

Sec. 7-12-4. - Steep slope and ridgetop development.

- (a) *Purpose.* Asheville is in a unique geographic location where mountains, valleys, and hills constitute significant natural topographic features. The mountains and hillsides of Asheville are visible from many places in the city, adding to the quality of life for residents, and improving tourism opportunities for visitors. These areas are sensitive to development activities and measures must be taken to maintain slope stability and to control erosion and stormwater. In order to ensure the preservation of this character and the appropriate use of the hillsides, the regulations of this section are established to recognize that development of land in steep or mountainous areas involves special considerations and unique development standards.
- (b) *Goals and objectives.* This section is intended to achieve the following goals and objectives:
- (1) To promote public safety by ensuring that development on steep slope and ridgetop areas addresses slope stability issues in an effective manner;
 - (2) To provide greater design flexibility and efficiency in the location of development and infrastructure, including the opportunity to reduce length and width of roads, utility runs, and the amount of grading and paving;
 - (3) To reduce erosion and sedimentation by the retention of existing vegetation, and the minimization of development on steep slopes and ridgetops;
 - (4) To provide for the conservation and maintenance of steep slope and ridgetop areas within city jurisdiction to achieve the above-mentioned goals;
 - (5) To provide opportunities for developers to minimize impacts on steep slope and ridgetop areas;
 - (6) To provide standards reflecting the varying circumstances and interests of individual landowners, and the individual characteristics of their properties;
 - (7) To preserve scenic views and vistas that are inherent to Asheville's character and to minimize perceived density by minimizing views of new development from within and outside of the development; and
 - (8) To provide mechanisms to effectively enforce the requirements of this section.
- (c) *Steep slopes and ridgetops designated.*
- (1) Steep slopes are designated as those areas at or above 2,220 feet in elevation above mean sea level and having an existing grade of 15 percent or more. For the purpose of applying specific development standards, steep slope areas have been separated into different zones:
 - Zone A - Areas between 2,220 and 2,349 feet in elevation and having an existing grade of 15 percent or more;
 - Zone B - Areas at or above 2,350 feet in elevation and having an existing grade of 15 percent or more;
 - (2) Ridgetops are designated on the official City of Asheville Ridgetops Map (which is hereby made a part of this section by reference). Designated ridgetops are:
 - Protected mountain ridges as defined in subsection 7-12-3(e) of this Code regardless of whether such ridges have been otherwise designated on maps filed in accordance with subsection 7-12-3(g) of this Code.
 - All land within 100 vertical feet of any ridgeline or ridgeline segment that is part of a designated watershed area containing a minimum of 100 acres and is located 500 or more feet above the adjacent valley floor. If any part of a ridgeline qualifies under this definition, any segments of the same ridgeline

that are of higher elevation than the qualifying ridgeline shall also be considered ridgetops for the purposes of this section.

- (3) For the purpose of applying the geotechnical analysis of this section, all areas having an existing grade of 36 percent or more, regardless of elevation, or are located in areas designated as High Hazard or Moderate Hazard on the Buncombe County Slope Stability Index Map prepared by the North Carolina Geological Survey are subject to the standards set forth in subsection 7-12-4(l).
- (d) *Application.* The provisions of this section apply in the following circumstances. Any portion of a lot, parcel, or tract of land which has been approved for development or subdivision prior to the date of adoption of this section {July 10, 2007} shall not be required to comply with the provisions of this section if no further development or change to the approved subdivision or development plan is proposed within that portion of the lot, parcel, or tract of land. For the purpose of applying this provision, approval of a subdivision plat shall not constitute approval of a development plan for the individual lots in the subdivision.
- (1) Where new development is proposed for a one or two family dwelling, or for a development requiring Level I, II or III site plan review pursuant to section 7-5-9 of this chapter or subdivision review pursuant to section 7-5-8 of this chapter.
- (2) Additions to structures greater than 1,000 square feet or new site disturbances encompassing more than 1,000 square feet of disturbed area. These additions and site disturbances shall include smaller additions or disturbances over a three-year period that accumulate to exceed the above limitations.
- (3) Substantive amendments to an approved subdivision or development plan shall require full compliance with the requirements of this section. For the purpose of this section, "substantive amendments" shall include increases in the number of lots or density or intensity of development by more than ten percent over that previously approved, location of a structure or structures in areas of steeper slopes than originally approved, and similar amendments that substantively increase the extent of development impact.
- (4) Regardless of the provisions of this section, lawfully-established lots in existence on {July 10, 2007} may be developed with a single-family home provided that the requirements of subsections (f), (g), (h) and (l) are met, except that subsection (f) shall not apply to such lots where extent of grading has been previously designated and approved on a preliminary plat or approved development plan.
- (5) For areas located in zone A, the development standards set forth in subsections (g), (h) and (k) shall not apply except that the front setback reduction specified in subsection (h) is available to properties located in zone A.
- (e) *Definitions.* For the purposes of this section, the following terms shall have the meaning as ascribed to them below:

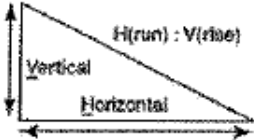
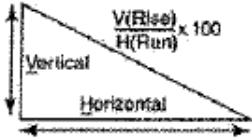
Artificial slope shall mean any land-disturbing activity that creates or changes any slope or attempts to do so.

Cut slope shall mean the exposed ground surface resulting from excavation of material.

Existing grade shall mean the vertical elevation of the land as it exists on {July 10, 2007}.

Fill slope shall mean the exposed ground surface resulting from deposition of material.

Slope shall mean the extent to which a land form deviates from the perfectly horizontal as expressed in percent, degree or ratio. To ensure consistent conversion between these separate methods of expressing the extent of slope, the following explanatory table is provided as part of this definition.

Slope Measurements		
Degrees	Ratio	Percent
		
45°	1H:1V	100%
39°	1.25H:1V	80%
34°	1.5H:1V	67%
30°	1.75H:1V	57%
27°	2H:1V	50%
22°	2.5H:1V	40%
18°	3H:1V	33%
14°	4H:1V	25%
8.5°	6.7H:1V	15%

Trees and other specified vegetation shall mean all native trees of six or more inches in diameter at breast height (dbh) and any mature grouping of rhododendron or mountain laurel of 250 square feet or more in area. Invasive non-native species shall not be included in this definition.

- (f) *Grading.* The following requirements regulate the extent and technique of grading in steep slope and ridgetop areas based on the existing grade. Existing grade is determined as follows.
- Calculation of existing grade.* The applicant may submit calculations of the existing grade; these calculations shall be sealed by a licensed surveyor, engineer, or landscape architect. If no calculations are provided, the City of Asheville will calculate the existing grade of any property using the following formula:

S =	.0023(I)
	(L)
	A

Where:

S = Existing grade of parcel in percent

I = Contour interval of map in feet, with said contour intervals to be five feet or less

L = Total length of the contour lines within the parcel in feet

A = Area of the parcel in acres

0.0023 = Product of two constants, one of which converts feet into acres and one of which converts a decimal fraction into a percentage

Once "S" is calculated, it shall be rounded to the nearest whole number.

If existing grade cannot be calculated using the above methods, it shall be estimated using best available resources by the planning and development director whose determination shall be final.

- (1) *Grading extent.* The extent of grading on a property located in a steep slope or ridgetop area is governed by the following tables.

MAXIMUM PERCENTAGE OF SITE GRADING BY EXISTING GRADE

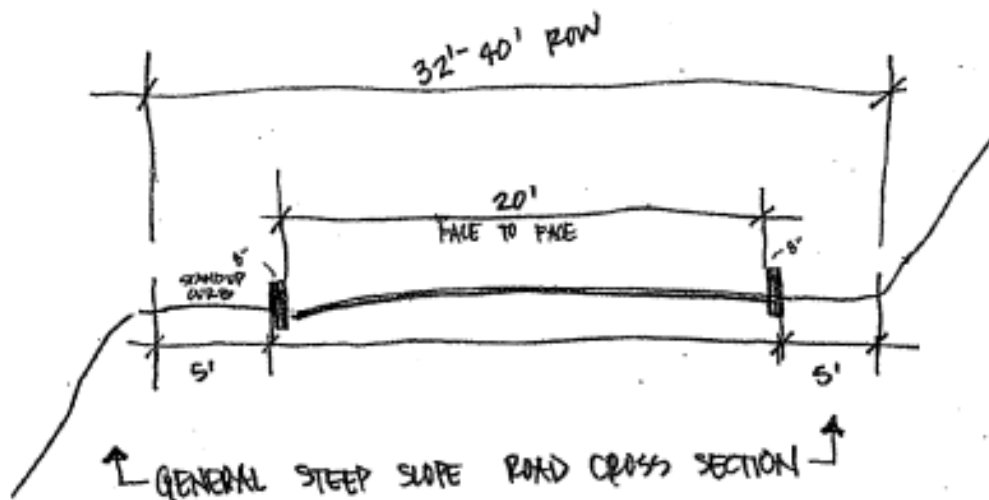
ZONE A FOR PROPERTIES AT ELEVATIONS 2220' - 2349'	
Existing Grade	Maximum Percent of Site Graded
15% - 19%	80%
20% - 24%	70%
25% - 29%	60%
30% - 34%	45%
35% - 39%	35%
40% +	20%

ZONE B FOR PROPERTIES AT ELEVATIONS 2350' and ABOVE	
Existing Grade	Maximum Percent of Site Graded
15% - 19%	45%
20% - 24%	40%
25% - 29%	35%

30% - 34%	30%
35% - 39%	25%
40% +	15%

Note: This table shall be interpreted in the following manner: "15%-19%" will include all slopes of 15 percent up to any slope less than 20 percent, etc.

- (2) *Road construction.* Roads constructed on any lot, parcel, or tract of land designated as a steep slope or ridgetop area shall be contained within a corridor that shall not exceed 90 feet in width along 80 percent of its total length; up to 20 percent of the length of the road corridor may be graded to a maximum width of 135 feet to accommodate grading operations approved by the city engineer. Road rights-of-way shall be a minimum of 32 feet and a maximum of 40 feet and shall have a cross-section design as illustrated below. Cul-de-sac circles, T-turnarounds and other road terminus features approved by the city shall be exempt from these width requirements. Sidewalks are not required to be constructed in steep slope or ridgetop areas but shall be subject to fee-in-lieu requirements if not provided. Unless approved by the city engineer based on an assessment of best engineering practices for the specific site, retaining walls greater than four feet in height erected to comply with these corridor requirements shall be located at least 10 feet outside of public rights-of-way or edge of slope shoulder, whichever is greater, and shall be privately maintained.



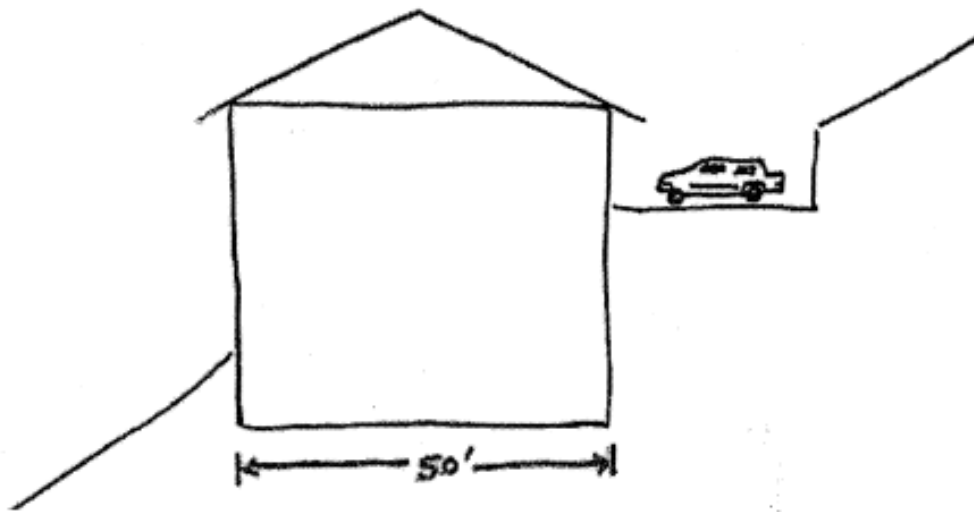
- (3) *Artificial slopes.* Artificial slopes shall be designed and landscaped to create natural appearing slopes and hillsides. The replacement of trees and other significant vegetation is imperative for maintaining the natural appearance of artificial slopes. Artificial slopes shall not exceed the steepness and height parameters listed in the following table except in circumstances where stable exposed rock is the intended end result of the artificial slope, in which circumstance the cut and/or fill slopes may be increased at the discretion of the city engineer. Reforestation of artificial slopes ten feet or greater in height, other than stable exposed rock, shall consist of the placement of any of the tree or shrub species

