STAFF CONTACT: Lea Brumfield
PLANNING COMMISSION: June 16, 2020
BOARD OF SUPERVISORS: July 15, 2020

ZTA: 2020-01 – Erosion Protection Performance Standards

ORIGIN: The Board of Supervisors adopted a Resolution of Intent to amend the Zoning Ordinance on December 18th, 2019. (Attachment A)

PROPOSAL: Amend the Zoning Ordinance to require erosion protection performance standards to all land disturbing activities throughout the County that require a Virginia Erosion and Sediment Control Program (VESCP) application plan, or a Virginia Stormwater Management Program (VSMP) application plan, or both.

PUBLIC PURPOSE TO BE SERVED: Protects stream health and water quality by reducing erosion, encourages compatibility of new developments with their surrounding environment, and minimizes visual impacts of new developments.

BACKGROUND: During a May 3, 2017 work session, the Board of Supervisors endorsed a Natural Resources Program for the County, including a review of stream buffer requirements of the Water Protection Ordinance. After a review of the Water Protection Ordinance, County staff determined that both the Water Protection Ordinance and the Zoning Ordinance would require various amendments in order to implement the proposed stream health protections. County staff presented the findings of that review to the Board on November 6, 2019.

Currently, the Steep Slopes Overlay District requires the imposition of design standards intended to reduce slope erosion and stream pollution on all land disturbing activity conducted within the overlay district. During the November 6, 2019 work session on stream health proposals, the Board recommended the imposition of these standards on all land disturbing activity subject to the VESCP or VSMP throughout the County. This proposal is in conjunction with other stream health proposals, including the reduction of the threshold of land disturbing activity requiring a VESCP or VSMP application plan from 10,000 square feet to 2,500 or 6,000 square feet.

STAFF COMMENT:

The design performance standards proposed in this ZTA are currently required for all land disturbing activity within the steep slopes overlay district, and the imposition of these standards across the County should be easily incorporated into the current submittal and review process.

Zoning Ordinance section 33.6(B) establishes factors to be reasonably considered by the Planning Commission and Board of Supervisors in the review of ZTAs. The factors applicable are reviewed below:

(i) the existing use and character of the property

This ZTA does not impact existing uses, and improves the character of area surrounding properties undergoing development, as it minimizes visual impacts of new developments and encourages compatibility of new developments with their surrounding environment.

(ii) the Comprehensive Plan

The Comprehensive Plan lists as an objective in Chapter 4 – Natural Resources:

> Objective 1: Ensure clean and abundant water resources for public health, business, healthy ecosystems, and personal enjoyment by preventing shortages and contamination.

This ZTA requires measures to reduce slope disturbance, slow water runoff, and reduce erosion, reducing sediment load pollution to streams and preserving natural streambed topographies. The ZTA directly addresses Strategy 1a, which lists multiple measures towards this objective, including:

- inhibit the deterioration of State waters resulting from land disturbing activities; protect the safety and welfare of citizens, property owners, and businesses by minimizing the negative impacts of increased stormwater discharges from new land development and redevelopment;
- protect against and minimize the pollution and eutrophication of public drinking water supplies resulting from land development;
- control nonpoint source pollution, erosion and sedimentation, and stream channel erosion; and
- maintain the integrity of existing stream channels and networks for their biological functions, drainage, and natural recharge of groundwater.

(iii) the suitability of property for various uses

This ZTA may restrict the use of sloped properties to uses less disruptive to the natural slopes of the existing topography.

(iv) the trends of growth or change

Current growth pressures in development across the County are anticipated to increase development on sensitive ecological systems and on topographies with steeper slopes, that may have been less desirable to develop previously. This ZTA protects the slopes that do not fall under the steep slopes overlay district, but which may nonetheless be impacted by development and subject to erosion.

(v) the current and future requirements of the community as to land for various purposes as determined by population and economic studies and other studies

Demand for future land development may impose pressures on sloped land that will be incompatible with the stream health performance design standards of this ZTA. However, these pressures may be directed to other, more suitable properties, including redevelopment properties located in the development area and in identified Opportunity Zones.

