CHAPTER 5. SOIL EROSION AND SEDIMENTATION CONTROL*

*Editor's note: Ordinance No. 1979-247-TC-108, adopted November 6, 1979, repealed the former Chapter 5 in its entirety and inserted the*following* provisions in lieu thereof. The former chapter was based on Chapter 25 of the 1959 Code.

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Sec. 10-5001. TITLE.

This chapter*shall* be known and *may* be cited as the *City* of Raleigh's "Soil Erosion and Sedimentation Control," "Soil Erosion Control," or, "Sedimentation Control Ordinance."
(Ord. No. 1979-247-TC-108, §1, 11-6-79)

State law references: Authority to adopt soil erosion and sedimentation pollution control programs,*G.S.* 113A-60; local act authority to adopt erosion control ordinance, 1971 Session Laws, Chapter 1210.

Sec. 10-5002. PURPOSES.

This chapter is adopted for the purposes of:
(a) Regulating certain land-disturbing activities to control accelerated erosion and sedimentation in order that water pollution from sedimentation*may* be prevented, that the accelerated erosion and sedimentation of lakes and watercourses and damage to public and private *property* by erosion and sedimentation be prevented, and
(b) Establishing procedures through which these purposes can be fulfilled.
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1987-950-TC-287, §1, 4-7-87)

Sec. 10-5003. DEFINITIONS.

As used in this chapter, unless the context clearly indicates otherwise, the*following* definitions apply:
Accelerated erosion. ***Accelerated erosion*** means any increase over the rate of natural erosion which results from land-disturbing activities.
Act. ***Act*** means the North Carolina Sedimentation Pollution Control Act of 1973, as amended, and all rules and orders adopted pursuant to it.
Adequate erosion control measure . Any structure, device, or measure which controls accelerated erosion, retains stormwater and prevents off-site sedimentation in accordance with this chapter.

Being conducted. ***Being conducted*** means a land-disturbing activity has been initiated and permanent stabilization of the site has not been completed.
Borrow. ***Borrow*** means soil material which is used on-site for construction and is obtained from other locations.
Buffer zone. ***Buffer zone*** means a strip of land adjacent to a lake or natural watercourse.
Coastal counties. ***Coastal Counties*** means the *following* counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell and Washington.
Commission. ***Commission*** means the North Carolina Sedimentation Control Commission.
Completion of construction or development. ***Completion of construction or development*** means that no further land-disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover.
Director. ***Director*** means the Director of the Division of Land Resources of the North Carolina Department of Environment, Health, and Natural Resources.
Discharge point. ***Discharge point*** means that point at which runoff leaves a tract of land.
District. ***District*** means the Wake Soil and Water Conservation District created pursuant to Chapter 139, North Carolina General Statutes.
Energy dissipator. ***Energy dissipator*** means an adequate erosion control measure placed at the outlets of storm drainage facilities or at other points as specified by this chapter to receive and breakdown the energy from high velocity flow.
Erosion. ***Erosion*** means the wearing away of the land surface by the action of wind, water, gravity or any combination thereof.
Forestry. ***Forestry*** means activities *undertaken* on woodland areas where all of the *following* occur:
a. The growing of trees; and
b. The harvesting of timber, leaves or seeds; and
c. The regeneration of trees by the replanting of trees at a rate of one inch caliper tree measured six (6) inches above the ground per every two hundred (200) square feet of tree disturbing activity area, as defined in Part 10 chapter 2, within two hundred twenty (220) days of harvesting; and
d. The application of applicable "best management practices", including the N.C. Department of Environment, Health and Natural Resources. "Forest Practice Guidelines Related to Water Quality"--Title 15A North Carolina Administrative Code subchapter 11, sections 1.010--.0209 and all successor documents; and
e. A forest management plan is prepared or approved either by a professional forester registered in*the State of* North Carolina or by the Division of North Carolina Forest Resources.
(Ord. No. 2005-762-TC-264, §21, TC-7-04, 1-4-05)
Ground cover. ***Ground cover*** means any living or nonliving material incorporated in or covering the surface of the soil which controls accelerated erosion and prevents off-site sedimentation in accordance with this chapter.
High-quality waters. ***High-quality waters*** means those classified in title 15A North Carolina Administrative Code chapter 2B section .0101(e)(5) - General Procedures, and amendments thereto, all of which is incorporated herein by reference.
High-quality-water (HQW) zones. ***High-quality-water (HQW) zones*** means those areas that are within both one (1) mile and drain to high-quality waters. These zones are illustrated on maps on file with the Inspections Department.
Impervious surface. An ***impervious surface*** is any material that significantly reduces and prevents natural infiltration of water into the soil. Impervious surfaces include but are not

limited to roof, patios, balconies, decks, *streets* , parking areas, driveways, sidewalks, and any concrete, stone, brick, asphalt or compacted gravel surface. For the purposes of this chapter, the effective impervious covers for certain surfaces listed below as follows:

(a) Asphalt, concrete, crusher-run gravel, masonry, marl, wood, and other impermeable surfaces which prevent land area from infiltrating stormwater are one hundred (100) per cent impervious;

(b) Porous surfaces which permit direct infiltration of unconcentrated stormwater into ground areas which are prepared in accordance with plans approved by the soil conservation division of the*City* so that the first one-half (1/2) inch of stormwater infiltrates into the ground are seventy (70) per cent through ten (10) per cent impervious, depending on:

(1) Volume of stormwater stored;

(2) Slope of the ground area;

(3) Extent of porous openings;

(4) Condition of subgrade;

(5) Compaction;

(6) Extent of land disturbance; and

(7) Protection from siltation and clogging;

(c) Slatted wood decks that allow the drainage of water through the slats to the unpaved surface below are fifty (50) per cent impervious. If the area covered by the deck is washed gravel, the deck is thirty (30) per cent impervious.

(d) Ungraveled natural footpaths, water surfaces of swimming pools, and drainfields are zero (0) per cent impervious.

All other necessary determinations above impervious surfaces will be based on hydrological tests based on existing subgrade soils, slope, rainfall intensity and rainfall duration.

(Ord. No. 1993-218-TC-60, §27, TC-10-93, 6-15-93; Ord. No. 1995-760-TC-122, §53, TC-20B-95, 11-21-95)

Lake or natural watercourses. ***Lake or natural watercourse*** means any natural or relocated stream, river, brook, swamp, sound, bay, creek, run, branch, canal, waterway, estuary, and any reservoir, lake or pond, natural or impounded, in which sediment *may* be moved or carried in suspension, and which could be damaged by an accumulation of sediment.

Land-disturbing activity . Any use of the land by any *person* in residential, recreational, industrial, educational, service, civic, office, institutional or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography or alters the natural structure of the land mass and that *may* cause or contribute to sedimentation.

Natural erosion . The wearing away of the earth's surface by water, wind, or other natural agents under natural environmental conditions undisturbed by man.

Person conducting land-disturbing activity. ***Person conducting land-disturbing activity*** means any *person* who *may* be held responsible for a violation unless expressly provided otherwise by this chapter, the act, or any order adopted pursuant to this chapter or the act.

Person responsible for the violation. ***Person responsible for the violation*** means:

(a) The developer or any other*person* who has or holds himself out as having financial or operational control over the land-disturbing activity; or

(b) The landowner or*person* in possession or control of the land when he has directly or indirectly allowed the land-disturbing activity or has benefitted from it or he has failed to comply with any provision of this chapter, the act, or any order adopted pursuant to this chapter or the act that imposes a duty upon him.

Phase of grading. ***Phase of grading*** means one (1) of two (2) types of grading, rough or fine.

Plan. ***Plan*** means erosion and sedimentation control plan.
Receiving watercourse. ***Receiving watercourse*** is a lake, natural watercourse, or other natural or man-made area into which stormwater runoff flows from a land-disturbing activity site.
Sediment. ***Sediment*** means solid particulate matter, both mineral and organic, that has been or is being transported by water, wind, gravity, or ice from its point of origin.
Sedimentation. ***Sedimentation*** means the process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land-disturbing activity or into a lake or natural watercourse.
Siltation . The sediment resulting from accelerated erosion which is settleable or removeable by properly designed, constructed, and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity; and which has been deposited, or is in suspension in water.
Site. ***Site*** means all contiguous land or bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.
Storm drainage facilities. ***Storm drainage facilities*** means the man-made system of inlets, conduits, channels, ditches or other such facilities and appurtenances which collect and convey stormwater.
Stormwater runoff. ***Stormwater runoff*** means the runoff of water resulting from precipitation in any form.
Ten-year storm . The stormwater runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in ten (10) *years* , and of a duration which will produce the maximum peak rate of runoff, for the watershed of interest under average antecedent wetness conditions.
Twenty-five-year storm. ***Twenty-five-year storm*** means the surface runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in twenty-five (25) *years* and of a duration which will produce the maximum peak rate of runoff, from the watershed of interest under average antecedent wetness conditions.
Tract means the same as "site."
Uncovered. ***Uncovered*** means the removal of ground cover from, on, or above the soil surface.
Undertake. ***Undertake*** means the initiating of, conducting of, or continuing of, or being financially responsible for any activity, or phase of activity, which results or will result in a change in the ground cover or topography of a tract of land.
Velocity . The average velocity of flow through the cross-section of the main channel at the peak flow of the storm of interest. The cross-section of the main channel, if any, *shall* be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the main channel banks. Overbank flows are not to be included for the purpose of computing velocity of flow.
Waste. ***Waste*** means surplus materials resulting from on-site construction and disposed of at other locations.
Working days. ***Working days*** means days exclusive of Saturday and Sunday during which weather or soil conditions permit erosion control activity and/or land-disturbing activity to be undertaken.
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1985-510-TC-231, §2, 3-5-85; Ord. No. 1985-511-TC-232, §§23, 24, 3-5-85; Ord. No. 1985-700-TC-260, §§1, 2, 12-17-85; Ord. No. 1987-950-TC-287, §§2--7, 4-7-87; Ord. No. 1988-133-TC-305, §1, 3-1-88; Ord. No. 1992-110-TC-41, §1, TC-18-92, 12-8-92; Ord. No. 2001-991-TC-206, §23, TC-8-00, 5-1-01)

Sec. 10-5004. SCOPE AND EXCLUSIONS.

(a) This chapter *shall* apply to *land-disturbing activities undertaken* on any *property* within the territorial and the extraterritorial jurisdiction of the *City* , with the *following* exclusions:

(1) *Land-disturbing activities* including the breeding and grazing of lifestock *undertaken* on agricultural land for the production of plants and animals useful to man, including but not limited to forages and sod crops, grains and feed crops, tobacco, cotton, and peanuts; dairy animals and dairy products; poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules, or goats; bees and apiary products; and fur producing animals.

