



MEMORANDUM

DATE: September 9, 2013

TO: Land Surveyors

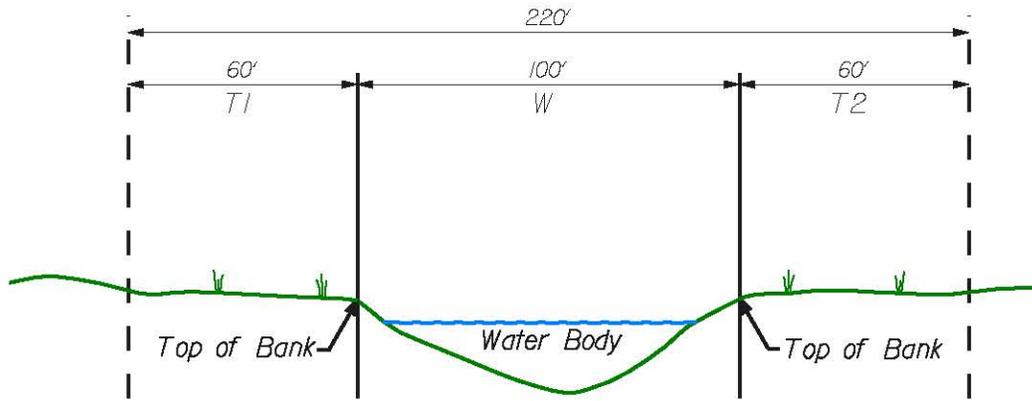
FROM: Benjamin D. Davidson, PLS, Technical Services Administrator

SUBJECT: Riparian Buffer Zone Determinations

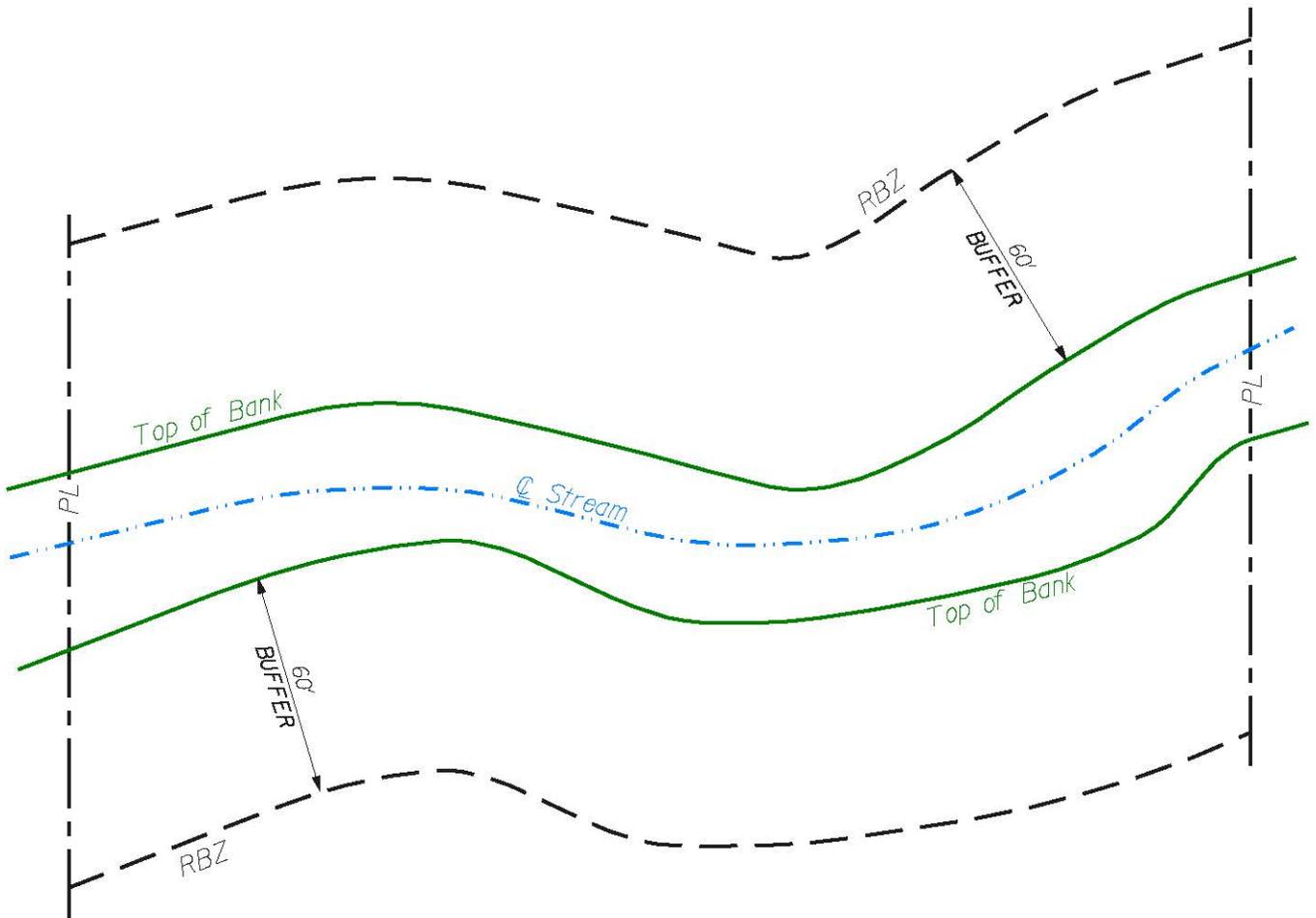
The Riparian Buffer Zone or RBZ requirements have recently changed for studied streams within the City of Knoxville. City Ordinance 22.5-40 states the specifics of the of the RBZ requirements and is attached for your review.

The main difference you will see from a platting perspective is the following:

1. Delineation-The RBZ will now be measured from the top of bank, extending perpendicular from each bank for the length of the water body. This means that you will have to instruct field crews to locate the top of banks during the field portion of the survey. The top of bank is recognized as the uppermost limit of the active channel.
 - a. If a floodway profile, as part of a flood insurance study has been adopted for the waters, the RBZ width must be equal to or greater than the width of the floodway at all points. You will have to refer to applicable source information (FIRM's, etc) for floodway determinations if applicable.
 - b. Waters that lie within a drainage (watershed) area of less than (1) square mile will require a minimum RBZ width of 30 feet.
 - c. Waters that lie within a drainage (watershed) area of 1 square mile or more will require a minimum width of 60 feet. The 60 foot width can be obtained by an average width basis spanning the entire project, but 30 feet will be the minimum width allowed for any measured location from top of bank.
 - d. Waters that are contained within culverts or other closed system do not require a RBZ. However, RBZ widths will apply wherever culverts have been removed from waters.
2. Due to the availability of streamlined mapping resources, The City Engineering Department has already determined watershed areas and corresponding RBZ widths for most of the studied streams within the City limits. We are working with KGIS to make this data available in a mapping environment on the KGIS website for your convenience. In the meantime, Technical Services, at 215-2103, can inform you of the required width . Please, contact them with any questions. See the following attachments for examples and a copy of the City Ordinance.



A TYPICAL SECTION PROFILE VIEW *nts*
 $T1 + T2 + W = \text{Total RBZ Width}$
 $60' + 60' + 100' = 220' \text{ Total RBZ}$



B PLATTING EXAMPLE *nts*
 Show perpendicular distances from Top of Bank(s)

- f. Other producers of pollutants identified by the engineering director by information provided to or collected by him or his representatives, or reasonably deduced or estimated by him or his representatives from engineering or scientific study.

(Ord. No. O-139-04, § 1, 8-17-04)

Section 22.5-38. Additional permits required.

- (a) Where a national pollutant discharge elimination system (NPDES) permit has been issued for NPDES regulated stormwater discharges from a facility, no local permit will be required for those NPDES regulated stormwater discharges from the facility for which such permit has been issued and remains in effect. For site development, both a TDEC construction site NPDES permit and a city site development permit are required.
- (b) Additional permits may be required from various state and federal agencies before a site development permit will be issued by the city.

(Ord. No. O-139-04, § 1, 8-17-04)

Section 22.5-39. NPDES permits.

- (a) Any person who holds an individual national pollutant discharge elimination system (NPDES) permit shall provide a copy of such permit to the engineering director no later than sixty (60) calendar days after issuance or renewal of the permit. The permit holder shall also provide copies of all discharge monitoring reports required by the permit for any discharge to the stormwater system.
- (b) Any person who holds an NPDES general permit and/or multi-sector permit (as distinct and different from an individual permit) shall provide either a copy of such permit or the permit number assigned to them by the state department of environment and conservation to the engineering director no later than sixty (60) calendar days after issuance of the permit.

