ZONING ORDINANCE
TEXT AMENDMENT APPLICATION

CITY OF CHARLOTTE

Petition #: 99-119

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Section #: CHAPTER 12: DEVELOPMENT STANDARDS OF GENERAL APPLICABILITY
(Title)

Purpose of Change:

To implement the previously adopted Surface Water Improvement and Management (SWIM) Buffer Plan.

To add a new part to the Zoning Ordinance, PART 8: STREAM BUFFERS. The purpose of this new part is to establish regulations and standards to ensure that streams and adjacent lands will fulfill their natural functions.

Charlotte-Mecklenburg Planning Commission
And
Mecklenburg County Department of Environment Protection

Name of Agent

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Revised 7/27/99

Petition No.
Petitioner: Charlotte-Mecklenburg Planning Commission
and
Mecklenburg County Department of Environment Protection

ORDINANCE NO. _____

AN ORDINANCE AMENDING APPENDIX A OF THE CITY CODE - ZONING ORDINANCE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CHARLOTTE:

Section 1. Appendix A, "Zoning" of the Code of the City of Charlotte is hereby amended as follows:

1. Amend CHAPTER 12: DEVELOPMENT STANDARDS OF GENERAL APPLICABILITY, by adding a new PART as follows:

PART 8: STREAM BUFFERS

Section 12.801. Purpose.

The purpose of the stream buffer network in Charlotte and Mecklenburg County is to ensure that the stream and adjacent lands will fulfill their natural functions. Stream systems are comprised of the stream and their drainage basins. Streams have the primary natural functions of conveying storm and ground water, storing floodwater and supporting aquatic and other life. Vegetated lands adjacent to the stream channel in the drainage basin serve as a "buffer" to protect the stream system's ability to fulfill its natural functions. Primary natural functions of the buffer include:

- Protect water quality by filtering pollutants;
- Provide storage for floodwaters;
- Allow channels to meander naturally; and
- Provide suitable habitats for wildlife.

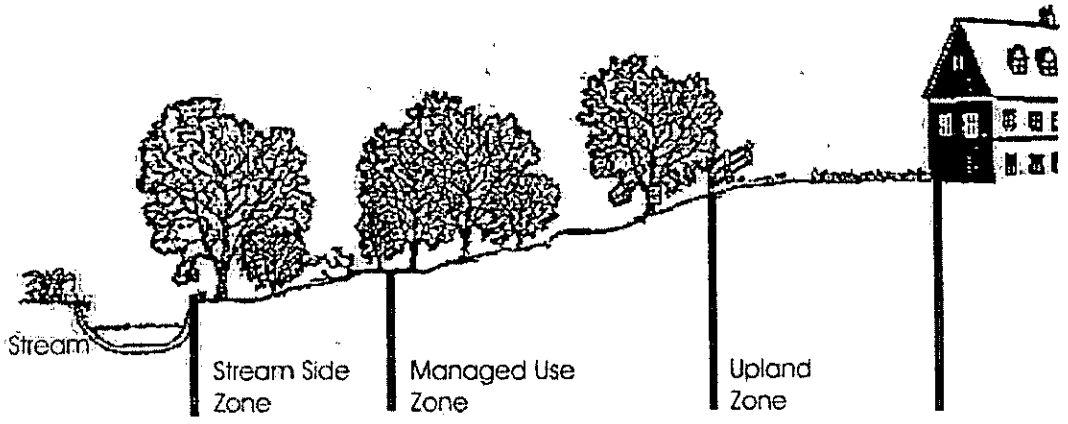
Section 12.802. Definitions.

For the purposes of Chapter 12, Part 8, the following words and phrases shall be defined as specified below.

1. Best Management Practices (BMP's): A structural or nonstructural management based practice used singularly or in combination to reduce non-point source input to receiving waters in order to achieve water quality protection goals.

2. Buffer: A vegetated area through which storm water runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for infiltration of the runoff and filtering of pollutants.

3. Buffer Zones: Buffer widths are measured in three (3) zones as shown below. The buffer width is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.



4. Charlotte-Mecklenburg Stream Buffer Guidelines:

5. Drainage Basin: The area of land which drains to a given point on a body of water.

6. Floodfringe:

7. Floodplain:

8. Floodway:

9. Mitigation: Action taken either on-site or off-site as allowed by this Part to offset the effects of temporary or permanent loss of stream buffer.

10. Stream: A body of concentrated flowing water in a natural low area or natural channel on the land surface.

11. Top of Bank:

Section 12.803. Applicability.

1. All properties will be subject to the buffer requirements of this PART 8 except those properties which, as of the effective date of this Part ( ), fit into one of the following categories:
   (a) Have been issued a Certificate of Building Code Compliance
   (b) Have a valid building permit
   (c) Have been subdivided by a recorded subdivision plat
   (d) Have been described by metes and bounds in a recorded deed which:
   - If to be used for residential purposes:
     Are 1 acre or less in size.
   - If to be used for nonresidential purposes:
     Are 4 acres or less in size if located on a non-Federal Emergency Management Agency (FEMA) regulated floodway, or
     Are 7 acres or less in size if located on a FEMA regulated floodway.

   (e) Are included on a valid preliminary subdivision plan.
   (f) Have otherwise secured a vested property right under State law or local ordinance.

2. Redevelopment or expansions to uses included in the above categories are not subject to the buffer requirements of this Part unless it would result in an increase in the total impervious area within the proposed buffer area.

3. In the event that stream buffers are also required as part of the Lake Norman, Mountain Island Lake or Lake Wylie Watershed Overlay Districts, the more stringent stream buffer

requirements apply.

Section 12.804. Buffer Standards.

1. Buffer widths

Required stream buffer widths vary based on the size of the upstream drainage basin as described in the following table. Mecklenburg County's Geographic Information System will delineate the size of drainage basins and specify the corresponding buffer widths. The buffer is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

Area Designation	Stream Side Zone	Managed Use Zone	Upland Zone	Total Width of Buffer
≥ 100 acres	20 feet	None	15 feet	35 feet
≥ 300 acres	20 feet	20 feet	10 feet	50 feet
≥ 640 acres (1)	30 feet	45 feet	25 feet PLUS 50% of the area of the flood fringe	100 feet PLUS 50% of the area of the flood fringe

Footnotes:

(1) Buffer widths for drainage areas of ≥ 640 acres:

1. The current locally adopted flood fringe and floodway encroachment lines will be used for floodplain and buffer calculations.
2. If the floodplain is less than 100 feet wide, the total width of the buffer on each side of the stream will not exceed 100 feet
3. The landowner/developer has discretion to design the buffer zone beyond the 100-foot minimum. The additional buffer area beyond 100 feet must be contiguous with at least a portion of the required 100-foot buffer and be configured in such a manner as to benefit water quality.

2. Buffer description

Buffer function, vegetation and use vary according to the different buffer zones as described in the following table.

Characteristics	Stream Side Zone	Managed Use Zone	Upland Zone
Function	Protect the physical integrity of the ecosystems	Provide distance between upland development and the stream side zone	Prevent encroachment and filter runoff
Vegetation(1)	Undisturbed forest	Managed forest, some clearing allowed	Forest encouraged but usually grass
Uses(2)	Very restricted - Permitted uses limited to: installation of water and sewer utilities, road crossings, flood control structures and bank stabilization	Restricted - Permitted uses limited to: all uses allowed in the Stream Side Zone, as well as storm water best management practices (BMPs), greenway trails and bike paths	Restricted - Permitted uses limited to: all uses allowed in the Stream Side and Managed Use Zones, as well as lawns, gardens, paved trails and patios, storage buildings (no commercial bldgs. or occupied structures, no fill allowed) - Fill material can not be brought into the upland zone but grading is allowed for lawns, etc.

*Footnotes:
(1) Specific vegetative requirements for each buffer zone are provided in the Charlotte-Mecklenburg Stream Buffer Guidelines.
(2) Specific use requirements for each buffer zone are provided in the Charlotte-Mecklenburg Stream Buffer Guidelines.

