Part 1 General

A. Stipulations

The section “Special Requirements” forms a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full. The Contract Drawings and the Standard Form of Agreement apply to this Section.

B. Related Documents

The Contract Drawings and the Standard Form of Agreement apply to this Section.

C. Summary

1. This Section specifies requirements for temporary services and facilities including utilities, construction and support facilities, security and protection. All temporary utilities, construction and support facilities required to perform the work shall be provided as indicated herein and the associated costs shall be included in the proposal submitted.

2. The General Contractor shall provide temporary construction and support facilities required unless specifically noted otherwise. Temporary construction and support facilities include, but are not limited to, the following:

   a. Water service and distribution
   b. Sanitary facilities
   c. Drinking water
   d. Temporary heat
   e. Water disposal services
   f. Waste disposal services
   g. Construction aids and miscellaneous services and facilities
   h. Appropriate site access including snow and ice removal

3. The Electrical Contractor shall provide temporary construction light, power, and telecom including, but not limited to:

   a. Light and power necessary for trades to perform their work
   b. Power for temporary heat, if needed
   c. Power to other contractors’ job site offices
4. The General Contractor shall provide security and protection facilities required including, but not limited to, the following:

   a. Barricades, warning signs, lights.
   b. Enclosure fence for the site.
   c. Environmental protection.
   d. Dust barriers/temporary protection as needed.
   e. Weather protection as required.

5. Each Contractor shall provide field offices and storage sheds, if required.

6. The General Contractor shall be responsible for site maintenance including snow and ice removal, weed control, and lawn care.

D. QUALITY ASSURANCE

1. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:

   a. Building Code requirements
   b. Health and safety regulations
   c. Utility company regulations
   d. Police, Fire Department and Rescue Squad rules
   e. Environmental protection regulations
   f. System/Owner regulations


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

E. EQUIPMENT

1. Temporary Offices: Each Contractor shall provide, if so desired, their own prefabricated or mobile units with lockable entrances, operable windows and serviceable finishes.

2. Temporary Toilet Units: The General Contractor shall provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with
a glass fiber reinforced polyester shell or similar nonabsorbent material for use by all Contractors and Subcontractors on the site. The number of units should be adequate to provide safe sanitary service for all on-site contractor personnel, and should meet any and all applicable code requirements.

3. **First Aid Supplies:** Each Contractor shall comply with governing regulations.

4. **Fire Extinguisher:** Each contractor shall provide hand-carried, portable UL-rated, class “A” fire extinguisher for temporary offices and similar spaces according to prevailing building codes. In other locations, the General Contractor shall provide hand-carried, portable, UL-rated, class “ABC” dry chemical extinguisher, or a combination of extinguisher of NFPA recommended classes for the exposures.

**PART 2 PRODUCTS (Not Applicable)**

**PART 3 EXECUTION**

**A. INSTALLATION, GENERAL**

1. All contractors shall 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.

2. All contractors shall 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. Location shall be approved by the OWNER and PROFESSIONAL.

3. All contractors shall provide each temporary 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. Locations shall be approved by OWNER and PROFESSIONAL.

**B. Temporary facilities as outlined herein shall be installed prior to start of work and within (30) days of Notice to Proceed.**
C. TEMPORARY UTILITY INSTALLATION

1. Each contractor shall, at their own cost and expense; install, operate, protect, and maintain the respective temporary services as hereinafter specified, during the construction period of the entire project. These temporary services shall include water supply, electric, light, and power, and any other services as may be stipulated in General Conditions, Special Requirements, and/or specification.

2. Each contractor shall pay all costs for the operation of temporary services herein specified, except that the University will pay all fuel costs for steam, water and power that are taken from their utility systems. Data, phone, and all other telecommunication costs for temporary offices shall be the responsibility of the contractor occupying the area.

3. Any part or parts of permanent service lines, grounds, and buildings, disturbed or damaged by the installation and/or removal of the temporary services shall be restored to their original condition by the responsible contractor.

