0. Where individual Sections specifically indicate that certain inspections, tests, and other quality control services are Contractor's responsibility, Contractor shall employ and pay qualified independent testing agency to perform quality control services. Costs for these services are included in Contract Sum.

a. Where Trustees have engaged testing agency for testing and inspecting part of Work, and Contractor is also required to engage entity for same or related element, Contractor shall not employ entity engaged by Trustees, unless agreed to in writing by Trustees.

C. Retesting: Contractor is responsible for retesting where results of inspections, tests, or other quality control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether original test was Contractor's responsibility.

0. Cost of retesting Work, revised or replaced by Contractor, is Contractor's responsibility where required tests performed on original Work indicated noncompliance with Contract Document requirements.

D. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

0. Provide access to Work.

1. Furnish incidental labor and facilities necessary to facilitate inspections and tests.

2. Assist Trustees as requested in taking quantities of representative samples of materials that require testing or assist testing agency in taking samples.

3. Provide facilities for storage and curing of test samples.

4. Provide security and protection of samples and test equipment at Project Site.

E. Duties of Testing Agency: Independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with University Representative, Architect, and Contractor in performance of agency's duties. Testing agency shall provide qualified personnel to perform required inspections and tests.

1. Agency shall notify University Representative, Architect, and Contractor promptly of irregularities or deficiencies observed in Work during performance of its services.

2. Agency is not authorized to release, revoke, modify, alter, interpret, or expand requirements of Contract Documents or approve or accept any portion of Work.

3. Agency shall not perform any duties of Contractor.

1.6 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 any violation of the provisions of the building code or of other ordinances of the California State Building Code or other regulations of Agencies having jurisdiction over this project, including plans and specifications. Inspections presuming to give authority to violate or cancel the provisions of code or contract documents 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, Trustees, nor 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 Contractor to notify the Inspector that specific 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 submitted in writing, using the inspection request form included at the end of this section.

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 a specific 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 prior to the end of the workday, or a Deficiency Notice will be issued by the Inspector placing the Contractor on notice that the work does not conform to the requirements of the Contract Documents. Such portion of Work 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. The Inspection Requirements Schedule shall show the anticipated inspection needs for the following three weeks to facilitate appropriate campus coordination, 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. Foundation Inspection: To be made after excavations for footings are completed and all reinforcing steel is in place. For concrete foundations, all required forms shall be in place prior to inspection. All materials for foundation shall be on the project site, with the exception of ready-mixed concrete prepared at an off-site batch plant in accordance with the Project

Specifications.

b. Concrete Slab or Under-floor Inspection: To be made after all in-slab or under-floor building service equipment, conduit, piping, accessories, and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed (including subfloor).

c. 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.

d. Mechanical and Electrical Rough-In Inspection: To be made after all mechanical and electrical rough-in work is completed.

e. 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.

f. Final Inspection: To be made when the building is completed and ready for occupancy.

g. Other Inspections: In addition to the 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.

h. Reinspections: A reinspection fee may be assessed for each inspection or reinspection 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.

0.7 SUBMITTALS

A. Reports:

1. Where Trustees are responsible for service, independent testing agency shall submit certified reports electronically (or in writing if necessary), of each inspection, test, or similar service to University Representative and Architect.

2. If Contractor is responsible for service, independent testing agency shall submit certified report electronically (or in writing if necessary) of each inspection, test, or similar service through Contractor for distribution as noted above.

3. Submit additional copies of each written report directly to governing authority when authority so directs.

B. Report Data: Provide reports electronically of each inspection, test, or similar service including, but not limited to the following:

1. Date of issue.

2. Project title and number.

3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.

5. Names of individuals making inspection or test.

6. Designation of Work and test method.

7. Identification of Specification Section.

8. Complete inspection or test data.

9. Test results and interpretation of test results.

10. Ambient conditions at time of sample taking and testing.

11. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.

12. Name and signature of laboratory inspector.

13. Recommendations on retesting.

1.8 REGULATORY REQUIREMENTS FOR TESTING AND INSPECTION

A. Building Code Requirements: Comply with requirements for testing and inspections in the California Building Code (CBC), as interpreted by authorities having jurisdiction. Additional requirements for testing and inspection, as adopted by authorities having jurisdiction, shall be included in the Contract Sum and Contract Time.

B. Requirements of Fire Regulations: Comply with testing and inspection requirements of the Fire Marshal having jurisdiction. All tests and inspections shall be included in Contract Sum and Contract Time.

1.9 CONTRACTOR'S QUALITY CONTROL

A. Contractor's Quality Control: Contractor shall ensure that products, services, workmanship and site conditions comply with requirements of the Drawings and Specifications by coordinating, supervising, testing and inspecting the Work and by utilizing only suitably qualified personnel.

B. Quality Requirements: Work shall be accomplished in accordance with quality requirements of the Drawings and Specifications, including, by reference, all Codes, laws, rules, regulations and standards. When no quality basis is prescribed, the quality shall be in accordance with the best accepted practices of the construction industry for the locale of the Project, for projects of this type.

C. Quality Control Personnel: Contractor shall employ and assign knowledgeable and skilled personnel as necessary to perform quality control functions to ensure that the Work is provided as required.

D. Coordination of Field Quality Control: Contractor shall coordinate and schedule field quality control activities of University's independent testing and inspection agency and inspectors from authorities having jurisdiction.

1.10 QUALITY OF THE WORK

A. Quality of Products: Unless otherwise indicated or specified, all products shall be new, free of defects and fit for the intended use.

B. Quality of Installation: All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements.

C. Protection of Existing and Completed Work: Take all measures necessary to preserve and protect existing and completed Work free from damage, deterioration, soiling and staining, until Acceptance by the University.

D. Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code research report requirements in preparing, fabricating, erecting, installing, applying, connecting and finishing Work.

E. Deviations from Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.

F. Verification of Quality: Work shall be subject to verification of quality by University or Architect in accordance with provisions of the Contract General Conditions.

1. Contractor shall cooperate by making Work available for inspections and observations by University's Representative, Architect and/or their consultants.

2. Such verification may include mill, plant, shop, or field inspection, as required.

3. Provide access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.

4. Provide all information and assistance as necessary, including that from subcontractors, fabricators, materials suppliers and manufacturers, for verification of quality by University's Representative or Architect.

5. Contract modifications, if any, resulting from such verification activities shall be governed by applicable provisions in the Contract General Conditions.

G. Observations by Architect and Architect's Consultants: Periodic and occasional observations of Work in progress will be made by Architect and Architect's consultants as deemed necessary to review progress of Work and general conformance with the design intent.

H. Limitations on Inspection, Test and Observations: Employment of an independent testing and inspection agency and observations by Architect and Architect's consultants shall not relieve Contractor of the obligation to perform Work in full conformance to all requirements of Contract Documents and applicable Building Code and other regulatory requirements.

I. Rejection of Work: The University reserves the right to reject any and all Work not in conformance to the requirements of the Contract Documents.

J. Correction of Non-Conforming Work: Non-conforming Work shall be modified, replaced, repaired or redone by the Contractor at no change in Contract Sum or Contract Time.

K. Acceptance of Non-Conforming Work: Acceptance of non-conforming Work, without specific written acknowledgement and approval of the University's Representative, shall not relieve the Contractor of the obligation to correct such Work.

L. Contract Adjustment for Non-conforming Work: Should University's Representative determine that it is not feasible or not in University's interest to require non-conforming Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between University's Representative and Contractor. If an equitable amount cannot be agreed upon, a Field Instruction will be issued and the amount in dispute resolved in accordance with applicable provisions of the Contract General Conditions.

M. Non-Responsibility for Non-Conforming Work: Architect and Architect's consultants disclaim any and all responsibility for Work produced that is not in conformance with the Contract Drawings and Contract Specifications.

1.11 INSPECTIONS AND TESTS BY AUTHORITIES HAVING JURISDICTION

A. Inspections and Tests by Authorities Having Jurisdiction: Contractor shall cause all tests and inspections required by authorities having jurisdiction to be made for Work under this Contract.

1. Except as specifically noted, scheduling, coordinating and conducting such inspections and tests shall be solely the Contractor's responsibility.

2. All time required for inspections and tests by authorities having jurisdiction shall be included in the Contract Time.

3. Costs for inspections and tests by authorities having jurisdiction will be paid by University.

1.12 INSPECTIONS AND TESTS BY SERVING UTILITIES

A. Inspections and Tests by Serving Utilities: Contractor shall cause all tests and inspections required by serving utilities to be made for Work under the Contract.

1. Except as specifically noted, scheduling, coordinating and conducting such inspections and tests shall be solely the Contractor's responsibility. All time required for inspections and tests by serving utilities shall be included in the Contract Time.

2. Except as specifically noted, all costs for inspections and tests by serving utilities shall be included in the Contract Sum.

1.13 INSPECTIONS AND TESTS BY MANUFACTURER'S REPRESENTATIVES

A. Inspections and Tests by Manufacturer's Representatives: Contractor shall cause all specified tests and inspections to be conducted by materials or systems manufacturers. Additionally, all tests and inspections required by materials or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contract Sum.

1. Scheduling, coordinating and conducting such inspections and tests shall be solely the Contractor's responsibility. All time required for inspections and tests by manufacturer's representatives shall be included in the Contract Time.

2. All costs for inspections and tests by manufacturer's representatives shall be included in the Contract Sum.

1.14 INSPECTIONS BY INDEPENDENT TESTING AND INSPECTION AGENCY

A. Inspections by independent Testing Laboratory: Refer to Section 01 45 29 - Testing Laboratory Services.

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION

SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Administrative and procedural requirements for quality control services.

1. 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.

2. 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.

1.3 RELATED SECTIONS

A. Section 01 45 00 - Quality Control: General requirements for inspections and tests.

B. Individual Product Specifications Sections: Specific requirements for inspections and tests.

1.4 RESPONSIBILITIES

A. Testing Laboratory: 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, the Trustees, Inspector, and each agency engaged to perform inspections, testing 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 Inspector the scheduling times for inspections, tests, taking samples and similar activities.

E. Payment for Testing Laboratory Services:

1. Unless otherwise specified, Trustees will pay for tests and inspections performed by Testing Laboratory, as specified in individual product Sections of the Specifications. Overtime costs due to scheduling for the convenience of the Contractor or to make up for Work behind schedule shall be deducted by Change Order from Contract Sum.

2. When tests and inspections are required on an overtime basis, initial payment will be made by the Trustees. All costs for overtime testing and inspections shall be paid for by the Contractor and deducted by Change Order from the Contract Sum.

3. Unless otherwise specified, Contractor shall be back-charged for mileage and travel time for inspection services requiring more than fifty (50) miles from Project site to test products purchased by Contractor.

   a. Testing laboratory shall forward all billings and records of such costs to University's Representative for approval.
   b. Such costs, if determined by University's Representative to be attributable to the Contractor under this provision, shall be deducted by Change Order from Contract Sum.

4. Contractor shall pay all costs for repeated observations, reinspection or retesting by Testing Laboratory due to non-conforming Work. Costs shall be deducted by Change Order from Contract Sum.

5. Additional Tests, Inspections and Related Services: Contractor shall be charged costs for additional tests, inspections and related services, due to the following. Such costs shall be deducted by Change Order from Contract Sum.

   a. Work is not ready to inspect when inspectors arrive.
   b. Failure to properly schedule or notify testing and inspection agency or authorities having jurisdiction.
   c. Changes in sources, lots or suppliers of products after original tests or inspections.
   d. Changes in means methods, techniques, sequences and procedures of construction that necessitate additional testing, inspection and related services.
   e. Changes in mix designs for concrete and mortar after review and acceptance of submitted mix design.
   f. Multiple off-site fabrication sites.
   g. Fabrication and installation errors.
   h. Inefficient, sporadic, or poorly organized manufacturing that causes additional testing costs to be incurred.

F. Segregation in Billing of Overtime Services: Billings for overtime services shall have straight time and overtime costs segregated and shall have substantiation by detailed explanations justifying necessity of services on overtime basis.

G. Obligation to Perform Work According to Contract Documents: Employment of Testing Laboratory shall in no way relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents and applicable Codes.

H. Limits on Testing Laboratory's Authority:

1. Testing Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Testing Laboratory may not approve or accept any portion of the Work.

3. Testing Laboratory may not assume any duties of Contractor.

4. Testing Laboratory shall have no authority to stop Work.

I. Contractor's Responsibilities to Testing Laboratory: Contractor shall make the Work in all stages of progress available for personal and continuous observation by the Testing Laboratory.

1. Testing Laboratory shall have free access to any and all parts of the Work at all times.

2. Contractor shall provide the Testing Laboratory with reasonable facilities for Testing Laboratory to obtain such information as Testing Laboratory determines is necessary for Testing Laboratory to be kept fully informed of the progress and manner of performance of the Work and character of products, according to Testing Laboratory's duties and responsibilities.

3. Observation and inspection of the Work by Testing Laboratory shall not relieve Contractor from any obligation to fulfill the requirements of the Contract.

J. Retesting: When materials tested fail to meet requirements herein specified, they shall be promptly corrected or removed and replaced and retested in a manner required by University's Representative. Costs involved in retesting shall be deducted by Change Order from Contract Sum.

1.5 TESTS AND INSPECTIONS

A. Tests and Inspections, General: All construction work shall be subject to inspection by the Trustees and the Architect and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the Trustees.

1. The Trustees 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 Trustees 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 Trustees require that such work is ready for inspection. The Trustees require that every request for inspection be filed at least two working days 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 of Work that 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 for but is not complete or when corrections called for are not made.

2. The Contractor shall be responsible for reviewing all of the Contract Documents for any additional inspection requirements.

1.6 SUBMITTALS

A. Reports: Trustees' independent testing agency shall submit a certified electronic report of each inspection, test or similar service, to the Architect, the Trustees, the Contractor, and the Inspector.

B. Report Data: Electronically distributed 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.

1.7 SCHEDULES FOR TESTING

A. Testing and Inspection Schedule: After discussion with University's Representative and Testing Laboratory in advance of performance of testing and inspection services, Contractor shall determine dates and times necessary

for Testing Laboratory to schedule performance of required tests and inspections and determine due dates for issuance of reports.

1. Integrate Testing and Inspection Schedule with Construction Schedule requirements specified in the Contract general Conditions.

2. Determine and indicate in Testing and Inspection Schedule necessary time for preparation and submission of reports of tests and inspections.

B. Revising Testing and Inspection Schedule: When changes of the construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

C. Adherence to Testing and Inspection Schedule: When the Testing Laboratory is ready to test according to the determined schedule but is prevented from testing or taking specimens due to incompleteness of the work, all extra costs for testing attributed to the delay may be back-charged to the Contractor and shall not be borne by the University.

1.8 CONTRACTOR'S RESPONSIBILITIES

A. Contractor's Responsibilities for Inspections and Tests:

1. Notify Project Inspector and Testing Laboratory two working days in advance of expected time for operations requiring inspection and testing services.

2. Deliver to Testing Laboratory or designated location, adequate samples of materials proposed to be used which require advance testing, together with proposed mix designs.

3. Cooperate with University's Representative, Testing Laboratory, Project Inspector, Architect, Architect's consultants and other responsible design professionals. Provide access to Work areas and off-site fabrication and assembly locations, including during weekends and after normal work hours.

4. Provide incidental labor and facilities to provide safe access to Work to be inspected and tested, to obtain and handle samples at the Work site or at source of products to be tested, and to store and cure test samples.

5. Provide at least 15 days in advance of first inspection or test of each type, a schedule of tests or inspections indicating types of tests or inspections and their scheduled dates.

6. Provide two working days notice to University's Representative, Architect and, as applicable, responsible design consultant, of each test and inspection.

1.9 INSPECTIONS TESTS BY OTHERS

A. Inspections by Others: Refer to Section 01 45 00 - Quality Control for requirements regarding observations and inspections by University's Representative, Architect and Project Inspector.

B. Tests by Others: Refer to Section 01 45 00 - Quality Control and individual product Specifications Sections for requirements regarding tests and inspections by product manufacturers and others, including serving utilities.

PART 2 - PRODUCTS

Not Applicable to this Section.

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. Repair and Protection: 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."

1. Protect construction exposed by or for quality control service activities, and protect repaired construction.

2. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

SECTION 01 51 00

TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Temporary utilities and services, including:

1. Heating and cooling during construction
2. Ventilation during construction
3. Temporary water service
4. Temporary sanitary facilities
5. Temporary power and lighting
6. Construction telephone service.

B. Removal of temporary utilities.

1.3 RELATED SECTIONS

A. Section 01 11 00 - Summary of the Work: Contractor's use of site and premises.

1.4 SUBMITTALS

A. Temporary Utilities: Submit reports of tests, inspections, applicable meter readings and similar procedures performed on temporary utilities.

1.5 TEMPORARY UTILITIES AND SERVICES

A. Temporary Utilities and Services, General: All utilities and other services necessary for proper performance of the Work shall be provided by Contractor, unless specifically noted otherwise. Refer to Contract General Conditions. Temporary utilities and services shall conform to all applicable requirements of authorities having jurisdiction and serving utility companies and agencies, including the following:

1. Requirements of authorities having jurisdiction, including:
   a. CalOSHA
   b. California Building Code (CBC) requirements
   c. Health and safety regulations
   d. Utility agency and company regulations
   e. Police, Fire Department and Rescue Squad rules
   f. Environmental protection regulations

2. Standards:
   a. NFPA Document 241 - Building Construction and Demolition Activities.

b. ANSI A10 Series - Safety Requirements for Construction and Demolition.
c. NECA Electrical Design Library - Temporary Electrical Facilities.
d. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with California Electrical Code (CEC).

B. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

C. Temporary Connections and Fees: Contractor shall arrange for services and pay all fees and service charges for temporary power, water, sewer, gas and other utility services necessary for the Work.

1. Contractor shall apply for and obtain permits for temporary utilities, including permits for temporary generators, from authorities having jurisdiction.

2. All costs for temporary connections, including fees charged by serving utilities, shall be included in Contract Sum.

D. Permanent Connections and Fees: Contractor shall arrange for utility agencies and companies to make permanent connections. University will arrange for permanent utility account and pay permanent connection fees. After Contract Completion review and determination that Work is acceptable, University will pay utility service charges for services delivered through permanent connections, for normal quantities.

E. Use of Temporary Utilities: Enforce strict discipline in use of temporary utilities to conserve on consumption. Limit use of temporary utilities to essential and intended uses to minimize waste and abuse.

1.6 PROJECT CONDITIONS

A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on the site.

B. Contractor shall be responsible for building and individual room security to all areas of work where Contractor or its subcontractors enter and perform work.

1.7 HEATING AND COOLING

A. Temporary Heating and Cooling: Provide and pay for temporary heating and cooling devices, fuel and related service charges to provide ambient temperatures as required to maintain conditions necessary for proper performance of construction activities.

B. Use of Permanent Heating and Cooling Systems: Permanent heating and cooling equipment may be used after completion, testing and inspection of systems and approval of code authorities having jurisdiction.

1. Prior to operation of permanent heating equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place.

2. Contractor shall provide and pay for operation, maintenance and regular replacement of filters and worn or consumed parts.

3. Immediately prior to Contract Completion review, change disposable filters and clean permanent filters of equipment used during construction.

C. Temperature Criteria: Maintain interior ambient temperature of minimum 50 degrees F and maximum 80 degrees F, unless otherwise specified or approved by University's Representative.

1.8 VENTILATION DURING CONSTRUCTION

A. Ventilation during Construction: Provide and pay for temporary ventilation devices, energy and related service charges.

B. Use of Permanent Ventilation Systems: The University may use permanent ventilation equipment after completion, testing and inspection of systems and approval by University's Representative and authorities having jurisdiction.

1. Prior to operation of permanent ventilation equipment for ventilation purposes during construction, Contractor shall verify that equipment is lubricated and filters are in place.

2. Contractor shall provide and pay for maintenance and regular replacement of filters and worn or consumed parts of permanent ventilation system using for ventilation during construction.

3. Immediately prior to Contract Completion review, Contractor shall change disposable filters and clean permanent filters of equipment used during construction.

C. Ventilation Criteria: Ventilate enclosed areas to assist cure of materials, to dissipate humidity and to prevent accumulation of dust, fumes, vapors and gases, as necessary for proper performance of the Work.

1.9 TEMPORARY WATER SERVICE

A. Temporary Water Service: Contractor shall locate and connect to existing water source for temporary construction water service. Contractor shall comply with the following:

1. Locate and connect to existing water source for temporary construction water service, as acceptable to University's Representative.

2. Extend branch piping with outlets located, so that water is available by use of hoses.

3. Temporary water service piping, valves, fittings and meters shall comply with requirements of the serving water utility and California Plumbing Code (CPC).

4. All costs to establish temporary construction water system shall be included in the Contract Sum, or if so specified, costs shall be paid from Allowance specified in Section 01 21 00 - Allowances.

B. Use of Permanent Water System: Permanent water system may be used for construction water after completion, sterilization, testing and inspection of system and approval by University's Representative and authorities having jurisdiction.

1.10 TEMPORARY SANITARY FACILITIES

A. Temporary Sanitary Facilities: Provide and maintain adequate temporary sanitary facilities and enclosures for use by construction personnel.

1. Number of temporary toilets shall be suitable for number of workers.

2. Provide wash-up sink with soap, towels and waste disposal.

B. Use of Permanent Sanitary Facilities: Do not use permanent sanitary facilities unless approved by University's Representative. Immediately prior to Contract Completion review, thoroughly clean and sanitize permanent sanitary facilities used during construction.

1.11 TEMPORARY POWER AND LIGHTING

A. Temporary Power and Lighting, General: Comply with NECA Electrical Design Library - Temporary Electrical Facilities.

B. Temporary Power: Provide electric service as required for construction operations, with branch wiring and distribution boxes located to provide electrical service for performance of the Work.

1. Provide temporary electric feeder connected to electric utility service at location determined by Contractor and as approved by serving electric utility.

2. Temporary power conduit, raceways, fittings, conductors, panels, connections, disconnects, overcurrent protection, outlets and meters shall comply with requirements of the serving electric utility, California Electrical Code (CEC) and requirements of authorities having jurisdiction.

3. Contractor shall pay all costs to establish temporary electric service, or if so specified, costs of temporary power shall be paid from Allowance specified in Section 01 21 00 - Allowance Procedures.

4. As necessary in order to maintain construction progress, Contractor shall provide and pay all costs associated with generators used for temporary power.

C. Temporary Lighting: Provide temporary lighting as necessary for proper performance of construction activities and for inspection of the Work.

1. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

2. Maintain lighting and provide routine repairs.

D. Protection: Provide weatherproof enclosures for power and lighting components as necessary. Provide overcurrent and ground-fault circuit protection, branch wiring and distribution boxes located to allow convenient and safe service about site of the Work. Provide flexible power cords as required.

E. Use of Permanent Power and Lighting Systems: Permanent power and lighting systems may be used after completion, testing and inspection of systems and approval by University's Representative and authorities having jurisdiction.

1. Contractor shall maintain lighting and make routine repairs and replacements as necessary.

2. After beneficial use of the facilities has been received, University will pay for reasonable amounts of electricity consumed after permanent power system is operational and approved by authorities having jurisdiction. University shall not pay for the cost of wasted electricity, for example, lighting beyond hours of construction.

F. Service Disruptions: When necessary for energizing and de-energizing temporary electric power systems, minimize disruption of service to those served by public mains. Schedule transfers at times convenient to University and to occupants.

G. Relamping: For permanent lighting used during construction, relamp all fixtures immediately prior to Contract Completion (punch list) review.

1.12 CONSTRUCTION TELEPHONE SERVICE

A. Construction Telephone Service: Provide telephone service to Contractor's field staff by means of cellular telephone or other methods to enable communications between University's Representative, Project Inspector and Contractor.

1. Include voice message services.

2. All costs of construction telephones shall be included in Contract Sum.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Materials: Contractor shall provide new materials. If acceptable to the University Representative, undamaged previously used materials in serviceable condition may be used. Provide materials that are suitable for the use intended. Their use and methods of installation shall not create unsafe conditions or violate requirements of applicable codes and standards.

B. Equipment: Contractor shall provide new equipment; or, if acceptable to the Trustees, Contractor may provide undamaged, previously used equipment in serviceable condition. Provide equipment that is suitable for use intended.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES INSTALLATION

A. Temporary Utilities Installation, General: Contractor shall engage the appropriate local utility company or personnel to install temporary service or connect to existing service.

1. Use Charges: Cost or use charges for temporary facilities are the Contractor's responsibility.

2. Allowance for Utilities Charges: When Contract includes an allowance for metering of utility services, whether through temporary or permanent facilities, unused amount shall be returned to the Trustees by deductive change order.

B. Water Service: Contractor may take water from the University's systems in such quantities and at such times as they are available. If this is done, Contractor shall provide all temporary materials necessary to extending the utility to where they will be used. Contractor shall install a meter and reimburse the University for any water used. Where sub-metering is not possible or practical, a flat fee may be established and paid to the University.

C. Temporary Electric Power Service: Contractor may take electricity from the University's system if available. If this is done, Contractor shall provide all equipment, including connections, and other materials necessary for extending the utility lines to where they will be used. Contractor shall coordinate the installation with the University’s Representative. Contractor shall install a meter and reimburse the University for any power used. Where sub-metering is not possible or practical, a flat fee may be established and paid to the University.

1. When not available from the University, the Contractor must arrange and pay for electric service through the local utility or furnish his own portable power.

2. All permanent power used by the Contractor prior to Occupancy by the Trustees shall be metered and paid for by the Contractor.

D. Temporary Telephones: Contractor shall have telephone service available at its business office for the duration of contract where the Contractor and its superintendent may be contacted.

E. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, Contractor shall install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Contractor shall comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations." Contractor shall:

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.

2. Store combustible materials in containers in fire-safe locations.

3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.

4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

F. Maintenance of Temporary Utilities and Services: Contractor shall maintain temporary utilities and services in good operating condition until removal. Contractor shall protect from utilities and services from environmental and physical damage.

3.2 TERMINATION AND REMOVAL OF TEMPORARY UTILITIES AND SERVICES

A. Termination and Removal of Temporary Utilities and Services: Unless the Trustees require that it be maintained longer, Contractor shall remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Completion. Contractor shall complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. At Completion, Contractor shall clean and renovate permanent facilities that have been used during the construction period.

B. Removal of Temporary Underground Utilities and Restoration: Remove temporary underground utility installations to a minimum depth of two-feet below utility services. Contractor shall:

1. Backfill, compact and re-grade site as necessary to restore areas or to prepare for indicated paving and landscaping.

2. Restore paving damaged by temporary utilities. Refer to requirements specified in Section 01 73 29 - Cutting and Patching Requirements.

C. Cleaning and Repairs: Contractor shall clean exposed surfaces and repair damage caused by installation and use of temporary utilities and services. Where determined by University's Representative that repair of damage is unsatisfactory–Work, Contractor shall replace construction with matching finishes. Refer to requirements specified in Section 01 73 29 - Cutting and Patching Requirements.

END OF SECTION

SECTION 01 52 00

CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. This Section specifies requirements for temporary services and facilities, including utilities, temporary construction fencing, construction and support facilities, security and protection.

B. Temporary utilities that are required include but are not limited to:

1. Water service and distribution.
2. Temporary electric power and light.
3. Telephone service.
4. Data services.

C. Temporary construction and support facilities that are required include but are not limited to:

1. Temporary heat
2. Field offices and storage sheds
3. Temporary enclosures
4. Hoists and temporary elevator use
5. Waste disposal services
6. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities that are required include but are not limited to:

1. Temporary fire protection
2. Barricades, warning signs, lights
3. Environmental protection.
4. Site security for theft.

1.3 ACTION SUBMITTALS

A. Layout of Field Offices and Sheds: Within five working days of the Notice-to-Proceed, Contractor shall submit to University's Representative a proposed layout for field offices, sheds and storage areas. University's Representative will review and respond within five working days with comments and directions. Contractor shall comply with directions of University's Representative.

B. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.4 INFORMATIONAL SUBMITTALS

A. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of Section 01 57 23, Storm Water Pollution Prevention.

B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

D. Temporary Utilities: Submit reports of tests, inspections, applicable meter readings and similar procedures performed on temporary utilities.

1.5 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of the authorities having jurisdiction, including but not limited to:

1. Cal OSHA
2. Building Code requirements
3. Health and safety regulations
4. Utility company regulations
5. Police, Fire Department and Rescue Squad rules
6. Environmental protection regulations.

B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library, "Temporary Electrical Facilities".

1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).

C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on the site.

B. Contractor shall be responsible for building and individual room security to all areas of work where Contractor or its subcontractors enter and perform work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials; if acceptable to the University Representative, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended. Their use and methods of installation shall not create unsafe conditions or violate requirements of applicable codes and standards.

B. Temporary Construction Perimeter Fence - Provide 11-gauge, galvanized 2-inch, chain link fabric fencing 8-feet high with galvanized steel pipe posts, 1-1/2" I.D. for line posts, top posts and bottom posts, and 2-1/2" I.D. for corner posts. All fencing shall be covered with green fabric shade cloth, secured to top and bottom rails through integral metal eyelets. Contractor is responsible to maintain the fence and green shade through the entire duration of the contract. Contractor it is the contractor's responsibility to coordinate and relocate the fence as required for construction.

C. All work areas within the campus and public spaces shall be fenced with minimum eight (8)-foot chain link portable fence sections, with 1-1/2” top, bottom and side rails. All fencing shall be covered with blue fabric shade cloth material, secured to top, bottom and side rails with integral metal eyelets. Shade cloth shall not be left unsecured. Fencing materials shall be maintained in good, damage free condition at all times.

1. Fencing shall extend around and enclose entire work area, as well as stored materials and equipment.
2. Fencing shall be secured in a closed condition when not required to be open to allow completion of the work. Fencing shall be secured each day at the close of work.
3. The use of alternate materials such as barricades, delineators and caution tape to enclose or delineate work areas will not be accepted.
4. 3 sand bags shall be placed on every stand. Contractor shall replace sand bags whenever a sand bag ruptures.
5. Contractor can tie-back fencing to fixed stakes as required in lieu of sand bags. Tie backs shall not be trip hazards.
6. Plastic water filled K-rail can be used in lieu of fencing when approved in advance by the University.

2.2 EQUIPMENT

A. General: Provide new equipment; or, if acceptable to the University, Contractor may provide undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

B. First Aid Supplies: Comply with governing regulations.

C. Fire Extinguishers: Provide 2 hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL- rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.

D. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

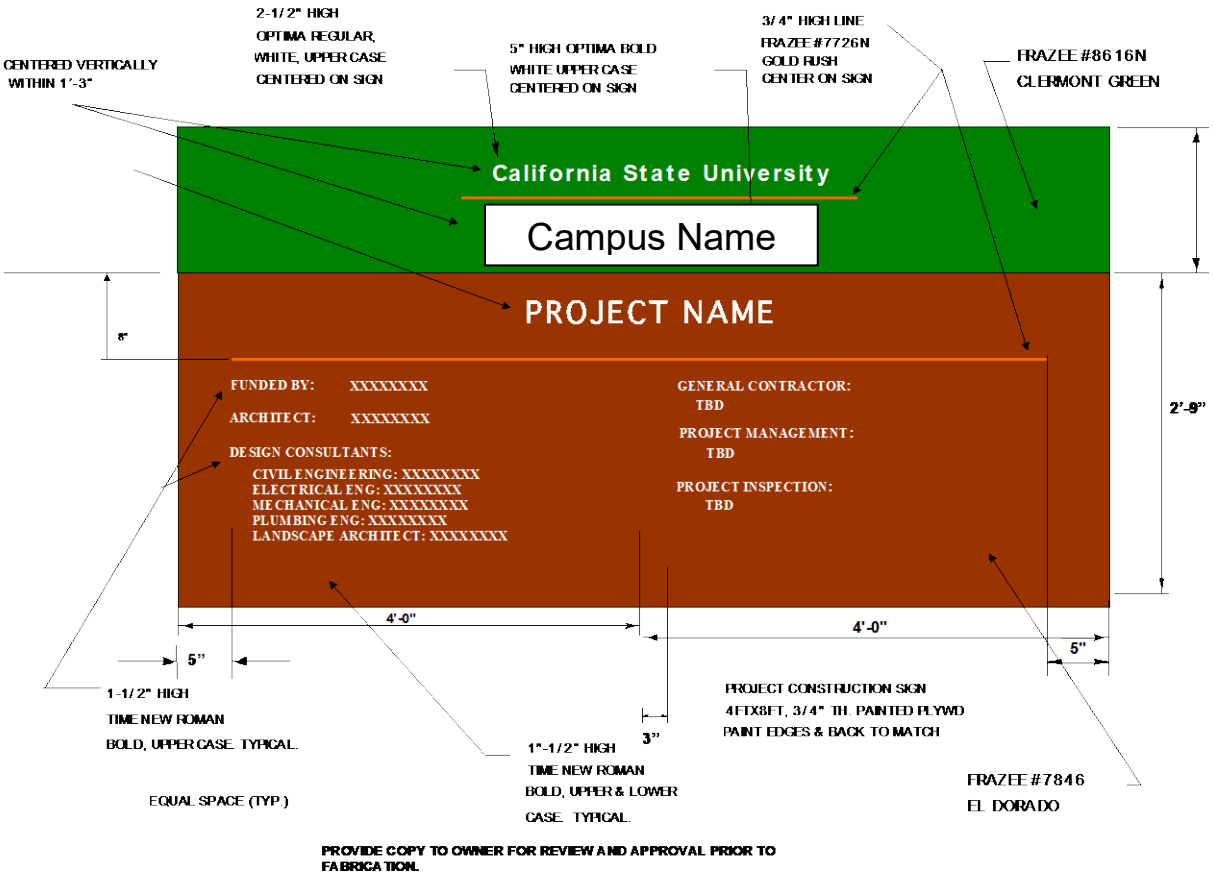
E. Temporary lighting: Provide adequate illumination to all areas of the project as required for ingress, egress, and prosecution of the Work. Provide cages where fixtures are exposed to potential breakage.

2.3 SERVICE CONTRACTS

A. Provide weekly janitorial service to include trash removal, floor cleaning and dusting. In addition, the Contractor shall maintain the approach to the field office free from mud and water. Electrical service shall consist of a minimum of 4 circuit, 110 volt, 60-amp service.

2.4 PROJECT IDENTIFICATION

A. Provide at least two (2) project signs. The signs shall be painted and with exhibit lettering by professional sign painter die cut vinyl, self-adhesive letters and self-adhesive corporate logos, to the University design and colors as described at the end of section.



B. List title of project, the name of the University, the Contractor, and Architectural/Engineering team, as well as a Contractor phone number that the community may call with noise complaints 24-hours a day seven days a week. University shall approve signs before installation.

C. Erect signs on site at locations designated by the University. Install project identification signs within 5 days of Notice-To-Proceed.

D. No other signs are allowed without University permission except those required by law.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Engage the appropriate local utility company or personnel to install temporary service or connect to existing service.

1. Use Charges: Connection and cost or use charges for temporary facilities are the Contractor's responsibility.

B. Water Service: Water may be taken from the University's systems in such quantities and at such times as they are available. If this is done, provide all temporary materials necessary to extending the utility to where they will be used. Contractor shall install a meter of type acceptable to the University and reimburse the University for the cost of any water used.

C. Temporary Electric Power Service: Electricity may be taken from the University's system if available. If this is done, provide all equipment, including connections, and other materials necessary for extending the utility lines to where they will be used. Coordinate the installation with the University Representative. Contractor shall install a meter of type satisfactory to University and reimburse the University for any power used. Where sub-metering is not possible or practical, a flat fee may be established and paid to the University.

