Kershaw County Planning and Zoning Department
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WATER QUALITY BUFFERS

Section 5:3.6, Unified Code of Zoning and Land Development Regulations

5:3.6-1 Basic Requirements for Water Quality Buffers

A. Applicability - The following water quality buffers apply to undeveloped parcels of land in existence as of the effective date of this Ordinance. Any subsequent development and/or subdivision of such parcels shall comply with the water quality buffer requirements of this section. Refer to the Lake Wateree Overlay District provisions in Article 3 of this Ordinance for special provisions pertaining to the Lake Wateree shoreline buffer requirements.

1. Perennial Streams - Any existing undeveloped parcel or subsequent subdivisions thereof that has any portion of its boundaries adjacent to a field verified perennial stream as displayed by solid blue lines on United States Geological Service (USGS) 7.5 quadrangle topographic maps shall incorporate a 100-foot natural buffer along the entire length of the stream's banks contained within or adjacent to the lot. The interior edge of the buffer shall duplicate the course and direction of the top of the bank of the stream. The distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be exactly 100 feet from a vertical line extending up from the top of the bank of the stream channel. Top of bank is defined as the uppermost limit of the active channel of a stream during "bank full" conditions, typically marked by a break in slope.
    a. Exception: Perennial Streams on Individual Lots Under Three Acres - Any existing undeveloped individual lot under three acres in size that is not part of a larger common development that has any portion of its boundaries adjacent to a field verified perennial stream as displayed by solid blue lines on United States Geological Service (USGS) 7.5 quadrangle topographic maps shall incorporate a fifty (50) foot natural buffer along the entire length of the stream's banks contained within or adjacent to the lot. The interior edge of the buffer shall duplicate the course and direction of the top of the bank of the stream. The distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be exactly fifty (50) feet from a vertical line extending up from the top of the bank of the stream channel. Top of bank is defined as the uppermost limit of the active channel of a stream during "bank full" conditions, typically marked by a break in slope.
2. Intermittent Streams - Any existing undeveloped parcel or subsequent subdivisions thereof that has any portion of its boundaries adjacent to a field verified intermittent stream as displayed by dashed blue lines on United States Geological Service (USGS) 7.5 quadrangle topographic maps shall incorporate a fifty (50) foot natural buffer along the entire length of the stream's banks contained within or adjacent to the lot. The interior edge of the buffer shall duplicate the course and direction of the top of the bank of the stream. The distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be exactly fifty (50) feet from a vertical line extending up from the top of the bank of the stream channel. Top of bank is defined as the uppermost limit of the active channel of a stream during "bank full" conditions, typically marked by a break in slope.
    a. Exception: Intermittent Streams on Individual Lots Under Three Acres - Any existing undeveloped individual lot under three acres in size that is not part of a larger common development that has any portion of its boundaries adjacent to a field verified intermittent stream as displayed by dashed blue lines on United States Geological Service (USGS) 7.5 quadrangle topographic maps shall incorporate a twenty-five (25) foot natural buffer along the entire length of the stream's banks contained within or adjacent to the lot. The interior edge of the buffer shall duplicate the course and

b. direction of the top of the bank of the stream. The distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be exactly twenty-five (25) feet from a vertical line extending up from the top of the bank of the stream channel. Top of bank is defined as the uppermost limit of the active channel of a stream during "bank full" conditions, typically marked by a break in slope.

3. Shoreline Buffers - Any existing undeveloped parcel or subsequent subdivisions thereof that has any portion of its boundaries adjacent to lakes and ponds with hydraulic connectivity to field verified perennial streams (stream leading into and out of pond/lake), shall have a fifty (50) foot buffer perpendicular to the shoreline as defined by the 100-year high water elevation. The distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be exactly fifty (50) feet from a vertical line extending up from the shoreline. Refer to the Lake Wateree Overlay District provisions in Article 3 of this Ordinance for special provisions pertaining to the Lake Wateree shoreline buffer requirements.
   a. Exception: Shoreline Buffers on Individual Lots Under Three Acres - Any existing undeveloped individual lot not part of a larger common development under three acres in size that has any portion of its boundaries adjacent to lakes and ponds with hydraulic connectivity to field verified perennial streams (stream leading into and out of pond/lake) shall have a twenty-five (25) foot buffer perpendicular to the shoreline as defined by the 100-year high water elevation. This exception does not apply to individual lots on Lake Wateree.
4. Floodways and Wetlands Associated with Perennial and Intermittent Streams - In areas where a floodway profile has been delineated along a perennial or intermittent stream on the FEMA Flood Map of Kershaw County, the stream buffer shall be the width of the floodway if the floodway is greater than the required buffer width. In areas where wetlands have been delineated by the U.S. Army Corps of Engineers along perennial or intermittent streams, the stream buffer shall be the delineated width of the wetlands if the wetlands are greater than the required buffer width.

