

SECTIONS 28-44

25-28 STEEP SLOPE AND NATURAL FEATURES ORDINANCE.

25-28.1 Background.

Disturbances of steep slopes results in accelerated erosion processes from storm water runoff and the subsequent sedimentation of water bodies with the associated degradation of water quality and loss of aquatic life support. Related effects include soil loss, changes in natural topography and drainage patterns, increased flooding potential, further fragmentation of forest and habitat areas, and compromised aesthetic values. It has become widely recognized that disturbance of steep slopes should be restricted or prevented based on the impact disturbance of steep slopes can have on water quality and quantity, and the environmental integrity of landscapes.

Protection of other natural features, including State open waters, wetlands, wetland transition areas, flood hazard areas, floodways and riparian zones, is warranted to prevent flooding, protect water quality, preserve wildlife and aquatic habitat.

25-28.2 Statement of Purpose.

It is the purpose of this chapter to provide development controls for all lands located with the Township of West Orange that have within their boundaries topographical conditions hereinafter defined as “steep slopes.” These controls are enacted to minimize the potentially adverse impacts associated with disturbance of steeply sloped areas. The most appropriate method of alleviating such conditions is the regulation of soil disturbance and vegetation removal in steep slope areas; limitation of building and impervious coverage; and reductions of densities and increase in lot areas in areas of steep slope. Such regulation promotes and protects the public health, safety and welfare of the township in their existing physical state or condition as of the effective date of the enactment of this chapter.

It is also the purpose of this chapter to provide for environmentally sound development of a lot with adequate area located outside of natural features for the use and enjoyment of its occupants.

25-28.3 Definitions.

BEDROCK shall mean continuous solid rock that underlies regolith.

CLIFF FACE shall mean a sheer, nearly vertical slope of exposed bedrock.

DISTURBANCE means the placement of impervious surface, the exposure or movement of soil or bedrock, or clearing, cutting, or removing of vegetation.

EFFECTIVE LOT AREA is an adjustment for the natural features including steep slopes, State open waters, wetlands, wetland transition areas, floodways, and riparian zones. The effective lot area shall be either equal or greater than the minimum lot area as defined in chapter 25-7.1 table of districts of regulations.

EXCESSIVE STEEP SLOPE shall mean any steep slope 25% or greater.

FLOOD HAZARD AREA shall mean the flood hazard area associated with State open waters (streams, rivers, lakes, ponds, etc.) and regulated streams as determined in accordance with the methodologies included in the NJ Flood Hazard Area Control Act rules N.J.A.C. 7:13 et seq. The flood hazard area shall be as determined by NJDEP in a Flood Hazard Area Verification pursuant to these rules.

FLOODWAY shall mean the floodway area associated with certain State open waters (streams, rivers) and regulated streams as determined in accordance with the methodologies included in the

NJ Flood Hazard Area Control Act rules N.J.A.C. 7:13 et seq. The floodway shall be as determined and verified by NJDEP pursuant to these rules.

IMPERVIOUS SURFACE means any structure, surface, or improvement that reduces or prevents absorption of storm water into land, and includes porous paving, paver blocks, gravel, crushed stone, decks, patios, elevated structures and other similar structures, surfaces, or improvements.

RIDGE LINE shall mean the top of the First and Second Watchung Mountains as determined by analysis of topographic maps.

RIPARIAN ZONE shall mean the buffer adjacent to State open waters/regulated waters as determined in accordance with the methodologies included in the NJ Flood Hazard Area Control Act rules N.J.A.C. 7:13 et seq. The extent of the riparian zone shall be as determined by NJDEP in a Flood Hazard Area Verification pursuant to these rules.

ROCK CUT shall mean nearly vertical wall of rock created by or adjacent to roadway construction.

ROCK WASTE shall mean the material comprising the talus slope of sliderock.

STATE OPEN WATER shall mean streams, rivers, lakes and ponds as defined in the NJ Freshwater Wetlands Protection Act rules N.J.A.C. 7:7A. The location and extent of State open water shall be as determined by the NJ Department of Environmental Protection in a Letter of Interpretation.

STEEP SLOPE means any slope equal to or greater than 10 percent as measured over any minimum run of 10 feet. Steep slopes are determined based on contour intervals of two feet or less.

TALUS SLOPE shall mean the apron, cone, or embankment of the rock waste sloping outward from the base of the cliff face that is the course of the rock waste.

TOP OF CLIFF shall mean the portion of a hill located above the cliff face.

WETLAND TRANSITION AREA shall mean wetland transition area as defined in the NJ Freshwater Wetlands Protection Act rules N.J.A.C. 7:7A. The location and extent of wetland transition areas on a lot shall be as determined by the NJ Department of Environmental Protection in a Letter of Interpretation.

