Chapter 11: Stormwater Controls Criteria

Section 1: Authority

The Montgomery County Stormwater Management Resolution (#13-2-2) allows the County to exercise the powers granted in TCA 68-221-1105.

TCA 68-221-1105 allows the Building Commissioner or Stormwater Coordinator to develop and adopt policies and procedures to address technical requirements for grading, drainage and erosion control plans (development plans). The technical requirements for development plans may include policies and procedures that are required specifically by Montgomery County Stormwater Program and which are not covered in the Tennessee Erosion and Sediment Control Handbook. The Tennessee Erosion and Sediment Control Handbook, The TDEC Manual for Post Construction, the Nashville Stormwater Management Manual Volumes 2 (Procedures) and 4 (Best Management Practices) and the Montgomery County Stormwater Management Manual are the manuals of regulations, design, performance, and review criteria for stormwater management practices that have been adopted for use by the Montgomery County Stormwater Management Program.

No stormwater runoff generated by land development or construction shall be discharged untreated directly into the Waters of Montgomery County, Waters of the State, wetlands or other water bodies without adequate treatment.

No land disturbance activities, whether by private or public action, shall be performed in a manner that will negatively impact stormwater quantity whether by flow restrictions, increased runoff, or by diminishing channel or floodplain storage capacity.

No land disturbance activities, whether by private or public action, shall be performed in a manner that will negatively impact stormwater quality by discharge of erosion materials or sedimentation, or transport or discharge of other pollutants or forms of pollution.

Section 2: Stormwater Controls Design Criteria

1.) Temporary and construction phase site stormwater erosion control and sedimentation prevention designs criteria:

- For sites of less than 5 acres and individual building sites - 2 year 24 hour storm (NRCS type II rainfall distribution)
- For sites of 5 or more acres - 5 year 24 hour storm
- For sites that discharge to impaired or exceptional waters: 5 year 24 hour storm

2.) Construction phase BMPs must reduce the Total Suspended Solids in stormwater runoff by a minimum of 80%.

3.) Post construction BMPs must reduce the Total Suspended Solids in stormwater runoff by a minimum of 80%, regardless of the method(s) used.

4.) Post construction site stormwater erosion control and sedimentation prevention designs will be based on a 10 year, 24 hour storm event.

5.) The outlet control structure for post construction detention/retention facilities or any other flow attenuation methods shall be sized such that the post-development peak discharge rate is less than or equal to the predevelopment peak discharge rate for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year 24-hour design storms.

6.) All detention/retention facilities shall be designed with an additional one foot of freeboard above the design storage volume level. Stormwater structures that route stormwater into detention/retention facilities shall be sized to handle the runoff from a 100 year, 24 hours storm event.

7.) Detention/retention facilities will have an emergency spillway (overflow device) to allow stormwater discharge without damage to the structure.

8.) Open channel stormwater systems and structures will be designed to provide a minimum of 1.0 feet of freeboard.

9.) Discharge velocity shall be controlled to prevent both erosion and siltation immediately downstream from the point of discharge. Energy dissipating structures shall be used if required.

10.) Open channels and drainages shall be sized to carry design rates of flow without significant damage or erosion to the channel. Channels shall be fenced, sloped or otherwise protected to prevent injury to the public.

11.) The minimum slope for any open channel shall by 0.5%. When the slope falls below 1.0%, the invert of the channel shall be concrete with adequate energy dissipation devices to prevent erosion damage to downstream structures and receiving waters.

12.) Check dams may be used to control flow velocity in open channels. Check dams shall be designed to prevent flow bypass by undercutting or erosion around the ends. Adequate paving or riprap shall be provided at the downstream toe of check dams to prevent erosion or loss of foundation supported by undercutting. All check dams must have a geotextile underlayment installed.

13.) Permanent Drainage Easements shall be obtained for:

- Detention/Retention facilities with spillway and release facilities
- Floodage rights for temporary detention/retention facility release and stormwater drainage
- All drainage systems downstream from the point where stormwater runoff from two or more properties combine

Easements and floodage rights shall include all necessary provisions and provide sufficient land to access facilities for inspection and maintenance.

14.) Appropriate measures will be taken to assure that all sinkholes, cave openings and class V injection wells are protected from sedimentation and pollution during and after construction.

15.) Re-development activities will be required to follow current stormwater quality requirements.

16.) Detention and retention facilities shall not be located in the right-of-way or in a water quality buffer.

17.) If possible, all detention and retention facilities should be located on commonly owned areas or parcels, and not on parcels or lots intended for single-family residential uses. Development homeowners associations are required to maintain these structures.