B. Exception to Required Buffer Width – A study supporting an exception to the required buffer width may be submitted to the Planning and Zoning Commission for consideration providing that the study is conducted by a qualified Professional Engineer that includes the following factors:
1. The slope of the site from the highest elevation on the site to the surface elevation of the stream, lake, or pond.
2. Annual rainfall.
3. Site soil type.
4. Type of vegetation within the buffer.
5. Amount of impervious surfaces on-site (including rooftops).
6. Stream type.
7. Existing water quality.
8. Extent of development of the watershed.
9. Use of existent or proposed stormwater BMPs in conjunction with the buffer.
10. Other characteristics specific to the site and/or the watershed.

The study shall demonstrate that a proposed buffer width that is less than the required width can be established without sacrificing water quality protection as gauged by the following standards:
   a. Erosion prevention and sediment control.
   b. Nutrient, pesticide, and biocontaminant (fecal coliform) removal.
   c. Stream temperature.

Under no circumstances shall an exception be allowed that will result in a reduction of more than forty (40) percent of the required buffer width.

5:3.6-2 Disturbance of Buffers

Installation of any new structures (including structure replacements), disturbance of the existing terrain, or removal of existing vegetation within the water quality buffer is prohibited except as provided herein. The installation of septic systems or any portion thereof is prohibited within water quality buffers. Repair to existing septic tanks is allowed providing repairs are conducted per the Protection of Water Quality Buffers During Site Development and Construction Activity provisions of this section. This prohibition includes any disturbance or removal of topsoil, trees, and other natural growth located in the buffers, for any purpose, subject to the express, limited exceptions listed below:

A. General Exceptions - The following exceptions are permitted within the buffers established herein without a permit, but only upon strict observance and compliance with the provisions stated below:
   1. Tree Removal
      a. Within the buffer, trees less than four (4) inches DBH may be removed, provided it is done using only manual labor and hand or chain saws, and not mechanical equipment.
      b. Additionally, any trees that are dead or have become diseased or damaged through natural processes may be removed in the same manner.
      c. No motorized vehicles or construction equipment other than chain saws or similar hand-operated machines are permitted within the buffer except as specifically provided in these regulations.
   2. Underbrush Removal
      a. Underbrush (defined as nuisance bushes, vines, and similar rank plant growth beneath the tree canopy) may be removed within the buffer, provided that such work is performed manually and without the use of vehicular or mechanical equipment or chemical applications.
      b. This activity may also include removal of any natural or man-made debris lying on or near the floor of the buffer.
   3. Pruning and Trimming
      a. Pruning and trimming of trees within the buffer is permitted, provided that pruning shall be limited to tree branches beginning at the ground and extending up the tree trunk no more than one half of the total height of the tree.
      b. Trimming or pruning may also be performed on any limbs or branches that are diseased or naturally damaged.
      c. No topping of trees is permitted within the buffer.
   4. Emergency Operations - Activities associated with emergency operations such as hazardous materials removal, flood or fire control, evacuations, and storm damage clean up are exempt from these requirements. However, any such activity must be authorized by an appropriate government agency or conducted in accordance with prior emergency management regulations.

B. Exceptions Requiring a Permit - The following exceptions are permitted within required water quality buffers only after submission of an application for and issuance of a written permit or approval by the Planning Official:
   1. View Corridors - Applications for view corridors will be considered only for the Wateree and Lynches Rivers, the larger navigable streams of Kershaw County, other streams with public access, and on lakes and ponds with public access and/or multiple shoreline ownership under the following conditions:
      a. Tree removal within stream buffers to allow for view corridors is allowed; provided that such removal shall not exceed fifteen (15) feet in width, and shall not constitute an area greater than one-fifth of the total buffer area required on each lot; or
      b. Alternatively, trees may be removed randomly for the purpose of improving the views of streams, provided that an amount not greater than one-tenth of the total DBH of all trees located in the buffer area of each lot is removed.
      c. Any tree removal shall be manually performed using hand or chain saws, and no other disturbance of the natural terrain is permitted.

d. Any view corridor or open area created through the utilization of this provision shall be stabilized and improved with shrubs, low-growing trees, or other natural groundcover plantings.

