23. Pipeline Design in Wetlands.

a. General.

1) It is the WSSC's policy to avoid and protect environmentally sensitive areas such as nontidal wetlands whenever possible. Since it is not always practical to avoid wetland areas, the WSSC has developed the guidelines below in conjunction with the Maryland Department of the Environment (MDE) Nontidal Wetlands and Waterways Division for pipeline design and construction in wetlands.

b. Guidelines.

1) Every effort should be made to avoid crossing wetlands when selecting the pipeline alignment, see Part Three, Section 19 (Geotechnical Considerations for Pipeline Alignments). When this is impossible, the crossing distance should be kept to a minimum. Indicate on the drawings, the limits of the nontidal wetland, nontidal wetland buffers (twenty five (25) feet, and one hundred (100) feet when slopes are greater than fifteen (15%) percent), and one hundred (100) year flood plain. Consider the following three (3) main objectives when designing a pipeline in wetlands.

   a) Objective 1. Minimize the area of disturbance in wetlands during construction and backfill as much as possible with the native material that has been excavated.

   b) Objective 2. Provide proper bedding and side support materials for the pipe, see Part Three, Section 21 (Lateral Support for Buried Pipelines).

   c) Objective 3. Minimize seepage of ground water along the pipeline, which may drain the wetlands, by the proper selection of trench backfill and pipe bedding.

2) To achieve objective 1, WSSC and MDE have prepared the Standard Wetland Notes included in this section for projects which will require excavation of nontidal wetlands. Provide these notes on the drawings for all pipeline construction in nontidal wetlands and buffers where applicable. WSSC may request or provide additional notes, depending on the site conditions.

3) To achieve objectives 2 and 3, address these objectives on a case by case basis during the design. WSSC is designated to review this aspect of the design at the same time as the Sediment Control review for each project. WSSC will assist in determining whether special trench backfill and pipe bedding will be required for each project to prevent seepage along the pipeline. If special trench backfill and pipe bedding are required, prepare Special Provisions to the Specifications in accordance with Part Three, Section 6 (Modifications to Specifications and Standard Details).

c. Standard Wetlands Notes.

1) To achieve objective 1, include the following standard wetland notes on the drawings.

Best Management Practices For Work In Nontidal Wetlands.

1. Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetlands.

2. Use previously excavated material as backfill unless it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. Use clean borrow material when excavated material is not suitable for use as backfill.

3. All excess fill, spoil material, debris, and construction material shall be disposed of outside the nontidal wetland, twenty (25) foot buffer area, and the one hundred (100) year floodplain, and in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetlands.

4. Temporary construction trailers or structures, staging areas, and stockpiles shall not be located within the nontidal wetlands, buffer areas or the one hundred (100) year floodplain unless specifically approved by the Maryland Department of the Environment, Nontidal Wetlands and Waterways Division.

5. All stabilization of disturbed areas within nontidal wetlands and buffer areas shall be with the following species: annual ryegrass (lolium multiflorum), millet (setaria italica), barley (hordeum sp.), oats (uniola sp.) and/or rye (secale cerale). These species will allow for the stabilization of the disturbed area while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Maryland Department of the Environment, Nontidal Wetlands and Waterways Division, prior to use. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. Seed and mulch disturbed areas to reduce erosion after construction activities have been completed.

6. Rectify any temporarily impacted areas by restoring to existing grades and elevations, and by performing appropriate vegetative stabilization. Wetlands and adjoining buffer areas shall not be mowed or otherwise managed to prevent the re-establishment of woody vegetation.

7. To protect important aquatic species, in-stream work is prohibited by the classification of the stream. Adhere to time-of-year restrictions as required by the Maryland Department of the Environment under COMAR 26.08.02.