# SECTION 01510

# 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 01100 - 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, Article 4.11. 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. Cal OSHA
   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.

## 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, of if so specified, costs shall be paid from Allowance specified in Section 01210 - Allowance Procedures.

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 01210 - 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. 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 telephones, pagers and NEXTEL radio service, to enable communications between University's Representative, Project Inspector and Contractor.

1. Include voice message service and paging services.

2. All costs of construction telephone, paging and radio services 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 Architect, 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.

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 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, 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 regrade 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 01732 - 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 01732 - Cutting and Patching Requirements.

**END OF SECTION**