(vi) the community's transportation requirements

This ZTA does not impact the community's transportation requirements.

(vii) the requirements for airports, housing, schools, parks, playgrounds, recreation areas, and other public services

This ZTA does not impact the community's requirements for airports, housing, schools, parks, playgrounds, recreation areas, and other public service areas.

(viii) the conservation of natural resources

This ZTA protects the conservation of natural resources by requiring lower-impact development of slopes, and protects water quality by preventing erosion and reducing runoff.

(ix) preserving flood plains

This ZTA does not impact the preservation of flood plains.

(x) protecting life and property from impounding structure failures

This ZTA does not impact impounding structures.

(xi) preserving agricultural and forestal land

This ZTA does not impact preservation of agricultural and forestal land.

(xii) conserving properties and their values

This ZTA protects neighboring properties by minimizing visual impacts of new developments and encouraging compatibility of new developments with their surrounding environment.

(xiii) encouraging the most appropriate use of land throughout the County

This ZTA encourages that slopes be developed for uses and designs that are compatible with existing slopes, and requires a lower-impact design to respect the natural topography of the land. This will prevent development of slopes that is inappropriate for a given topography.

Strategic Plan

This ZTA facilitates the County's Core Value of Stewardship by providing protections for stream health, water quality, and healthy ecosystems across the County.

Staff Time and Budgetary Impacts

The adoption of this Zoning Text Amendment, isolated from other proposals for Stream Health, is anticipated to increase staff time required for engineering plan review by a 0.05 full time position equivalent, or two hours a week. This review is anticipated to be performed by a Civil Engineer I or Civil Engineer II, at a 17-18 paygrade. The increase in staff time is anticipated to be eventually incorporated into a potential new position in Engineering.

RECOMMENDED ACTION:

Staff recommends adoption of the Zoning Text Amendment as outlined in Attachment B.

ATTACHMENTS:

Attachment A – Resolution of Intent
Attachment B – Proposed Ordinance Language

RESOLUTION OF INTENT
ZONING TEXT AMENDMENT
DESIGN STANDARDS FOR GRADING

WHEREAS, an objective of the Comprehensive Plan is "Ensure clean and abundant water resources for public health, business, healthy ecosystems, and personal enjoyment by preventing shortages and contamination"; and

WHEREAS, protecting natural resources and healthy ecosystems is part of the stated Albemarle County strategic vision; and

WHEREAS, grading activities may result in adverse impacts to the natural resources, including water resources of the County.

NOW, THEREFORE, BE IT RESOLVED THAT for purposes of public necessity, general welfare, and good stewardship, the Albemarle County Board of Supervisors hereby adopts a resolution of intent to consider amending Albemarle County Code § 18-4.2, § 18-30.7.5, and any other sections of the Zoning Ordinance deemed to be appropriate to achieve the purposes described herein; and

BE IT FURTHER RESOLVED THAT the Planning Commission shall hold a public hearing on the zoning text amendment proposed by this resolution of intent, and make its recommendations to the Board of Supervisors, at the earliest possible date.

* * * * *

I, Claudette K. Borgersen, do hereby certify that the foregoing writing is a true and correct copy of a Resolution duly adopted by the Albemarle County Board of Supervisors by a vote of six to zero, as recorded below, at a regular meeting held on December 18, 2019.

Clerk, Board of County Supervisors

	Aye	Nay
Mr. Dill	Y	____
Mr. Gallaway	Y	____
Ms. Mallek	Y	____
Ms. McKeel	Y	____
Ms. Palmer	Y	____
Mr. Randolph	Y	____

ORDINANCE NO. 20-18( )

AN ORDINANCE TO AMEND CHAPTER 18, ZONING, ARTICLE II, BASIC REGULATIONS, OF THE CODE OF THE COUNTY OF ALBEMARLE, VIRGINIA

BE IT ORDAINED by the Board of Supervisors of the County of Albemarle, Virginia, that Chapter 18, Zoning, Article II, Basic Regulations, are hereby amended and reordained as follows:

By Amending:
Sec. 30.7.5 Design standards

By Adding:
Sec. 4.3.3 Grading standards

CHAPTER 18. ZONING

ARTICLE II. BASIC REGULATIONS

. . .