WETLANDS shall mean wetlands as defined in the NJ Freshwater Wetlands Protection Act rules N.J.A.C. 7:7A. The location and extent of wetlands on a lot shall be as determined by the NJ Department of Environmental Protection in a Letter of Interpretation.

25-28.4 Applicability.

- a. This section shall apply to all applications for development in the Township of West Orange.
- b. The Planning Board or Zoning Board shall review all plans submitted under this section as part of any application for site plan or subdivision approval.
- c. The Township Engineer and the Township Planner, in all cases, shall review all applications for compliance with this section.

25-28.5 Exceptions to Section 28.

The terms of this section shall not apply to the following:

- a. Existing single family homes built before the date of this ordinance's approval, additions to such homes or rebuilding of such homes after a disaster.
- b. Improvements for which preliminary subdivision or site plan approval or construction permits have been issued prior to the effective date of this.

- c. Other than where the exceptions set forth herein apply, all applications for subdivision or site plan approval shall be reviewed under these requirements by the applicable land use board and its professionals to determine the presence of steep slopes and other natural features, if any, on the subject property and compliance with the provisions of this chapter. All construction permit applications that include grading or clearing of any lot, other those within the scope of the exceptions set forth herein, shall be reviewed under these requirements by the Township Engineer and the Township Planner.

25-28.6 Initial Procedure.

- a. Applicants for site plan approval or subdivision approval shall submit to the Department of Planning and Development all information and documents required by this section.
- b. The Township Planner shall process all exhibits submitted under this section in the same manner as applications for subdivision approval and/or site plan approval.

25-28.7 Information Required.

- a. For all sketch plats, sketch site plans, subdivisions and site plans, the following exhibits shall be submitted:
 - 1. A colored topographic map, prepared, signed and sealed by a New Jersey licensed engineer and surveyor showing existing contours at two foot intervals.
 - 2. Areas clearly noted in different colors on the topographic map showing the following slopes as measured between (2) foot contour lines designated as areas one (1) through five (5): Area 1. Zero to ten (0 – 10%) percent; Area 2. Ten to 14.99 (10-14.99%) percent; Area 3. Fifteen to 19.99 (15-19.99%) percent; Area 4. Twenty to 24.99 (20-24.99%), and Area 5. Twenty-five (25%) percent or more.
 - 3. Calculations, in square footage and acres, of amount of area in the various slope categories listed above.
 - 4. On the colored topographic map superimpose all existing trees as defined under the tree ordinance and mark tree to be removed.
 - 5. On the colored topographic map super impose the location of State open waters, wetlands, wetland transition areas, flood hazard areas, floodways, and riparian zones.
 - 6. A separate map shall be prepared showing proposed improvements overlain on the preceding color topographic map.
- b. Where development is proposed on slopes greater than ten (10%) percent as part of preliminary subdivision approval, or preliminary site plan approval the following additional exhibits, prepared, signed and sealed by a New Jersey licensed engineer shall be submitted.
 - 1. Identification of soil types on the property, with specific reference to highly erodible soils as identified by the United States Department of Agriculture Soil Conservation Service or other recognized authority;
 - 2. Erosion potential of exposed soils;
 - 3. Length, steepness and surface roughness of exposed slopes;
 - 4. Resistance of soil to compaction and stability of soil aggregates;
 - 5. High water table, water infiltration capacity and capacity of soil profile;
 - 6. Type and location of construction activity, including the amount of site grading;
 - 7. Location of construction access roads;

8. Storm water management plan;
9. Soil erosion and sediment control plan, including but not limited to a plan explaining how the applicant will minimize adverse impacts upon existing natural features;
10. Plans and specifications for any retaining walls, steps, or other soil protective structures proposed;
11. A stabilization and revegetation plan prepared, signed and sealed by a New Jersey professional engineer, including a complete description of the existing vegetation, the vegetation to be planted and slope stabilization measures to be installed; and
12. Other engineering data deemed reasonably necessary by the Township Engineer and Planner to determine compliance with this chapter.

25-28.8 Limitations on Development in Steep Slope Areas.

- a. No Soil or vegetation shall be disturbed or structures constructed within one hundred (100) feet of the ridge line, cliff face, and rock cuts along the roadways or quarries as defined herein, including but not limited to those identified in Exhibit A attached hereto, dated December 4, 1989.
- b. Disturbance of steep slopes and excessive steep slopes shall not exceed the limits established in Table One.

