

Chapter 5: Water Quality Buffer Requirements

5.1 Introduction

Water quality buffer requirements apply to all new land development or redevelopment containing streams or other water bodies such as ponds, lakes, and wetlands, and subject to regulation under the Montgomery County Stormwater Resolution. Water quality buffers must be established, protected, and maintained in perpetuity. Buffers shall remain undisturbed for the length of the water feature. These requirements are in addition to, and do not replace or supersede, any other applicable buffer requirements established by the State.

Water quality buffers that are disturbed shall be restored by following a plan approved by the Montgomery County Stormwater Coordinator and following TDEC Aquatic Resource Alteration Permit guidelines and requirements.

Water quality buffers provide the County and its citizen's environmental protection and resource management benefits:

- Removing pollutants delivered in urban stormwater
- Reducing erosion and controlling sedimentation
- Stabilizing stream banks
- Providing infiltration of stormwater runoff
- Maintaining base flow of streams
- Contributing the organic matter (e.g., leaf litter, woody debris) that is a source of food and energy for the aquatic ecosystem
- Providing tree canopy to shade streams which lessens the potential for harmful algal blooms where significant levels of nutrients are present
- Providing riparian wildlife habitat
- Furnishing scenic value and recreational opportunities.

Benefits of a water quality buffer zone to a property developer can include:

- Reducing loss of stream bank and erosion of land
- Avoiding need to obtain an Aquatic Resource Alteration Permit from the Tennessee Department of Environment and Conservation for grading next to a stream, creek or other body of water
- Avoiding the necessity for a permit from the U.S. Army Corps of Engineers
- Providing natural flood storage and flood conveyance alongside the creek or stream
- Increasing natural vegetation, property aesthetics and property value
- Reduced maintenance and landscaping

5.2 Water Quality Riparian Buffer Zone Requirements

For streams that are not assessed by TDEC, and for all streams with available parameters adjacent to construction sites, a 30-foot natural water quality riparian buffer shall be preserved between such waterbodies and the disturbed areas during construction activities. The 30-foot criterion for the width of the buffer zone can be established on an average width basis at a

project, as long as the minimum width of the buffer zone is more than 15 feet at any measured location. If the construction site encompasses both sides of a stream, buffer averaging can be applied to both sides, but each side must average the 30-foot criterion independently.

For all streams with unavailable parameters or streams designated as Exceptional Tennessee Waters, a 60-foot natural water quality riparian buffer shall be preserved between such waterbodies and the disturbed areas during construction activities. The 60-foot criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location. If the construction site encompasses both sides of a stream, buffer averaging can be applied to both sides, but each side must average the 60-foot criterion independently.

Because of the potential heavy sediment loading associated with construction site runoff, water quality riparian buffers are not primary sediment control measures. Stormwater discharges must enter the water quality riparian buffer zone as sheet flow, not as concentrated flow, where site conditions allow.

Rehabilitation and enhancement of a natural buffer zone is allowed, if necessary, to improve its effectiveness in protecting waters of the state.

Forbidden activities and uses for stream buffers are listed in the Tennessee Construction General Permit.

Ponds, Lakes, Other Water Bodies: All land development or re-development activity subject to this ordinance shall establish and maintain a 30-foot grass or natural vegetation buffer along all ponds, lakes, and other water bodies.

Ponds that do not discharge into streams, brooks, rivers, sinkholes, wells, wetlands, watersheds, or into bodies of water which do discharge into the natural watershed, or onto another property owner's lands are not required to maintain a water quality buffer zone. The pond owner is responsible for property damages resulting from the failure of pond water containment measures, or if water that is released results in pollutant discharge to the environment exceeding the limits outlined under the terms of the NPDES act, TDEC regulations, or the Montgomery County Stormwater Resolution.

Wetlands: All land development or re-development activity subject to this ordinance shall establish and maintain 30 foot-wide undisturbed water quality buffer adjacent to all wetlands. The buffer width shall be measured around the outer edge of the identified wetland. Native vegetation shall be undisturbed in this buffer. For those wetlands where the designation or extent of the wetland is in dispute, Montgomery County will rely on wetland designation by the Corps of Engineers (COE) or TDEC

Sinkholes: Sinkhole structures allowing subsurface discharge may include, but are not limited to, open throats, cave openings, solution channels, swallets, swallow holes, standpipes or sinks.

No structures or land disturbing activities are allowed within the area surrounding a sinkhole that is delineated by the 100-year flood zone contour line (hachure), determined assuming plugged conditions (zero cubic feet per second discharge) for the sinkhole structure.