(2) *Land-disturbing activities undertaken* on forestland for the production and harvesting of timber and timber products and *conducted* in accordance with Forest Practice Guidelines Related to Water Quality --Title 15A North Carolina Administrative Code, subchapter 11, sections 1.010--.0209, as adopted by the North Carolina Department of Environment, Health, and Natural Resources. If *land-disturbing activity undertaken* on forestland for the production and harvesting of timber and timber products is not *conducted* in accordance with "best management practices" set out in **Forest Practice Guidelines Related to Water Quality--Title 15A North Carolina Administrative Code, subchapter 11, sections 1.010--.0209, the provisions of this chapter *shall* apply to such activity and any related *land-disturbing activity* on the *tract* .**

(3) Activities for which a permit is required under the Mining Act of 1972,*G.S.* Chapter 74, Article 7.

(4) *Land-disturbing activities undertaken* for the duration of an emergency, activities essential to protection of human life.

(b) This chapter*shall* not apply to the *following land-disturbing activities* , as such activities are subject to the regulatory jurisdiction of the *North Carolina Sediment Control Commission* :

(1) *Conducted* by the State of North Carolina;

(2) *Conducted* by the United States;

(3) *Conducted* by *persons* having the power of eminent domain;

(4) *Conducted* by local governments, except that the *City Council* of the *City* of Raleigh hereby declares its intent that all of the departments and *agencies* of the *City* , its contractors and subcontractors *shall* also comply with the regulations set forth in this chapter;

(5) Funded in whole or in part by the State of North Carolina or the United States.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1987-950-TC-287, §8, 4-7-87; Ord. No. 1992-110-TC-41, §§2--4, TC-18-92, 12-8-92; Ord. No. 1996-808-TC-126, §§1--4, TC-31-95, 1-16-96; Ord. No. 2001-991-TC-206, §24, TC-8-00, 5-1-01)

Sec. 10-5005. OBJECTIVES.

(a) The objectives which are to be considered in planning, developing, implementing, and maintaining adequate*erosion* and *sedimentation* controls and *undertaking land-disturbing activities* are to:

(1) Identify critical areas.

Identify on-site areas which are subject to severe*erosion* , and off-site areas which are especially vulnerable to damage from *erosion* or *sedimentation* , and provide special attention to these areas.

Cross reference: Planning standards in Reservoir Watershed Protection Area Overlay Districts, §10-3052(c).

(2) Limit time of exposure.

Limit time of exposure of all*land-disturbing activities* so that such activities are planned and *conducted* to limit uncovered soil surfaces to the shortest feasible time.

(3) Limit exposed areas.
Limit exposure of all*land-disturbing activities* so that these activities are planned and *conducted* to minimize the size of the *uncovered* area at any one (1) time.
(4) Control surface water.
Control surface water runoff originating upgrade of*uncovered* soil surfaces to reduce *erosion* and *sediment* during the period of exposure.
(5) Control sedimentation.
Control all*land-disturbing activities* so that such activities are planned and *undertaken* to prevent off-site *sedimentation* damage.
(6) Manage stormwater runoff.
Manage*stormwater runoff* when the increase in the *velocity* of *stormwater runoff* resulting from a *land-disturbing activity* can cause *accelerated erosion* at the *point of discharge* or *receiving watercourse, plans* are to include measures to control the *velocity* at the *point of discharge* so as to minimize *accelerated erosion* of the *site* and *sedimentation* of the *receiving watercourse* .
(7) Control operations in lakes or natural watercourses.
Control*land-disturbing activities* in connection with construction in, on, over, or under a *lake or natural watercourse* so that such activities are planned and *undertaken* to minimize the extent and duration of disturbance of the *lake or natural watercourse. Natural watercourses* should be preserved.
(b) An*erosion and sedimentation control plan may* be disapproved pursuant to §10-6033 of this Code if the *plan* fails to address the foregoing control objectives.
(c) When deemed necessary by the approving authority, a preconstruction conference*may* be held.
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1980-383-TC-119, §1, 5-20-80; Ord. No. 1992-110-TC-41, §5, TC-18-92, 12-8-92; Ord. No. 1993-218-TC-60, §20, TC-10-93, 6-15-93; Ord. No. 1995-760-TC-122, §54, TC-20B-95, 11-21-95; Ord. No. 2000-913-TC-199, §1, TC-11-00, 12-5-00)

Sec. 10-5006. MANDATORY STANDARDS FOR LAND-DISTURBING ACTIVITY.

(a) No*land-disturbing activity* subject to the control of this chapter *shall* be *undertaken* except in accordance with the *following* mandatory standards; wherever there is a conflict between (2) or more of these standards, the more stringent regulation is controlling:
(1) Buffer zones.
No*land-disturbing activity* during periods of construction or improvement to land *shall* be permitted in proximity to a *lake or natural watercourse* unless a *buffer zone* is provided along the margin of the watercourse of sufficient width to confine visible *siltation* within the twenty-five (25) per cent of the *buffer zone* nearest the *land-disturbing activity* . Unless otherwise provided, the width of a *buffer zone* is measured from the edge of the watercourse to the nearest edge of the disturbed area. Waters that have been classified as trout waters by the environmental management commission *shall* have an undisturbed *buffer zone* twenty-five (25) per cent of the *buffer zone* nearest the *land-disturbing activity* , whichever is greater. Provided, however, that the *City* in accordance with §10-5006(a)(13)b. *may* approve plans which include *land-disturbing activity* along trout waters when the duration of said disturbance would be temporary and the extent of said disturbance would be minimal.
This subsection (1)*shall* not apply to a *land-disturbing activity* in connection with the construction of facilities to be located on, over, or under a *lake or natural watercourse* . Notwithstanding the foregoing sentence, no *land-disturbing activity* , except as permitted in §10-9041 and §10-9042, §10-5006(a)(12), and §10-5006(a)(13), *shall* take place:

a. Within any watercourse buffer area unless it conforms to the requirements of §10-9041 and §10-9042 and the provisions of this chapter;
b. Within any*high-quality-water zone* unless it conforms to the requirements of §10-5006(a)(12) and the provisions of this chapter;
c. Within any trout water buffer area unless it conforms to the requirements of §10-5006(a)(13).
(2) Graded slopes and fills.
The angle for graded slopes and fills*shall* be no greater than the angle which can be retained by vegetative cover or other adequate *erosion* control devices or structures. In any event, slopes left exposed will, within twenty-one (21) calendar days of completion of any *phase of grading* , be planted or otherwise provided with *ground cover* , devices, or structures sufficient to restrain *erosion* .
(Ord. No. 1998-470-TC-175[TC-12-98], §1, 12-1-98; Ord. No. 2006-71-TC-289, §1, TC-11-06, 8-8-06)
(3) Ground cover.
Whenever a*land-disturbing activity* occurs, the *person undertaking* the activity *shall* install such permanent *ground cover* , devices, or structures sufficient to restrain *erosion* and retain *sediment* within the boundaries of the *tract* . Any portion of a *site* upon which further *land-disturbing activity* is not being *undertaken shall* be provided with permanent *ground cover* sufficient to restrain *erosion* within twenty-one (21) calendar days *following completion of construction* except in a *high-quality-water zone* .
(Ord. No. 2006-71-TC-289, §2, TC-11-06, 8-8-06)
(4) General requirements.
a. Prior plan approval.
No*person* *shall* initiate any *land-disturbing activity* if more than twelve thousand (12,000) square feet is to be *uncovered* on the *site* unless thirty (30) or more days prior to the activity an *erosion and sedimentation control plan* for such activity is filed with and approved by the *City* of Raleigh Inspections Department; but this *shall* not restrict the initiation of *land-disturbing activities* when the *plan* is approved and the permit is issued in less than thirty (30) days from initial submission. However, in any reservoir watershed protection area or for relocation of any *natural watercourse* or when off-site *sedimentation* occurs, approved *erosion control plans* are required for smaller areas.
b. Protection of property.
Persons conducting land-disturbing activity shall take all reasonable measures to protect all public and private *property* from damage caused by such activity.
c. More restrictive rules*shall* apply.
Whenever conflicts exist between Federal, state, or local laws, ordinances, regulations, or rules, the more restrictive provision*shall* apply.
(5) Adequate erosion control measures.
Adequate erosion control measures shall be planned, designed, installed, and maintained so as to control *accelerated erosion* and prevent *sedimentation* from leaving the *site* during construction for the maximum calculated peak rates of runoff from the *ten-year storm* and the *twenty-five-year storm* in any *high-quality-water zone* .
Runoff rate calculations*shall* be submitted using two (2) or more of the *following* procedures:
a. National Engineering Field Manual for Conservation Practices. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.: U.S. Government Printing Office, 1975;
b. Design and Construction of Sanitary and Storm Sewers. American Society of Civil Engineers Manual Number 37, New York: American Society of Civil Engineers. (Rational Method);

c. Edgerton, C.R. Handbook of Design for Highway Surface Drainage Structures. Raleigh, North Carolina: North Carolina Department of Transportation, 1973;
d. National Engineering Handbook; §4. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.: U.S. Government Printing Office, August, 1972;
e. "Urban Hydrology for Small Watersheds." Technical Release Number 55, United States Department of Agriculture, Soil Conservation Service, Washington, D.C., U.S. Government Printing Office, January 1975;
f. "A Method for Estimating Volume and Rate of Runoff for Small Watersheds." Technical Paper Number 149, United States Department of Agriculture, Soil Conservation Service, Washington, D.C.: U.S. Government Printing Office, April, 1973;
g. Design of Small Dams. United States Department of Interior, Bureau of Reclamation, Washington, D.C.: U.S. Government Printing Office, Second Edition, Revised Reprint, 1974;
h. Putnam, A.L., "Effect of Urban Development on Floods in the Piedmont Province of N.C.," United States Geological Survey, Raleigh, N.C.: 1972;
i. Chow, Van Te, Editor, Handbook of Applied Hydrology, New York, N.Y.; McGraw-Hill, 1964;
j. Linsley, Jr., Ray K., Max A. Kohler, and Joseph L. H. Paulhus, Hydrology for Engineers. New York, N.Y.: McGraw-Hill, 1958;
k. Viessman, Harbaugh, and Knapp. "Introduction to Hydrology," New York, N.Y.: McGraw-Hill, 2nd Edition, 1972;
Or other generally acceptable hydrologic procedures submitted by a registered professional engineer or registered landscape architect who are qualified in hydrology.
(6) Design and performance standards and guidelines.
a. Copies of design and performance standards which are contained in "Guidelines for Land-Disturbing Activities" as amended from time to time*shall* be published by the *City* and placed on file in the office of the *City* Clerk, *City* Engineer, and Inspections Director. Except as allowed in subsection b. below, all *erosion* control *plans, erosion* control measures, *ground covers,* maintenance, and calculations *shall* be in accordance with the then applicable "Guidelines for Land-Disturbing Activities" and State of North Carolina "Erosion and Sediment Control Planning and Design Manual"; in the event of any conflict, the more stringent regulation *shall* be used.
b. *Erosion control plans* , measures, and *ground covers* designed and submitted by a registered professional engineer or registered landscape architect or registered land surveyor who are qualified in hydrology and shown to have the potential to control *accelerated erosion* and prevent off-site *sedimentation* at least the equivalent of that prescribed in "Guidelines for Land-Disturbing Activities" in effectiveness, safety, quality and durability *shall* be approved.
(7) Existing uncovered areas.
a. All*uncovered* areas existing on the effective date of this chapter which resulted from *land-disturbing activities* and:
1. Exceed twelve thousand (12,000) square feet; or
2. Are subject to continued*accelerated erosion* ; or
3. Are causing off-site damage from*sedimentation shall* be provided with a *ground cover* or other protective measures, structures or devices sufficient to restrain *accelerated erosion* and control off-site *sedimentation* .
b. The Inspections Department*shall* serve upon the landowner a *written* notice of violation by registered or certified mail, return receipt requested, or other means authorized under G.S. 1A-1 Rule 4. The notice will set forth the measures needed to comply with this chapter and will state the time within which such measures must be completed. In determining the measures required and the time allowable for compliance, the technology, quantity and complexity of the work required, and the consequence of delay *shall* be taken

into consideration. The failure to receive such notice *shall* not relieve the landowner from the responsibility of providing *ground cover* .

c. The*City* reserves the right to require preparation and approval of an *erosion control plan* in any instance where extensive control measures are required.

d. This provision*shall* not require *ground cover* on cleared land forming the future basin of a planned reservoir.