3. Diffuse flow requirement

Diffuse flow of runoff shall be maintained in the buffer by dispersing concentrated flow and reestablishing vegetation. Techniques for providing diffuse flow are specified in the Charlotte-Mecklenburg Stream Buffer Guidelines.

(a) Concentrated runoff from ditches or other manmade conveyances shall be diverted to diffuse flow before the runoff enters the Upland Zone of the buffer.

(b) Periodic corrective action to restore diffuse flow shall be taken by the property owner as necessary to impede the formation of erosion gullies.

4. Pollutant Removal Targets:

The following pollutant removal targets apply for the three-zone buffer system. These targets represent optimum buffer performance which can be achieved depending on numerous site specific factors.

- Sediment = 75%
- Total Nitrogen = 40%
- Total Phosphorus = 50%
- Trace Metals = 60%
- Hydrocarbons = 75%

Section 12.805. Mitigation

1. Purpose

The purpose of this section is to set forth the basis on which mitigation is required for unavoidable or requested buffer impacts within any of the buffer zones. This mitigation basis shall allow the property owner or other entity the opportunity to disturb a buffer, provided that steps are taken to offset the buffer loss. To the extent approval is required by this Part, any person or entity seeking approval of a buffer impact shall submit the requisite site and mitigation information for approval to the Mecklenburg County Department of Environmental Protection prior to any buffer impact.

2. Buffer impacts not requiring mitigation

Certain buffer impacts will not be required to provide mitigation but are required to comply with the specifications provided in the Charlotte-Mecklenburg Stream Buffer Guidelines for stabilization of disturbed areas to minimize negative water quality impacts. Except as otherwise noted herein, buffer impacts described under this Item do not require specific plan approval including:

(a) Near perpendicular (75°or greater) road crossings for connectivity or transportation

links where the Charlotte-Mecklenburg Planning Commission has granted site plan approval.

(b) Near perpendicular (75° or greater) utility crossings as approved by Charlotte-Mecklenburg Utilities.

(c) Parallel water and sewer utility installation as approved by Charlotte-Mecklenburg Utilities.

(d) Public paths and trails parallel to the creek outside the Stream Side Zone and near perpendicular stream crossings. Pathways must use existing and proposed utility alignments or previously cleared areas and minimize tree cutting to the maximum extent practicable. To the extent possible, pathways shall preserve existing drainage patterns and avoid drainage structures that concentrate storm water.

(e) Incidental drainage improvements/repairs for maintenance.

(f) Individual pedestrian paths connecting homeowners to the stream in the form of narrow, pervious footpaths with minimal tree disturbance.

(g) New domesticated animal trails (farming) where existing trails are lost as a result of action beyond the farmer's control. Stream crossings should be constructed and maintained to minimize impacts to the Stream Side Zone with fencing perpendicular and through the buffer to direct animal movement.

(h) Newly created ponds or lakes. New ponds shall have the same buffers as the original creek, except that tree planting will not be required. Buffer requirements will not apply to dams. Buffer requirements will not apply to structural BMPs.

(i) Mitigation approved by a State or Federal agency acting Sections 401 or 404 of the Clean Water Act.

3. Buffer impacts requiring mitigation plan approval

Other impacts to stream buffers not previously specified, proposed to allow development or other land use in a buffer shall be required to mitigate or offset the proposed impact in accordance with this Section. In all cases, the landowner or other entity proposing the impact shall prepare and submit for approval a site specific plan, showing the extent of the proposed impact and proposed mitigation, for review and approval by the

Mecklenburg County Department of Environmental Protection except when the buffer impact originates from water and/or sewer utility crossings in which case review and approval will be performed by Charlotte-Mecklenburg Utilities.

(a) Buffer impacts requiring mitigation

All buffer impacts not previously specified require mitigation and plan approval including:

- Angled street and utility crossings (<75°)
- Filling or piping of streams
- Clear cutting of stream banks (Stream Side Zone)
- Paths proposed within the Stream Side Zone
- Creek relocations
- Fences and walls requiring tree removal in the Stream Side or Managed Use Zones

(b) Pre-approved mitigation techniques

The following techniques are available to landowners for mitigation of buffer impacts, upon review and approval of a specific site plan by the Mecklenburg County Department of Environment Protection. Specifications for these pre-approved mitigation techniques including design standards are provided in the Charlotte-Mecklenburg Stream Buffer Guidelines.