4. If the responsible Contractor fails to carry out his responsibility in supplying temporary services, as set forth in his contract, he shall be held responsible for such failure, and the System shall have the right to take such action as it deems proper for the protection and conduct of the work and shall deduct the cost involved from the amount due the Contractor.

5. Engage appropriate local utility companies to install temporary services. Where utility companies provide only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company requirements. Coordinate with OWNER.

   a. Arrange with utility company, and OWNER if interruption of services is necessary, to make connections for temporary services.

   b. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.

   c. Obtain easements to bring temporary utilities to Project site where OWNER’S easements cannot be used for that purpose.

   d. Coordinate procedures, details and dates with OWNER.

   e. Construction facilities and controls shall meet requirements of authorities having jurisdiction.
6. **Temporary Water Supply**: The System, within its facilities, will furnish water for construction purposes, free of charge to the contractors. Where system water is not available, the General Contractor shall, at his own cost and expense; install, operate, protect and maintain a complete temporary water supply system.

   a. The General Contractor shall provide insulation and heat tape to prevent freezing of the construction site water supply.

   b. The General Contractor shall extend piping and space outlets so that all areas of the project can be reached with a 100 foot hose. Each contractor is responsible for supplying all hose necessary to connect to GC’s distribution network.

7. **Temporary Construction Light and Power**

The Electrical Contractor shall, at his own cost and expense; install, operate, protect and maintain a complete temporary construction light and power system as detailed below.

   Complete installation of temporary lighting and power should be in strict accordance with the latest edition of the National Electrical Code.

   If available within its existing facilities, The System will furnish electric to contractors free of charge for use on the construction site. Should power not be available from the existing University facilities, the Electrical Contractor shall be responsible for providing power from the public utility including all transformers, meters, distribution equipment, panels, wire, conduit, disconnects, or other appurtenances required for a complete distribution system. The General Contractor shall be responsible for payment of all electric usage charges associated with the site operation except as noted in items c and n below.

   The Electrical Contractor shall provide power feeders to a maximum of eight (9) field offices (2 per Prime contractor and one for the owner). Additional service installation requirements for field offices and sheds beyond two (2) per prime contractor shall be at the requesting prime contractor’s expense. Where power is taken from the public utility, the Electrical Contractor shall provide one meter per prime contractor and each prime contractor shall be responsible for payment of their own field office consumption charges. Should a subcontractor of a prime contractor require a field office, their power shall be fed from the prime contractor’s meter unless otherwise approved by the University. Owner power feed shall be connected to
the General Contractor’s meter and GC shall be responsible for payment of owner’s consumption charges.

a. Provide main service disconnect and over-current protection at convenient location.

b. Provide temporary poles and temporary distribution wiring to the temporary power of each building, structure and trailer. Make all connections.

c. Provide receptacle outlets adequate for connection of power tools and equipment.

d. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

e. Provide warning signs at power outlets other than 110 to 120 V.

f. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.

g. Provide metal conduit enclosures or boxes for wiring devices.

h. Provide 4-gang outlets, spaced so 100-foot extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.

i. Provide temporary lighting with local switching that provides adequate illumination for construction operations, traffic conditions and personal safety and security in surrounding areas.

j. On the interior of the project, provide one 100-W incandescent lamp per 500 sq. ft., uniformly distributed, for general lighting, or equivalent illumination.

k. Contractors shall supply their own power for any welding operations and shall not use System provided power for this operation.

8. **Temporary Data, Telephone, and Other Telecommunications (TeleData)**

The Electrical Contractor shall, at his own cost and expense; install, operate, protect and maintain a complete TeleData system for the project field offices as detailed below.
a. Complete installation of a temporary system shall be in strict accordance with the latest edition of all applicable Codes.

b. If available within its existing facilities, The System will furnish TeleData access to Contractors free of charge for use on the construction the site; however, each contractor shall still be responsible for all long distance charges. Should TeleData connections not be available from the existing University facilities, the Electrical Contractor shall be responsible for providing connection to the public utility including all distribution equipment, panels, wire, conduit, or other appurtenances required for a complete distribution system. Each Contractor shall be responsible for payment of their own TeleData usage charges.

c. The Electrical Contractor shall provide TeleData to a maximum of Five (5) field offices (1 per Prime contractor and 1 for the owner) in the following quantities:

   2 Telephone lines/numbers
   1 line for connection to internet services

Additional service installation requirements for field offices beyond those described above shall be at the requester’s expense.

d. Where available, high speed/ broad band internet service shall be provided.