Editor's note: *The State Sedimentation Control Commission* approved Ord. No. 1979-247-TC-108 on November 14, 1979.

(8) Downstream protection of discharge points and receiving watercourses.

It is the intent of this chapter that any area of a*land-disturbing activity* and all *receiving watercourses* or *discharge point shall* be permanently protected from *accelerated erosion* caused by increased *velocity* of *stormwater runoff* resulting from a *land-disturbing activity* .

a. *Persons shall conduct land-disturbing activity* so that the post construction *velocity* of the *ten-year storm* runoff in the *receiving water-course* to the *discharge point* does not exceed the greater of:

1. The*velocity* of the *ten-year storm* runoff in the *receiving watercourse* prior to a development; or

2. The*velocity* established by the applicable tables in subsections (i) and (ii) below.

i. The*velocity* specified according to the *following* for a *discharge point* into a *receiving watercourse* with bare soil or rock bed or banks:

TABLE INSET:

	Maximum Permissible Veolcities	
Material	(F.P.S.)	(M.P.S.)
Fine sand (noncolloidal)	2.5	0.8
Sandy loam (noncolloidal)	2.5	0.8
Silt loam (noncolloidal)	3.0	0.9
Ordinary firm loam	3.5	1.1
Fine gravel	5.0	1.5
Stiff clay (very colloidal)	5.0	1.5
Graded, loam to cobbles (noncolloidal)	5.0	1.5
Graded, silt to cobbles (colloidal)	5.5	1.7
Alluvial silts (noncolloidal)	3.5	1.1
Alluvial silts (colloidal)	5.0	1.5
Course gravel (noncolloidal)	6.0	1.8
Cobbles and shingles	5.5	1.7
Shales and hard pans	6.0	1.8

Source: adopted from recommendations by Special Committee on Irrigation Research, American Society of Civil Engineers, 1926, for channels with straight alignment. For sinuous channels, multiply allowable*velocity* by 0.95 for slightly sinuous channels, by 0.9 for moderately sinuous channels, and by 0.8 for highly sinuous channels.

ii. The*velocity* specified according to the *following* for a *discharge point* into a vegetated *receiving watercourse* :

TABLE INSET:

Group No.	Vegetation	Depth of Flow (Feet)	Maximum Permissible Velocity* (F.P.S.)
1	Bermudagrass	t1	4
		u1	6
2	Tall fescue	t1	3
	Reed canarygrass Kentucky bluegrass	u1	6
3	Grass and legumes, mixed	t1	3
	Weeping lovegrass	u1	4
Group No.	Vegetation	Depth of Flow (Feet)	Maximum Permissible Velocity* (F.P.S.)
4	Lespedeza, sericea	t1	2.5
	Red fescue Red top	u1	2.5
5	Annuals:** Annual lespedeza (KOBE)	t1	2.5
	Sundangrass	u1	2.5
	Small grain (rye, oats, barley): Ryegrass		

< = less than

> = greater than

*Do not use on channel slopes steeper than ten (10) per cent, except for side slopes.

**Annuals: use as temporary protection until permanent cover is established.

b. Critical soils.

When the*following* soils (as defined and described in the soil survey of Wake County North Carolina Soil Conservation Service, United States Department of Agricultural, November,

1970) which are especially vulnerable to *erosion* from stormwater discharge from *land-disturbing activities* , occur between a *point of stormwater discharge* and the next confluence of concentrated *stormwater runoff* , such areas, on- or off-site *shall* be protected from *accelerated erosion* by diverting the stormwater discharge from those soil surfaces. Diversion *may* include the provision of piped, paved, or armored *storm drainage facilities* :

1. Applying sandy loam, 10 to 15 per cent slopes (ApP);
2. Cecil sandy loam, 10 to 15 per cent slopes (CeD);
3. Cecil sandy loam, 15 to 45 per cent slopes (CeF);
4. Creedmore sandy loam, 10 to 20 per cent slopes (CrE);
5. Enon fine sandy loam, 10 to 15 per cent slopes (EnD2);
6. Georgeville silt loam, 10 to 15 per cent slopes (GeD2);
7. Granville sandy loam, 10 to 15 per cent slopes (GrD);
8. Helena sandy loam, 10 to 15 per cent slopes (HeD);
9. Herndon silt loam, 10 to 25 per cent slopes (HrD2);
10. Herndon silt loam, 15 to 25 per cent slopes (HrE);
11. Lloyd loam, 10 to 15 per cent slopes (LdD2);
12. Louisburg loamy sand, 10 to 15 per cent slopes (LoD);
13. Made land, (Ma) greater than 4 per cent slopes under actual field conditions;
14. Madison sandy loam, 10 to 15 per cent slopes (MdD2);
15. Madison sandy loam, 15 to 25 per cent slopes (MdE2);
16. Mayodon sandy loam, 10 to 15 per cent slopes (MfD2);
17. Mayodan sandy loam, 15 to 25 per cent slopes (MfE);
18. Mayodan silt loam, 10 to 15 per cent slopes (MyD);
19. Pinkston sandy loam, 10 to 45 per cent slopes (PkF);
20. Wake, 10 to 25 per cent slopes (WkE);
21. Wedowee sandy loam, 10 to 15 per cent slopes (WmD2);
22. Wedowee sandy loam, 15 to 25 per cent slopes (WmE);
23. White Store sandy loam, 10 to 20 per cent slopes (WsE);
24. White Store clay loam, 2 to 15 per cent slopes (WvD3);
25. Wilkes, 10 to 20 per cent slopes (WwE);
26. Wilkes, 20 to 45 per cent slopes (WwF);
27. Wilkes, 15 to 25 per cent slopes (WxE);

Provided, the application of this subsection b*shall* in no instance prevent discharge of stormwater from a *land-disturbing activity site* .

c. General velocity standard.

Any area of a*land-disturbing activity* or *receiving watercourses* subject to *stormwater runoff* velocities in excess of those specified in §10-5006(a)(8)a.1 and 10-5006(a)(8)a.2(i) *shall* be protected from *accelerated erosion* by provision of an *erosion* -resistant lining of vegetation in accordance with §10-5006(a)(8)a.2(ii); provided, armored, paved, or otherwise nonvegetative watercourse lining *shall* be provided anywhere the *velocity* in the *receiving watercourse* exceeds 10-5006(a)(8)a.2(ii) and the prior development *velocity* by ten (10) per cent.

d. Armored.

Armored or otherwise nonvegetatively lined watercourse lining*shall* , in addition to the requirements of subsection c. above, be provided at the storm outlet and for those portions of the *receiving watercourse* which have undergone *land-disturbing activity* .

e. Exception.

Where piped, paved, or armored*storm drainage facilities* connect to existing off-site piped, paved, or armored *storm drainage facilities* or where it can be demonstrated that

stormwater discharge velocities will not create an *erosion* problem in the *receiving watercourse* none of the foregoing provisions of §10-5006(a)(8) *shall* apply.

f. Acceptable management measures.

Measures applied alone or in combination to satisfy the intent of this section are acceptable if there are no objectionable secondary consequences. It is recognized that the management of*stormwater runoff* to minimize or control downstream channel and bank *erosion* is a developing technology. Innovative techniques and ideas will be considered and *may* be used when shown to have the potential to produce successful results. Some alternatives are to:

1. Avoid increases in surface runoff volume and*velocity* by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious,
2. Avoid increases in stormwater discharge velocities by using vegetated or roughened swales and waterways in lieu of closed drains and high*velocity* paved sections,
3. Provide*energy dissipators* at outlets of *storm drainage facilities* to reduce flow velocities to the *discharge point* . These *may* range from simple rip-rapped sections to complex structures,
4. Protect watercourses subject to*accelerated erosion* by improving cross-sections and/or providing *erosion* -resistant lining.

(9) Impoundments.

The provisions of the followingparagraph are not required for any *land-disturbing activity undertaken* after May 30, 1979. Provided, the provisions of the *following* paragraph *shall* remain in effect for all *sites* of *land-disturbing activities* for which stormwater impoundments were required or constructed prior to May 30, 1979, unless and until *plans* are approved and construction completed meeting the requirements of §10-5006(a)(8)a. to f. for any such *site* and *storm drainage facilities* constructed in conjunction with the *land-disturbing activity* for which the impoundment was required.

"After the*completion of construction* on each land-disturbing *site* to which this ordinance applies, provisions *shall* be made, on or off the *site* , for the impoundment, during storms, of that quantity of the natural liquid runoff from the *site* which is equal to the calculated difference between the amount of runoff which would result from a two- *year* frequency storm on that land if it were zoned and developed for residential purposes at a density no greater than four (4) families per acre and that which would result from a storm of the same frequency on the same land if developed to the degree for which it is actually zoned; provided, no impoundments *shall* be required of runoff from *sites* developed for residential purposes at a density of four (4) families per acre or less; provided further, part of the space, including parking areas, otherwise required by law to be left opened, *may* be jointly used to satisfy the impounding requirements herein; provided still further, this standard *shall* not apply to *sites* of two (2) acres or less in size unless such *site* is part of a larger subdivision or other project area which, when fully developed, would generate a more significant amount of run-off, provided still further again, *properties* of two (2) acres or less in size, separated, by conveyance, prior to October 20, 1973, *shall* not be deemed to be parts of larger subdivisions or other project areas. All calculations and *plans* for impoundment structures and areas must receive the approval of the Chief Engineer of the *City* or his staff, before any building permit *may* be issued."