(Ord. No. O-139-04, § 1, 8-17-04)

Section 22.5-40 Riparian buffer zone.

- (a) Definition; purpose. Riparian buffer zones (RBZ) exist within and adjacent to regulated waters (waters). The city regulates the RBZ to comply with federal mandates, protect stream water quality, and to reduce flood insurance rates.
- (b) Delineation. The RBZ is measured from the top of bank, extending perpendicular from each bank for the length of the water body. The top of bank is the uppermost limit of the active channel, typically indicated by a change in bank slope from steep to gentle slope. If the top of bank cannot be determined from the above indicator or if there is a dispute in the determination, the top of bank can be determined by submitting approved engineering calculations that determine the width of the stream resulting from the two-year frequency storm. The width of the RBZ will vary, depending on all of the following criteria:
 - (1) If a floodway profile, as part of the flood insurance study, has been adopted for the waters, the RBZ width must be equal to or greater than the width of the floodway at all points.
 - (2) Waters with a drainage area of less than one (1) square mile will require a minimum RBZ width of thirty (30) feet.
 - (3) Waters with a drainage area of one (1) square mile or more will require a minimum RBZ width of sixty (60) feet. The sixty-foot width of the RBZ can be established on an average width basis for a project, as long as the minimum width of the RBZ is more than thirty (30) feet at any measured location. If RBZ averaging is used, a plat must be recorded showing the limits of the RBZ.
 - (4) Waters that are contained within a culvert do not require an RBZ. This exception does not apply to proposed roadway or proposed driveway crossing waters.
 - (5) RBZ widths apply where culverts are removed from waters.

- (6) The engineering director may approve alternate RBZ widths for special circumstances (e.g., existing land uses or existing physical conditions) that preclude the above requirements.
 - (7) If mitigating an RBZ off-site, the RBZ must be shown on a recorded plat.
- (c) Use of RBZ areas.
- (1) Acceptable uses of the RBZ may include: yards, picnic areas, walking trails, greenways, landscaped areas, wildlife habitat, primitive areas, roadway and sidewalk stream crossings, or other similar uses approved by the director.
 - (2) Specifically prohibited uses include, but are not limited to: parking lots, dumpster storage, material storage, grease-bin storage, vehicle storage/maintenance, animal lots or kennels, or other uses known to contribute pollutants to waterways.
- (d) Protection during site development.
- (1) It is prohibited to disturb an RBZ except when restoring the stream or stream banks, creating or restoring the RBZ or when removing/eradicating invasive vegetation or replanting with native vegetation.
 - (2) All slopes adjacent to waters shall be left in a stabilized condition upon completion of the project. No actively eroding, bare or unstable banks shall remain unless TDEC has determined there is no better alternative (e.g. detrimental to endangered species). Placement of riprap and other hard armor is only allowed when bioengineering alternatives are not technologically feasible.
- (e) Allowable disturbances.
- (1) The engineering director may allow new driveways, road crossings, or foundations and columns across or through an RBZ on a case-by-case basis. It must be demonstrated that the encroachment is necessary, and that the RBZ will not be impacted excessively. In these cases, the driveway, road crossing, or foundation and columns shall be constructed with careful attention to protecting trees and vegetation, and minimizing site grading.
 - (2) Approved mitigation is required for removal, encroachment or disturbances to the RBZ.
 - (3) Utility crossings.
 - a. Utilities within the RBZ are not exempt from RBZ requirements or mitigation.
 - b. All utilities within the RBZ must be subsurface or overhead.
 - c. Planting plans must be consistent with guidelines in the land development manual.
 - (4) Installing a new or replacing an existing culvert, pipe or bridge across waters.
 - a. Maintain a natural stream bottom to the maximum extent practicable.
 - b. Culverts, pipes and bridges must span the baseflow channel.
 - c. Minimize the length of culverts, pipes and bridges.
 - d. All crossings must be as close to perpendicular to the flow path as possible.
- (f) Enhancements. RBZ enhancement may be required when an RBZ has excessive invasive vegetation and/or if it contains significant areas of unhealthy, diseased or dead vegetation. Information on RBZ enhancements can be found in the land development manual.

(Ord. No. O-26-2013, § 8, 2-5-13)

Sections 22.5-41-49. Reserved.

ARTICLE III. Illicit Connections and Illegal Dumping

Section 22.5-50. Findings of fact.

The city council finds that the uncontrolled discharge of pollutants to the stormwater system has an adverse impact upon the water quality of the receiving waters.