

## **SECTION 01 50 00**

### **TEMPORARY FACILITIES AND CONTROLS**

#### **PART 1 - GENERAL**

##### **1.1 RELATED DOCUMENTS**

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

##### **1.2 SUMMARY**

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
  - 1. Nothing in this Section is intended to limit types and amounts of temporary work required, and no omission from this Section will be recognized as an indication by Architect/Engineer that such temporary activity is not required for successful completion of the Work. The use of alternative facilities equivalent to those specified is the Contractor's option, subject to Architect/Engineer's and University acceptance.
- B. Related Requirements:
  - 1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.
  - 2. Section 01 35 46 "Indoor Air Quality" for temporary facility work including HVAC, air filtration, moisture management, air filtration and dust control partitions required to comply with indoor air quality requirements during construction.

##### **1.3 USE CHARGES**

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, University's construction forces, Architect/Engineer, testing agencies, and authorities having jurisdiction.
- B. Use Charges: As follows:
  - 1. For new construction: Arrange for and pay for water, sewer, electric power, steam and chilled water use charges for utility usage by all entities for construction operations.
  - 2. For renovations of existing facilities: Arrange for and University will pay for all use charges.
- C. Temporary Metering: For all utility connection; sub-meter at point of connection to existing systems.
  - 1. Temporary utility meter must be approved by University Campus Energy Engineer.
  - 2. Meters shall be operational prior to any use of utility for temporary heating.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. 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.

#### 1.5 QUALITY ASSURANCE

- A. General: Comply with governing regulations and utility company regulations and recommendations for the construction of temporary facilities including, but not necessarily limited to, code compliances, permits, inspections, testing, health, safety, pollution and environmental compliances.
- B. Fire-safety: Comply with NFPA 421 "Standard for Safeguarding Construction, Alteration, and Demolition Operations."
- C. Safety: Comply with ANSI/ASSE A10 "Construction Package" series of safety construction standards.
- D. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- E. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- F. Accessible Temporary Egress: Where temporary accessible egress from existing buildings or portions thereof is provided, comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

#### 1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before University's acceptance, regardless of previously assigned responsibilities.
- B. 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.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide both new or used materials and equipment for temporary facilities, which are in substantially undamaged and serviceable condition. Provide types and qualities which are recognized in the construction industry as suitable for the intended use in each application. Comply with Utility Company requirements as applicable.

### 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Insulated, weather-tight, of sufficient size to accommodate needs of University, Architect/Engineer, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

In consultation with University PM, A/E to develop scope of Field Office required and revise requirements in subparagraph below to suit project.

- 1. At a minimum, furnish and equip offices as follows:
  - a. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
  - b. Conference room of sufficient size to accommodate meetings of [10] <Insert number> individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot-square tack and marker boards.
  - c. Drinking water and private toilet.
  - d. Coffee machine and supplies.
  - e. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
  - f. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
  - 1. Store combustible materials apart from building.
  - 2. Comply with Section 01 10 00 "Summary" for use of site for staging areas.

### 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. Digital Camera: Minimum 12 megapixel; available in field office for use.
- C. Thermometer: Outdoor, re-settable type indicating daily maximum and minimum temperatures.
  - 1. Locate in a shaded-from-the-sun, conveniently readable location that will give reasonably accurate readings of the actual air temperature and be reached easily for resetting.

2. Maintain daily log of reading.
- D. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate, expand and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. Use qualified workers for the installation of temporary facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
  1. Arrange with utility company, University, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services. Comply with requirements in Section 01 10 00 "Summary" for existing utility disruption procedures.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
  1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction. Where available, connect to University's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to University. At Substantial Completion, restore these facilities to condition existing before initial use.
  1. Obtain and pay for all required water taps.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
  1. Toilets: Use of University's existing toilet facilities is not permitted.
  2. Provide temporary toilets within available site area in location approved by University which will best serve the needs of construction personnel.
  3. Supply and maintain toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each sanitary facility, and provide appropriate waste paper containers for used materials.
  4. At Contractor's option, provide drinking water for construction personnel by either water-system-connected drinking fountains or by containerized tap dispensers with paper cups (or both).
- E. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high

humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. HVAC Equipment: Unless University authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
  - a. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  - b. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
  - c. Permanent HVAC System: If University authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air and exhaust grille in system and remove at end of construction. Clean and adjust HVAC system and put in new condition before Completion as required in Section 01 77 00 "Closeout Procedures".
- F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
  1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
    - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
    - b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
  2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
  3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
  1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- H. Electric Power Service: Provide weatherproof, grounded, electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Include, as required, transformers, overload protected disconnects, automatic ground fault interrupters and main distribution switchgear. Maintain equipment in a condition acceptable to University.
  1. Install electric power service overhead unless otherwise indicated.
  2. Where available capacity exists in existing system, connect temporary service to University's existing power source, as directed by University.
  3. Provide separate connection for power and for lighting.
  4. Provide sufficient 220v outlets for special tools, welding equipment and similar devices requiring such service at locations where required.