9. Temporary Heating and Cooling

The General Contractor shall, at his own cost and expense; install, operate, protect and maintain a complete Temporary Heating and Cooling System for the project as detailed below.

a. provide temporary heating units that have been tested and labeled UL, FM, or another recognized trade association related to the type of fuel being consumed. If liquid fuel is used, provide under-unit containment in the event of leakage. Provide adequate ventilation or direct vent the units to the outside.

b. 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.

c. Maintain a minimum temperature of 50 deg F in permanently OR TEMPORARY/SEMI-PERMANENT enclosed portions of
building for normal construction activities, and 65 deg F for finishing activities and areas where finished Work has been installed. These building temperatures MUST be maintained for the duration of the construction activities regardless of the number of heating or cooling days during construction required to maintain the temperature constants, or the exterior weather conditions compared to “normal” or “average” weather patterns.

d. Should electric service be required for temporary heaters, the Electrical Contractor shall be responsible for providing necessary connections to the existing site power distribution system.

e. The General Contractor shall be responsible for any electrical consumption charges incurred as a result of operating the temporary heaters.

f. Use of gasoline-burning space heaters, open flame heaters or salamanders is FORBIDDEN.

PART 4 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

A. SANITARY FACILITIES

1. The General Contractor shall, at their own cost and expense; provide and maintain in a clean and sanitary condition, adequate and approved sanitary facilities as specified below. Portable chemical toilets approved by Pennsylvania Department of Health are acceptable. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project’s needs. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material. Drinking water inside site trailers is the responsibility of each individual Contractor.

2. Wash Facilities: The General Contractor shall install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition. Provide safety showers, eyewash fountains and similar facilities for convenience, safety and sanitation of personnel.

3. Drinking Water Facilities: The General Contractor shall provide containerized tap-dispenser bottled-water type drinking water units, including paper supply. Where power is accessible, provide electric water
coolers to maintain dispensed water temperature at 45°F to 55°F (7°C to 13°C).

4. Portable toilet facilities that are used on University construction sites must comply with Best Management Practices (BMP) for placement of such toilets. Suggested practices that minimize the potential for storm water pollution from portable toilets and therefore ensure regulatory compliance are listed below and should be adhered to by the General Contractor.

a. Location: Consider the following recommendations when locating portable toilets at a construction site:
   • Place toilets on flat stable ground.
   • Locate toilets as far from storm drains as possible. Provide secondary containment if the proximity of storm drains present an unreasonable risk in the event of a leak or spill.
   • Avoid impervious surfaces, such as concrete, that will quickly direct spills to storm sewers. Grass, sand and gravel surfaces will adsorb liquid for easy clean up of leaks or spills.
   • Place toilets inside security fences to prevent vandalism.
   • Locate toilets so that exposure to traffic and moving equipment is minimized, install safety bollards if necessary.
   • Consider securing toilets to the ground with cables and stakes if they are located in open areas subject to high winds.
   • Ensure easy access for pump truck and toilet service staff.

b. Maintenance: The following is a summary of necessary maintenance activities:
   • Follow vendor recommendations for a suitable number of portable toilets for the anticipated site workforce.
   • Provide for a suitable cleaning and maintenance schedule.
   • Check regularly for damage, leaks and spills. Ideally, this would be part of the weekly storm water site inspection.
   • Clearly label toilets needing maintenance or repair. Promptly notify vendor to schedule maintenance.
   • Maintain spill response material and equipment on site. Often, the earth moving equipment associated with the construction project is sufficient.

