

Design Items Unique to the Town of Leesburg

The following are some specific examples of unique design items that can create major re-designs with subsequent submission as mandated by the Design and Construction Standards Manual (DCSM):

1. A 5' sight distance easement is required off of all lines of sight. (DCSM Section: 7-371.9)
2. Unless otherwise required by the DCSM, VDOT standards shall be used for all public road designs.
3. Stormwater Management emergency spillways shall not be constructed in fill.
(DCSM Section: 5-521.9.C(4))
4. All Storm Sewer System Outfall Inverts are required to discharge at the 100yr water surface elevation at all floodplains and at or above the 100yr water surface elevation for all Stormwater Management Ponds and Impounding Structures.
(DCSM Section: 5-521.5.H)
5. Design requirements for SWM facilities in the Town differ per watershed and are based on "The Town of Leesburg Stormwater Master Plan" adopted June 1990. (DCSM Section: 5-341.1.A)
6. The DCSM requires very specific calculations for "Overland Relief" analysis that must be part of all Construction Drawings and Site Plans. (DCSM Section: 5-210.5)
7. All Adequate Outfall Analysis within the Town shall be performed downstream for a minimum of 300 ft and continue until the flow is discharged into the floodplain of a natural channel. (DCSM Section: 5-332.4.C)
8. Combined Spillways are only allowed when approved by the Director. (DCSM Section: 5-342.4)
9. Town requires Storm Pipe to "match crowns" at all structures and maintain a minimum drop in storm sewer structures of 0.25 feet. (DCSM Section: 5-232.14)
10. Storm sewer shall be designed such that no part of the system is in pressure flow (i.e., HGL is not allowed above the crown of pipe). (DCSM Section: 5-239.2)
11. Town specific "Rainfall Intensities" shall be used and not those found on Loudoun County or VDOT web sites. (DCSM Section: 5-220, Details DD-3 & DD-4)
12. Water meter and service line calculations are required to be shown on all Residential Construction Drawing and Commercial Site Plans. (DCSM Section: 2-122.4.D)
13. The Designer should consider constructability for all elements of a proposed design, specifically accounting for the following items regarding underground utilities:
 - a. Ensure minimum structure heights work with the proposed pipe sizes, types and orientations and are not too shallow to construct.

- b. Analyze the required easement widths to ensure they can be accommodated with the design as proposed without conflicting with other easements, buffers, utilities, etc.
- 14. Ensure minimum cover and minimum separations are provided for and between all storm sewer, sanitary sewer and waterlines. (DCSM Sections: 2-121.3, 4-130.5.A.3 & 6.I, 5-232.7)
 - a. Ensure pipe thickness is accounted for.
 - b. Ensure structure thickness is accounted for.
 - c. Ensure waterline separation from sanitary sewer is a minimum of 10 horizontal feet – outside edge of manhole structure to outside edge of waterline pipe.
(DCSM Sections: 2-121.3.B, 4-130.5.A.3.B)
- 15. Provide vehicular access to all sanitary sewer manholes located outside of paved areas.
(DCSM Section: 4-130.5.R, Detail TS-19)
- 16. All ductile iron pipe water mains and sanitary sewers require polyethylene encasement/wrap for the entire length.

Other Minor Elements to Consider:

- 1. Test pit data to be provided to Plan Review prior to final plan approval.
(DCSM Sections: 2-339, 4-130.13, 5-238.1.D)
- 2. Provide bearings and distances for sanitary sewers on the Construction Drawings.
(DCSM Section: 4-130.5.A(5))
- 3. Boundary survey of the property with bearings and distances required with plan submission.
(DCSM Section: 10-110.2.J.4, 10-120.2.J.4)
- 4. All Construction Drawings for Subdivisions or Development Plans shall contain a detailed geotechnical investigation as part of submission. All geotechnical recommendations shall be included within the plan sets. (DCSM Section: 9-220.3)
- 5. The Design Engineer/Architect shall provide the Director of Plan Review with written statement from Geotechnical Engineer stating that plans were prepared in conformance with the recommendations of the geotechnical report. (DCSM Section: 9-510)