

Construction Specification

587. STRUCTURE FOR WATER CONTROL

1. SCOPE

The work shall consist of furnishing materials and installing all components of the structure for water control, as outlined in this specification and to the dimensions and grades shown on the drawings.

2. MATERIALS

Unless otherwise set forth in Section 6, the following materials are to be used:

- a. Earth fill material used around conduits and structures shall be obtained from the project area, or other approved sources and thoroughly compacted.
 - b. Pipe type, pipe sizes, fittings and other necessary pipe material shall be as specified on the drawings or as defined in Section 6 of this specification, when applicable.
 - c. ROCK shall be durable and obtained from sources listed in Penn DOT Bulletin 14 or as otherwise approved by the designer. Size and gradation, where required, shall be as specified in Section 6 or as shown on the drawings. The nominal size of a rock is that dimension (middle) which passes through a square opening with the same size dimension; i.e. it is not the greatest dimension. The rock shall be free from soil and trash. Rocks shall be angular or subangular in shape. However, the least dimension of any individual rock shall be not less than one-third the greatest dimension.
 - d. GEOSYNTHETICS shall meet the requirements set forth in Section 6 and/or on the drawings. In addition, geotextile shall meet the requirements of Penn DOT Specifications, Section 635, for the appropriate class defined in Section 212.
- Certification from the manufacturer shall be provided by the Contractor that the geosynthetics meets these requirements.
- e. AGGREGATE for bedding, drain fill, and concrete shall be durable and obtained from sources listed in Penn DOT Bulletin 14. The gradation shall be as set forth in Section 6 or on the drawings.
 - f. PORTLAND CEMENT shall be Type I, with air-entrainment agent, or Type IA, unless otherwise required in Section 6. All cement shall conform to ASTM-C150.
 - g. MASONRY shall meet the requirements of ASTM-C90 & C270.
 - h. PRECAST concrete units shall meet the requirements of ACI-525 & 533, unless otherwise specified in Section 6.
 - i. LUMBER shall be the dimensions and species specified in Section 6 or shown on the drawings. Wood shall be graded and stamped by an agency accredited by the American Lumber Standards Committee as meeting the required species, grade, and moisture content. Pressure treated wood products shall be Douglas Fir, Southern Yellow Pine, or as otherwise specified on the drawings or in Section 6. They shall be treated with preservatives in accordance with the American Wood Preservers Association (AWPA) Standard C16, "Wood Used on Farms, Pressure Treatment", except that only non-CCA preservatives, suitable for use in aquatic habitats, can be used. Each piece shall bear the AWPA stamp of quality. In the absence of grade and treatment stamps, the Contractor or material supplier shall provide written certification that the wood meets the designated quality criteria.

j. Other required materials shall be as shown in the drawings or as defined in Section 6 of this specification.

3. SITE ACCESS AND CLEARING

All trees, roots and boulders and other obstructions shall be removed, as necessary. Tree and brush removal shall be done in such a manner to prevent damage to other property, and to minimize erosion. Unless otherwise specified in Section 6, all cleared materials, including trash, shall be removed from the site or burned. Burning shall comply with all state and local applicable regulations.

Unless otherwise set forth in Section 6, sufficient topsoil shall be stockpiled and re-spread over disturbed areas to establish a vegetative cover.

4. STRUCTURAL INSTALLATION

Structures shall be installed as shown on the drawings or as set forth in Section 6. Construction operations will be carried out in such a manner as to minimize erosion and sedimentation.

Provisions must be made to prevent piping and settlement where underground conduits are used from a structure. Backfill shall be placed in successive layers of not more than six inches, and each lift compacted before the subsequent layer.

Commercially manufactured structures, including but not limited to gabions, precast units, etc., shall be installed as required by the manufacturer for flowing water applications.

5. VEGETATION

All exposed earth surfaces shall be protected by a vegetative cover as soon, after installation of the structure, as practical. Vegetation, if required, shall be established at the locations shown on the drawings and/or staked in the field, and as set forth herein, in Section 6, and/or as shown on the drawings.

6. ADDITIONAL CONDITIONS WHICH APPLY TO THIS PROJECT ARE: