

Section 9.09 Hillside Protection Regulations

9.09.01 Purpose

The Hillside Protection Regulations are intended to protect and enhance the City of Covington's unique natural heritage. Hillside areas are places of special character that affect and are affected by their surroundings. Standards and guidelines that take into consideration the natural constraints of a site will result in a development that is sensitive to the environment, incorporates safeguards to maximize public health, safety, and general welfare, and minimize changes to the visual quality of the hillside.

9.09.02 Site Plan Review

1. Site plan review and approval by the City Engineer is required before the issuance of any zoning, building or grading permits, or the commencement of any construction or enlargement of any building or structure.
2. The site plan and other information required in this section must be reviewed by the City Engineer, to determine to the best of his personal knowledge and based on the information that has been provided by the permittee, what effect, if any, the proposed development may have on hillside slippage, soil erosion, water quality and water quantity related to storm water runoff, and riparian corridors.
3. Within 30 days of the time that all required plans have been submitted by the permittee, the City Engineer shall advise the Zoning Administrator of his/her findings, and the Zoning Administrator may authorize use of the site in accordance with the submitted plans.

D. If, after review of the plans required by this section, the City Engineer determines that the proposed plan is likely to cause hillside slippage, the Zoning Administrator is authorized to deny the permit for development.

9.09.03 Standards

1. The standards of this section are intended to ensure, when development is proposed in those areas of the city that have physical characteristics limiting development (Physically Restrictive Development Areas (PRDA)) and hillside slopes of 20% or greater, that development occurs in a manner that minimizes the adverse environmental and visual problems associated with drainage, erosion, earth movement, vegetation removal, and adverse environmental and visual impacts.
2. Areas of land considered physically restrictive, including hillside slopes of 20% or greater, are subject to the following requirements:
 1. Development proposed on land areas identified on the Comprehensive Plan as Physically Restrictive Development Areas (PRDA) and any other areas that have slopes of 20% or greater require approval before development may occur. In those areas which are identified in the Comprehensive Plan as PRDA and containing slopes less than 20%, the requirements contained herein may be waived if, after

review of the proposed site plan by the City Engineer, it is determined that the development will not result in any significant hillside slippage or soil erosion.

2. No excavation, removal, or placement of any soil, foundation placement, or construction of buildings or structures of any nature within the area identified as physically restricted development area, or the cutting of trees more than eight (8) inches in diameter at Diameter Breast Height (DBH) may occur within areas designated as PRDA, including hillside slopes 20% or greater, until plans and specifications for such work have been submitted in the form of a site plan and without first ensuring that all requirements of this Section and Section 9.03, Excavation and Grading, have been fulfilled. (DBH is the diameter of a tree 4-1/2 feet above average ground level.)

Note: The basis for review of a development plan related to the preservation of trees is to protect and preserve the greatest number of trees as is reasonable and practical. Individual trees should be removed only as necessary to carry out permitted development under the approved zoning of the site, to achieve the objectives of the Comprehensive Plan, to provide continuity in the design of collector streets, stormwater facilities, or similar infrastructure elements.

In addition to site plan requirements, the following must also be submitted:

1. (a) Plans showing existing topography and the proposed physical changes necessary for construction, indicating grading (cutting and filling), compaction, erosion sedimentation basins, areas to be cleared of trees and other vegetation, and any other pertinent information that will change the natural physical features of the site or general area.
2. (b) Information defining results of subsurface investigation of the area under consideration, including test borings, laboratory tests, engineering tests, and a geological analysis. Such investigation must be made by a qualified registered geotechnical civil engineer (not the City Engineer) indicating that any structural or physical changes proposed in the area will be completed in a manner that will minimize hillside slippage or soil erosion. The City Engineer will rely on the information, documentation, and opinion submitted by the person submitting the proposed development plan, and the geotechnical civil engineer. The permittee shall assume all liability for damages, personal injury, or property damage resulting from any work performed by the permittee, or his or her agent under the permit, or resulting from failure of the permittee to perform each obligation under the permit. If any claim of liability is made against the City of Covington, its officers, employees or agents, the permittee shall defend, indemnify, and hold them and each of them harmless from such claim.
3. (c) Plans that show the approximate location, species, and size of all trees more than eight (8) inches in diameter at DBH that are within the area to be affected by the proposed development. These plans shall further designate between trees that will remain and those that will be removed due to construction.