Sites for which individual or centralized stormwater impoundments have been required or constructed according to the paragraph stated above prior to May 30, 1979, *shall* be exempt from the requirements of §10-5006(a)(8) but in lieu thereof *shall* :

a. Protect on-site drainage ways from*erosion* by providing *erosion* resistant channels or underground pipes to and within the impoundment facility;

b. Protect off-site areas from*sedimentation by utilizing the impoundment facility to trap and store sediment* ; and

c. Maintain the stormwater impoundment and applicable restrictive covenants;
d. Meet the requirements of §10-5006(a)(8) if either off-site*sedimentation* occurs or *may* occur or if further development occurs on the *tract* served by the impoundment device.
(10) Operations in lakes or natural watercourses.
The relocation of a*natural watercourse shall* meet the provisions of §10-5006(a)(8)a. to f., and *shall* minimize changes to the stream flow characteristics. Any *land-disturbing activity* in connection with construction in, on, over, or under a *lake or natural watercourse shall* be planned and *conducted* in such a manner so as to minimize the extent and duration of disturbance of the stream channel and to prevent off-site *sedimentation* but no relocation *shall* occur in natural resource buffer yards of Reservoir Watershed Protection Area Overlay District, Urban Water Supply Watershed Protection Area Overlay District and Metro Park Protection Overlay District and of Conservation Management Districts.
(Ord. No. 2005-817-TC-267, §14, TC-7-05, 4-19-05)
Cross references:*Buffer zones* for *natural watercourses* , §10-5006(a)(1), Part 10, Chapter 9, Article B, Division 2, §10-9040--§10-9044. (Ord. No. 2001-991-TC-206, §26, TC-8-00, 5-1-01)
State law reference: Obstruction of streams and drainage ditches,*G.S.* 77-13, 77-14. Neuse river basin: nutrient sensitive waters management strategy: protection and maintenance of riparian areas, 15A North Carolina Administrative Code 2B.0233.
(11) Reservoir Watershed Protection Area Overlay District and Conservation Management District regulations.
a. Natural Resource Buffer Yards within Reservoir Watershed Protection Area Overlay Districts and the Conservation Management District.
The establishment of and the uses permitted in the natural resource buffer yards are set forth in §§10-9040 through 10-9043. Within the Reservoir Watershed Protection Area Overlay District shown on the official zoning map and reflected on the current comprehensive plan of the*City* and the Conservation Management District, natural resource buffer yards are established along primary watercourses and secondary watercourses. These natural resource buffer yards provide an area where stormwater flows in a diffuse manner so that the runoff does not become channeled and infiltration of the stormwater and filtering of pollutants can take place.
b. ***Impervious surface coverage*** **in the Reservoir Watershed Area Protection Overlay District.**
1. For all lots or portions of lots in existence prior to the application of this regulation* or lots established outside the subdivision process after that date, no additional*impervious surface* may be added to the *property* , which would result in greater coverage by *impervious surface* than allowed by the *following* table:
*Editor's note: This regulation was made applicable by Ord. No. 1988-133-TC-305, TC-27-87, §§27, 28 3-1-88. See also: Ord. No. 1988-105-TC-304, TC-24-87, §§7, 8, 1-5-88; Ord. No.1985-511-TC-232, TC-270, §6, 3-5-85.
MAXIMUM IMPERVIOUS SURFACE LIMITS IN RESERVOIR WATERSHED PROTECTION AREA OVERLAY DISTRICT AND REQUIRED MEASURES*
TABLE INSET:

Area	Without Stormwater Control Measures	With Retention Detention, or Capture First Half Inch of Runoff	With Wet Ponds Capturing First Inch of Rainfall

Primary water supply watershed protection areas of this Overlay District	6%; or 3,500 sq. ft. if this is not more than 12%	N/A	N/A
Secondary water supply watershed protection areas of this Overlay District not connected to both *City* water and sewer utilities	12%; or 3,500 sq. ft. if this is not more than 24%	N/A	N/A
Secondary water supply watershed protection areas of this Overlay District with connections to both *City* water and sewer utilities	12%; or 3,500 sq. ft. if this is not more than 24%	24%	30% or 3,500 sq. ft. if this is not more than 50%; 70% in areas designated in the Comprehensive Plan for higher impervious surfaces

*Exemptions see subsection e. below.

(Ord. No. 1993-297-TC-69, §2, 12-7-93; Ord. No. 2005-817-TC-267, §15, TC-7-05, 4-19-05)

2. *Impervious surfaces shall* include all proposed public and private *streets* within the development approved after application of this ordinance*, and all *impervious surfaces* on any lot and common area. Calculation of the area of the development *shall* include all subdivision lots, new *street* rights-of-way established after application of this ordinance, and common areas, if any, within the watershed. Calculation of the area of the development *shall* exclude any widening of existing *street* rights-of-way, existing *street* rights-of-way and new *street* rights-of-way reserved in accordance with either §10-3019 or the Roadway Corridor Official Map Act, Chapter 136 Article 2E of the General Statutes.

*Editor's note: This ordinance was first applied on June 20, 1993

(Ord. No. 1993-218-TC-60, §24, TC-10-93, 6-15-93)

3. All lots established under the subdivision ordinance after the application of this Overlay District,*shall* comply with the impervious lot coverage standards in §10-3052(a).

4. Substitutions of*impervious surfaces* done in accordance with §10-2146.2 (a)(5) are allowed.

c. Required Stormwater Measures.

1. Stormwater retention, detention, and capture. Within any secondary watershed protection area of the Reservoir Watershed Protection Area Overlay District those lots which are connected to both *City* water and sewer utilities and have a total maximum *impervious surface* of more than three thousand five hundred (3,500) square feet may have an impervious coverage of more than twelve (12) per cent and less than twenty-four (24) per cent; provided that, the first one-half (1/2) inch of stormwater which directly or indirectly runs off the surfaces, in excess of twelve (12) per cent, from said lot is:

(i) retained for either infiltration into the soil or for evaporation into the air; or

(ii) detained for at least a twelve-hour period; or

(iii) captured by a wet pond in accordance with the table in subsection 2. below, and applicable regulations.

Additional*impervious surface* coverage is allowed in secondary reservoir watershed protection areas when the first inch of rainfall (including the amount from the first twenty-four

(24) per cent *impervious surface* coverage) is captured by a wet pond in accordance with all applicable regulations of subsection 3. below.

2. *Stormwater runoff from streets* . Where *impervious surface* coverage is equal to or less than twelve (12) per cent in any primary water supply watershed protection area or equal to or less than twenty-four (24) per cent in any secondary water supply watershed protection area of the Reservoir Watershed Protection Area Overlay District, the first one-half (1/2) inch of stormwater which directly or indirectly runs off any public or private *street shall* be contained within the development in accordance with the retention, or detention, or capture methods set forth in (i) through (iii) of subsection c.1. above. Where *impervious surface* coverage is greater than twelve (12) per cent in any primary water supply watershed protection area, or greater than twenty-four (24) per cent in any secondary water supply watershed protection area of the Reservoir Watershed Protection Area Overlay District, the first one (1) inch of rainfall from public or private *streets* , including rights-of-way, *shall* be captured in a wet pond in accordance with subsection 3. below.

(Ord. No. 2005-817-TC-267, §16, TC-7-05, 4-19-05

3. *Wet Ponds* . The first inch of rainfall within the development *shall* be captured in a wet pond of standing water when impervious surfaces exceed twenty-four (24) per cent in secondary reservoir watershed protection areas of the Reservoir Watershed Protection Area Overlay District. The capture of the first inch of rainfall *shall* be from the entire development, including all portions of *impervious surfaces* .

Except if located in areas designated in the Comprehensive Plan for higher *impervious surfaces* , the maximum per cent of *impervious surface* coverage in those portions of the secondary reservoir watershed protection areas connected to both *City* water and sewer utilities *shall* not exceed thirty (30) per cent unless the *impervious surface* coverage is three thousand five hundred (3,500) square feet per lot or less; in such instances the maximum *impervious* [*surface*] coverage allowed *shall* not exceed fifty (50) per cent. When the development is located in portions of secondary reservoir watershed protection areas that are specifically designated in the Comprehensive Plan for higher *impervious surfaces* , the maximum *impervious surface* coverage *shall* not exceed seventy (70) per cent; provided, that the *property* is connected to both *City* water and sewer utilities. No more than five (5) per cent of the land area within any one (1) secondary reservoir watershed protection area may be developed with an *impervious surface* coverage in excess of fifty (50) per cent unless approved by the North Carolina Environmental Management Commission.

Editor's note: As of August 1, 2002, the total estimated amount of acreage representing five (5) per cent of the land within the jurisdiction of the*City* in the secondary reservoir watershed protection area of the Swift Creek Watershed Basin is two hundred thirty (230) acres, and within the secondary reservoir watershed protection area of the Falls Watershed Basin is ninety (90) acres. (Ord. No.1993-218-TC-60, §24 TC-10-93, 6-15-93; Ord. No. 2003-373-TC-231, §41, TC-23-02, 2-4-03)

(i) All wet pond design specifications and requirements are found within the*City* of Raleigh Stormwater Design Manual.

(Ord. No. 691-TC-360, §§2--4, TC-12-90, 12-16-90; Ord. No. 2005-817-TC-267, §17, TC-7-05, 4-19-05)

(ii) The wet ponds*shall* be designed to remove eighty-five (85) per cent of the total suspended solids from a one (1) inch rainfall.

(iii) Vegetative filters, of at least thirty (30) feet in length, are required for the overflow and discharge of the wet pond.

(iv) The design storage volume*shall* be above the permanent pool.

(v) The discharge rate*following* the one (1) inch rainfall design storm *shall* be such that the runoff does not draw down to the permanent pool level in less than forty-eight (48) hours

and that the pond is drawn to the permanent pool level within one hundred and twenty (120) hours.

(vi) The inlet structure minimizes turbulence by using baffles or other appropriate design features.

(vii) To minimize*sedimentation* and eutrophication of the detention pond, runoff *shall* be pretreated by the use of infiltration swales and other appropriate design features.

State law reference: Title 15A N.C. Admin. Code Chapter 2H.1000 subsections (g)(2), (i), (k), and (l).

d. Maintenance of stormwater control measures.

When retention devices, detention devices, or wet ponds serve more than one (1) lot and are located on private property, there *shall* be recorded a maintenance agreement which complies with §10-5007(c) for sharing the maintenance costs. There *shall* also be recorded, after approval by the *City* , in the Wake County Registry, a map showing the location of the retention device, detention device, or wet pond on the lot; said map *shall* bear the *following* note:

"The devices and ponds which control stormwater located on this lot are required to be maintained by the*property owner* in accordance with the requirements of the Raleigh *City* Code."

No retention device, detention device, or wet pond*shall* be installed except in accordance with the requirements of the Raleigh *City* Code.

In addition to any other required maintenance agreement, any*person* who elects to install any stormwater measure set forth in subsection c. above *shall* enter into an agreement with the *City* . The agreement *shall* contain the *following* provisions:

l. Acknowledgment that the*owner shall* continuously operate and maintain the stormwater control measure.