1. When not available from the University, the Contractor must arrange and pay for electric service through the local utility or furnish his own portable power.
2. All permanent power used by the Contractor prior to Occupancy by the University shall be metered and paid for by the Contractor.
3. Install electrical power service underground, except where overhead service must be used.
4. Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics throughout construction period. As required, the system shall include, but not be limited to, the following: meters, transformers, overload protection disconnects, automatic ground fault interrupters, main distribution switchgear, distribution panels, etc.
5. Install and operate temporary lighting as required for proper security and protection. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.

D. Temporary Telephones: Contractor shall have telephone facility available at its business office for the duration of contract where the Contractor and its superintendent may be contacted. A pay phone for use of subcontractors is recommended.

E. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations".

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

F. Work outside defined construction site: Comply with Section 01 55 00, Vehicular and Pedestrian Controls for requirements for all work that impacts areas outside of the Construction site perimeter as

defined in the contract documents. This includes ingress and egress to the site by construction personnel and vehicles.

G. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

H. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

I. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.

J. Termination and Removal: Unless the University require that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired. At Completion, clean and renovate permanent facilities that have been used during the construction period.

3.3 SANITARY FACILITIES

A. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve projects needs.

1. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used materials.
2. Contractor shall not use existing campus sanitary facilities at any time.

3.4 SUPPORT FACILITIES

A. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not store materials more than seven days during normal weather or 3 days when temperature is expected to rise above 80 degrees F. Handle hazardous, dangerous or unsanitary waste by containerizing properly. Dispose of material lawfully.

1. Furnish equipment necessary for refuse removal. Do not use University disposal bins or trash carts at any time.

B. Retain local exterminator or pest Control Company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

3.5 SECURITY

A. Prior to commencement of the work, initiate a security program and install enclosure fence with lockable entrance gates. Location shall be sufficient to encompass the entire area of construction operation.

1. Install and maintain substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
2. University will not be liable for damage or loss to the Work due to trespass or theft. In addition, the University or University shall not be liable for loss or damage to Contractor's materials, tools, or equipment. The contractor is solely responsible for the security the contractor's work area.

B. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.

1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

3.6 REMOVAL OF CONSTRUCTION FACILITIES

A. Removal of Construction Facilities: Unless otherwise mutually agreed by University's Representative and Contractor, remove temporary materials, equipment, services, and construction prior to Contract Completion review.

1. Coordinate removal with requirements specified in Section 01 51 00 - Temporary Utilities, Section 01 55 00 - Vehicular and Pedestrian Controls and Section 01 57 00 - Temporary Controls.
2. Completely remove in-ground construction facilities to minimum depth of two feet. Backfill, compact and regrade site as necessary to restore areas or to prepare for indicated paving and landscaping.

B. Cleaning and Repairs: Clean and repair damage caused by installation or use of temporary construction facilities on public and private rights-of-way.

END OF SECTION

SECTION 01 55 00

VEHICLE AND PEDESTRIAN CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Section specifies requirements for construction activities impacting the Campus Community outside the designated construction site, as well as requirements for Contractor ingress to and egress from the project site. Section includes, but is not limited to the following:

1. Construction activities within or adjacent to pedestrian walkways and thoroughfares.
2. Construction within landscape and hardscape areas outside the designated Project site area.
3. Procedures for work within city streets and campus roads.
4. Haul routes and temporary traffic Control.
5. Contractor parking.

1.3 WORK WITHIN AREAS OF PEDESTRIAN ACCESS

A. General: These requirements apply to all work required on the Campus outside the designated Project Site. Requirements also apply to activities occurring on the Project Site, which impact adjacent areas of the Campus.

B. Fencing of Work Areas

1. Exterior work and laydown areas within the campus and public spaces shall be fenced with minimum 8 feet chain link portable fence sections, with 1-1/2” top, bottom and side rails. All fencing shall be covered with blue fabric shade cloth material, secured to top, bottom and side rails with integral metal eyelets. Shade cloth shall not be left unsecured. Fencing materials shall be maintained in good, damage free condition at all times.
    a. Fencing shall extend around and enclose entire work area, as well as stored materials and equipment.
    b. Fencing shall be secured in a closed condition when not required to be open to allow completion of the work. Fencing shall be secured each day at the close of work.
    c. The use of alternate materials such as barricades, delineators and caution tape to enclose or delineate work areas will not be accepted.
    d. 3 sand bags shall be placed on every stand. Contractor shall replace sand bags whenever a sand bag ruptures.
    e. Contractor can tie-back fencing to fixed stakes as required in lieu of sand bags. Tie backs shall not be trip hazards.
    f. Plastic water filled K-rail can be used in lieu of fencing when approved in advance by the University.

C. Sidewalk Closures and Restrictions

1. Use Caltrans Standard reflectorized signage where required to indicate closure of sidewalks, temporary revisions to crosswalks and other impacts to normal pedestrian walk routes.

2. Where sidewalks are partially restricted due to construction activities, a minimum width of 48" shall be maintained.
3. Bases for temporary fencing shall not extend into the required walk area.
4. Where portions of a sidewalk are temporarily closed, temporary fencing shall be placed at the nearest intersection to prevent the site impaired from traveling in a direction that will require them to eventually stop and return to said intersection. Pedestrian detour signs and "sidewalk closed" signs shall also be provided at the point of closure.

D. Access for construction equipment and material deliveries

1. All haul routes and delivery routes shall conform to the routes designated in Contractor's approved Work Plans. Refer to Section 01 14 00 for requirements.
2. Times for delivery of materials and hauling shall comply with the requirements of the Contract Documents and approved Contractor Work Plans.
3. No staging or parking of vehicles or construction equipment will be allowed outside the Project Site, except within the work areas designated in the approved Contractor Work Plans.
4. Flagman Requirements
   a. All major vehicles and equipment using approved haul routes that travel over intercampus pedestrian thoroughfares shall be escorted by at least one flagman until the vehicle or equipment is within the confines of the project site. Contractor is advised that the Campus Community includes a large volume of students and staff with disabilities, including but not limited to wheel chair users, persons with hearing impairments, and persons with sight impairments; for this reason, escorting of equipment and vehicle traffic will be strictly enforced.
      1) Flagman shall be trained and shall direct pedestrians and traffic in accordance with the requirements set forth in Article 1.4 below.
   b. Entry exit gates to the project site shall be left in a closed position at all times, unless a flagman is stationed at the gate to control unauthorized entry into the project site.
5. Maintenance of Thoroughfares
   a. Pedestrian thoroughfares and crossings shall be maintained in a safe, clean condition, free of dirt, gravel and other debris resulting from construction operations at all times.
   b. Where work occurs on or adjacent to pedestrian thoroughfares, Contractor shall employ adequate measures (such as sandbagging, earthen barriers, etc.) to ensure that walks are protected from overflow of construction materials or runoff into the pedestrian area.
   c. Where work occurs on or adjacent to pedestrian thoroughfares, Contractor shall employ adequate measures to ensure that walks are protected from overhead hazards, such as falling debris. Provide covered walkway structures and other measures as required to comply with O.S.H.A. standards.
   d. Contractor shall confirm local Fire Dept. requirements for access to the construction site and other Campus facilities impacted by the Work throughout the course of construction. Where Fire Dept. access must be maintained at specific areas, Contractor shall tailor the Work Plan and provide necessary temporary measures to accommodate requirement.
6. Trenching Operations
   a. Where trenching occurs through, across or adjacent to pedestrian thoroughfares, the work shall comply with the approved Work Plan for the area in question.
   b. Temporary pedestrian crossings required due to trenching operations:
      1) Steel plating shall be placed across trenches and trench bracing shall be installed in accordance with W.A.T.C.H. standards as referenced in section 1.04 below.
      2) Minimum 6 feet high chain link fencing sections (per paragraph 1.2-B above) shall be installed inside the edge of the plating on each side to clearly delineate the path of travel and prevent pedestrians from stepping into trench area.
      3) All steel plating shall have beveled edges and shall comply with A.D.A. requirements for path of travel. Edges of plates at each approach shall be painted with a 1" safety yellow contrasting band. Plating shall be anchored in accordance with W.A.T.C.H. standards and carry appropriate traffic ratings where it is required to carry emergency response vehicle traffic.
      4) The use of barricades, delineators and or caution tape in lieu of the required temporary fencing sections is unacceptable.

1.4 WORK WITHIN ROADWAYS AND PARKING AREAS

A. General Requirements

1. All construction activities which occur within campus roadways and parking areas shall comply with the 2012 version of the City of Los Angeles Work Area Traffic Control Handbook (W.A.T.C.H.) for traffic control, signage and barricading, as supplemented by these specifications. Where conflicts exist between specific requirements, the more stringent requirement shall apply. W.A.T.C.H. standards are available from Building News Inc., 3055 Overland Ave., Los Angeles, Ca., 90034 - Phone: 310/202-7775.
2. Flagman requirements and operations shall comply with W.A.T.C.H. standards and the State of California, Dept. of Transportation “Instructions to Flaggers” - 2012 Edition.
3. Signage: All temporary traffic control signage shall comply with California Vehicle Code Section 21400 and California Dept. of Transportation (Caltrans) standards. All signage shall be reflectorized.
4. Where trenches, excavations or other work is required within streets, the Work shall be scheduled so as to maintain a minimum of one open traffic lane at all times. A minimum of two lanes as required allowing safe 2-way traffic shall be restored prior to completion of Contractor’s operations each day.
5. All work within University roadways and parking areas requires approval of Contractor’s Work Plan prior to commencement. Refer to Section 01 14 00 for Work Restrictions.

B. Fencing, Barricades and Traffic Plating

1. All work areas shall be fenced in compliance with paragraph 1.3-B above. Modifications to this requirement due to specific access requirements for completion of the work shall be requested by Contractor in the Work Plan Submittal for a designated area.
2. Type 1 Barricades as referenced in the W.A.T.C.H. standards are not acceptable for use on the Project. Contractor shall use type II or type III barricades where required.
3. Where temporary traffic controls must remain in place overnight or at other times when Contractor is not continuously present in the work area, cones, plastic delineators and other lightweight traffic control devices subject to displacement shall not be used for traffic control.
4. Where temporary fencing and/or barricades remain in place overnight, Type II barricades with flashing amber lights shall be used to delineate the protruding corners of the of the work area enclosure at the approach from each direction.
5. Where trenches or excavations of a depth of 3’-0” or deeper and a width of 2’-0” or greater are directly adjacent to a drive lane, the trench shall be plated in accordance with W.A.T.C.H. standards, or concrete barricades (k-rail) shall be installed to protect vehicle traffic from entering the excavation during times when the work area is not manned by Contractor.
6. Where trenches or excavations of a depth of 4’-0” or greater are directly adjacent to a drive lane or pedestrian walk, the protective fencing shall be a minimum horizontal distance of 4’-0” from the edge of the excavation.
7. All traffic plates shall be beveled in the direction of vehicle traffic and secured in place. Where work occurs at pedestrian crossings, comply with Article 1.3 above.
8. Comply with W.A.T.C.H. standards for sizing of traffic plates and shoring of trenches up to 4’ in width. For trenches exceeding 4’ in width, Contractor shall engage a Civil Engineer registered in the State of California to design plating and shoring system.

C. Flagman Requirements

1. Whenever existing traffic lanes are altered, contractor shall provide properly equipped and trained flagmen to direct traffic. Comply with W.A.T.C.H. standards and Caltrans “Instructions to Flaggers”.
2. Whenever a section of two-way traffic is temporarily reduced to one lane, a minimum of two flagmen shall be provided to ensure proper traffic control in each direction. 2-way radio devices shall be used for communication between the flagmen where both direct line of site and audible communication cannot be maintained.
3. Flagmen shall be dedicated solely to traffic and pedestrian control and shall not perform additional duties while assigned as flagmen.

D. Signage

1. Traffic control signage shall be provided as required for safe and proper direction of vehicles and in accordance with the requirements listed in paragraph 1.4-A-3 above.
2. All signage shall be reflectorized.
3. Temporary traffic control signs shall be California Dept. of Transportation standard type as listed in the following schedule.