4.3.3 Grading Standards

The following design standards apply to any land disturbing activity requiring a Virginia Erosion and Sediment Control Program (VESCP) application plan, or a Virginia Stormwater Management Program (VSMP) application plan, or both.

A. *Retaining walls.* Retaining walls shall meet or exceed the following minimum standards:
   1. *Height.* The maximum height for a single retaining wall, measured from grade to grade, shall be ten feet, except as provided in subsection (A)(3). When the overall retained height would exceed ten feet, the retaining wall shall be broken into multiple stepped walls.
   2. *Multiple stepped walls; separation.* A minimum horizontal distance of three feet shall be maintained between each individual wall in a stepped wall system, and shall be landscaped with screening shrubs planted on ten foot centers.
   3. *Incorporation of wall into design of a building.* Retaining walls may be incorporated into the design of a building so that they become part of the building. Retaining walls incorporated into the design of a building shall not be subject to height limitations of subsection (A)(1).

B. *Cuts and fills.* Any cut or fill shall meet or exceed the following minimum standards:
   1. *Rounding off.* Any cut or fill shall be rounded off to eliminate sharp angles at the top, bottom and side of regraded slopes.
   2. *Location of toe of the fill slope.* The toe of any fill slope shall not be located within ten feet horizontally of the top of an existing or proposed cut slope.
   3. *Tops and bottoms.* Tops and bottoms of cut and fill slopes shall be located either: (i) a distance from existing and proposed property lines at least equal to the lesser of three feet plus one-fifth (1/5) of the height of the cut or fill, or ten feet; (ii) any lesser distance than provided in subsection (B)(3)(i) the zoning administrator determines would not adversely impact the abutting parcel based on information provided by the owner of the abutting parcel; or (iii) on the abutting parcel if the owner obtains an easement authorizing the slope on the abutting owner's parcel.

4. *Steepness.* Cut and fill slopes shall not be steeper than a 2:1 (50 percent) slope. If the slope is to be mowed, the slope shall be no steeper than a 3:1 (33 percent) slope.

C. *Reverse slope benches or a surface water diversion.* Reverse slope benches or a surface water diversion shall meet or exceed the following minimum standards:
   1. *When required.* Reverse slope benches or a surface water diversion shall be provided whenever: (i) the vertical interval (height) of any 2:1 (50 percent) slope exceeds 20 feet; (ii) the vertical interval (height) of any 3:1 (33 percent) slope exceeds 30 feet; or (iii) the vertical interval (height) of any 4:1 (25 percent) slope exceeds 40 feet.
   2. *Width and location of benches.* Reverse slope benches shall be at least six feet wide and located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Benches shall be designed with a reverse slope of 6:1 (approximately 17 percent) or flatter to the toe of the upper slope and have a minimum of one foot. The bench gradient to the outlet shall be between two percent and three percent, unless accompanied by appropriate design and computations.
   3. *Flow length within a bench.* The flow length within a reverse slope bench shall not exceed 800 feet unless accompanied by appropriate design and computations demonstrating that the flow length is designed to be adequate to ensure the stability of the slope and prevent or minimize erosion.

D. *Surface water diversions.* Surface water shall be diverted from the face of all cut and fill slopes or both, using diversions, ditches, and swales, or conveyed downslope by using a designed structure. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainage ways, graded swales, downspouts, or similar conveyances.

(§ 30.7.5; Ord. 14-18(2), 3-5-14; § 4.3.3; Ord. 20-18( ), - -20)
State law reference – Va. Code §§ 15.2-2280(1), (2), 15.2-2286(A)(4).