2. Establishment of an escrow account which can be spent solely for*sediment* removal, structural replacement, major repair, or reconstruction of the stormwater control measures of the particular *site* plan or subdivision. If control measures are not performing adequately or as intended or are not properly maintained, the *City* , in its sole discretion, *may* remedy the situation, and in such instances the *City shall* be fully reimbursed from the escrow account. Escrowed funds *may* be spent by the *owner* of the stormwater control measure for *sediment* removal, structural replacement, major repair, and reconstruction of the stormwater control measure; provided that, the *City shall* first consent to the expenditure.

The escrow account*shall* be funded by both developer contribution and annual sinking funds. Prior to plat recordation or issuance of construction permits, whichever *shall* first occur, the developer *shall* pay into the escrow account an amount equal to fifteen (15) per cent of the initial construction cost of the control measure. As determined from the sinking fund budget set forth in §10-5007(c)(4), two-thirds (2/3) of the total amount of sinking fund budget *shall* be deposited into the escrow account within the first five (5) *years* and the full amount *shall* be deposited within ten (10) *years following* initial construction of the stormwater control measure. Moneys *shall* be deposited each *year* into the escrow account. If a *property owner* s association is established to maintain the stormwater control measures, then a portion of the annual assessments of the association *shall* include an allocation into the escrow account. Any funds drawn down from the escrow account *shall* be replaced in accordance with the schedule of anticipated work used to create the sinking fund budget.

The per cent of developer contribution and lengths of time to fund the escrow account*may* be varied by the *City* depending on the design and materials of the stormwater control measures.

3. Granting to the*City* a right of entry to inspect, monitor, maintain, repair, and reconstruct the stormwater control measures.

4. Allowing the*City* to recover from the *owner* any and all costs the *City* expends to maintain or repair the stormwater control measure or to correct any operational deficiencies. Failure to pay to the *City* all of its expended costs, after forty-five-days *written* notice, *shall* constitute a breach of the agreement. The *City* *shall* thereafter be entitled to bring an action against the *owner* personally obligated to pay, or foreclose upon the lien herein authorized by the agreement against the *property* , or both in the case of a deficiency. Interest, collection costs, and attorney fees *shall* be added to the recovery.
5. A statement that this agreement*shall* not obligate the *City* to maintain or repair any stormwater control measure, and that the *City shall* not be liable to any private *person* for the condition or operation of the stormwater control measure.
6. A statement that this agreement*shall* not in any way diminish, limit, or restrict the right of the *City* to enforce any of its ordinances as authorized by law.
Cross reference: Stormwater control measures in Reservoir Watershed Protection Overlay District for new subdivisions, §10-3051(c) and §10-3052.
e. Exemptions.
1. The *impervious surface* coverage limitations and stormwater retention, detention, and capture requirements within the secondary watershed protection area of the Reservoir Watershed Protection Area Overlay District are inapplicable to any *street* , right-of-way, lot, or improvement thereon if its stormwater runoff flows by gravity to a watercourse located outside the Overlay District. All gravity flow drainage plans *shall* be approved by the Soil Conservation Division of the *City* .
2. The*impervious surface* coverage limitations and stormwater retention, detention, and capture requirements are inapplicable to a lot separated by deed conveyance prior to June 20, 1993; provided that, the lot is developed for a single-family dwelling with no more than three thousand five hundred (3,500) square feet of *impervious surfaces* and the *owner* does not own any other contiguous real *property* which could be recombined in accordance with §10-3005.
f. Forestation of Lots Located Within Reservoir Watershed Protection Area Overlay Districts.
1. Except as otherwise provided in subsection 2. through 4. below, every lot located within a reservoir watershed protection area overlay district*shall* provide and maintain an area set aside for trees equal to at least forty (40) per cent of the lot area. Within this area, trees *shall* either be preserved or planted in accordance with this subsection. Tree areas *may* be one contiguous area or scattered areas throughout the lot, but no required tree area *shall* be less than one-fifth (1/5) of the total gross land area required to be set aside for trees. All areas required herein to be set aside for trees *shall* be wooded. Wooded areas *may* consist of either areas where *active tree preservation* is observed or tree planting areas. Each active tree preservation area must contain a minimum of two (2) inches of tree caliper (6.25 inches of circumference) per every 100 square feet, and within such areas, active tree preservation, as defined in §10-2002(b), *shall* be followed. Areas that are set aside for trees that do not meet the standards for active tree protection areas must be planted with shade trees, as defined in §10-2002(b). The minimum size of new tree plantings used to fulfill this requirement shall be 3/8-inch caliper (1.17 inches of circumference), and such trees *shall* be planted at a rate of two (2) inches of tree caliper (6.25 inches of circumference) per every 100 square feet.
2. For lots located within areas designated "New Urban Residential" by the Swift Creek Land Management Plan of the*City* 's Comprehensive Plan, the regulations for subparagraph 1. above *shall* apply with the exception that lots *shall* provide and maintain an area set aside for trees equal to at least twenty-five (25) per cent of the lot area.
3. For lots located within cluster unit developments, areas set aside for trees*may* in lieu of being situated on the individual dwelling lots *may* instead be located within open space lots

which are common areas of the homeowners association, provided that, the overall acreage set aside for trees is not diminished.

4. The requirements of subsection f.*shall* not apply to lots devoted exclusively to stormwater control measures or to those lots located in those areas of the Comprehensive Plan designated for *impervious surfaces* in excess of thirty (30) per cent.

State law references:*G.S.* 143-214.5 and 15A N.C. Admin. Code 2B; 1985 Sessions Laws, Chapter 556.

(12) Urban Water Supply Watershed Protection Area Overlay District Regulations.

a. Natural Resource Buffer Yards Within Urban Water Supply Watershed Protection Area Overlay Districts.

The establishment of and the uses permitted in the natural resource buffer yards are set forth in §§10-9040 through 10-9044. Within the Urban Water Supply Watershed Protection Area Overlay District shown on the official zoning map and reflected on the current comprehensive plan of the*City* , natural resource buffer yards are established along all perennial watercourses. These natural resource buffer yards provide an area where stormwater flows in a diffuse manner so that the runoff does not become channeled and infiltration of the stormwater and filtering of pollutants can take place.

b. ***Impervious Surface Coverage*** **in the Urban Water Supply Watershed Protection Area Overlay District.**

1. For all lots or portions of*lots* in existence prior to the application of this regulation* or lots established outside the subdivision process after that date, no additional *impervious surface may* be added to the *property* , which would result in greater coverage by *impervious surface* than allowed by the *following* table:

*Editor's note: This regulation was enacted on April 19, 2005, [Ord. No. 2005-817-TC-267, TC-7-05] and first because applicable on April 24, 2005.

MAXIMUM IMPERVIOUS SURFACE LIMITS IN URBAN WATER SUPPLY WATERSHED PROTECTION AREA OVERLAY DISTRICT AND REQUIRED MEASURES*

TABLE INSET:

Area	Without Stormwater Control Measures	With Retention, Detention, or Capture First Inch of Rainfall
Primary water supply watershed protection areas of this Overlay District	24% or two dwelling units of a *single family* detached development per acre (or 20,000 square foot lot excluding road way right-of-way)	50%
Secondary water supply watershed protection areas of this Overlay District	24% or two dwelling units of a *single family* detached development per acre (or 20,000 square foot lot excluding roadway right-of-way) or three dwellings per acre or 36 per cent built upon area for projects without curb and gutter *street* systems	70%
* Exemptions see subsection f. below.		

Land*shall* be deemed compliant with the intensity requirements if the *following* condition is met: The intensity of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire area.

2. *Impervious surfaces shall* include all proposed public and private *streets* within the development approved after application of this ordinance*, and all *impervious surfaces* on any lot and common area. Calculation of the area of the development *shall* include all subdivision lots, new *street* rights-of-way established after application of this ordinance, and common areas, if any, within the watershed. Calculation of the area of the development *shall* exclude any widening of existing *street* rights-of-way, existing *street* rights-of-way and new *street* rights-of-way reserved in accordance with either §10-3019 or the Roadway Corridor Official Map Act, Chapter 136 Article 2E of the General Statutes.

*Editor's note: This ordinance was enacted on April 19, 2005, [Ord. No. 2005-817-TC-267, TC-7-05] and first became applicable on April 24, 2005.

3. All*lots* established under the subdivision ordinance after the application of this Overlay District, *shall* comply with the impervious lot coverage standards in §10-3052.1(a).

4. Substitutions of*impervious surfaces* done in accordance with §10-2146.2 (a)(5) are allowed.

c. Required Stormwater Measures.

1. Stormwater retention, detention, and capture. Within any primary or secondary watershed protection area of the Urban Water Supply Watershed Protection Area Overlay District those lots which are connected to both*City* water and sewer utilities and have a total impervious coverage of more than twenty-four (24) per cent; provided that approved engineered stormwater controls *shall* control runoff from the first one (1) inch of rainfall which directly or indirectly runs off the surface, in excess of twenty-four (24) per cent from said lots is:

(i) Retained for either infiltration into the soil or for evaporation into the air; or

(ii) Detained for at least a twelve-hour period; or

(iii) Captured by a wet pond in accordance with applicable regulations.

All engineered stormwater controls*shall* be in strict compliance with the *City* of Raleigh Stormwater Design Manual.

2. *Stormwater runoff from streets.* Where *impervious surface* coverage is greater than twenty-four (24) per cent, the first inch of stormwater which directly or indirectly runs off any public or private *street* , including *rights of* way, *shall* be contained within the development in accordance with the retention, or detention, or capture methods set forth in (i) through (iii) of subsection c.1. above.

d. Maintenance of Stormwater Control Measures.

When retention devices, detention devices, or wet ponds serve more than one (1) lot and are located on private*property* , there *shall* be recorded a maintenance agreement which complies with §10-5007(c) for sharing the maintenance costs. There *shall* also be recorded, after approval by the *City* , in the Wake County Registry, a map showing the location of the retention device, detention device, or wet pond on the lot; said map *shall* bear the *following* note:

"The devices and ponds which control stormwater located on this lot are required to be maintained by the*property owner* in accordance with the requirements of the Raleigh *City* Code."

No retention device, detention device, or wet ponds*shall* be installed except in accordance with the requirements of the Raleigh *City* Code.

In addition to any other required maintenance agreement, any*person* who elects to install any stormwater measure set forth in subsection c. above *shall* enter into an agreement with the *City* . The agreement *shall* contain the provisions set forth in §10-5006(a)(11)d subparagraphs 1 through 6.

Cross reference: Stormwater control measures in Water Supply Watershed Protection Overlay District for new subdivisions, §10-3051(c), §10-3052 and §10-3052.1.

e. Exemptions.

1. The*impervious surface* coverage limitations and stormwater retention, detention, and capture requirements within the secondary water supply watershed protection area of the Urban Water Supply Watershed Protection Area Overlay District are inapplicable to any *street* , right-of-way, lot, or improvement thereon if its stormwater runoff flows by gravity to a watercourse located outside the Overlay District. All gravity flow drainage plans *shall* be approved by the Stormwater Services Division of the *City* .