2. Access Corridors
   a. Tree Removal - Tree removal within buffers is allowed in order to:
      1.) Provide a limited access corridor to the stream.
      2.) Install shoreline stabilization and water-dependent structures.
      3.) Remove large debris or previously existing nonconforming structures.
      4.) Install paths, boardwalks, or stairs to access water-dependent structures.
   b. Standards
      1.) This access corridor shall not exceed fifteen (15) feet in width and shall not constitute an area greater than one-fifth of the total buffer area required for each lot.
      2.) Vehicular equipment may be operated in an approved access corridor; provided that, to the furthest extent practicable, the equipment utilizes rubberized mini-track systems, and the natural terrain is disturbed only to the extent required to safely operate such equipment.
      3.) After such disturbance, the resulting terrain shall be stabilized and revegetated with shrubs, low-growing trees, and other natural groundcover plantings that closely match the existing terrain on either side of the access corridor.
      4.) When the access corridor provided in this section is used for the installation of paths, boardwalks, or stairs leading to the stream, such structures shall not exceed six (6) feet in width.
3. Separation Between Corridors - Applications for multiple view and access corridors will be considered under the following conditions:
   a. There shall be a minimum of 100 linear feet of buffer between corridors.
   b. The combined area of all corridors cannot exceed twenty-five (25) percent of the total buffer area of each lot.
4. Stream Bank Stabilization - Buffers along the stream may be adjusted to accommodate stream bank stabilization, provided that all stabilization work is performed as follows:
   a. In general, shoreline stabilization shall not extend above a height of five (5) feet above the normal stream elevation level.
   b. When the stream bank of the property adjacent to stream is equal to or less than a height of five (5) feet, stream bank stabilization may be allowed to encroach into the buffer; provided, however, that when the bank exceeds a height of five (5) feet, additional stabilization may be required.
      1.) When additional stabilization is required, to the extent authorized by a permit, the bank of the stream may be graded at an acceptable slope back toward the interior of the lot, and the slope shall be stabilized with vegetative plantings or terraced retaining walls.
      2.) When such work is permitted and such grading is employed, the interior edge of the buffer must be adjusted inward by the same distance that the stabilization activity extends from the normal stream elevation level into the original buffer.
      3.) The length of such adjustment shall be equal to the length of a horizontal line extending from the interior edge of the stabilization to a vertical line extending from the top edge of the stream bank at normal stream elevation level.
5. Stream Crossings and Utilities Easements - Existing easements for public and private utility facilities, including transmission or conveyance lines, communication, sewer, water or gas lines, and erosion control or stormwater structures shall be exempt, provided that any land disturbance is conducted in compliance with the applicable land disturbance regulations and is restored as soon as possible. New proposed stream crossings and utility easements may be permitted provided:
   a. An analysis is submitted to the Planning Official demonstrating that no economically feasible alternative is available.
   b. The right-of-way shall be the minimum width needed to allow for maintenance access to the installation.

c. The angle of crossing shall be as close to perpendicular to the stream or buffer as feasible in order to minimize clearing requirements.
d. The minimum number of crossings should be used within each development, and no more than one (1) crossing is allowed for every 1,000 linear feet of buffer zone unless no feasible alternative can be demonstrated. Where feasible, the design of roadways and lots within a development should be aligned such that all streams are either to the rear or the side of individual lots.
e. Roadways, where permitted through the required buffers, including clearing and grading required for their construction, shall be built in accordance with the street standards of this Ordinance for the property location, and dedicated for public use after completion. The dedication of such facilities to a homeowners' association that is legally chartered and registered with the SC Secretary of State shall be considered a public use for the purposes of this provision.
f. Non-bisecting utility easements running perpendicular to a stream are allowed, and where feasible, shall be installed a minimum of twenty-five (25) feet from the top of bank on perennial streams and a minimum of fifteen (15) feet from the top of bank of intermittent streams and shorelines.
g. Installation procedures for an approved utility easement buffer crossing or the installation of an approved utility easement within a segment of a buffer shall be conducted as follows:
    1.) A double row of silt fence (with metal posts and wire backing) or other sediment/erosion control device approved by the Stormwater Manager shall be installed along the area of disturbance prior to commencement of work.
    2.) Disturbed areas shall be seeded and mulched at the end of each workday.
    3.) Standard BMPs for work in live waterways shall be implemented.
    4.) All other applicable stormwater regulation requirements must be adhered to.

