917 Stormwater Facilities

917.1 General

This chapter discusses the content and requirements for plan sheets relating to stormwater facilities, including the following systems:

(1) Retention Areas

(2) Detention Areas

(3) Mitigation Areas

917.2 Stormwater Facility Detail Sheet

The retention or detention pond, including the outlet structure, is usually the end point of the drainage system for a particular project. The retention or detention pond detail sheet shows the pond in plan view.

917.2.1 Required Information

Display and label the following information in the plan view:

(1) Baseline of construction stationing (typically increasing from left to right) with station and offset ties to the project centerline of construction. Include a north arrow and scale above and near the drainage plan view.

(2) Elements of the proposed roadway, including drainage pipes and structures.

(3) Location of stormwater facility sectional views (i.e., A-A, B-B).

(4) Location of soil borings.

(5) Stormwater facility delineations:

  (a) Facility bottom and top (often referred to as top of bank) elevations. Provide station/offset callouts and radii along the inside top of bank delineation.

  (b) Changes in side slopes (e.g., 1:2 to 1:4).

  (c) Maintenance berm limits.

(6) Maintenance access road, fence and gates, and R/W lines.

(7) Stormwater facility drainage structures and pipes with locations of outlet structure sectional views (e.g., C-C, D-D).

(8) Any other necessary data pertaining to the pond

917.3 Stormwater Facility Cross Sections

Include a minimum of two sectional views, taken in directions perpendicular to each other. The horizontal scale should be the same as used for the stormwater facility plan view. A horizontal scale of 1” = 10’ is preferred. Use a vertical scale of 1" = 10'. If material is to be excavated from the pond, plot the soil borings on the cross sections.

917.3.1 Required Information

Display and label the following information in the sectional views:

- Stormwater facility bottom and top (often referred to as top of bank) with elevations, side slopes, and maintenance berm.
- Existing groundline, limits of clearing and grubbing, limits of sod or vegetation, and the locations of R/W lines and fences.
- Symbols and elevations for Normal Highwater and Peak Design Stage.
- Soil borings.

Dimension the maintenance berm and the horizontal distances between the stormwater facility delineations.

917.4 Outlet Structure Details

Outlet structure information, elevations, and dimensions may be placed in a data table or be labeled directly on the outlet structure plan view. Information, elevation, and dimensions should clearly indicate the fabrication requirements of the modified inlet and skimmers.

917.4.1 Required Information

Provide a 3D isometric view of the stormwater facility outlet structure that illustrates:

- Inlet with weir and drawdown.
- Outlet structure drainage structure number.
- Outlet pipe(s) with pipe number(s).
- Skimmer(s).
- Concrete apron.

Placement of the 3D isometric view may use any scale and angle that best displays the various components of the outlet structure.

917.5 Stormwater Facility Typical Section

A typical section is required when the pond sections do not represent the typical design features of the pond. The following is a list of appropriate information to be shown on the typical section:

- Limits of clearing and grubbing
- Side slopes
- Bottom and top elevations
- Details of maintenance berm
- Fence location
- R/W
- Water level information
- Vegetation requirements

The typical section does not need to be to scale but must be dimensionally proportionate. It should be shown on the pond detail sheet, if room allows, or on a separate sheet when necessary.