Note: This tree inventory plan shall be used to guide Section 9.09.04, D.

The guidelines contained in this section shall apply to all developments that fall under Section 9.09.03 (B) (1). Applicants must make every reasonable effort to comply with these guidelines.

1. General

1. The design of developments must address the following elements:

1. (a) preservation of existing topography;
2. (b) vehicular circulation and how it relates to existing

contours; and

3. (c) preservation of existing vegetation.

2. Disturbance to existing topographical features and vegetation must be minimized. Development must be designed to fit into the hillside rather than altering existing topography to create a “flat land” type of development.
3. Roads and driveways must be sited and constructed to be sensitive to existing contours.

Note: Removal of non-native invasive vegetation (such as bush honeysuckle) is allowed.

2. Construction Techniques (Earthwork)

Grading must minimize disturbance to natural landforms;

not destroy visual quality; and not create conditions that may result in landslides, slope failures, excessive erosion or drainage, or flooding or erosion. All earthwork required for proposed developments must comply with the following guidelines:

1. Grading

(a)

“Contour grading” techniques must be employed where feasible. “Contour grading” means grading that creates artificial slopes with curves and varying slope ratios in the horizontal plane designed to simulate the appearance of the surrounding natural terrain.

2. (b) Long linear slopes must be avoided, except in cases where the natural slope configuration displays this type of form. When appropriate, cut-and-fill slopes must have curved configurations that reflect the surrounding topographical context. The toe and top of slope must be “rounded” to avoid angular forms at the convergence of manufactured and natural slopes.
3. (c) Varied cut-and-fill banks and drainage terraces to alleviate monotony and allow for “naturalistic” landscaping are encouraged.
4. (d) Berms at the top of slopes and other locations used to screen, vary profile, and insure drainage away from slopes are encouraged.

2. Retaining Structures

The use of retaining structures when they will significantly reduce grading and land disturbance is encouraged.

C. Roads and Driveways

Design of roadways, driveways, and other circulation elements must comply with the following guidelines:

1. Contours

1. (a) Roadways and driveways must be aligned to follow natural contours where feasible. Long stretches of straight road should be avoided by using gentle horizontal and vertical curves where feasible.
2. (b) Roadways should not be parallel to one another to avoid a “shelving” effect on hillsides.

2. Grading

1. (a) The use of cul-de-sacs, loop streets, and common driveways is encouraged if grading is reduced significantly by their use. Cul-de-sacs must incorporate adequate turning radii to accommodate emergency vehicles.
2. (b) Development should be kept as close as possible to the street serving it to minimize the need for long driveways.
3. (c) A reduction in roadway width is encouraged if such a design minimizes the amount of necessary earthwork. Approval of the Zoning Administrator must be obtained.

3. Parking

1. (a) Whenever possible, parking should be provided within structures. When this is not feasible, lots and streets must be planned to maximize parking that is located on the uphill side of buildings.
2. (b) Parking areas located on existing flat portions of the site are encouraged.

D. Vegetation

Existing vegetation must be preserved to the maximum extent reasonably practicable and disturbed areas revegetated in conformance with the following guidelines:

Note: Removal of non-native invasive vegetation (such as bush honeysuckle) is allowed.