6. Stream Re-Location - Land disturbing activities for construction in, on, or under a stream, lake/pond, or other natural watercourse shall be planned and conducted to minimize the extent and duration of disturbance of the stream channel or lake/pond bed. Any proposed relocation of a stream must be demonstrated as an essential part of the proposed activity and that no practicable alternative is available. Pre-approval by the County must be granted prior to obtaining all other applicable Federal and State permits. Notwithstanding Federal and/or State permit requirements, the relocation shall be planned and executed to the extent practicable to minimize changes in the stream flow characteristics.
7. Exceptions for Public Recreational Facilities
    a. Purpose - The value of a stream or lake as a recreational resource is dependent upon the protection of its water quality. Because public recreational facilities such as swimming beaches, boat ramps, trails, picnic areas, bank fishing areas, and fishing docks require direct shoreline access and/or viewsheds, the following exceptions to the disturbance of buffers at such facilities are provided.
        1.) Modification of Buffer Boundaries - Activity areas of public recreational facilities that are strictly water and shoreline dependant (swimming beaches, boat launches, and bank fishing areas) may have the exterior (lakeside) boundary of the required buffer adjusted to follow the proposed perimeter of the activity area. In such cases, the distance of the interior edge of the buffer shall be measured horizontally, such that at any point along the interior edge, a horizontal line would be the exact required buffer width from a vertical line extending up from the perimeter of the activity area.
        2.) Location of Facilities - Public recreational facilities that are not water dependant (parking lots, bath houses, club houses, picnic shelters, etc.) shall be located behind the interior buffer boundaries.
        3.) Access and View Corridors at Public Recreational Facilities
            a.) Access Corridors - Corridors through the buffer shall be permitted to allow pedestrian access to water dependant shoreline activity areas. The number of access corridors shall be limited to those needed to provide adequate access between the activity areas and

recreational facilities. Access corridors shall also be permitted to provide vehicular access to boat launches.

b.) View Corridors - Water views are an important factor in the recreational experience for non-water dependant activities such as picnicking and walking. Recreational facilities master plans shall consider the placement of facilities desiring viewsheds and the design of the viewshed to accommodate the water view without diminishing the water quality functionality of the buffer.

c.) Trails – Walking, hiking, and bicycle trails shall where feasible, be installed a minimum of twenty-five (25) feet from the top of bank on perennial streams and a minimum of fifteen (15) feet from the top of bank of intermittent streams and shorelines. Such trails shall not exceed six (6) feet in width.

4.) Stormwater Management - The public recreational facility master plan shall incorporate the following stormwater best management practices and stormwater pollution prevention measures:

a.) Access corridors and trails shall be designed such that there is positive drainage of the corridors into the buffer area and such that the corridors and trails do not function as a conduit for direct stormwater discharge into the lake/pond/stream. Corridor and trail drainage shall be designed to promote sheet flow to minimize channelization of runoff.

b.) Land development shall be planned in harmony with the natural runoff pattern and along the contours.

c.) Impervious surfaces shall be limited. Surface drainage shall be designed to promote sheet flow to minimize channelization of runoff.

d.) Chemicals such as fertilizers, pesticides, and herbicides shall be applied at appropriate rates and shall not be applied within 100 feet of unprotected shorelines.

e.) All trash receptacles shall be firmly secured from animal and weather disturbances and contact with stormwater.

5.) Review and Approval of Public Recreational Facility Master Plans - The recreational facility master plans shall be included in the group development submittal and review and shall be approved by the Planning and Zoning Commission per the submittal requirements and approval process provisions of this Ordinance.

C. Approval Procedures for Permitted Activity

1. Except as permitted under General Exceptions provisions section of this Article, no shoreline stabilization, tree removal, or land disturbance activity of any kind, including those permitted under the Exceptions Requiring a Permit provisions, shall be conducted in the buffer without a written permit or approval for such activity issued by the Kershaw County Planning and Zoning Department. The Planning Official shall submit the permit request to the Stormwater Manager and shall obtain the Manager's written approval prior to issuing the permit. In order to apply for approval, the parcel owner must supply the Planning and Zoning Department with three (3) copies of a survey prepared by a South Carolina-Registered Land Surveyor showing the following:
   a. The extent of any stream or shoreline buffer on the subject property shown by metes and bounds.
   b. The labeling of the stream and shoreline buffer.
   c. The location of any previously existing nonconforming structures located within the buffer.
   d. The location and size of any existing tree, four (4) inches DBH or greater, located in the buffer.
   e. The location of the proposed activities for which approval is being requested.
2. The approval request shall be submitted in writing and shall include a detailed description of the permitted activity with any required supporting information needed to establish that the requested activity meets the requirements of this section. Requests with incomplete information to support the proposed activity will not be considered. Survey flagging shall clearly indicate the following:
   a. The location of the lake/pond shoreline and/or stream top of bank.
   b. The interior edge of the buffers.

c. All trees four (4) inches DBH or greater.
d. All trees proposed to be removed.
e. All areas proposed to be disturbed on the subject property.