Subsurface Sewage Disposal System secondary disposal fields (duplicate area disposal fields) may be allowed within the 100-year flood zone contour line (hachure) based on approval by the Tennessee Department of Environment and Conservation.

Stormwater flowing into a sinkhole from a construction or development site must be treated to prevent pollutant introduction into the sinkhole.

Class 5 Injection Wells (Improved Sinkholes): No structures or land disturbing activities are allowed within the area surrounding a Class 5 Injection Well that is delineated by the 100 year flood zone contour line (hachure), determined assuming plugged conditions (zero cubic feet per second discharge).

5.3 Protection of Water Quality Buffers

During construction, water quality buffers around streams, wetlands, ponds, and other water bodies must be protected from disturbance and from sediment-laden runoff from the site. Prior to beginning land-disturbing activities at a site, water quality buffers must be identified and flagged in the field for protection. Temporary fencing or other suitable alternative must be placed at the outer edge of the buffer to prevent inadvertent disturbance. The method of buffer protection must be detailed in the Stormwater Quality plan and the Grading Drainage and Erosion Control plan. Water quality buffers cannot act as vegetated filters for sediment control.

5.4 Allowable Activities within a Water Quality Buffer

Montgomery County considers the activities listed in Table 1: Allowable Water Quality Buffer Impacts as allowable buffer activities. All other activities that impact the buffer shall proceed through the stormwater program variance process.

5.5 Specifically Forbidden Activities within a Water Quality Buffer

In order for the water quality buffer zone to function properly, it is necessary for certain activities to be limited within the buffer. The following activities are specifically limited within buffers without prior permission from the Montgomery County Building Commissioner.

- a) Filling or dumping
- b) Using, storing, or applying pesticides, herbicides and fertilizers
- c) Removal of vegetation
- d) Campfires, burning plant waste or trash
- e) Dredging

Table 1: Allowable Water Quality Buffer Impacts

Allowable Activities	Stream Buffers	Wetland Buffers	Pond Buffers
Greenway and Trails	Allowable outside the 15-foot buffer, width not to exceed 6 feet	Allowable, width not to exceed 6 feet	Allowable, width not to exceed 6 feet
Wildlife and Fisheries Management	Wildlife and Fishing as approved by TDEC, TWRA, and/or U.S. Fish and Wildlife		
Water Dependant Structures (Boat Docks, Piers, Marinas)	Allowable pending Tennessee Department of Environment, Tennessee Wildlife Resources Agency, and/or US Corps of Engineers permit and licensing requirements. Builder must minimize environment disturbance and stabilize disturbed areas as soon as possible		
Driveway Crossings	Less than 3000 square feet of buffer impact is allowable (based on 30 foot wide disturbance) perpendicular to the stream.	Not Allowable	Allowable
Road Crossings	2 crossings per 1000 linear feet of stream are allowable. Crossings shall be perpendicular to the stream	Not Allowable	Allowable
Underground Utility Lines	Stream crossings shall be perpendicular to the stream flow and shall impact no more than 30 feet width perpendicular to the flow.	Not Allowable	Allowable
Overhead Utility Lines	Allowable: Stream crossings shall be perpendicular to the stream flow and shall impact no more than 30 feet width perpendicular to the flow.	Allowable	Allowable

5.6 Buffer Ownership and Maintenance

For private properties and subdivisions, buffers shall be located inside individual lots or located within easements in common areas. Maintenance of the buffer shall remain with the property owner or with a homeowner's association. In the event of the homeowner's association dissolution, responsibility for Water Quality Buffer maintenance reverts to the property owner. Maintenance responsibilities shall be clearly indicated on plans submitted to the Building and Codes Department.

- a) Maintenance shall be limited to removing dead or diseased plant material, repairing erosion problems internal to the buffer, clean up after a storm, or removal of invasive plants. Woody vegetation shall be removed by hand. Vegetative root systems shall be left intact to maintain the integrity of soil. Stumps shall remain where trees are cut.
- b) It is permissible to remove individual trees from water quality zones if there is danger of the tree falling and causing damage to dwellings or other structures, or which would result in significant blockage of stream flow, with prior permission from the Montgomery County Building Commissioner or a qualified designee. The root wad or stump should be left in place to maintain soil stability.

5.7 Buffer Extension

All buffers may be increased up to a maximum of 60 feet in width, without averaging, by the Montgomery County Stormwater Coordinator, based on potentially hazardous conditions or on high pollutive discharge potential.

Buffers may be required along wet weather conveyances or stormwater runoff gullies during or after construction if there is a potential to discharge pollutants into a stream with unavailable parameters, available parameters, or streams designated as Exceptional Tennessee Waters.