Sign Type	Designation	Size
Stop	R1R	30 x 30
Speed limit	R2R	24 x 30
Keep right/left	R7R	18 x 24
Do not enter	R11R	24 x 24
No right turn	R16R	24 x 24
No left turn	R17R	24 x 24
No parking	R26DR	12 x 12
No parking/fire lane	R26RFL	12 x 18
No parking anytime	R28R	12 x 18
Yield	R39R	30” triangle
Disabled parking	R99R	12 x 18
Exit only	R108R	18 x 24
Enter only	R109R	18 x 24
No pedestrians	R96R	18 x 18
Use crosswalk	R96BR	18 x 12
Two-way traffic ahead	R40R	24 x 30
Merge	WLR (L) or (R)	24 x 24

E. Haul Routes

1. Haul Routes for Construction activities and delivery of materials shall strictly adhere to routes designated in the contract documents. All vehicles and equipment are required to use designated routes only. Deviations from designated haul routes shall only be permitted where previously authorized in Contractor’s approved Work Plans.
2. Continuous or major hauling on campus roads shall be restricted to the hours of 7:00 am through 6:00 p.m. unless otherwise authorized by the University Representative.
3. Contractor shall comply with hauling and truck traffic requirements on all City roads and shall obtain all required permits and authorizations. Weight loads carried by vehicles shall be within capacity recommended by manufacturer and shall comply with applicable laws and regulations relating to allowable capacities for specific roads.
4. Roads shall be maintained in a clean condition at all times. Sweeping of roads shall occur at minimum on a daily basis, or more often as required by continual hauling operations or construction traffic.
5. All loads shall be covered with secured tarpaulins when gravel, asphalt, debris, or other loose materials are removed from or hauled into the Campus.
6. Truck staging shall not occur on any campus road, or City road within the Campus, unless prior authorization is received through approval of the Contractor’s Work Plan.
7. Provide protection against damage to existing sidewalks, curbs and gutters and other improvements at locations where construction vehicles enter. Contractor shall be responsible for repair of all damage resulting from its operations. Damage to concrete shall be repaired by replacement of full sections to the nearest existing construction joint in each direction.

F. Emergency Response Access

1. Contractor shall maintain adequate provisions for passage of emergency response vehicles (ambulances, fire trucks etc.) over campus roads and inner-campus thoroughfares at all times.
2. At all times that work is occurring which requires trenching, excavations, or other blockages of any fire lane or emergency access location, Contractor shall have traffic plating and other materials and equipment on hand as required to permit immediate passage of response vehicles in the case of an emergency. At no time shall said blockages be left unmanned.

1.5 PARKING CONTROL

A. Contractor and all subcontractors, suppliers, etc. are required to purchase University parking passes when parked outside the Contractor's demarcated laydown area(s). Contractor Parking Passes are required for all vehicles parking on campus regardless of location.
   1. Contractor may park vehicles and construction equipment inside the designated Construction Area without obtaining campus parking permits.
   2. Contractor shall obtain campus parking permits or pay a parking meter for all of its vehicles parked outside of Contractor's fenced construction areas.
   3. Parking permits may be purchased from University Parking and Commuter Services, which maintains a Parking Kiosk on the north end of Rossow Street. General parking areas also have daily parking pass machines where a pass may be purchased.
   4. Purchase of a parking permit does not guarantee a parking space will be available.

B. Contractor, subcontractors and suppliers shall park within the Construction site and other authorized areas as identified in the Contract Documents.
   1. University Parking Regulations may be found here: www.humboldt.edu/parking/regulations
   2. It is the Contractor's responsibility to ensure all employees and subcontractors are fully aware of all parking enforcement regulations. There will be no exceptions made.
   3. For any questions with regard to parking, contact parking@humboldt.edu or call (707) 826-3773.
   4. University Police may be contacted for non-emergency purposes at (707) 826-5555.

C. Any parking in University lots or stalls outside the authorized areas identified in the Contract Documents requires payment of the current University parking fees as evidenced by display of a valid parking permit.

D. Contractor, subcontractors and suppliers shall at no time park any vehicle on campus, outside the confines of the construction site as designated in the Contract Documents. Vehicles in non-compliance will be cited and towed.

E. Vehicles parked outside of the designated Construction Area without a parking permit, or with a permit but not the correct permit for the specific parking area, or without payment to the meter during regulated hours, or parked illegally in any way will be ticketed and may be towed.

F. City of Arcata patrols parking meters and neighborhoods surrounding the campus and may issue citations for violations of their parking regulations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 MAINTENANCE OF PARKING AND ACCESS ROADS

A. Maintenance: Contractor shall maintain traffic and parking areas in a sound condition. Contractor shall repair breaks, potholes, low areas, standing water and other deficiencies, to maintain paving and drainage in original or specified condition.

B. Cleaning of Sidewalks, Roadways, and Parking Areas: Contractor shall keep public and private rights-of-way and parking areas clear of construction-caused soiling, dust and debris, especially debris hazardous to vehicle tires.
   1. Contractor shall inspect and perform cleaning to ensure entire public commons areas, sidewalks, crosswalks, roadways, haul routes, and parking lots are free of all debris. Contractor shall provide dedicated laborers and equipment as required to ensure areas are kept neat and clean during each day of the contract.
   2. Contractor shall coordinate with requirements specified in Section 01 57 00 - Temporary Controls and Section 01 74 00 - Cleaning Requirements.

END OF SECTION

SECTION 01 55 29

CONSTRUCTION STAGING AREAS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Contractor Staging Area requirements.

1.3 RELATED SECTIONS

A. Section 01 11 00 - Summary of the Work: Contractor's use of site and premises.

B. Section 01 52 00 - Construction Facilities: Field offices and sheds.

C. Section 01 35 53 - Security

D. Section 01 55 00 - Vehicular & Pedestrian Controls

E. Section 01 57 00 - Temporary Controls

G. Section 01 74 00 - Cleaning Requirements: Periodic cleaning and cleaning for Final Completion review.

1.4 SUBMITTALS

A. Shop Drawings: Prior to site mobilization, Contractor shall prepare and submit for review by University's Representative a site plan indicating detailed layout of Contractor Staging Area, including:

1. Temporary utilities
2. Temporary fencing and gates
3. Temporary offices and sheds
4. Construction aids
5. Vehicular access ways and on-site parking
6. Temporary barriers and enclosures
7. Storm water pollution prevention measures

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

3.1 CONTRACTOR STAGING AREA REQUIREMENTS

A. Contractor Staging Areas: Refer to reference drawings included in the set of Contract Drawings for location of Contractor Staging Areas.

1. Contractor shall use only site areas designated specifically by University as Contractor Staging Area for the Project.

2. Contractor Staging Area for the Project shall be clearly indicated on site plan. Contractor shall remove equipment placed or located outside of areas designated for Contractor Staging Area to within Contractor Staging Area at no change in Contract Time and Contract Sum.

3. Contractor shall keep access to Contractor Staging Areas and other construction access ways and thoroughfares clear at all times. Contractor shall provide traffic and parking control signage acceptable to University's Representative.

B. Cleanliness: Contractor shall keep Staging Area clear of trash and debris and in neat order. Contractor shall be responsible for cleanliness and order of assigned Staging Areas, as acceptable to University's Representative.

3.2 REMOVAL OF CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

A. Removal of Construction Facilities and Temporary Controls: Unless otherwise mutually agreed by University's Representative and Contractor, Contractor shall remove temporary materials, equipment, services, and construction prior to Contract Completion review. Contractor shall coordinate removal with requirements specified in Section 01 51 00 - Temporary Utilities, Section 01 52 00 - Construction Facilities, Section 01 55 00 - Vehicular & Pedestrian Controls and Section 01 57 00 - Temporary Controls.

B. Cleaning and Repairs: Contractor shall clean and repair damage caused by installation or use of temporary facilities on public and private rights-of-way.

C. Removal of Temporary Utilities and Restoration: Contractor shall remove temporary underground utility installations to a depth of two feet. Backfill, compact and regrade site as necessary to restore areas or to prepare for indicated paving and landscaping.

END OF SECTION

SECTION 01 57 00

TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

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

1.3 PROTECTION OF EXISTING CONDITIONS

A. Protection of Adjacent Facilities: Contractor shall restrict Work to limits indicated on the Drawings and as specified in Section 01 11 00 - Summary of the Work. Protect existing, adjacent facilities from damage, including soiling and debris accumulation.

B. Video and Photo Record of Existing Conditions: Contractor shall produce video record and photo records of all existing conditions within and adjacent to Project area.

1. Video record shall be made with sound to record comments to identify locations and describe conditions. Photo records shall be made available on a USB drive
2. University's Representative will accompany Contractor during recording of existing conditions but will not direct recording process.
3. Video and photo record shall capture the state of existing features, including but not limited to:
    a. Paving
    b. Landscaping
    c. Building surfaces
    d. Utilities
    e. Lighting standards, fencing, signage and other site appurtenances
4. Contractor shall retain one copy and deliver one copy of video and photo record to University's Representative within seven calendar days after they have been produced.
5. Video and photo record shall be used to verify restoration of existing conditions after completion of construction activities.
6. Existing features not recorded shall be restored as directed by University's Representative, including reconstruction and refinishing as determined necessary by University's Representative.

C. Existing Utilities - Should the Contractor break any utility the contractor should immediately act to repair the utility. Contractor shall continuously work to repair broken utilities to minimize impact to the University.

D. Contractor shall maintain spare parts and materials to repair all utilities, water lines, sewer lines, etc.

1.4 ENVIRONMENTAL PROTECTION PLAN

A. The requirements of the Article are in addition to those 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 University Representative 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.
8. Hazardous waste disposal procedures.

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 University in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the University 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. Except where otherwise noted, return construction areas to their pre-construction elevations. 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. No vehicles or equipment shall be parked within the extents of the canopy of any tree.
    b. Trimming: Refer to Tree and Plant Protection Section 01 56 39.
    c. Excavation Around Trees: Refer to Tree and Plant Protection 01 56 39.
    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 University and 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 University. 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.

1.5 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. The Contractor must implement control methods such as snorkels from engines exhausts to 50 feet away from air intakes.

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 University Representative 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.

1.6 NOISE CONTROL

A. The requirements of the Article are in addition to those of Article 4.02 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 jackhammers 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 forklifts. Provide portable noise barriers around jack hammering, barriers constructed of ¾-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 or potentially disruptive operations so as to minimize their duration at any given location, and to minimize disruption to the adjoining users. Notify the University Representative in advance of performing work creating unusual noise and schedule such work at times mutually agreeable. The University reserves the right to require performance of any noisy and/or potentially disruptive work during off-hours in order to accommodate the Universities operations.

F. Do not play radios, tape recorders, televisions, and other similar items at construction site.

1.7 DUST AND AIR POLLUTION CONTROL

A. The requirements of this Article are in addition to those 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, or more often as required to maintain streets in a clean condition.

G. Appoint a dust control monitor to oversee and implement all measures listed in this Article.

1.8 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.

1.9 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.

J. Contractor shall commission a Civil Engineer licensed in the State of California to produce a Water Quality Management and Storm Water Pollution Prevention Plan per Section 01 57 23. The plan shall comply with all applicable Code and Agency requirements, and shall govern the protectionary measures to be implemented and maintained by Contractor throughout the construction period. The plan shall be subject to approval by the University, and Contractor shall make reasonable revisions as directed by the University at no additional cost.

1.10 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 litter. 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 wastewater may reach adjacent property, storm drains or natural watercourses 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 that is excavated in excess of that required for backfill, and such excavated material that 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.

1.11 CULTURAL RESOURCES

A. The requirements of this article are in addition to those 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 University may retain an Archaeologist to monitor and recover data and artifacts during period when work has ceased.

E. All items found which are considered to have archaeological significance are the property of the University.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 57 10

EXISTING FINISH PROTECTION

GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Section specifies the requirements for construction activities impacting the interior and exterior improvements within and adjacent to the construction site. The protection requirements herein are minimum requirements and is/are the contractors responsibility to ensure all aspects of work are protected regardless of the listing within this specification or not. Protection of work is an on-going process whereby the contractor shall adjust, add, change, and replace protection as needed throughout the project to ensure all aspects of work are protected to the greatest possible extent. Section includes but is not limited to the following:

1. Protection of existing finishes within and adjacent to the work area(s).
2. Protection of existing equipment within and adjacent to the work area(s).
3. Protection of completed work.
4. Protection of Building systems, i.e. mechanical, electrical, plumbing utilities and data systems.
5. Protection of ingress and egress pathways.
6. Protection of elevator and lifts.
7. Erection and maintenance of temporary barriers and enclosures.