D. Water Quality Buffer Plat Requirements - Water quality buffers, where required by these regulations, shall be shown on all land development application site plans and on all final plats prepared for recording. When a subdivision of a property is proposed, the water quality buffer plats must be prepared and approved for the entire parcel prior to approval of the subdivision. The water quality buffer plat shall address the following items:
   1. The extent of any stream or shoreline buffer shall be shown on the subject property by metes and bounds.
   2. The stream and shoreline buffer shall be labeled.
   3. A note shall be provided to reference all buffers stating: "There shall be no clearing, grading, construction, or disturbance of vegetation except as permitted by the Kershaw County Planning Official."
   4. A note shall be provided to reference any protective covenants governing all buffer areas stating: "Any buffer shown on the plat is subject of protective covenants which may be found in the land records and which restrict disturbance and use of these areas."
   5. If an study supporting an exception to the required buffer width has been approved, a note must be provided stating, "Exception to required buffer width approved _____ (date)."
   6. If the buffer area will not be part of an individual lot, then ownership must be stated by identifying who is the responsible party.
   7. The location of permanent boundary marker signs shall be provided. The number and location of marker signs shall be determined by the individual parcel conditions. Boundary marker signs shall be required at access points and not required on inaccessible areas of the site.

E. Enhancement of Buffers - In areas in which the natural buffer has been disturbed or compromised, the buffer may be enhanced with additional plantings. When landscaping within the buffer is conducted as a means of enhancing the natural buffer, it shall be performed manually and without the use of vehicular or mechanical equipment to the greatest extent practicable, and stringent erosion prevention and sediment controls shall be utilized to protect the stream from siltation as a result of landscaping activities. Planting of native and adaptive species is encouraged. The planting of invasive species is not allowed. A list of native and adaptive species is available from the Planning and Zoning Department.

   Enhancement, restoration, and/or reestablishment of water quality buffers on land developed prior to the effective date of this Ordinance are strongly encouraged. For redevelopment projects on such parcels that will require a building and/or land development permit, water quality buffers are a preferred best management practice for erosion prevention, sediment control, and stormwater management. The Kershaw County Stormwater Manager may require the enhancement, restoration, and/or reestablishment of water quality buffers on any parcel of land, structure, or activity which is causing or contributing to pollution, including non-point pollution of the waters of Kershaw County; erosion or sedimentation of stream channels; and/or degradation of aquatic or riparian habitat.

F. Protection of Water Quality Buffers During Site Development and Construction Activity - A water quality buffer plan ensuring the following safeguards shall be included in all required erosion prevention and sediment control plans, as applicable:
   1. Water quality buffers must be clearly identified on all stormwater management plans and construction drawings and must be marked with the statement "Water Quality Buffer. Do Not Disturb."
   2. Water quality buffers cannot be encroached upon or disturbed during project construction, unless in accordance the General Exceptions and the Exceptions Requiring a Permit provisions of this section or unless they are being established, restored, or enhanced in accordance with an approved buffer enhancement plan.

3. Water quality buffers must be clearly marked with a warning barrier before construction activities begin. The marking shall be maintained until completion of construction activities. All contractors and others working on the construction site must be made aware of the existence of the buffer(s) and the restrictions on disturbing the buffer(s).
4. All areas of the water quality buffer, including stream banks, must be left in their existing condition upon completion of construction activities. Should construction activities associated with development cause degradation to stream banks, all eroding, bare, or unstable stream banks shall be restored to existing conditions.
5. If any trees are allowed to be removed, tree location shall be shown and a note shall be provided stating that the tree must be hand cleared.
6. The locations of all signage must be clearly shown on plans.
7. A narrative stating the extent of the buffer areas, including any allowed disturbance in the buffer areas, must be included with the plans.
8. A double row of silt fence (with metal posts and wire backing) or other sediment/erosion control device approved by the Stormwater Manager shall be shown between the project boundary and the interior side of the applicable buffer area(s).
9. The water quality buffer shall be shown and labeled on all land development application site plans and on all final plats prepared for recording.