2. The*impervious surface* coverage limitations and stormwater retention, detention, and capture requirements are inapplicable to a lot separated by deed conveyance prior to Z-_____-05, provided that, the lot is developed for a *single-family dwelling* with no more than three thousand five hundred (3,500) square feet of *impervious surfaces* and the *owner* does not own any other contiguous *real property* which could be recombined in accordance with §10-3005.

State law references:*G.S.* 143-214.5 and 15A N.C. Admin. Code 2B, Section .0216; 1985 Sessions Laws, Chapter 556.

(13) High-quality-Water Zones.

Within*high-quality-water (HQW) zones* the *following* additional design standards *shall* apply:

a. *Uncovered* areas in HQW zones *shall* be limited at any time to a maximum total area within the boundaries of the *tract* of twenty (20) acres. Only the portion of the *land-disturbing activity* within an HQW zone *shall* be governed by this section. Larger areas *may* be *uncovered* within the boundaries of the *tract* with the *written* approval of both the the Director of the Division of Land Resources of the North Carolina Department of Environment, Health, and Natural Resources and the Raleigh *City Council* .

b. *Sediment* basins with HQW zones *shall* be designed and constructed such that the basin will have a settling efficiency of at least seventy (70) per cent for the 40 micron (0.04mm) size soil particle transported into the basin by the runoff of that two- *year* storm which produces the maximum peak rate of runoff as calculated according to procedures required by §10-5006(a)(5).

c. Newly constructed open channels in HQW zones*shall* be designed and constructed with side slopes no steeper than 2 horizontal to 1 vertical if vegetative cover is *used for* stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners. In any event, the angle for side slopes *shall* be sufficient to restrain *accelerated erosion* .

Cross references:*Ground cover* in a *high-quality-water zone* §10-5006(a)(3); regulatory storm used to calculate *stormwater runoff* in a *high-quality-water zone* §10-5006(a)(5).

(14) Trout Buffers:

Without trout waters as shown on maps on file with the Inspections Department, the*following* additional regulations *shall* apply:

a. The twenty-five (25) foot minimum width for an undisturbed*buffer zone* adjacent to designated trout waters required by §10-5006(a)(1) *shall* be measured horizontally from the top of the bank.

b. Where a temporary and minimum disturbance is permitted as an exception by §10-5006(a)(1) of this chapter,*land-disturbing activities* in the *buffer zone* adjacent to designated trout waters *shall* be limited to a maximum of ten (10) per cent of the total length of the *buffer zone* within the *tract* to be distributed such that there is not more than one hundred (100) linear feet of disturbance in each one thousand (1,000) linear feet of *buffer zone* . Larger areas *may* be disturbed with the *written* approval of both the the

Director of the Division of Land Resources of the North Carolina Department of Environment, Health, and Natural Resources and the Raleigh *City Council* .
c. No*land-disturbing activity shall* be *undertaken* within a *buffer zone* adjacent to designated trout waters that will cause adverse temperature fluctuations, as set forth, as *may* be amended, in Title 15 North Carolina Administrative Code Chapter 28, Section .0211 "Fresh Surface Water Classification and Standards", in these waters.
(15) Keep Dirt and Mud Off Public Streets.
The accumulation of more than one thirty-second (1/32) inch of dirt, mud, or both on any public*street* measured six (6) feet from an entrance or exit of any *land-disturbing activity shall* be prohibited.
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1979-266, §1; Ord. No. 1985-511-TC-232, §§25--28, 3-5-85; Ord. No. 1985-661-TC-252, §2, 11-5-85; Ord. No. 1985-700-TC-260, §§3, 4, 12-17-85; Ord. No. 1987-950-TC-287, §§9--23, 4-7-87; Ord. No. 1988-133-TC-305, §§4, 16--20, 3-1-88; Ord. No. 1988-238-TC-321, §§2--7, 9-6-88; Ord. No. 1989-452-TC-346, §1, 11-7-89; Ord. No. 1991-879C-TC-386, §§5--10, 11-19-91; Ord. No. 1992-110-TC-41, §§6--21, TC-18-92, 12-8-92; Ord. No. 1993-218-TC-60, §§21--24, TC-10-93, 6-15-93; Ord. No. 1993-297-TC-69, §§3, 4, 12-7-93; Ord. No. 1995-760-TC-122, §§55, 56, TC-20B-95, 11-21-95; Ord. No. 1997-137-TC-153, §§128--133, TC-18-96, 6-17-97; Ord. No. 1997-219-TC-157, §1, TC-14-97, 10-21-97; Ord. No. 2000-746-TC-191, TC-4-00, §§2--7, 3-7-00; Ord. No. 2001-991-TC-206, §§25--28, TC-8-00, 5-1-01; Ord. No. 2002-320-TC-230, §§ 1, 2, TC-19-02, 11-6-02; Ord. No. 2003-373-TC-231, §40, TC-23-02, 2-4-03; Ord. No. 2005-817-TC-267, §18, TC-7-05, 4-19-05)

Sec. 10-5007. RESPONSIBILITY FOR PROVISION OF MAINTENANCE OF GROUND COVER AND ADEQUATE EROSION CONTROL MEASURES.

(a) During the development of a*site* , any *person undertaking the land-disturbing activity shall* install and maintain all temporary and permanent *erosion* and *sedimentation* control measures as required by the approved *plan* , any provision of this chapter, the *Act* , or any order adopted pursuant to this chapter or the *Act* . After *site* development, the land *owner* or *person* in possession or control of the land *shall* install and/or maintain all necessary permanent *erosion* and *sediment* control measures, except those measures installed within a road or *street* right-of-way or easement accepted for maintenance by a governmental *agency* . Whenever a permanent *erosion* and *sediment* control measure is washed out or is otherwise disabled the land *owner* or *person* in possession or control of the land *shall* replace the permanent *erosion* and *sediment* control measure within fifteen (15) working days or thirty (30) calendar days, whichever period is shorter, unless a longer period of time is allowed in writing by the Inspections Department of the *City.*
(b) Whene*nergy dissipators* or other *adequate erosion control measures* serve more than one (1) lot and are located on private *property* , they *shall* be located on a lot or lots which are as large or larger in size than the typical lot size within the development. There *shall* be recorded, after approval by the *City* , in the Wake County Registry a map of those lots and said map *shall* bear the *following* note:
"The*energy dissipator* which controls stormwater velocities, stormwater retention or detention devices, and other *erosion* control measured located on this lot are required to be maintained by the *property* owner or *owners* for that portion of the device on his lot in accordance with the requirements of the Raleigh *City* Code."
(c) Whenever an impoundment, or retention, or detention device serves more than one (1) lot, prior to the recording of any lot served by the device, a maintenance covenant,*shall* be recorded in the Wake County Registry.
All maintenance agreements*shall* contain without limitation the *following* provisions:

(1) A description of the*property* on which the device is located and all easements from the *site* to the device;
(2) Size and configuration of the device;
(3) A statement that*properties* which will be served by the device are granted rights to construct, use, inspect, replace, reconstruct, repair, maintain, access to the device and to transport, store, and discharge stormwater to and from the device;
(4) A statement that each lot served by the device is jointly or severally responsible for repairs and maintenance of the device and any unpaid ad valorem taxes, public assessments for improvements and unsafe building and public nuisance abatement liens charged against the device, including all interest charges together with attorney fees, cost and expenses of collection. A right of contribution in favor of each owner*shall* be included in the maintenance agreement. That failure to maintain stormwater control measures is a violation of the *City* Code potentially subjecting each *lot owner* subject to this legal document to significant daily civil penalties and other enforcement actions.
(5) If an association is delegated these responsibilities, then membership into the association*shall* be mandatory for each parcel served by the device and any successive owner, the association *shall* have the power to levy assessments for these obligations, and that all unpaid assessments levied by the association *shall* become a lien on the individual parcel. Common expenses include maintenance of stormwater control measures, premiums for liability insurance in an amount of not less than one million dollars ($1,000,000.00) of coverage, and funds required to be contributed to either the recorded Stormwater Replacement Protection Easement and access Maintenance Agreement with the *City* in accordance with §10-9027(c) or any escrow agreement required by §10-5006(b)(11)d., if any.
(6) An operation and maintenance*plan* or manual, together with a budget, *shall* be provided by the initial developer. The *plan* or manual *shall* indicate what operation and maintenance actions are needed, and what specific quantitative criteria will be used to determine when those actions are to be undertaken. The *plan* or manual must indicate the steps that will be taken to restore a stormwater system to design specifications if a failure occurs. The budget *shall* include both annual costs such as routine maintenance, periodic sediment removal and replenishment of rip-rap, insurance premiums, taxes, mowing and reseeding, required inspections, and a sinking fund for structural; biological; or vegetative replacement of the stormwater control facilities , major repair and replacement repair of the stormwater control facilities, and other cost exceeding one-third (1/3) the initial construction cost of the stormwater control facilities. These required documents *shall* be attached to the property association declaration as an exhibit; and
(7) A statement that stormwater control measures*shall* be maintained in accordance with the attached stormwater operations and maintenance manual and budget, and at all times the stormwater control measures *shall* comply with all applicable laws, ordinances, regulations, rules and directives of governmental authorities, and that the stormwater control measures *shall* perform as designed.
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1985-511-TC-232, §29, 3-5-85; Ord. No. 1987-950-TC-287, §24, 4-7-87; Ord. No. 1993-218-TC-60, §25, TC-10-93, 6-15-93; Ord. No. 1999-647-TC-185, §15, TC-7-99, 10-6-99; Ord. No. 2000-746-TC-191, TC-4-00, §9, 3-7-00; Ord. No. 2003-432, §§30--33, TC-1-03, 4-15-03)

Sec. 10-5008. LAND-DISTURBING ACTIVITY PERMITS AND SOIL EROSION AND SEDIMENTATION CONTROL PLANS REQUIRED.