and size as specified in a list prepared and maintained by the tree commission provided not more than 20 percent of any one tree or shrub species is used except that reforestation using entirely mountain laurel or rhododendron is acceptable. The following table describes the planting design and amount of required plant material for reforestation. A maintenance plan shall be required for reforested areas and such plan shall include provisions for replacement of dead vegetation when greater than a 50 percent mortality rate occurs.

ARTIFICIAL SLOPES			
Slope Type	Maximum Slope	Maximum Height	Required Reforestation
Cut Slope	1.5:1	30 feet	Reforestation shall consist of rows of plantings spaced 10 feet apart (on center) in checkerboard pattern.
	2:1	40 feet	
	<2.5:1	30 feet	
Fill Slope	2:1	40 feet	
	<2.5:1	30 feet	

Note: The maximum height of a combined cut and fill slope shall not exceed 60 feet.

- (g) *Structure height and depth.* The maximum height of principal structures in steep slope and ridgetop areas shall be limited to two stories (maximum 30 feet) on the uphill side of the structure and three stories (maximum 40 feet) on the downhill side of the structure, regardless of height allowances elsewhere in this Code. For ridgetop development where structures are not located so as to have a distinct uphill or a downhill side, the maximum height of principal structures shall be limited to two stories (maximum 30 feet). Accessory structures shall not exceed 20 feet in height on any side. For the purpose of this section, height shall be calculated as the vertical distance from existing grade to the midpoint of the peak and eave for structures with pitched roofs and from the top of the parapet or roof surface, whichever is greater, for flat-roofed structures. An additional 12 feet in height may be allowed on the uphill side and 20 feet in height on the downhill side of the principal structure if any downhill-facing façade and the entire roof structure are installed and maintained with materials or paint having an average light reflectivity value (LRV) of 25 or less and a 50-foot deep area measured from the rear property line is designated in a vegetation preservation easement and existing vegetation in this area is maintained. This provision is not available for ridgetop development. A LRV of 25 or less is strongly encouraged for all structures built on steep slope and ridgetop areas regardless of their height. The maximum depth through any one cross-section of a structure in steep slope and ridgetop areas having a slope of 40 percent or more shall be 50 feet in order to promote construction that is less intrusive on a slope (see illustration below).



- (h) *Tree and other specified vegetation preservation.* All trees and other specified vegetation shall be preserved in steep slope and ridgetop areas except in areas approved for grading in subsection (f) above or within ten feet of building footprints. Non-native invasive species may be removed. For new development or additions, these preservation areas shall be designated on plans submitted for development approval. For existing development, aerial photographs or other methods of determining the extent of tree cover shall be utilized to enforce this requirement.

During construction, these preservation areas shall be clearly designated using tree protection fencing to protect them from disturbance.

Fines for removal of trees and other specified vegetation required to be preserved, unless such trees and vegetation are determined to be dead, dying or represent a threat to property by the city arborist or other person(s) designated to enforce these requirements and said removal is thereby authorized, shall be as established in article XVIII. In the event that a violator chooses to remedy the violation through the planting of replacement trees, such trees shall be selected from the city's list of large maturing trees and shall be of a minimum of two inches diameter at breast height.

The planning and development director may approve reductions of front setbacks from 35 feet to 20 feet in RS-2 zones and from 25 feet to 15 feet in RS-4 zones such that the setback reduction results in reducing site grading and enhances protection or existing trees and other vegetation.