1.3 CODES AND REGULATIONS

A. California Building Code (CBC): Comply with California Building Code (CBC) Chapter 33, Section 3303, Protection of Pedestrians During Construction or Demolition

B. Fire Regulations: Comply with requirements of fire authorities having jurisdiction, including California Fire Code (CFC) Article 87 during performance of the Work.

C. Safety Regulations: Comply with requirements of all applicable Federal, State and local safety rules and regulations. Contractor shall be solely responsible for jobsite safety.

D. Barricades and Barriers: As required by governing authorities having jurisdiction, provide substantial barriers, guardrails and enclosures around Work areas and adjacent to embankments and excavations for protection of workers and the public.

1.4 PRODUCTS

The following products, or approved equals, shall be used in all locations within new work and/or path of travel to, or within existing work, and/or as directed by the University.

A. Plywood / wood Framing – For use for semi-permanent long term temporary closure and opening protection as directed by the University. Public facing side shall be painted white.

B. Pro-Tect (www.pro-tect.com) – Floor protection for existing materials and/or newly installed materials.

C. Pro-Tect EZ Prop System (www.pro-tect.com) – Temporary enclosure for dust control to enclosure interior work space within an existing space.

D. Pro-Tect 1-2-3 Door Shield (www.pro-tect.com) – Door and jamb protection for use to protect new or existing doors and frames.

E. Pro-Tect Dust Door with zipper (www.pro-tect.com)

F. Pro-Tect Corner guards (www.pro-tect.com) – for use to protect existing or new finished wall corners.

G. Pro-Tect Tacky Mats (www.pro-tect.com) – for use as walk off mats both inside and outside of new to existing work.

1.5 INTERIOR AND EXTERIOR PROTECTION OF EXISTING IMPROVEMENTS

A. Walking surface protection: Provide non-destructive compatible walking surface protection over all floor finishes remaining in-place during the period of construction

B. Carpeting: Use Pro-Tect brand adhesive plastic sheeting roller over entire surface, PC60-500 (5’ wide) or equal.

C. Wood, Vinyl or Concrete Flooring: Use RAM BOARD or Pro-Tect Hardboard-WR brand floor over entire surface, HARDBOARD-WR or equal.

D. Ingress and egress protection: Provide protection for the surfaces of doors, door frames and outside corners.

E. Door surfaces: Use Pro-Tect brand Door Shield, PTDS.30,.40 or equal.

F. Door Frames: Use Pro-Tect brand FPB Jamb Protector, FPB60 or equal.

G. Corner Guards: Use Pro-Tect brand corner guards, PCCG-1 or equal.

H. Walk-off Mats: Use Pro-Tect brand walk-off mats, PTM-2-3624 or equal.

I. Stairs: Use Pro-Tect brand red rosin paper with painter’s tape, PTRP or equal.

J. Shoe Covers: Use Pro-Tect brand removable shoe covers when traveling inside the construction area to outside the construction area, PBDG or equal.

K. Dust and Dirt reduction and elimination: Provide the entry and exit close off protection to eliminate the spread of construction dust and dirt.

L. Construction Area Entrance: Use Pro-Tect brand Zipper, ZPU-7.25 or equal.

M. Ceiling Protection: Use Pro-Tect brand Clip and Snap connectors to hold plastic sheeting, PTCSB-1 or PTCSR-1 or equal.

N. Provide seal-off and/or HEPA filtering of HVAC system air delivery and exhaust systems. The type and location of protection shall be instituted with the consultation of the University facilities maintenance

staff's direct input. This protection shall include lighting, HVAC ductwork, audio/visual, laboratory and any other equipment, materials or systems which may be vulnerable to dust and dirt.

O. Ductwork Closures: Use Pro-Tect brand Duct Shield, PDS24, 36 or equal.

P. Provide protective coverings over casework, countertops, tables, desk and etc. Countertop/Casework Protection: Use Pro-Tect brand Multi-use Red Film, PMR24, 36, 48 or equal.

Q. Miscellaneous Protection: Provide protective devises and materials to protect fire sprinkler heads, fire alarm devices and the like. Contact the device manufacturer for the correct protective covers for their devices.

R. Fire Alarm Devices: Use Simplex brand dustproof device covers. University provided Heat Detectors can replace existing smoke detectors only when approved by the State Fire Marshal.

S. Elevators and accessibility lifts: Provide floor, wall and ceiling protective devices in all vertical circulation systems. Maintain clear access to the controls for these systems. Use protection cab wall blankets where hooks are available. Where cab wall hooks are not available use MDO plywood connected to bump/hand rails and supported from the cab floor. Rails used for connection shall be first individually protected with a cushioned cover wrap.

T. Safe Exiting: All protective measures shall be designed, installed and maintained so they do not interfere with the safe exiting of the area's occupants in an emergency. If lighting systems have been disabled, the Contractor shall install temporary construction lighting sufficient to safely perform the work.

1.6 MAINTENANCE OF CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

A. Maintenance: Use all means necessary to maintain temporary barriers and enclosures in proper and safe condition throughout progress of the Work.

B. Replacement: In the event of loss or damage, promptly restore temporary barriers and enclosures by repair or replacement at no change in the Contract Sum or Contract Time.

1.7 TEMPORARY BARRIERS, ENCLOSURES AND PASSAGEWAYS

A. Temporary Barriers, General: Provide temporary fencing, barriers and guardrails as necessary to provide for public safety, to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
   1. Note requirements for continued occupancy and use of existing buildings and site areas during construction
   2. Comply with applicable requirements of California Building Code (CBC) and authorities having jurisdiction, including industrial safety regulations. Review requirements with University's Representative
   3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting
   4. Paint temporary barriers and enclosures with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard
   5. Where appropriate and necessary, provide warning lighting, including flashing red or amber lights

B. Temporary Closures: Provide temporary closures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather-tight enclosure for building exterior
   1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate closures with ventilating and material drying or curing requirements to avoid dangerous conditions and effects such as mold
   2. Vertical openings: Close openings of 25 sq. ft. (2.3 sq. m) or more with plywood or similar materials. Public facing side shall be painted white.
   3. Horizontal openings: Close ALL openings in floor or roof decks and horizontal surfaces with load bearing, wood-framed construction.

a. Any penetration subject to water infiltration shall be made water tight with protective measures until all work is completed.

4. Install tarpaulins securely using wood framing and other suitable materials
5. Where opening size exceeds 64 sq. ft. in area, use fire-retardant-treated framing and plywood. Public facing side shall be painted white.

C. Temporary Partitions: Erect and maintain temporary partitions and temporary closures to limit dust and dirt migration, including migration into existing facilities, to separate areas from fumes and noise and to maintain fire-rated separations.

1. Dust Barriers: Construct dustproof, floor-to-ceiling partitions of not less than nominal 4-inch (100-mm) studs, 2 layers of 3-mil (0.07-mm) polyethylene sheets, inside and outside temporary enclosure.
   a. Overlap and tape full length of joints
2. Include 5/8” thick gypsum board at temporary partitions serving as noise barrier
3. Insulate partitions to minimize noise transmission to adjacent occupied areas
4. Seal joints and perimeter of temporary partitions

D. Dust barrier passages: Where passage through dust barrier is necessary, provide gasketed doors or heavy plastic sheets that effectively prevent air passage.

1. Construct a vestibule and airlock at each entrance to temporary enclosure with not less than 48” between doors
2. Maintain water-dampened foot mats in vestibule where passage leads to existing occupied spaces
3. Equip doors with security locks

E. Fire-rated temporary partitions: Maintain fire-rated separations, including corridor walls and occupancy separations, by construction of stud partitions with gypsum board faces.

1. Construction details shall comply with recognized time-rated fire-resistive construction. Typically, 1-hour rated partitions shall be 2x4 wood studs at 16” on center or 3-1/2” metal studs at 16” on center, with 5/8” thick Type X gypsum board at both faces, with joints filled, taped and topped
2. Seal partition perimeters with acceptable fire stopping and smoke seal materials
3. Construct fire-rated temporary partitions whenever existing time-rate fire-resistive construction is removed for 12 hours or more.

F. HVAC Protection: Provide dust barriers at HVAC return grilles and air inlets to prevent spread of dust and clogging of filters.

G. Temporary Floor Protection: Protect existing floors from soiling and damage.

1. Cover floor with 2 layers of 3-mil polyethylene sheets, extending sheets 18” up the side walls
2. Cover polyethylene sheets with ¾” fire-retardant plywood
3. Provide ‘sticky’ floor mats to clean dust from shoes

H. Security Closures and Lockup: Provide substantial temporary closures of openings in exterior surfaces and interior areas as appropriate to prevent unauthorized entrance, vandalism, theft and similar violations of security. Provide doors with self-closing hardware and locks.

I. Weather Closures: Provide temporary weather-tight closures at exterior openings to prevent intrusion of water, to create acceptable working conditions, to protect completed Work and to maintain temporary heating, cooling and ventilation. Provide access doors with self-closing hardware and locks.

J. Provide temporary lighting, illuminated interior exit signage, non-illuminated directional and instructional signage, and temporary security alarms for temporary exits and exit passageways.

K. Temporary measures shall suit and connect to existing building systems, and shall be approved by University's Representative and authorities having jurisdiction.

1.8 PROTECTION OF INSTALLED WORK

A. Protection of Installed Work, General: Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

C. Protective Coverings: Provide protective coverings at walls, projections, jambs, sills, and soffits of openings as necessary to prevent damage from construction activities, such as coatings applications, and as necessary to prevent other than normal atmospheric soiling.
   a. Carpeting: Use Pro-Tect brand adhesive plastic sheeting roller over entire surface, PCD2430 or equal.
   b. Wood, Vinyl or Concrete Flooring: Use RAM BOARD or Pro-Tect Hardboard-WR brand floor over entire surface, HARDBOARD-WR or equal. Kraft or Red Rosin Paper is NOT Acceptable.
   c. Door surfaces: Use Pro-Tect brand Door Shield, PTDS.30.40 or equal.
   d. Door Frames: Use Pro-Tect brand FPB Jamb Protector, FPB60 or equal.
   e. Corner Guards: Use Pro-Tect brand corner guards, PCCG-1 or equal.
   f. Casework: Cardboard all vertical and horizontal surfaces

D. Traffic Protection:
   a. Protect finished floors, stairs and other surfaces from traffic, soiling, wear and marring.
   b. Temporary covers shall not slip or tear under normal use

1.9 REMOVAL OF TEMPORARY BARRIERS AND ENCLOSURES

A. Removal of Temporary Barriers and Enclosures: Unless otherwise mutually agreed by University's Representative and Contractor, remove temporary materials, equipment, services, and construction prior to Contract Completion review.

B. Cleaning and Repairs: Clean and repair damage, soiling and marring caused by installation or use of temporary barriers and enclosures.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. General requirements for products used for the Work, including:

1. General characteristics of products
2. Product options
3. System completeness
4. Transportation and handling requirements
5. Storage and protection of products
6. Installation of products.

1.3 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures: Requirements for product substitutions.