All*land-disturbing activity* permits *shall* be obtained from the Department of Inspections and plans approved pursuant to Article C of Part 10, Chapter 6 of this Code. Said

regulations are incorporated into and made a part of this chapter. No *person* *shall* initiate any *land-disturbing activity* in any Reservoir Watershed Protection Area, Overlay District in any watercourse natural buffer yard established pursuant to Part 10, Chapter 9, Article B, Division 2, in open space areas, as defined by §10-9002, or to relocate any *natural watercourse,* or in any other area if more than twelve thousand (12,000) square feet is to be *uncovered* unless, thirty (30) or more days prior to the anticipated date for initiating the activity, an *erosion and sedimentation control plan* for such activity is filed with and approved by the Inspections Department; but this *shall* not restrict the initiation of *land-disturbing activities* when the *plan* is approved and the permit is issued in less than thirty (30) days from initial submission. No permit authorized by this Code *shall* be issued until the boundaries encompassing a work site adjacent to any Reservoir Watershed Protection Area Overlay District, watercourse natural resource buffer, trout water buffer, watercourse natural resource buffers in a Metro Park Protection Overlay Zoning District, or in a Conservation Management District, a high-quality water zone, any tree protection limits of any Metro Park Protection Overlay Zoning District, Conservation Management Zoning District, Thoroughfare Zoning District, and Special Highway Overlay Districts, or any area where vegetation is required to be maintained by a conditional use zoning district or an approved site plan are clearly and accurately demarked by a protective fence in the field. The location and extent of all authorized *land-disturbing activities shall* be similarly demarcated for so long as any *land-disturbing activity* continues. The *following* table summarizes the *plan* approval process required in Part 10 of this Code.
TABLE INSET:

Size of Site	Less than 12,000 sq. ft.	Between 12,000 sq. ft. and 1 acre (43,560 sq. ft.)	Greater than 1 acre (43,560 sq. ft.)
Plan required to be prepared and filed with:			
City of Raleigh	No*	Yes	Yes
Plan approval required prior to commencement of land disturbance	No*	Yes	Yes

*The *City* has the right to require preparation and approval of *soil erosion and sedimentation control plans* where off-site *sedimentation* occurs; *soil erosion and sedimentation control plans* are required for any *land-disturbing activity* in any Reservoir Watershed Protection Area Overlay District, in any watercourse natural buffer yard established pursuant to Part 10, Chapter 9, Article B, Division 2, in open space areas, as defined in §10-9002,and any relocation of any *natural watercourse.*
(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1985-511-TC-232, §§30, 31, 3-5-85; Ord. No. 1985-603-TC-243, §1, 7-2-85; Ord. No. 1985-700-TC-260, §5, 12-17-85; Ord. No. 1987-950-TC-287, §§27, 28, 4-7-87; Ord. No. 1992-110-TC-41, §23, TC-18-92, 12-8-92; Ord. No. 1996-808-TC-126, §5, TC-31-95, 1-16-96; Ord. No. 2000-746-TC-191, TC-4-00, §10, 3-7-00; Ord. No. 2001-991-TC-206, §§29--31, TC-8-00, 5-1-01)

Editor's note: Ord. No. 1992-110-TC-41, §23, TC-18-92, redesignated §10-5009 as §10-5008 and redesignated §10-5008 as §10-5009.

Sec. 10-5009. ADDITIONAL MEASURES.

(a) Whenever the*City* determines that off-site *sedimentation may* occur or is occurring as a result of a previous or on-going *land-disturbing activity* , despite application and maintenance of protective practices, the *person undertaking the land-disturbing activity* or the *person* responsible for maintenance will be required to and *shall* provide further *adequate erosion control measures* .

(b) The Department of Inspections*shall* serve one (1) or more of the *following:* any *person undertaking a land-disturbing activity* or the *person* responsible for maintenance, or any of their appointed agents, *written* notice of violation with this section, specifying the noncompliance. Service *shall* be done in any of the *following* ways: Registered mail, certified mail return receipt requested, personal service, or any other means authorized under *G.S.* 1A-1, Rule 4. The notice *shall* set forth the measures needed to come into compliance and *shall* state the time within which such compliance must be completed and warn that failure to correct the violation within the time period will result in the additional civil and criminal penalties for a continuing violation. Alternative equivalent measures *may* be submitted and, if approved by the *City* , must be completed within the time period stated for compliance. In determining the measures required and the time allowed for compliance, the Department of Inspections *shall* take into consideration the economic feasibility, technology, quantity of work required, and extent of damage; it *shall* then set reasonable and attainable time limits for compliance. The failure to comply with the notice or approved alternate equivalent measures within the time specified *shall* be a further violation of this Code.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1985-510-TC-231, §3, 3-5-85; Ord. No. 1987-950-TC-287, §§25, 26, 4-7-87; Ord. No. 1992-110-TC-41, §§22, 23, TC-18-92, 12-8-92; Ord. No. 1996-808-TC-126, §6, TC-31-95, 1-16-96; Ord. No. 2000-746-TC-191, TC-4-00, §11, 3-7-00)

Note: See the editor's note to §5008.

Sec. 10-5010. APPEALS.

(a) Except as provided in subsection (d) below, the disapproval or required modification of any proposed*erosion control plan* or the refusal to issue a grading or other necessary permit by the *City* *shall* entitle the *person* who submitted the *plan* or applied for the permit to appeal this decision to the *City Council* . Such appeal must be made *in writing* to the *City* Clerk and the Director of Inspections within fifteen (15) days of *written* notice of disapproval, or modification of *plan* , or refusal to issue a permit. No appeal from §10-5006(a)(11) and §10-5006(a)(12), other than to reduce the width of the natural resource buffer yards, that would be inconsistent with either the Standards of the Water Supply Watershed Act, *G.S.* 143-214.5 or the regulations adopted pursuant thereto *shall* be granted without the prior approval of the North Carolina Environmental Management Commission. Upon receipt of such an appeal, the *City shall* notify in writing, and in sufficient time to allow a reasonable comment period, all other local governments having jurisdiction within the water supply watershed. Each *year* the *City* will transmit to the North Carolina Environmental Management Commission a report on each appeal it receives from §10-5006(a)(11) and §10-5006(a)(12).

(b) Hearings held pursuant to this section*shall* be held by the *City Council* within thirty (30) days from the date the appeal is filed in the *City* Clerk's office. The *City Council shall* then render a decision no later than twenty-one (21) days *following* said hearing.

(c) If the Raleigh*City Council* upholds the disapproval or modification of a proposed *soil erosion and sedimentation control plan following* the hearing, the *person* submitting the *plan shall* within fifteen (15) days *following* the decision of the *Council* be entitled to appeal the *Council's* action to the North Carolina Sedimentation Control Commission pursuant to Title 15 4B.0018(b) of the North Carolina Administration Code and *G.S.* 113A-61(c).

(d) In the event that an*erosion control plan* is disapproved pursuant to §10-6035(i) of this Code, the *City shall* notify the the Director of the Division of Land Resources of the North Carolina Department of Environment, Health and Natural Resources of such disapproval within ten (10) days. The *City shall* advise the applicant and the Director *in writing* as to the specific reasons that the *plan* was disapproved. Notwithstanding the provisions of subsections (a) through (c) of this section, the applicant *may* appeal the *City's* disapproval of the *plan* pursuant to §10-6035(i) directly to the North Carolina Sedimentation Control Commission.

(e) Judicial review of the final action of the*erosion plan* review committee of the North Carolina Sedimentation Control Commission *may* be had in Superior Court of Wake County.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1980-383-TC-119, §2, 5-20-80; Ord. No. 1987-950-TC-287, §29, 4-7-87; Ord. No. 1992-110-TC-41, §§24, 25, TC-18-92, 12-8-92; Ord. No. 218-TC-60, §26, TC-10-93, 6-15-93; Ord. No. 2005-817-TC-267, §19, TC-7-05, 4-19-05)

Sec. 10-5011. COMPLIANCE WITH PLAN REQUIREMENTS.

Any*person* who fails to file a *plan* in accordance with this Code or who *undertakes* a *land-disturbing activity* except in accordance with provisions of a *plan* approved under this Code *shall* be deemed in violation of this Code. If it is determined that any *person* who undertakes a *land-disturbing activity* has failed to comply with the provisions of this chapter, any regulation, rule, or order, duly adopted pursuant to this chapter, a notice of violation *shall* be served upon that *person* or his appointed agent. The initial civil penalty *shall* be assessed from the date of the violation. The notice *shall* be served by registered mail, certified mail return receipt requested, or by any other means authorized under *G.S.* 1A-1, Rule 4. The notice *shall* specify a date by which the *person* must comply with this chapter or any regulation, rule, or order, duly adopted pursuant to this chapter and inform the *person* of the actions that need to be taken to comply. In setting the time for compliance, the *City shall* take into consideration the quantity and complexity of the work, the consequences of delay, the effectiveness of action taken by the violator, and the staff investigative costs, but in no event *shall* the specified time limits be more than ten (10) consecutive calendar days for compliance, except a shorter time period *may* be required by the *City* inspector for an imminent threat to either severely degrade a watercourse or cause severe off-site sedimentation. The notice *shall* state that failure to correct the violation within the specified time period will result in the additional civil and criminal penalties for a continuing violation. If, after the allotted time period has expired, corrective action has not been completed, the additional penalties *shall* be assessed from the date of initial violation, and each day of continuing violation thereafter *shall* constitute a separate violation under this section. The notice *shall* explain the type of enforcement procedures which *may* be issued for violations. If the *person undertaking the land-disturbing activity* fails to comply within the time specified, such *person shall* be in further violation of this Code.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1985-510-TC-231, §§4, 5, 3-5-85; Ord. No. 1987-950-TC-287, §30, 4-7-87; Ord. No. 1992-110-TC-41, §26, TC-18-92, 12-8-92; Ord.

No. 1996-808-TC-126, §§7, 8, TC-31-95, 1-16-96; Ord. No. 1997-219-TC-157, §2, TC-14-97, 10-21-97; Ord. No. 2000-746-TC-191, TC-4-00, §§11, 12, 3-7-00)

Sec. 10-5012. INSPECTIONS.

Agents and officials of the Department of Inspections*shall* inspect the *land-disturbing activities* at reasonable times to ensure whether the activities are *being conducted* in accordance with the approved *plan* or the requirements of this Code and to determine whether the measures implemented are effective in controlling *accelerated erosion* and preventing off-site *sedimentation* . Notice of this right to make inspections *shall* be included in the certificate of approval of each *soil erosion and sedimentation control plan* . No *person* *shall* obstruct, hamper, delay, resist or interfere with *City* agents or officials while in the process of carrying out their official duties.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1987-950-TC-287, §31, 4-7-87; Ord. No. 1992-110-TC-41, §27, TC-18-92, 12-8-92; Ord. No. 1996-808-TC-126, §9, TC-31-95, 1-16-96)

Sec. 10-5013. ENFORCEMENT.

(a) Civil penalties.

(1) Any*person* who violates any of the provisions of this chapter, any regulation, rule or order duly adopted pursuant to this chapter; or who *undertakes* or continues a *land-disturbing activity* for which a *soil erosion and sedimentation control plan* is required except in accordance with the terms, conditions, and provisions of an approved *plan shall* be subject to the specific civil penalties set forth in §10-5014. Said penalties *shall* be assessed by the Inspections Department. The initial civil penalty *shall* be assessed from the date of the violation. No penalty *shall* be assessed until the *person* alleged to be in violation or his appointed agent is served by registered mail, certified mail-return receipt requested, personal service notice of violation, or any other means authorized under *G.S.* 1A-1, Rule 4. The notice *shall* specify a time by which the *person* must comply with this chapter or any regulation, rule, or order, duly adopted pursuant to this chapter and inform the *person* of the actions that need to be taken to comply and *shall* direct the violator to either pay the assessment or contest the assessment within thirty (30) days by filing a petition for a contest case under Article 3 of Chapter 150B of the General Statutes. In setting the time for compliance, the *City shall* take into consideration the quantity and complexity of the work, the consequences of delay, the effectiveness of action taken by the violator, and the staff investigative costs, but in no event *shall* the specified time limits be more than ten (10) consecutive calendar days for compliance, except a shorter time period *may* be required by the *City* inspector for an imminent threat to either severely degrade a watercourse or cause severe off-site sedimentation. The notice *shall* state that failure to correct the violation within the specified time period will result in the additional civil and criminal penalties for a continuing violation. If, after the allotted time period has expired, corrective action has not been completed, the additional civil penalties *shall* be assessed from the date of the initial violation. Each day of continuing violation thereafter *shall* constitute a separate violation.

