

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS for MAJOR RENOVATION,
BUILDING ADDITIONS, NEW BUILDINGS, AND SITE STAGING.

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.

1.3 USE CHARGES

- A. General: Installation and removal of 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, Owner's construction forces, Consultant, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service from Existing System: Water from Owner's existing water system is available for use with metering and without payment of use charges. Provide connections, extensions and removal of services as required for construction operations. Owner will furnish meter for Contractor's installation.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use with metering and without payment of use charges. Provide connections, extensions and removal of services as required for construction operations. Owner will furnish meter for Contractor's installation.
- D. Co-Gen Hot Water, Steam and Chilled Water Cooling from Existing System: Co-Gen hot water, steam and chilled water for heating and cooling from the Owner's existing system, where available for use, will be provided with metering and without payment of use charges. Provide connections, extensions and removal of services as required for construction operations. Owner will furnish meters for Contractor's installation.
- E. Telephone Service: Telephone service installation will be provided by the Owner. Contractor will pay monthly service charges to the Owner for each service line installed. Owner to provide telephone equipment and extensions of services as required for construction operations.

- F. Internet Service: Internet service installation will be provided by the Owner. Contractor will not be charged a fee for installation or monthly service. Contractor will provide computer equipment as required for construction operations.

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. Contractor's Telephone Numbers:
 - 1. Submit phone numbers of construction personnel, such as, project manager, on-site superintendent and administration staff.
 - 2. Submit emergency contact number to a designated employee who shall be available and responsible for assisting University staff in emergency situations or an emergency contact answering service number. Answering service shall have a minimum of three contacts of the contractor's staff to use in the event the main contact is unavailable. Contractor's employees shall be available and responsible for assisting University staff in after-hours emergency situations.
- D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- E. 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.
- F. 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. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.
- D. U of R Emergency Phone Numbers:
 - 1. AT&T or Verizon cellular telephone service: #413 (Pound 4 1 3).
 - 2. From any cellular telephone: (585) 275-3333.
 - 3. Campus telephone: 13.
 - 4. Blue light emergency phone.

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 Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top rails.
- B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
- C. Bottom locking privacy fence slots, color to be approved by University Architect.
- D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- E. Temporary Partitions: Refer to Specification Sections for Non-Structural Metal Framing and Gypsum Board.

- F. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).
- G. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
- H. Materials installed at temporary extensions of utilities shall match University Standards.
 - 1. Where Building Code requirements do not exist for temporary facilities and controls University Standards shall apply.
- I. Construction card swipes, locks/cylinders and keys for doors and site fence gates will be provided by the Owner.
 - 1. No card swipes, locks or cylinders to be installed by contractor that is outside University's system. University Project Manager will coordinate access to project site.

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: Of sufficient size to accommodate needs of Owner, Consultant, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
 - 1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
 - 2. Conference room of sufficient size to accommodate meetings of 20 individuals, unless indicated otherwise in the Contract Documents. Provide electrical power service and 120-V ac duplex receptacles, with no less than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- (1.2-m-) square tack and marker boards.
 - 3. Drinking water and toilet.
 - 4. Coffee machine and supplies.
 - 5. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
 - 6. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) 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, as approved by University Fire Marshal.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures. Provide and locate fire extinguishers to comply with NFPA 10.
- B. HVAC Equipment:

1. Unless Owner authorizes use of permanent HVAC system or temporary connection to the University's Co-Gen hot water or steam, provide exterior vented, self-contained, liquid-propane-gas heaters with individual space thermostatic control. Submit system design to University's Project Manager and Fire Marshal for approval. Contractor to obtain all necessary permits from the authorities having jurisdiction.
 2. Where Co-Gen hot water or steam is available, use hot water or steam heating equipment. Installation to incorporate materials as outlined in University Standards.
 3. Use of kerosene or gasoline-burning space heaters are prohibited.
 4. Contractor to obtain and keep on file regulatory permits for all open-flame heaters from Authority having Jurisdiction.
 5. 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.
 6. Permanent HVAC System:
 - a. If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 017700 "Closeout Procedures".
 - b. Refer to Logistic Plan for modifications required to the existing systems before making operational during construction.
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units 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 and modify facilities as required by progress of the Work.
 1. Locate facilities to limit site disturbance as shown on the Logistics Plan.
- 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.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 1. Arrange with University's Project Manager for time when service can be interrupted, if necessary, to make connections for temporary services.
 2. Refer to the Logistic Plan for utilities point of connections locations.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

- C. Water Service: Connect to Owner's existing water service facilities and provide backflow device as indicated on logistic plan. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- 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.
- E. Heating and Cooling Control: Provide temporary heating and cooling 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. Where Co-Gen Hot Water, Steam and Chilled Water Cooling is utilized, service design shall not exceed capacity of Project's final load. Connect temporary service to Owner's existing source, at location indicated on Logistic Plan.
- 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 according to coordination drawings.
 - 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: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner. Service design shall not exceed capacity of Project's final load.
 - 1. Install electric power service overhead unless otherwise indicated.