. . .

Sec. 30.7.5 - Design standards.

The following design standards apply to land disturbing activity to establish a use permitted by right or by special use permit in the steep slopes overlay district.

A. *Retaining walls*. Retaining walls shall meet or exceed the following minimum standards:
   1. *Wall height*. The maximum height for a single retaining wall, measured from grade to grade, shall be six feet, except as provided in subsection (~~a~~A)(3). When the overall retained height would exceed six feet, the retaining wall shall be broken into multiple stepped walls.
   2. *Multiple stepped walls; separation*. A minimum horizontal distance of three feet shall be maintained between each individual wall in a stepped wall system, and shall be landscaped with screening shrubs planted on ten foot centers.
   3. *Incorporation of wall into design of a building*. Retaining walls may be incorporated into the design of a building so that they become part of the building. Retaining walls incorporated into the design of a building shall not be subject to height limitations of subsection (~~a~~A)(1).

~~B. *Cuts and fills*. Any cut or fill shall meet or exceed the following minimum standards:~~

1. *Rounding off*. Any cut or fill shall be rounded off to eliminate sharp angles at the top, bottom and side of regraded slopes.
2. *Location of toe of the fill slope*. The toe of any fill slope shall not be located within ten feet horizontally of the top of an existing or proposed cut slope.
3. *Tops and bottoms*. Tops and bottoms of cut and fill slopes shall be located either: (i) a distance from existing and proposed property lines at least equal to the lesser of three feet plus one-fifth of the height of the cut or fill, or ten feet; (ii) any lesser distance than provided in subsection (b)(3)(i) the zoning administrator determines would not adversely impact the abutting parcel based on information provided by the owner of the abutting parcel; or (iii) on the abutting parcel if the owner obtains an easement authorizing the slope on the abutting owner's parcel.
4. *Steepness*. Cut and fill slopes shall not be steeper than a 2:1 (50 percent) slope. If the slope is to be mowed, the slope shall be no steeper than a 3:1 (33 percent) slope.

C. *Reverse slope benches or a surface water diversion*. Reverse slope benches or a surface water diversion shall meet or exceed the following minimum standards:

1. *When required*. Reverse slope benches or a surface water diversion shall be provided whenever: (i) the vertical interval (height) of any 2:1 (50 percent) slope exceeds 20 feet; (ii) the vertical interval (height) of any 3:1 (33 percent) slope exceeds 30 feet; or (iii) the vertical interval (height) of any 4:1 (25 percent) slope exceeds 40 feet.
2. *Width and location of benches*. Reverse slope benches shall be at least six feet wide and located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Benches shall be designed with a reverse slope of 6:1 (approximately 17 percent) or flatter to the toe of the upper slope and have a minimum of one foot. The bench gradient to the outlet shall be between two percent and three percent, unless accompanied by appropriate design and computations.
3. *Flow length within a bench*. The flow length within a reverse slope bench shall not exceed 800 feet unless accompanied by appropriate design and computations demonstrating that the flow length is designed to be adequate to ensure the stability of the slope and prevent or minimize erosion.
4. *Surface water diversions*. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of diversions, ditches and swales or conveyed downslope by using a designed structure. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainage ways, graded swales, downspouts, or similar conveyances.

(§ 30.7.5; Ord. 14-18(2) , 3-5-14)
State Law reference— Va. Code §§ 15.2-2280 (1), (2), 15.2-2286 (A)(4).

I, Claudette K. Borgersen, do hereby certify that the foregoing writing is a true, correct copy of an Ordinance duly adopted by the Board of Supervisors of Albemarle County, Virginia, by a vote of _____ to _____, as recorded below, at a regular meeting held on _____.

_____
Clerk, Board of County Supervisors

Aye Nay

Mr. Gallaway	____	____
Ms. Price	____	____
Ms. LaPisto-Kirtley	____	____
Ms. McKeel	____	____
Ms. Mallek	____	____
Ms. Palmer	____	____

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