5. Provide sufficient circuits and duplex 120v single phase outlets so located that any part of the work can be reached with a 75 foot extension cord to accommodate normal power tools and supplemental lighting.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  1. Provide temporary light to levels and as required by governing regulations but not less than minimum 5 foot-candle illumination in all areas accessible to workers during hours they are at the job; minimum 10 foot-candles for shop areas; 20 foot-candles or more where detailed or finishing work is being done, supplemented as may be required.
  2. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  3. Install lighting for Project identification sign.
  4. Where permanent light fixtures have been used for temporary lighting, supply temporary lamps and replace with new lamps at time of Completion.
  5. Provide lighting in stairways and exits at all times.
- J. Telephone Service: Provide temporary telephone service in Contractor's field office and distribute to each work station.
  1. Pay for line installation, monthly charges, and expenses necessary to extend service from minimum point of presence (MPOP) as determined by University I/S.
  2. Provide temporary telephone service in common-use facilities for use by all construction personnel.
  3. Provide answering machine and a dedicated telephone line for a facsimile machine.
  4. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

Retain option in paragraph below if coordinated with and agreed upon by the University Project Manager.
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- K. Data Service: Provide temporary data service line in Contractor's field office. **[Coordinate installation with University Information Services (I/S) Department who will provide and maintain service until notified by Contractor to terminate and remove instruments and lines.]**

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
  1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
  2. Maintain support facilities until Architect/Engineer schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to University.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
  1. Surface temporary access road with road base material of not less than 4 inch thickness and compact.
  2. Provide temporary signage and temporary pedestrian accessways or other special considerations necessary for continued University operations.

3. Provide stop sign(s) at all points of egress from construction site to meet standards established in the Manual of Uniform Traffic Code Devices (MUTCD).
  4. Maintain University access to areas affected by temporary access roads during inclement weather.
  5. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
  6. Restore to original condition to satisfaction of University when no longer required.
- C. Temporary Walks: Construct and maintain temporary walks around the construction work and to offices, toilets and similar locations on the site.
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
  2. Maintain access for fire-fighting equipment and access to fire hydrants.
- E. Parking: Comply with requirements in Section 01 10 00 "Summary."
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
  2. Remove snow and ice as required to minimize accumulations.
- G. Project Signs: Provide Project signs at locations indicated or directed. Unauthorized signs are not permitted.

<p><a href="#">Consult with the University Project Manager for extent of appropriate signage.</a></p>
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1. Identification Signs: Unless otherwise indicated, provide 4 foot by 8 foot Project identification sign.
    - a. Architect/Engineer will provide sign layout, including colors and graphics as approved by University Resident Architect through University Project Manager.
  2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
    - a. Provide temporary, directional signs for construction personnel and visitors.
  3. Engage an experience sign painter to apply required colors and graphics in a neat and professional manner.
  4. Maintain and touchup signs so they are legible at all times.
- H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 01 73 00 "Execution."
1. Coordinate with University Project Manager to obtain approval from University Environmental Services Manager.
  2. Provide waste chutes as required in accordance with applicable laws and regulations.
- I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel. The selection of type, size and number of hoisting facilities is the solely the responsibility of the Contractor.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
  - J. Temporary Elevator Use: Use of elevators is not permitted without prior written approval of the Architect/Engineer and University Project Manager.
    1. If so approved, only one designated elevator may be used subject to the requirements of "Existing Elevator Use" paragraph below.
  - K. Existing Elevator Use: When approved by University, one designated existing elevator may be used at no charge to Contractor or other subcontractors for transporting personnel, small tools, materials, and equipment. Comply with requirements of Section 01 10 00 "Summary" and the following:
    1. Contractor will not be granted exclusive use of the designated elevator. University personnel and staff will be permitted to use this elevator as their work duties require.
    2. Entire car is lined (floor, walls, ceiling) with 3/4 inch Fir plywood or equivalent.
    3. Total load carried does not exceed rated capacity of elevator.
    4. No materials, equipment, trash, tools or other items too large to be readily moved into and out of the car may be carried in the elevator.
    5. Before acceptance of the building, linings are removed; all exposed surfaces are in new condition; all controls, relays, other parts showing any wear have been replaced.
    6. Entire elevator, including machinery, electrical components, doors, operators and controls shall be tested, adjusted, and put in new condition with specified warranties and maintenance to take effect at date of Completion Certificate.
    7. Written clearance has been obtained from the Elevator Service Company stating that the installation is safe and complete for this use prior to using it.
    8. The Contractor signs the Elevator Service Company's standard agreement and release forms for this usage and pays charges for maintenance, service, repairs, and reconditioning.
  - L. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
  - M. Existing Stair Usage: Use of University's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to University. At Substantial Completion, restore stairs to condition existing before initial use.
    1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.
  - N. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.
- 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION
- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
  - B. Protection of Work: Protect in-progress and completed work from damage or deterioration, other than normal weathering of exposed materials, through construction duration until completion, as appropriate and as recommended by manufacturer and Installer.



1. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects, and storage.
  2. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped areas.
  3. Always protect excavation, trenches, and building, from damage from rain water, spring water, ground water, backing up of drains or sewers. Provide pumps, equipment, enclosures, to provide this protection.
  4. Remove protective coverings and materials at the appropriate time but no later than final cleaning operations.
- C. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
1. Comply with work restrictions specified in Section 01 10 00 "Summary."
- D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
1. Comply with Section 01 41 00 "Regulatory Requirements" Article "MS4 Storm Water and Water Quality Permits."
  2. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
  3. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  4. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
  5. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- E. Stormwater Control: Comply with Section 01 41 00 "Regulatory Requirements" Article "MS4 Storm Water and Water Quality Permits."
- F. Tree and Plant Protection: Install temporary fencing or guard located outside the drip line of trees to protect vegetation from damage arising out of construction operations, including cutting, breaking or skinning of roots and skinning or bruising of bark. Protect tree root systems from damage, flooding, and erosion.
1. Do not stockpile construction materials or excavated materials inside dripline.
  2. University will identify historically recorded trees and vegetation not to be disturbed.
  3. Water trees and other vegetation to remain as required to maintain their health for the duration of the Project.
  4. Repair or replace trees and vegetation damaged by construction operations in a manner acceptable to Architect/Engineer. Use a qualified tree surgeon to perform the work.
- G. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and 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.
- H. Site Enclosure Fence: Within 10 business days of mobilization, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates and will protect adjacent sites from damage or contamination..

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
  2. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide bases for supporting posts.
  3. Locate so base supports do not extend outside work area where adjacent to walkways.
  4. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to University.
- I. Security: Provide security program and facilities to protect the Work, existing facilities, and University operations and to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
1. Coordinate with University Police.
  2. Provide lockable entrances and lock entrances at end of each work day.
  3. After review and approval by University, install temporary enclosure around partially completed areas of construction.
  4. 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.
- J. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting wherever required to prevent accidents and losses.
- K. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- L. Covered Walkway: Where regulations require or where a public roadway/walkway adjoins the Project site and materials may be hoisted across the walkway, erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
1. Construct covered walkways using scaffold or shoring framing.
  2. Provide overhead waterproof decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
  3. Paint and maintain appearance of walkway for duration of the Work in a manner acceptable to the Architect/Engineer and University.
  4. Extend back wall beyond structure to complete the enclosure fence.
- M. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
  2. Coordinate temporary enclosures with ventilating and drying-of-the-work requirements, so as to avoid dangerous conditions and deleterious effects.
  3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
- N. Temporary Partitions: Provide floor-to-floor or floor-to-ceiling dustproof partitions terminating in dustproof floor or ceiling above to limit dust and dirt migration and to separate existing active elevator

hoistways and other areas occupied by University from dust, fumes and noise in compliance with Section 01 35 46 "Indoor Air Quality" and the following:

1. Construct dustproof partitions with 5/8 inch gypsum wallboard with joints taped on occupied side, and 1/2 inch fire-retardant-treated plywood on construction operations side.
2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
3. Insulate partitions to control noise transmission to occupied areas.
4. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
5. Protect air-handling equipment.
6. Provide walk-off mats at each entrance through temporary partition.
7. At elevator hoistway entrances not used during construction, seal openings with plastic sheet and duct tape.

O. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Fire Extinguishers: Minimum one per floor at or near useable exit.
  - a. Provide additional extinguishers where convenient and effective for intended purpose.
  - b. Comply with NFPA 10 to the extent applicable.
2. Strictly enforce site prohibition against smoking.
3. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
4. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Coordinate with University Project Manager to review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
5. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.
6. Maintain unobstructed access to fire extinguishers, temporary fire protection facilities, stairways and other access routes for fighting fires.
7. Store combustible materials in containers in fire-safe locations.
8. Permanent Fire Protection System: Complete and make operational at earliest possible date. Instruct site personnel on use of permanent system.

### 3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Comply with requirements in Section 01 35 46 "Indoor Air Quality Procedures."

### 3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

1. Do not permit temporary offices and similar temporary or permanent spaces to be used as living quarters or for other unintended occupancies or uses.

- B. Maintenance: Maintain facilities in good operating condition until removal.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Janitorial Services: Provide daily janitorial services for temporary offices, toilets, and similar areas at the project site. Require users of other temporary facilities to maintain clean and orderly premises.
- D. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
- E. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- F. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion, unless Architect/Engineer requests that it be retained for a longer period of time. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of Contractor. University reserves right to take possession of Project identification signs.
  - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

**END OF SECTION 01 50 00**