(2) The Revenue Collector of the*City shall* make *written* demand for payment upon the *person* in violation and *shall* set forth the amount of the penalty and the reason for assessing the penalty; the Revenue Collector, for continuous violations, *shall* send within each ten-day period additional notices to the *person* in violation. Notice of the assessment *shall* be by registered or certified mail or any other means authorized under *G.S.* 1A-1, Rule 4. If the payment is not received within thirty (30) days after demand for payment is made, the matter *shall* be referred to the *City* Attorney for institution of a civil action in the

name of the *City,* in the appropriate division of the general court of justice in Wake County for recovery of the penalty. Such civil actions must be filed within three (3) years of the date the assessment was due.

(3) Civil penalties collected pursuant to this provision*shall* be used or disbursed as directed by law.

(b) Stop-work.

A stop-work order*may* be issued if a *land-disturbing activity is being conducted* or was conducted in violation of this chapter, any regulation, rule, or order duly adopted pursuant to this chapter, or is being *undertaken* or continued for which a *soil erosion and sedimentation control plan* is required except in accordance with the terms, conditions and provisions of an approved *plan* and that either:

(1) The*land-disturbing activity is being conducted* without an approved *plan,* a permit, or both;

(2) The violation endangers life,*property,* or both or that such endangerment is imminent;

(3) The*land-disturbing activity is being conducted* without installing all protective measures in accordance with the approved *soil erosion and sedimentation control plan.*

All stop-work orders*shall* be *in writing* served on and directed to the *person* doing the work and *shall* state the specific work to be stopped, the specific reasons for the stoppage, and the conditions under which the work *may* be resumed. The stop-work order *shall* be rescinded by *written* notice if all the violations for which the stop-work order were issued are corrected, no other violations have occurred, and all measures necessary to abate the violations have been taken.

(c) Criminal penalties.

Any*person* who knowingly or wilfully violates any provision of this chapter, rule, regulation, order duly adopted or issued pursuant to this chapter or who knowingly or willfully *undertakes* or continues a *land-disturbing activity* for which an *erosion control plan* is required, except in accordance with the terms, conditions, and provisions of an approved *plan, shall* be guilty of a misdemeanor punishable by imprisonment not to exceed ninety (90) days, or by a fine not to exceed five thousand dollars ($5,000.00), or both, in the discretion of the court.

(d) Injunctive relief.

(1) Whenever the*City Council* has reasonable cause to believe that any *person* is violating or threatening to violate this chapter, or rule, regulation, order duly adopted or issued pursuant to this chapter, or any term, condition or provision of an approved *soil erosion and sedimentation control plan* , the *City* may, either before or after the institution of any other action or preceeding authorized by this Code, institute a civil action in the name of the *City* for injunctive relief to restrain the violation or threatened violation. The action *shall* be brought in the Superior Court of Wake County.

(2) Upon determination by a court that an alleged violation is occurring or is threatened, the court*shall* enter any order or judgment that is necessary to abate the violation, to ensure that restoration is performed, or to prevent the threatened violation. The institution of an action for injunctive relief under this subsection 10-5013(c) *shall* not relieve any party to the proceeding from any civil or criminal penalty prescribed for violations to this Code.

(e) Restoration.

Any*person* who *undertakes* a *land-disturbing activity* and who fails to retain sediment generated by the activity, as required by *G.S.* 113A-57(3), is required to restore the waters and land affected by the failure so as to minimize the detrimental effects of the resulting pollution by sedimentation. This authority is in addition to any other civil or criminal penalty or injunctive relief authorized under this section.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 1979-266, §2, 11-20-79; Ord. No. 1984-423-TC-223, §1, 10-2-84; Ord. No. 1985-510-TC-231, §§6, 7, 3-5-85; Ord. No. 1987-950-

TC-287, §§32--34, 4-7-87; Ord. No. 1992-110-TC-41, §§28--31, TC-18-92, 12-8-92; Ord. No. 1996-808-TC-126, §§6, 8, 10--16, TC-31-95, 1-16-96; Ord. No. 1997-219-TC-157, §3, TC-14-97, 10-21-97; Ord. No. 2000-746-TC-191, TC-4-00, §§13, 14, 3-7-00; Ord. No. 2000-913-TC-199, §2, TC-11-00, 12-5-00)

Sec. 10-5014. SPECIFIC CIVIL PENALTIES.

(a) Civil penalties for specific violations of Part 10 chapter 5*shall* be assessed as follows:

(1) Grading without a permit. Five thousand dollars ($5,000.00) per day for failure to secure a valid required grading permit prior to conducting a*land-disturbing activity.*

(2) Grading beyond the limits of a grading plan. One thousand dollars ($1,000.00 per day per one-tenth (1/10) of a graded acre beyond the limits of an existing grading permit without the approval of an amended grading permit, but not to exceed seven thousand dollars ($7,000.00) per day.

(3) Failure to protect. Five thousand dollars ($5,000.00) per day for failure to take all reasonable measures to protect public*property* or private *property,* from damage caused by the failure to retain *sediment* on-site for the design storm.

(4) Failure to follow plan. Three thousand dollars ($3,000.00) per day for failure to conduct a*land-disturbing activity* in accordance with the provisions of an approved *erosion and sedimentation control plan.*

(5) Failure to install devices. Five thousand dollars ($5,000.00) per day for failure, when more than one (1) acre is disturbed ($2,500 per day when one acre or less than one (1) acre is disturbed), to install*erosion and sedimentation control* devices sufficient to retain the *sediment* generated by the *land-disturbing activity* within the boundaries of the tract(s) and prevent off-site *sedimentation.*

(6) Failure to maintain permanent and/or temporary measures. Two thousand five hundred dollars ($2,500.00) per day for failure to maintain*adequate erosion control measures.*

(7) Failure to maintain properly slopes and fills. Two thousand five hundred dollars ($2,500.00) per day for failure on graded slopes and fills to maintain an angle sufficient to retain vegetative cover or other*adequate erosion control measures.*

(8) Failure to protect exposed slopes. Two thousand five hundred dollars ($2,500.00) per day for failure, within fifteen (15)*working days* or thirty (30) calendar days of completion of any phase of grading, whichever period is shorter, to plant or otherwise provide exposed, graded slopes or fills with *ground cover,* devices, or structures sufficient to restrain *erosion.*

(9) Failure to provide adequate cover. Two thousand five hundred dollars ($2,500.00) per day for failure on a tract when more than one (1) acre is disturbed, (one thousand two hundred dollars ($1,200.00) per day when one (1) acre or less than one (1) acre is disturbed) to plant or otherwise provide*ground cover* sufficient to restrain *erosion* within fifteen (15) working days or sixty (60) calendar days, whichever period is shorter, following completion of construction or development.

(10) Failure to revise plan. Two thousand five hundred dollars ($2,500.00) per day for failure to file an acceptable, revised*erosion and sedimentation control plan* within the established deadline after being notified of the need to do so.

(11) Failure to correct a violation after notice. Five thousand dollars ($5,000.00) per day for failure to correct a violation within the time limitations established in a notice of violation.

(12) Failure to obey a stop-work order. Five thousand dollars ($5,000.00) per day for a violation of a stop-work order.

(13) Any other action or failure to act that constitutes a violation of this chapter Two thousand five hundred dollars ($2,500.00) per day for any other action or failure to act that constitutes a violation of this chapter.

(14) Failure to keep dirt and mud off public ***streets*** . One thousand dollars ($1,000.00) per day for failure to prevent the accumulation of dirt, mud, or both on public *streets* in violation of this chapter plus one dollar ($1.00) per every six (6) linear feet of *street* if cleaned by the *City,* its employees, or its contractors.

An additional civil penalty of one thousand dollars ($1,000.00) per day*shall* be charged to any *person* assessed a civil penalty for any violation of this chapter within the prior two (2) years. No initial civil penalty *shall* exceed seven thousand five hundred ($7,500.00); this limitation *shall* be inapplicable to continuous violations.

(Ord. No. 2000-746-TC-191, TC-4-00, §15, 3-7-00)

Sec. 10-5015. CIVIL RELIEF BY INJURED PERSONS.

(a) The North Carolina General Statutes provide that any*person* injured by a violation of this chapter, rule, regulation or order duly adopted or issued pursuant to this chapter; or by the *undertaking* of a *land-disturbing activity* for which a *soil erosion and sedimentation control plan* is required other than in accordance with the terms, conditions, and provisions of an approved *plan, may* bring a civil action against the *person* alleged to be in violation (including the State of North Carolina and any local government). The action *may* seek:

(1) Injunctive relief;

(2) An order enforcing the law, rule, regulation, ordinance, order or*erosion control plan* violated;

(3) Damages caused by the violation;

(4) Both damages and injunctive relief; or

(5) Both damages and an enforcement order.

If the amount of actual damages as found by the court or jury in suits brought under this subsection is five hundred dollars ($500.00) or less, the plaintiff*shall* be awarded double the amount of actual damages; if the amount of actual damages as found by the court or jury is greater than five hundred dollars ($500.00), the plaintiff *shall* receive damages in the amount so found.

(b) Civil actions under this section*shall* be brought in Wake County Superior Court.

(c) The court, in issuing any final order in any action brought pursuant to this section,*may* award costs of litigation including reasonable attorney and expert-witness fees to any party, whenever it determines that such an award is appropriate.

The court*may* , if a temporary restraining order or preliminary injunction is sought, require the filing of a bond or equivalent security, the amount of such bond or security to be determined by the court.

(d) Nothing in this section*shall* restrict any right which any *person* or class of *persons* may have under any statute or common law to seek injunctive or other relief.

(Ord. No. 1979-247-TC-108, §1, 11-6-79; Ord. No. 2000-746-TC-191, TC-4-00, §15, 3-7-00)

Sec. 10-5016. REVISIONS.

The *City* of Raleigh *shall* incorporate revisions required by the North Carolina Sedimentation Control Commission within eight (8) *months* *following* receipt of the required revisions. If standards and provisions of this Code currently meet or exceed the required revisions, the commission *shall* be so notified within ninety (90) days of their receipt.

(Ord. No. 1992-110-TC-41, §32, TC-18-92, 12-8-92; Ord. No. 2000-746-TC-191, TC-4-00, §15, 3-7-00)