B. Section 01 33 00 - Submittal Procedures: Requirements applicable to submittals for "or equal" and substitute products.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage at site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to site in undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products upon delivery to ensure compliance with Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products at site in manner that will facilitate inspection and measurement of quantity or counting of units.
6. Store products subject to damage by elements above ground, under cover in weather-tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

1.5 PRODUCT SELECTION

A. General: Comply with requirements of the Contract General Conditions.

B. Product Selection Procedures: Contract Documents and governing regulations govern product selection. Procedures governing product selection include following:

1. General: Comply with requirements of the Contract General Conditions.
2. Products Specified by Reference Standards or Description Only: Any product meeting those standards or description.
3. Products Specified by Indicating Basis for Design: Design and approval is based on systems, products, and assemblies of manufacturer indicated. Equivalent systems, products, and assemblies of other named manufacturers may be used, however, Contractor is responsible for additional approvals required, for coordination with remainder of Contract Documents, and for costs of redesign or recalculation required. Comply with Section 01 25 00 to obtain approval for use of unnamed product.
4. Products Specified by Naming One or More Manufacturers: Products of named manufacturers meeting Specifications. Submit request for substitution for manufacturer not specifically named.
    a. Products of acceptable manufacturers are subject to requirements of Specifications for specified product.
5. Products Specified by Naming One or More Manufacturers with No Known Equals: Products of named manufacturers meeting Specifications: no options, no substitutions.
    a. Products of acceptable manufacturers are subject to requirements of Specifications for specified product.
6. Descriptive Specification Requirements: Where Specifications describe product or assembly, listing exact characteristics required, with or without use of brand or trade name, provide product or assembly that provides characteristics and otherwise complies with Contract requirements.
7. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by manufacturer for application indicated.
    a. Manufacturer's recommendations may be contained in published product literature or by manufacturer's certification of performance.
8. Compliance with Standards, Codes, and regulations: Where Specifications only require compliance with imposed code, standard, or regulation, select product that complies with standards, codes, or regulations specified.
9. Visual Matching: Where Specifications require matching established Sample, Architect's decision will be final on whether proposed product matches satisfactorily.
    a. Where no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of Section 01 25 00 for selection of matching product in another product category.
10. Visual Selection: Where specified product requirements include phrase "... as selected from manufacturer's standard colors, patterns, textures..." or similar phrase, select product and manufacturer that complies with other specified requirements. Architect will select color, pattern, and texture from product line selected.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS

A. Installation of Products:

1. Contractor shall comply with manufacturer's instructions and recommendations for installation of products, except where more stringent requirements are specified and necessary due to Project conditions or are required by authorities having jurisdiction.
2. Contractor shall anchor each product securely in place, accurately located and aligned with other Work.
3. Contractor shall clean exposed surfaces and provide protection to ensure freedom from damage and deterioration at time of Contract Completion review. Contractor shall refer to additional requirements specified in Section 01 74 00 - Cleaning Requirements.

END OF SECTION

SECTION 01 73 00

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. General requirements for installing, applying and placing products.

B. General requirements for correction of defective Work.

1.3 RELATED REQUIREMENTS

A. Individual Division 2 through 33 Product Specification Sections: Specific requirements for installing, applying and placing products.

1.4 EXECUTION

A. Manufacturer's Requirements: Contractor shall determine product manufacturer's requirements and recommendations prior to commencing Work.

B. Execution: Contractor shall perform installation, application and placement actions according to manufacturer's instructions and recommendations and according to specified procedures.

1. Contractor shall perform surface preparation as necessary to create suitable substrates for application, installation and placement of products.
2. Contractor shall notify University's Representative in writing of unsuitable conditions preventing proper performance of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION, APPLICATION AND PLACEMENT OF PRODUCTS

A. Manufacturer's Instructions: Contractor shall comply with manufacturer's written instructions and recommendations for installing, applying, placing and finishing products.

B. Installation, Application and Placement, General: Contractor shall locate the Work and components of the Work accurately, in correct alignment, orientation and elevation, as indicated.

1. Contractor shall make vertical work plumb and make horizontal work level.

2. Where space is limited, Contractor shall install components to maximize space available for maintenance and ease of removal for replacement.
3. Contractor shall install products at the time and under conditions that will ensure the best possible results. Contractor shall maintain conditions required for product performance until acceptance of the Work.
4. Contractor shall conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

C. Tools and Equipment: Contractor shall not use tools or equipment that produce harmful noise levels.

D. Anchors and Fasteners: Contractor shall provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

1. Mounting Heights: Where mounting heights are not indicated, Contractor shall mount components at heights directed by Architect.
2. Contractor shall allow for building movement, including thermal expansion and contraction.

E. Joints: Contractor shall make joints of uniform width. Where joint locations in exposed work are not indicated, Contractor shall arrange joints for the best visual effect. Contractor shall fit exposed connections together to form hairline joints.

F. Hazardous Materials: Contractor shall use products, cleaners, and installation materials that are not considered hazardous.

G. Cleaning: Contractor shall comply with requirements specified in Section 01 74 00 - Cleaning Requirements. See individual product Specifications Sections for specific cleaning procedures to be performed.

H. Protection: Contractor shall provide barriers, covers and other protective devices as recommended by manufacturer and complying with general requirements specified in Section 01 71 00 – Examination and Preparation Requirements.

1. Contractor shall comply with manufacturer's written instructions for temperature and relative humidity.
2. See individual product Specifications Sections for specific protective measures to be provided.

I. Limiting Exposures: Contractor shall supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.2 UNIVERSITY-INSTALLED PRODUCTS

A. Not used.

3.3 CORRECTION OF THE WORK

A. Correction of the Work, General: Contractor shall repair or remove and replace defective construction. Contractor shall restore damaged substrates and finishes to match original and new surrounding construction.

1. Contractor shall comply with requirements in Section 01 73 29 - Cutting and Patching Requirements.
2. Repairing shall include replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
3. Contractor shall remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

4. Contractor shall repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
5. Contractor shall remove and replace chipped, scratched, and broken glass.

B. Restoration of Existing Conditions: Contractor shall restore permanent facilities used during construction to their original condition or to match new construction.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

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 specified in other Sections.
2. Cutting and patching existing construction altered or disturbed to accommodate new construction.
3. Cutting and patching existing construction 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.
5. All concrete sidewalk, driveways, approaches shall be removed and replaced scoreline-to-scoreline. Partial removal and saw cutting is no allowed. Contractor shall match existing concrete thickness when replacing any removed section.

C. Refer to other Sections and drawings for specific requirements of the extent and limitations applicable to cutting and patching, demolishing, or altering existing construction of individual parts of the Work.

1. Requirements of this Section also apply to mechanical and electrical installations. (Refer to Division 22, Division 23 and Division 26 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations).

1.3 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.

1.4 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, Contractor shall 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

2.1 MATERIALS

A. Use materials that are identical to existing materials unless not available. 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.

B. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 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. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

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.
2. Beginning of cutting or patching shall be interpreted to mean that existing conditions were found by Contractor to be acceptable.
3. After uncovering existing Work, Contractor shall inspect conditions affecting proper accomplishment of Work.

3.2 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.

3.3 PERFORMANCE

A. General

1. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
2. 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

1. 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.
2. 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.
3. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
4. Cut through concrete and masonry using a cutting machine such as carborundum saw or diamond core drill.
5. 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.
6. Provide fire-safe seals to maintain fire rating at all penetrations.

C. Patching

1. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
2. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
3. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
4. 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.
5. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken wall section containing the patch, after the patched area has received primer and second coat.
6. Patch, repair or re-hang existing ceilings as necessary to provide an even plane surface of uniform appearance.
7. As applicable to the Work, replace concrete walkways to nearest construction joint. Any required repair to a portion of a walkway panel shall require full replacement of said panel from joint to joint in both the north-south and east-west direction.

D. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated.

3.4 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

SECTION 01 74 00

CLEANING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Cleaning during construction.

B. Cleaning for Contract Completion review and final acceptance of the Work.

1.3 RELATED REQUIREMENTS

A. Additional Requirements: Cleaning for specific products or elements of Work are described in individual product Specification Sections in Divisions 2 through 33. Contractor shall comply also with University’s Contractor Safety Handbook.

1.4 SUBMITTALS

A. Product List: Contractor shall submit complete list of all cleaning agents and materials for University's Representative's review and approval.

B. Cleaning Procedures: Contractor shall submit description of cleaning processes, agents and materials to be used for final cleaning of the Work. Processes and degree of cleanliness shall be as directed by University's Representative. All cleaning processes, agents and materials shall be subject to University's Representative's review and approval.

1.5 QUALITY ASSURANCE

A. Cleaning and Disposal Requirements, General: Contractor shall conduct cleaning and disposal operations in compliance with all applicable codes, ordinances and regulations, including environmental protection laws, rules and practices.

B. Cleaning Workers: Contractor shall employ experienced workers or professional cleaners for final cleaning. Contractor shall clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Contractor shall comply with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents and Materials: Contractor shall use only those cleaning agents and materials which will not create hazards to health or property and which will not damage or degrade surfaces. Contractor shall:

1. Use only those cleaning agents, materials and methods recommended by manufacturer of the material to be cleaned.
2. Use cleaning materials only on surfaces recommended by cleaning agent manufacturer.

PART 3 - EXECUTION

3.1 CLEANING DURING CONSTRUCTION

A. Garbage Control: Contractor shall control accumulation of debris, waste materials and rubbish. Periodically, Contractor shall dispose of debris, waste and rubbish off-site in a legal manner.

B. Cleaning, General: Contractor shall clean sidewalks, driveways and streets frequently to maintain public thoroughfares free of dust, debris and other contaminants.

C. Cleaning of Existing Facilities: Contractor shall clean surfaces in existing structures where alteration and renovation Work is being performed or where other construction activities have caused soiling and accumulation of dust and debris. Contractor shall:

1. Clean dust and soiling from floor surfaces.
2. Clean dust from horizontal and vertical surfaces.

D. Parking Area Cleaning: Contractor shall keep parking areas clear of construction debris, especially debris hazardous to vehicle tires.

E. Thoroughfare Clearing and Cleaning: Contractor shall keep site accessways, parking areas and building access and exit facilities clear of mud, soiling and debris. Contractor shall:

1. Remove mud, soil and debris and dispose in a manner which will not be injurious to persons, property, plant materials and site.
2. Comply with runoff control requirements stated above and as required by governing authorities having jurisdiction.

F. Cleaning Frequency: At a minimum, Contractor shall clean Work areas daily.

G. Failure to Clean: Should cleaning by Contractor not be sufficient or acceptable to University's Representative, especially regarding paths of travel, University may engage cleaning service to perform cleaning and deduct costs for such cleaning from sums owed to Contractor.

3.2 CONTRACT COMPLETION REVIEW CLEANING, GENERAL

A. Contract Completion Review Cleaning, General: Contractor shall execute a thorough cleaning prior to Contract Completion review by University's Representative and Architect. Contractor shall complete final cleaning before submitting final Application for Payment. Contractor shall:

1. Conduct cleaning in compliance with regulations of authorities having jurisdiction and industrial safety standards for cleaning.

2. Employ professional building cleaners to thoroughly clean building.
3. Complete cleaning operations specified below before requesting inspection for Certification of Completion. Contractor shall:
    a. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Leave concrete floors broom clean.
    b. 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.
    c. 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.

B. Waste Disposal, Contractor shall:

1. Remove waste materials from the site and conduct disposal in a lawful manner.
2. Do not burn waste materials.
3. Do not bury debris or excess materials on the University property.
4. Do not discharge volatile, harmful or hazardous materials into drainage systems.
5. 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.

3.3 INTERIOR CLEANING

A. Interior Cleaning, Contractor shall:

1. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program.
2. Remove labels that are not permanent labels.
3. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from all visible interior and exterior surfaces.
4. Remove dust from all horizontal surfaces not exposed to view, including light fixtures, ledges and plumbing fixtures.
5. Clean all horizontal surfaces to dust-free condition, including tops of door and window frames, tops of doors and interiors of cabinets and casework.
6. Remove waste and surplus materials, rubbish and temporary construction facilities, utilities and controls.

B. Floor Cleaning: At unoccupied spaces, Contractor shall leave concrete floors broom clean.

3.4 EXTERIOR CLEANING

A. Building Exterior Cleaning: Contractor shall clean exterior of adjacent facilities where construction activities have caused soiling and accumulation of dust and debris. Contractor shall:

1. Remove labels that are not permanent labels.
2. Wash down exterior surfaces to remove dust.
3. Clean exterior surfaces of mud and other soiling.
4. Clean exterior side of windows, storefronts and curtainwalls, including window framing.