- (i) *Alternative landscape plan.* In the event a property owner desires to remove trees and other protected vegetation required to be preserved in subsection (h) above, he or she may submit an alternative landscape plan for consideration by the tree commission. This alternative landscape plan must contain: a tree survey of the property showing which trees and other protected vegetation will be removed and which will remain; the location of any structures, driveways and other impervious surfaces; and an explanation of the reason(s) for removal of required trees and other protected vegetation, including a statement of how the removal of the required trees and other protected vegetation supports the purposes of this section or how such removal can be mitigated consistent with the purposes of this section. The tree commission, in its sole discretion, may approve, approve with conditions, or deny the alternative landscape plan. If conditions are established, they

shall be enforceable in accordance with the provisions of article XVIII. If the tree commission denies the alternative landscape plan, it shall set out its reasons in writing. Appeals of tree commission decisions shall follow the process for appeals of decisions by the planning director as established in section 7-6-2.

- (j) *Density*. Densities of residential development shall be reduced in steep slope and ridgetop areas to support the goals and objectives of this section.
- (1) The allowable density shall be as follows for the listed underlying zoning districts. The fractional requirements provisions of subsection 7-2-3(b) shall not apply for density calculations in the steep slope and ridgetop areas.

MAXIMUM NUMBER OF UNITS PER ACRE BY EXISTING GRADE

ZONE A FOR PROPERTIES AT ELEVATIONS 2220' - 2349'					
Existing Grade	RS-2	RS-4	RM-6	RS-8 RM-8	RM-16 & other districts allowing residential development
15%—19%	1.7	3.3	5.1	6.8	13.5
20%—24%	1.4	2.9	4.3	5.7	11.1
25%—29%	1.2	2.3	3.5	4.7	9.3
30%—34%	0.8	1.8	2.7	3.6	7.2
35%—39%	.6	1.7	1.9	2.5	5.0
40% or >	.3	0.6	1.0	1.3	2.6

ZONE B FOR PROPERTIES AT ELEVATIONS 2350' and ABOVE					
Existing Grade	RS-2	RS-4	RM-6	RS-8 RM-8	RM-16 & other districts allowing residential development
15%—19%	1.2	1.8	2.7	3.6	7.2
20%—24%	1.0	1.4	2.4	3.2	5.6

25%—29%	0.7	1.0	1.7	2.8	4.2
30%—34%	0.6	0.8	1.2	2.0	3.8
35%—39%	0.4	0.6	0.8	1.2	3.0
40% or >	0.1	0.2	0.3	0.4	0.8

**** NOTE:** The above table shall be interpreted in the following manner:

- "15%-19%" will include all slopes of 15 percent up to any slope less than 20 percent, etc.
- 0-0.99 = no unit, 1.0 - 1.99 = 1 unit, etc.

- (2) *Existing lots or parcels.* Construction of a single-family residence shall be permitted on any lawfully established lot or parcel existing as of the date of adoption of this ordinance, even if the parcel does not meet the maximum density requirements listed in the table above. In such cases, however, the requirements of subsections (f), (g), (h) and (i) shall still apply, except that subsection (f) shall not apply to such lots where extent of grading has been previously designated and approved on a preliminary plat or approved development plan.
- (3) *Density bonus.* For areas located in Zone B, a density bonus may be granted for each of the following items. A total density bonus of up to 60 percent of the allowable density may be achieved under this provision through accumulation. Bonus applications may result in administratively-approved reductions in minimum setback requirements and minimum lot size if necessary to achieve site preservation, screening or grading objectives. Such reductions shall be indicated on the development plans submitted to obtain the density bonus and the rationale behind the reductions shall be clearly demonstrated on the plans or other application materials.
- a. Buildings, parking, and other improvements are clustered on less steep and sensitive areas of the site to reduce the amount of grading and the steeper, more sensitive areas are preserved through a conservation easement that safeguards the property from future development; bonus of up to 60 percent based on the following table. Less sensitive areas may not exceed a 40 percent average natural slope and may include previously cleared areas, such as logging roads and pastures, provided such clearing predates January 1, 2007. Clustering in single-family residential districts and the RM-6 district may include multi-family construction up to eight units per building if necessary to achieve site preservation objectives. Conservation areas may not be located on individually owned home lots and may remain as privately owned property.

