

SECTION 2E – 2 - DETAILED DRAINAGE DESIGN

DESIGNING DRAINAGE

Drainage shall be designed in accordance with criteria established in the VDOT [Drainage Manual](#) and [Instructional and Informational Memoranda](#).

Highway drainage will be designed by the District Drainage Engineer (with such technical assistance as may be necessary from the Central Office Hydraulic Section) or by the [Hydraulic Section](#) of the Central Office, depending on whether the road plans are being developed in the District or in the Central Office.

At the time the drainage design is initiated, the plans should be reviewed by the Hydraulic Section or the District Drainage Engineer for information as to areas that have been delineated as flood prone, have designated regulatory floodways and/or other constraints that may affect the design.

In developing the plans for field inspection, careful consideration must be given to erosion and sediment control. Required measures, in addition to those covered by construction specifications that necessitate additional plan details, will be included in the plans and will be considered by the field inspection party on a site-by-site basis.

Guidelines for erosion and sediment control may be found in the VDOT [Drainage Manual](#), the Virginia Soil and Water Conservation Commission's [Virginia Erosion and Sediment Control Handbook](#), [IIM LD-11](#), and [IIM LD-195](#).

DEPICTING DRAINAGE ON PLANS

Proposed drainage items are to be shown on plans to scale, with [construction limits](#) being adjusted accordingly.

Drop inlets are to be drawn to actual scale, using a heavier line weight than the curb and gutter for distinction. Proposed pipes and box culverts are shown by dashed lines (See [Figures 2D-1*](#)).

Proposed pipes that are 42 inches (1050 mm) or smaller are to be shaded, while 48 inches (1200 mm) and larger pipes are to be shown using the open method with heavy lines. [Flow arrows](#) are to be shown at each proposed pipe, box culvert, and ditch.

Special Design drawings showing details for erosion and siltation control are available in the Engineering Services (eng-ser) directory in Falcon. Frequently, additional special design drawings are required for a project. These sheets are to be inserted in the plans and numbered in the "2" series where applicable.

* Rev. 1/07