2. Connect temporary service to Owner's existing power source, at location indicated on Logistic Plan.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 1. Install and operate temporary lighting that fulfills security and protection requirements.
 - J. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install a minimum of one (1) telephone line(s) for each field office.
 1. Provide additional telephone lines as approved by University Project Manager.
 2. At each telephone and at job site location as approved by University Project Manager, post a list of important telephone numbers.
 - a. U of R Security Office.
 - b. Contractor's home office.
 - c. Contractor's emergency after-hours telephone number.
 - d. Consultant's office.
 - e. Engineers' offices.
 - f. University Project Manager's office.
 - g. Principal subcontractors' field and home offices.
 3. Provide superintendent with cellular telephone for use when away from field office. The contractor shall circulate the number of this telephone to all persons connected with the project.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 1. Provide construction for temporary offices, shops, and sheds located within construction area that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 2. Maintain support facilities until Consultant schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Parking: The University can make parking available to the Contractor's personnel or work vehicles only in peripheral lots. These lots may be used only upon special arrangement, including payment of the standard University rate, depending on proximity to the center of the University. Transportation of personnel from these lots to the job site shall be the responsibility of the Contractor. All University lots are strictly policed. Violators of University parking regulations will be fined, and vehicles may be towed or immobilized. All costs in connection with the recovery of such vehicles will be the responsibility of the vehicle's owner.
- C. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas. Locate temporary roads and paved areas as indicated on the Logistics Plan.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- D. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 31 Specification Sections.
 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
- E. 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.
- 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 as indicated. Unauthorized signs are not permitted.
1. Identification Signs: If required, the Owner will furnish the project sign for the Contractor's installation.
 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
- H. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
1. Refer to Logistic Plan for dumpster locations.
- I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
- J. Existing Elevator Use: Use of Owner's existing elevators will be permitted as indicated in other locations of Contract Documents, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
1. Do not load elevators beyond their rated weight capacity.
 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

- K. Material / Debris Transport: Transferred all materials and debris through the building in a matter to minimize dust, dirt and vapor migration. Cover and wrap all products being transported to prevent leakage and spillage. Provide mopping and vacuuming of all areas outside the contract area as required in maintaining a clean public environment.
 - 1. Transport all materials, debris and products along path shown on the Logistic Plan
- L. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- M. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. 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. 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.
- C. 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. Provide fire protection systems during construction as indicated on logistic plan.
 - 2. Prohibit smoking in construction areas. See Campus Special Conditions for addition smoking requirements.
 - 3. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction. Obtain hot work permit for any function that creates a potential ignition point. Provide ABC dry chemical fire extinguisher within 10 feet of hot work permit activity.
 - 4. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with Authority having Jurisdiction and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft,

and similar violations of security. Provide locks to allow insertion of Owner's cylinder or install Owner's lock. Owner will provide key. Contractor to install cylinder where required. Lock entrances at end of each work day.

- E. 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 Stormwater Pollution Prevention Plans for this Project (SWPPP).
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- F. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- G. Tree and Plant Protection: Comply with requirements specified in Section 015639 "Temporary Tree and Plant Protection."
- H. Pest Control: Engage EH&S 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. Review and obtain approval for control operations with University EH&S and University Project Manager before starting program. Perform control operations lawfully, using environmentally safe materials.
- I. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - 1. Extent of Fence: As indicated on the Logistics Plan.
 - 2. Provide locks to allow insertion of Owner's cylinder or install Owner's lock. Owner will provide key. Contractor to install cylinder where required.
 - 3. Maintain security by limiting number of keys and restricting distribution to authorized personnel.
- J. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- K. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated on Logistic Plan and as required by authorities having jurisdiction.
- L. Covered 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 and requirements indicated on the Logistics Plan.

1. Construct covered walkways using scaffold or shoring framing.
 2. Provide overhead 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.
- 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.
- N. Temporary Partitions: Provide one hour fire rated, unless otherwise noted on the Logistic Plan, floor-to-underside of structural deck, dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and tenants from fumes and noise.
1. Provide fire-rated door assemblies including door hardware, rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.
 2. Provide paint finish and rubber wall base on public side.
- O. Protect air-handling equipment.
- P. Provide walk-off mats at each entrance through temporary partition.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
1. Protect porous materials from water damage.
 2. Protect stored and installed material from flowing or standing water.
 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 4. Remove standing water from decks.
 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building unless located in an area protected from infiltration of moisture and ambient mold spores.

2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Consultant.
 - c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

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.
- 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. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Building Ownership Turnover.
- D. 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. 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.
 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and

other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.

3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000