

**SECTION 260502 - SITE WORK AND EXCAVATION****CONTRACT SPECIFICATIONS**

- 1.0 Define the Contractor's responsibility for applying, obtaining and paying for all charges associated with the connection to non-University owned utilities.
- 2.0 Prior to the connection to University owned utilities, the Contractor shall obtain permission and coordinate such with the University Engineer.
- 3.0 Define the Contractor's responsibility for performing all excavation and removal of all excavations from the site. Refer to appropriate site sections of the specifications.
- 4.0 Define shoring, excavated material storage, removal of unsuitable materials, trench depth, support of trench materials (i.e. pipe) and security requirements.
- 5.0 Include a description of the Contractor's responsibility regarding removal, relocation, and salvage rights. The University reserves right of first refusal on the salvage value of all electrical equipment and cable.
- 6.0 Excavation and Backfill:
  - A. As a minimum, the contract documents shall impose the following conditions upon the Contractor:
    1. Perform all excavation, backfilling, dewatering, and restoration necessary for completion of work.
    2. Carefully remove and export from the site all excavations, shrubbery, and sod. When underground work is complete and trenches are backfilled reinstall new sod and shrubbery to meet prior conditions or those defined by the University's Landscape Architect. Replace any damaged items to the satisfaction of the University Representative.
    3. Coordinate with the University's Landscape Architect regarding tree removal/protection standards and all other landscape standards.
    4. Trench depth shall allow adequate cover over piping, ducts and conduit. Walls shall be perpendicular to the top of piping and ducts and trench bottoms shall be graded in the direction of flow as required. Where necessary provide sand, pea gravel or other underlie required by the pipe or equipment manufacturer. The minimum burial depth for all medium voltage conduits is 3 feet, measured to top of ductbank.
    5. Each contractor shall provide sheathing, shoring and bracing necessary to complete his excavation and backfilling work.
    6. It shall be the responsibility of the design professional and each contractor to check with the various utility companies and the PA 1-Call System. Each contractor is responsible for damage during excavation to existing piping or equipment. Such damage shall be repaired promptly without cost to the Owner.
    7. Backfill after inspection and approval. Backfill shall be made with 100 percent clean imported earth, free from rocks, frozen particles, debris or other foreign materials. Deposit in uniform layers not over six inches (6") thick with each layer mechanically tamped before the next layer is applied. Partial backfill on piping with all joints exposed is mandatory for all underground systems. Final backfill may commence only after testing procedures have been completed and approved.
    8. Direct each contractor to perform all cutting and patching to sidewalks, curbs, bituminous paving, walls, etc. required by performance of excavation and

- backfilling. Install and maintain temporary paving as required. Make repairs to sidewalks, curbs, paving, etc. in complete blocks, partial patching will not be acceptable.
9. All trenches shall be backfilled at the end of each working day. Where a trench must be left open, provide steel plates of adequate size and strength over entire open area.
  10. The A/E is responsible for reviewing all City of Philadelphia Agency's, Philadelphia Gas Works, Philadelphia Electric Co., SEPTA, Telephone Companies, Amtrak, Local Cable Companies, and Conrail requirements associated with installing, excavating and backfilling adjacent to non-University owned underground utilities. The contract documents shall not violate existing compliant conditions.
  11. Direct contractors to submit unit pricing for each type of work related to the excavation and installation of equipment, i.e. conduit, manholes, excavation, restoration etc.
  12. Provide metallic warning tape 12" below finished grade, directly above entire length of ductbank.