PERCENT OF SITE PRESERVED	DENSITY BONUS
30—40%	30%

<40—50%	40%
<50—60%	50%
<60%	60%

- b. Grading is limited to ten percent or more under the maximum allowed under subsection (e) above; bonus of 20 percent.
 - c. Buildings and parking areas are screened by vegetation to minimize the visual impact from key viewing areas, which include the downtown central business district, the Blue Ridge Parkway, public parkland and recreational areas, and major streets and highways; bonus of 20 percent.
 - d. Grading of roads and access drives is located outside of slopes exceeding 20 percent and/or is predominately located on existing cleared roadbeds; bonus of 20 percent.
 - e. Grading for the principal structure(s) is located completely outside of slopes exceeding 20 percent; bonus of 20 percent.
 - f. The city engineer determines that substantial stormwater management best management practices are met in the proposed development; bonus of 20 percent.
- (k) *Nonresidential development intensity.* Intensity of nonresidential development shall be limited as follows in the Steep Slope Overlay District to support the goals and objectives of the district. For the purpose of this section, "floor area ratio" shall mean the total gross floor area of the building or buildings on a lot divided by the gross area of the lot or site.

(1) The allowable intensity shall be as follows for the listed below:

MAXIMUM FLOOR AREA RATIO BY EXISTING GRADE OR RIDGETOP	
Existing Grade	Maximum Allowable Floor Area Ratio, Not To Exceed Structure Size Limits of the Underlying Zoning District
15%—19%	0.20
20%—24%	0.15
25%—29%	0.10
30%—34%	0.05
35%—39%	0.025

40%	0.01
Ridgetop	0.10

** Note: The above table shall be interpreted in the following manner. "15%-19%" will include all slopes of 15 percent up to any slope less than 20 percent, etc.

(2) *Intensity bonus.* An intensity bonus may be granted for each of the following items. A total intensity bonus of up to 60 percent of the allowable intensity may be achieved under this provision through accumulation. No intensity bonus shall allow a structure of greater size than allowed under the underlying zoning district.

- a. Buildings, parking, and other improvements are clustered on less steep and sensitive areas of the site to reduce the amount of grading and the steeper, more sensitive areas are preserved through an easement; bonus of up to 60 percent based on the following table. Less sensitive areas may include previously cleared areas, such as logging roads and pasture, provided such clearing predates January 1, 2007. Clustering in single-family residential districts and the RM-6 district may include multi-family construction up to eight units per building if necessary to achieve site preservation objectives.

PERCENT OF SITE PRESERVED	INTENSITY BONUS
30—40%	30%
>40—50%	40%
>50—60%	50%
>60%	60%

- b. Grading is limited to ten percent or more under the maximum allowed under subsection (e) above; bonus of 20 percent.
- c. Buildings and parking areas are screened by vegetation to minimize the visual impact from key viewing areas, which include the downtown central business district, the Blue Ridge Parkway, public parkland and recreational areas, and major streets and highways; bonus of 20 percent.
- d. Grading of roads and access drives is located outside of slopes exceeding 20 percent and/or is predominately located on existing cleared roadbeds; bonus of 20 percent.
- e. Grading for the principal structure(s) is located completely outside of slopes exceeding 20 percent; bonus of 20 percent.
- f. The city engineer determines that substantial stormwater management best management practices

are met in the proposed development; bonus of 20 percent.

- (l) *Geotechnical analysis required.* Development in steep slope areas having an existing grade of 36 percent or greater or on properties located in areas designated as High Hazard or Moderate Hazard on the Buncombe County Slope Stability Index Map prepared by the North Carolina Geological Survey shall be required to undergo geotechnical analysis by a NC registered professional engineer to determine the stability of the underlying geology and soils to support the proposed development. The geotechnical analysis report shall be required to be submitted prior to the issuance of a building permit. If a geotechnical analysis has been performed for subdivision approval that includes building pad analysis for the individual lots, it is unnecessary to submit a new analysis for each lot, provided the location of structures on each lot does not change by more than 20 feet in any one direction.

- (m) *Sewer and water service required.* Public sewer and water shall be required to serve new developments described in subsection (d)(1) above on steep slope and ridgetop areas.

(Ord. No. 2369, § 1, 5-27-97; Ord. No. 2438, § 1, 11-25-97; Ord. No. 3117, § 1, 5-11-04; Ord. No. 3328, §§ 1(m)—(p), 1-24-06; Ord. No. 3490, § 1, 6-19-07; Ord. No. 3503, § 1, 7-10-07; Ord. No. 3772, §§ 1a, b, 8-11-09)