(1) Installation of Structural BMPs: The installation of an on-site structural BMP designed to achieve specific pollutant removal targets will allow for all requested stream buffer impacts on the specific site. The BMP should remain outside the Stream Side Zone if practical. A detailed BMP design plan must

be submitted to the Mecklenburg County Department of Environmental Protection for approval. The BMP must satisfy the Pollutant Removal Targets specified in Section 12.804 .4.

(2) Stream Restoration: The owner may restore and preserve the buffer area on any stream of equivalent or greater drainage area the condition of which is determined to be qualified for restoration on a 1:1 basis in linear feet of stream. This restoration shall include stream bank improvements, and Stream Side and Managed Use Zone replanting, in accordance with the Charlotte-Mecklenburg Stream Buffer Guidelines.

(3) Stream Preservation: The owner may purchase, fee simple, other stream segments at equivalent or greater drainage area on a 1:1 linear foot basis and convey fee simple absolute title to the land to the City/County or other conservation organization.

(4) Wetlands Restoration: On a 2:1 acreage basis for disturbed stream and buffer area (2 acres of wetland for each acre of disturbed area), the owner may provide a combination of the preservation and/or restoration of wetlands with protective easements and the implementation of structural or non-structural BMPs to achieve specific Pollutant Removal Targets within the impacted area.

(5) Bottom Land Hardwood Preservation: On a 2:1 acreage basis for impacted stream and buffer area (2 acres of bottomland hardwood for each acre of disturbed area), the owner may provide a combination of the preservation of existing bottom land hardwood forest or other specifically approved natural heritage area by conservation easement or other legal instrument, and the implementation of structural or non-structural BMPs to achieve specific Pollutant Removal Targets within the impacted area.

(6) Controlled Impervious Cover: The owner may commit to, and provide, a specific site development plan that limits overall site impervious cover equal to or less than 24%. Development on this basis shall allow for stream buffer impacts on the specific site. Preservation of the Stream Side Zone is encouraged.

(7) Open Space Development: The submission of a specific site development plan which preserves 50% of the total land area as undisturbed open space will allow for all requested stream buffer impacts on the specific site.

(8) Mitigation Credits: The purchase of mitigation credits through the Stream Restoration Program on a 1:1 basis, utilizing linear feet of steam impacted and the prevailing rate of purchase as established by the Charlotte-Mecklenburg Stream Buffer Guidelines. Mitigation credits purchased under any other program (i.e., U.S. Army Corps of Engineers, (USACOE)) shall not cover this requirement unless the issuing agency agrees to relinquish the funds to the appropriate City/County agency.

(c) Other Mitigation Techniques

No provision of this Part shall prevent the creative development of alternative mitigation plans. The owner shall submit such plan with proposed buffer impacts and detailed mitigation information to the Mecklenburg County Department of Environmental Protection for approval. The criteria used to judge the acceptability of any alternative plan shall be the degree to which the plan addresses the preservation of the four primary natural functions of stream buffers. Such plans may be submitted in conjunction with a mitigation plan submission to the U.S. Army Corps of Engineers and the N.C. Department of Environment and Natural Resources for proposed stream or wetland impacts. The Mecklenburg County Department of Environmental Protection, when considering proposed mitigation alternatives, shall give equal weight to proposals which utilize the preservation of unique or endangered habitat or natural areas against proposed buffer impacts.

Section 2. That this Part shall become effective upon its adoption.

APPROVED AS TO FORM:

_____
City Attorney

I, _____, _____City Clerk of the City of Charlotte, North Carolina, DO HEREBY CERTIFY that the foregoing is a true and exact copy of an Ordinance adopted by the City Council of the City of Charlotte, North Carolina, in regular session convened on the_____ day of _____, _____, the reference having been made in Minute Book _____, and recorded in full in Ordinance Book _____, Page(s) _____.

WITNESS my hand and the corporate seal of the City of Charlotte, North Carolina, this the _____day of _____, _____.