B. Glass and Mirror Cleaning: Contractor shall clean all glass. Contractor shall replace chipped or broken glass and other damaged transparent materials.

C. Site Cleaning: Contractor shall broom clean exterior paved surfaces. Contractor shall rake clean other surfaces of the grounds. Contractor shall:

1. Wash down and scrub where necessary all paving soiled as a result of construction activities. Thoroughly remove mortar droppings, paint splatters, stains and adhered soil.
2. Remove from the site all construction waste, unused materials, excess soil and other debris resulting from the Work. Legally dispose of waste.

3.5 CLEANING INSPECTION

A. Cleaning Inspection: Prior to Final Payment or acceptance by the University for partial occupancy or beneficial use of the premises, Contractor and University's Representative shall jointly conduct an inspection of interior and exterior surfaces to verify that entire Work is acceptably clean.

B. Inadequate Cleaning: Should final cleaning be inadequate, as determined by University's Representative, and Contractor fails to correct conditions, University may engage cleaning service under separate contract and deduct cost from Contract Sum.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes requirements and procedures for ensuring optimal diversion of construction and demolition (C&D) waste materials generated by the Work from landfill disposal within the limits of the Construction Schedule and Contract Sum.

A. California State law (Public Resources Code sections 40000 *et seq.*) requires the California State University to develop source reduction, re-use, recycling, and composting programs to divert 75% of all solid waste from landfill disposal by 2020. Construction waste materials generated by the Work are targeted to achieve and maintain these diversion rates.

B. The Work of this Contract requires that a minimum of 65% by weight of the construction and demolition materials generated in the Work is diverted from landfill disposal through a combination of re-use and recycling activities (2016 California Green Building Standards Code, Section 5.408).

C. For LEED® projects, requirements for submittal of LEED documentation in compliance with the Materials and Resources category, Construction and Demolition Waste Management credit.

D. Requirements for submittal of Contractor's Construction Waste and Recycling Plan prior to the commencement of the Work.

E. Contractor's quantitative reports for construction waste materials as a condition of approval of the third progress payment.

1.3 DEFINITIONS

A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial, and industrial waste, resulting from construction, remodeling, repair, and demolition operations. A Class III landfill must have a solid waste facilities permit from CalRecycle and is regulated by the Enforcement Agency (EA).

B. Construction and Demolition Debris: Building materials and solid waste resulting from construction, remodeling, repair, cleanup, or demolition operations that are not hazardous as defined in California Code of Regulations, Title 22, and Section 66261.3 *et seq*. This term includes, but is not limited to, asphalt concrete, Portland cement concrete, brick, lumber, gypsum wallboard, cardboard and other associated packaging, roofing material, ceramic tile, carpeting, plastic pipe, and steel. The debris may be commingled with rock, soil, tree stumps, and other vegetative matter resulting from land clearing and landscaping for construction or land development projects.

C. C&D Recycling Center. A facility that receives only C&D material that has been separated for reuse prior to receipt, in which the residual (disposed) amount of waste in the material is less than 10% of the amount separated for reuse by weight.

D. Disposal. Final deposition of construction and demolition or inert debris into land, including stockpiling onto land of construction and demolition debris that has not been sorted for further processing or resale, if such stockpiling is for a period of time greater than 30 days; and construction and demolition debris that has been sorted for further processing or resale, if such stockpiling is for a period of time greater than one year, or stockpiling onto land of inert debris that is for a period of time greater than one year.

E. Enforcement Agency. Enforcement agency as defined [i.e. in Public Resources Code 40130].

F. Inert Disposal Facility or Inert Waste Landfill: A disposal facility that accepts only inert waste such as soil and rock, fully cured asphalt paving, uncontaminated concrete (including fiberglass or steel reinforcing rods embedded in the concrete), brick, glass, and ceramics, for land disposal.

G. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.

H. Mixed Debris Recycling Facility: A processing facility that accepts loads of commingled construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing the non-recyclable residual materials.

I. Recycling: The process of sorting, cleansing, treating and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.

J. Reuse. The use, in the same or similar form as it was produced, of a material which might otherwise be discarded.

K. Separated for Reuse. Materials, including commingled recyclables, that have been separated or kept separate from the solid waste stream for the purpose of additional sorting or processing those materials for reuse or recycling in order to return them to the economic mainstream in the form of raw material for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace, and includes materials that have been “source separated.”

L. Solid Waste: All putrescible and non-putrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes. "Solid waste" does not include hazardous waste, radioactive waste, or medical waste as defined or regulated by State law.

M. Source-Separated: Materials, including commingled recyclables, that have been separated or kept separate from the solid waste stream at the point of generation for the purpose of additional sorting or processing of those materials for reuse or recycling in order to return them to the economic mainstream in the form of raw materials for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace.

N. Waste Hauler: A company that possesses a valid permit from the local waste management authority to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal in the locality.

1.4 SUBMITTALS

A. Contractor’s Construction Waste and Recycling Plan

A. Review Contract Documents and estimate the types and quantities of materials under the Work that are anticipated to be feasible for on-site processing, source separation for re-use or recycling.

Indicate the procedures that will be implemented in this program to effect jobsite source separation, such as, identifying a convenient location where dumpsters would be located, putting signage to identify materials to be placed in dumpsters, etc.

B. Prior to commencing the Work, submit Contractor's Construction Waste and Recycling Plan. Submit in format provided (**Section 01 74 19A**). The Plan must include, but is not limited to the following:
   a. Contractor's name and project identification information;
   b. Procedures to be used;
   c. Materials to be re-used and recycled;
   d. Estimated quantities of materials;
   e. Names and locations of re-use and recycling facilities/sites;
   f. Tonnage calculations that demonstrate that Contractor will re-use and recycle a minimum 65% by weight of the construction waste materials generated in the Work.

C. Contractor's Construction Waste and Recycling Plan must be approved by the Construction Administrator prior to the start of Work.

D. Contractor's Construction Waste and Recycling Plan will not otherwise relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.

B. Contractor's Reuse, Recycling, and Disposal Report

A. Submit Contractor's Reuse, Recycling, and Disposal Report on the form provided (**Section 01 74 19B**) with each application for progress payment. Failure to submit the form and its supporting documentation will render the application for progress payment incomplete and delay progress payments. If applicable, include manifests, weight tickets, receipts, and invoices specifically identifying the Project for re-used and recycled materials:
   a. Reuse of building materials or salvage items on site (i.e. crushed base or red clay brick).
   b. Salvaging building materials or salvage items at an off-site salvage or reuse center (i.e. lighting, fixtures).
   c. Recycling source separated materials on site (i.e. crushing asphalt/ concrete for base course, or grinding for mulch).
   d. Recycling source separated material at an offsite recycling center (i.e. scrap metal or green materials).
   e. Use of material as Alternative Daily Cover (ADC) at landfills.
   f. Delivery of soils or mixed inert material to an inert landfill for disposal (inert fill).
   g. Disposal at a landfill or transfer station (where no recycling takes place).
   h. Other (describe).

B. Contractor's Reuse, Recycling, and Disposal Report must quantify all materials generated in the Work, disposed in [Class III] landfills, or diverted from disposal through recycling. Indicate zero (0) if there is no quantity to report for a type of material.

C. As indicated on the form:
   a. Report disposal or recycling either in tons or in cubic yards: if scales are available at disposal or recycling facility, report in tons; otherwise, report in cubic yards. Report in units for salvage items when no tonnage or cubic yard measurement is feasible.
   b. Indicate locations to which materials are delivered for reuse, salvage, recycling, accepted as daily cover, inert backfill, or disposal in landfills or transfer stations.
   c. Provide legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials for the purpose of re-use, recycling, or disposal.

D. Indicate project title, project number, progress payment number, name of the company completing the Contractor's Report and compiling backup documentation, the printed name, signature, and daytime phone number of the person completing the form, the beginning and ending dates of the period covered on the Contractor's Report, and the date that the Contractor's Report is completed.

C. For LEED Projects, complete the LEED Construction and Demolition Waste Management Calculator in format provided under the most current version of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. Include a signed cover letter with calculation summary on company letterhead.

A. Certify that the project has completed a waste management plan and diverted construction, demolition, and land clearing waste to uses other than landfill.
B. Provide quantities of diverted materials and means of diversion in accordance with the results table in the LEED Construction and Demolition Waste Management Calculator.
C. Indicate how and where waste was diverted.
D. Indicate quantities of waste diverted in tons [or cubic yards].
E. Letter will also include: Total quantity of diverted waste, total quantity of waste, and the percentage of waste diverted.
F. Include name, organization, and role in project. Provide signature and date completed.
G. Include legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials for the purpose of re-use, recycling, or disposal.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SALVAGE, RE-USE, RECYCLING AND PROCEDURES

A. Identify re-use, salvage, and recycling facilities.

B. Develop and implement procedures to re-use, salvage, and recycle new construction and excavation materials, based on the Contract Documents, the Contractor's Construction Waste and Recycling Plan, estimated quantities of available materials, and availability of recycling facilities. Procedures may include on-site recycling, source separated recycling, and/or mixed debris recycling efforts.

A. Identify materials that are feasible for salvage, determine requirements for site storage, and transportation of materials to a salvage facility.
B. Source separate new construction, excavation and demolition materials including, but not limited to the following types:
    a. Asphalt.
    b. Concrete, concrete block, slump stone (decorative concrete block), and rocks.
    c. Drywall.
    d. Green materials (i.e. tree trimmings and land clearing debris).
    e. Metal (ferrous and non-ferrous).
    f. Miscellaneous construction debris.
    g. Paper or cardboard.
    h. Red clay brick.
    i. Reuse or salvage materials
    j. Soils.
    k. Wire and cable.
    l. Wood.
    m. Other (describe)
C. Miscellaneous Construction Debris: Develop and implement a program to transport loads of mixed (commingled) new construction materials that cannot be feasibly source separated to a mixed materials recycling facility.

3.2 DISPOSAL OPERATIONS AND WASTE HAULING

A. Legally transport and dispose of materials that cannot be delivered to a source separated or mixed recycling facility to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.

B. Use a permitted waste hauler or Contractor's trucking services and personnel. To confirm valid permitted status of waste haulers, contact the local solid waste authority.

C. Become familiar with the conditions for acceptance of new construction, excavation and demolition materials at recycling facilities, and prior to delivering materials.

D. Deliver to facilities that can legally accept new construction, excavation and demolition materials for purpose of re-use, recycling, composting, or disposal.

E. Do not burn, bury or otherwise dispose of solid waste on the project jobsite.

F. Waste steams generated by the Contractor shall be properly characterized, contained, documented, and disposed of according to applicable regulations. Universal Waste (if any) within the project area shall be segregated from the waste stream and properly disposed of by the Contractor. If previously unidentified hazardous materials are encountered onsite, then work in that area shall stop, the area demarcated, and the observed locations/quantities immediately transmitted by the Contractor to the University.

G. The Contractor shall submit a Contractor's Construction Waste and Recycling Plan (CSU from 01 74 19A) to the University before generating waste. As applicable, the Contractor shall review any plan line items marked as miscellaneous construction debris (M/C) to evaluate whether such waste streams can be further segregated to divert salvage and/or recyclables to the extent practical.

H. The Contractor shall submit a Contractor's Construction Waste and Recycling Report (CSU from 01 74 19B) to the University at the conclusion of the project. Documentation of the disposal dates and weights for the various waste streams generated (landfill and diverted) shall be provided along with the submittal of CSU form 01 74 19B, and/or at any other time as requested by the University

3.3 RE-USE AND DONATION OPTIONS

Implement a re-use program to the greatest extent feasible. Options may include:

California Materials Exchange (CAL-MAX) is a free program sponsored by CalRecycle and is designed to help connect businesses, organizations, manufacturers, schools, and individuals with the most effective online resources for exchanging materials. Go to http://www.calrecycle.ca.gov/CalMAX/. Public Surplus is a government agency surplus auction system used by many universities. Go to https://www.publicsurplus.com for more information.

3.4 REVENUE

Revenues or other savings obtained from recycled, re-used, or salvaged materials shall accrue to Contractor unless otherwise noted in the Contract Documents.

END OF SECTION