1. Tree Protection

1. (a) Development often necessitates the removal of trees to accommodate roads, parking, buildings, and other facilities. Every effort must be made through the design, layout, and construction of development to incorporate and preserve as many trees as possible. Special attention must be directed towards preserving trees with a diameter of eight (8) inches or greater at DBH.
2. (b) Cutting of trees eight (8) inches or greater at DBH is prohibited until: (1) the site review process, as set forth in Section 9.09.02 is completed; and (2) the standards

requirements, as set forth in Section 9.09.03 are completed; and (3) that all requirements of Section 9.03, Excavation and Grading, have been fulfilled; and (4) the development is approved by the Zoning Administrator. Clear-cutting of trees pursuant to an approved development plan will require the planting of replacement trees. Clear-cutting of trees means the cutting of more than 50% of the trees that are eight (8) inches or greater at DBH on the site. No person may cut or clear land for the sole purpose of offering land for sale.

3. (c) Considerable damage to or the death of trees may result if more than four (4) inches of soil is added around the base of a tree, if more than 30 percent of circumferential bark is removed, or more than 30 percent of the root system is removed. In addition, asphalt paving, building construction, and soil compaction within the drip line of a tree may cause their destruction. Accordingly, the potential loss of vegetation due to these conditions must be minimized through appropriate site planning and construction practices.

(d) Trees with a diameter of eight (8) inches or greater at DBH and designated for preservation must be marked with bright ribbons encircling the tree trunk at a height of four (4) feet above the ground, and must be surrounded by tree protection barriers, which are barricades at least four (4) feet in height around the critical root zone (CRZ) line installed prior to the commencement of construction. Tree protection barriers can be typical orange construction fencing, continuous rope or flagging, or other barriers approved by the Covington Urban Forester, or in his or her absence, the City Engineer. All tree protection barriers must be accompanied by "Tree Save Area" signage placed upon the barriers not more than every 20 feet.

(1) Critical root zone (CRZ) means the minimum area beneath a tree that must be left undisturbed to preserve a sufficient root mass to give a tree a reasonable chance of survival. The CRZ will typically be represented by a concentric circle centering on the tree's trunk with a radius equal in feet to one and one-half times the number of inches of the trunk diameter at the diameter breast height (DBH). DBH is the diameter of the tree four and one-half feet above the average ground level.

(e) All trees to be saved outside the buildable area of a development shall be conspicuously designated with suitable protective tree barriers as pursuant to the following guidelines.

(1) The use of tree protection zones is encouraged rather than the protection of individual trees.

2. Slopes

(2)

Construction site activities, including, but not limited to, material storage, parking, or concrete washout shall not encroach into any tree protection zone without the prior approval of a Certified Arborist, or in his or her absence, the City Engineer, or his/her designee. Any tree irreparably damaged or killed within a tree protection zone, as a result of construction activity, shall be removed and replaced by the owner and/or the developer at a rate of two trees for every tree irreparably damaged or killed. Tree replacement plans must be approved by the City Engineer.

1. (a) After construction is finished, slopes that are not vegetated must be landscaped to mitigate adverse impacts, such as hillside instability and uninteresting landscapes.
2. (b) When land is terraced, the areas between terraces must be planted with dense plantings of trees, shrubs, and ground cover. Natural landscaping is desired, using native trees, shrubs, and ground cover.

3. Landscaping and Tree Planting

1. (a) Trees should be planted in random clusters, not in rows, to complement the natural tree distribution. Row planting of trees along property lines and roads is discouraged.
2. (b) To minimize the visual obtrusiveness of buildings, plantings that screen building edges and foundations are encouraged.
3. (c) Existing vegetation should be taken into consideration when landscaping the developed area. New landscaping should be compatible with existing vegetation and the scenic character of the surrounding area.
4. (d) When new development occurs near the crest of a hill, the crest's natural appearance should be maintained by tree planting and other landscape measures.

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Note: The City of Covington has an Urban Forestry Board that has been given responsibility through Covington's Urban Forestry Ordinance. The Ordinance calls for review of development and landscape plans by Covington's Urban Forester or Urban Forestry Board.