B. PROGRESS CLEANING AND WASTE REMOVAL

1. Each Contractor shall collect their waste daily and deposit in the containers provided by the General Contractor. The General Contractor shall provide all other cleaning and waste removal services listed below.

a. Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than
one installer has worked. Enforce requirements strictly. Dispose of materials off-site in a legal manner.

b. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

c. Do not hold waste materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80°F.

d. Containerize unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

e. Maintain Project site free of waste materials and debris.

f. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

g. Remove debris from concealed spaces before enclosing the space. Burying or burning waste materials on-site will not be permitted. Washing waste down sewers or into waterways will not be permitted.

C. SECURITY AND PROTECTION FACILITIES INSTALLATION

1. **All Contractors** will provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.

2. The **General Contractor** shall install temporary fencing outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion.

3. The **General Contractor** shall, before construction operations begin, install portable 8 foot high, chain-link fence with galvanized steel pipe posts and lockable entrance gates. Provide concrete bases for supporting posts. Enclose entire Project site to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from
entering site except by entrance gates. Keep gates closed during operations and locked when operations are not underway.

a. Provide gates in sizes and at locations necessary to accommodate delivery vehicles and other construction operations.

b. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide OWNER with one set of keys.

c. Provide “No Trespassing” signs around perimeter of fencing. Locate at 20 feet intervals.

d. Provide security to protect Work, existing facilities and OWNERS operations from unauthorized entry, vandalism and theft.

e. Coordinate security with OWNER’S security program.

D. BARRICADES, WARNING SIGNS AND LIGHTS

1. All contractors shall comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Provide lighting, including flashing red or amber lights.

a. Provide barricades where required, and covered walkways for public rights-of ways and public access to existing buildings.

b. In addition to barricades around excavations and trenches, provide “Work Ahead” signs 50 feet before and after excavations and trenches.

c. Do not leave excavations and trenches open overnight and weekends without OWNER’S permission. Where approval is given for excavation to be open overnight or for extended periods, the excavation shall be secured using portable/temporary 6 ft high chain link fence.

E. TRAFFIC CONTROLS

1. The General Contractor shall provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs, directional signs, and flaggers for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

F. TEMPORARY ENCLOSURES
1. The General Contractor shall provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction. Provide temporary weather-tight enclosure for building exterior. Maintain until permanent enclosure is complete.

G. TEMPORARY PARTITIONS

1. The General Contractor shall erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration into other areas, and to separate areas from fumes and noise.

H. WATER AND EROSION CONTROL

The General Contractor shall:

1. Grade site to drain. Maintain excavations free of water. Provide, operate and maintain pumping equipment.

2. Protect site from puddling or running water. Provide barriers as required to protect site from soil erosion.

3. Follow site erosion plans and requirements of authorities having jurisdiction.

I. ACCESS ROADS

The General Contractor shall:

1. Construct and maintain temporary roads accessing public thoroughfares to serve construction area, including snow and ice removal.

2. Extend and relocate roads as work progress requires. Provide detours necessary for unimpeded traffic flow.

3. Provide and maintain access to fire hydrants, free of obstructions.

4. Remove mud and gravel carried from construction site to university and public roads on a daily basis.

J. PARKING

The General Contractor shall:
1. Provide temporary gravel surface parking areas to accommodate construction personnel.

2. Coordinate location with owner.

3. Maintain the parking area throughout the project including weed control and snow/ice removal.

K. OPERATION, TERMINATION AND REMOVAL

The responsible contractor shall:

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

2. Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.

3. 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.

4. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

5. 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.

6. Shall maintain ownership responsibility for materials and items that constitute temporary facilities.

7. Remove temporary paving not intended for or acceptable for integration into permanent paving. 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 where damaged and at temporary entrances, as required by authorities having jurisdiction.
8. Restore existing and permanent facilities used during construction to original condition.

9. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements.

10. Restore grass areas, landscaping, concrete and macadam areas to their original condition except where shown on the Contract Documents to provide new areas.

END OF SECTION 01500