Table 1
All Districts

Slope	Maximum Disturbed Area
1) 0-10%	100%
2) 10-14.99%	60%
3) 15-19.99%	40%
4) 20-24.99%	20%
5) 25% or greater	0%

- c. Disturbances of slopes of 25% or more is prohibited.
- d. Effective lot area for all districts (restrictions for effective lot area)

Table 2-Effective Lot Area
(all districts)

The area of a lot shall be reduced dependent upon the slopes present on the lot as well as the presence of other natural features including wetlands, wetland transition areas, State open waters, floodway and riparian zones. Permitted density on the lot is based on the effective lot area. The building and impervious coverage are also computed on the effective lot area.

Slope	Useable Lot Area	Adjustment factor
1) 0-10%	100%	1.0
2) 10-14.99%	60%	0.6
3) 15-19.99%	40%	0.4
4) 20-24.99%	20%	0.2
5) 25%- and over	0%	0.0

- e. All wetlands, wetland transition areas, State open waters, floodways, riparian zones, lands within 100 feet of a cliff face, and lands within 100 feet of a ridge line are treated as 100% lot reduction and are excluded from effective lot area. Wetlands, wetland transition areas, State open waters, floodways, riparian zones, lands within 100 feet of a cliff face, and lands within 100 feet of a ridge line in areas of steep slopes and excessive steep slopes shall be counted once as a 0.0 area of disturbance and not result in a further reduction of useable lot area

Example: A six acre parcel where one acre is 0-10 % slope has no adjustment. One acre at 10-14.99% is 0.6, One acre at 15-19.99% will be 0.4, One acre at 20-24.99% is 0.2 and one acre at 25% and over is 0.0. Next step is to add 1, 0.6, 0.4, 0.2, and 0 which equals 2.2. That means in the six acre parcel the effective lot area is 2.2 acres.

- f. The land use board's review and the municipal engineer's review of applications for construction, soil disturbance, or vegetation removal subject to these requirements shall include a review of the submissions requires by this section of this chapter. The review will include an evaluation of the following factors.
 - 1. The proposed activity will be conducted in compliance with Hudson-Essex-Passaic Soil Conservation District requirements and Chapter 30- Soil Removal.
 - 2. Provisions shall be made for the proper disposition of surface water runoff so that it will not increase unstable conditions. Appropriate storm drainage facilities will be constructed.
 - 3. Provision shall be made for any structure of protective measure that may be requires for the protection of public safety or to prevent erosion, including but not limited to retaining walls, guide rails, headwalls and fences.
 - 4. Any proposed building or structure or other protective measures shall not impede the flow of surface water through any watercourse.
 - 5. Any proposed vehicular facilities including roads, drives or parking areas shall be designed to comply with this Sub-Chapter and the Hudson-Essex- Passaic Soil Conservation District requirements.
 - 6. Grades along streets and driveways shall be governed by the Residential Site Improvement Standards. The connection of any driveway to street shall be by a vertical curve of sufficient radius to provide a smooth transition. The horizontal angle of intersection of a driveway with a street shall not be less than sixty (60%) degrees.
 - 7. Any fill placed on the lot shall be properly stabilized and, when found necessary, depending upon existing sloped and soil types, supported by retaining walls and other appropriate structures as approved by the Township Engineer.
 - 8. Sidewalk, driveways, new streets and walkway slopes shall not exceed six (6%) unless a ramp and steps are provided, except where superseded by the Residential Site Improvement Standards.
 - 9. There shall be no alteration of site elevations in excess of one foot within five feet of an adjoining property.
 - 10. Changes in the grade shall not exceed slope of 3 to 1 unless supported by retaining walls.
 - 11. Retaining walls will comply with the applicable wall height requirements for the zone in which the property is located. All retaining walls greater than four feet in height shall require a variance and certification by a professional engineer that the wall was constructed in accordance with approved plans.
 - 12. Fill material shall not consist of or include organic material, nor rocks greater than eight inches in diameter. Fill material shall be compacted to ninety (90%) of the maximum density.

13. Reasonable efforts shall be made to conserve topsoil which is removed during construction for later use on areas requiring vegetation or landscaping; e.g. cut and fill slopes.
14. No structure on the slope shall be located within 60 feet of the bottom of the cliff.
15. Design guidelines: Structures shall be built on the lesser slopes. No structure shall be built on the talus slope of the cliff face.
16. Tree removal on the site shall be subject to the Township's Tree Protection Ordinance (Chapter 31).
17. Vegetation and Revegetation
 - a. The developer shall submit a stabilization and revegetation plan in accordance with Chapter 30 and 31.
 - b. Every effort shall be made to conserve topsoil which is removed during construction for later use on areas requiring vegetation or landscaping e.g. cut and fill slopes.
 - c. Every effort shall be made to preserve the maximum number of trees and other existing vegetation on the site and to avoid disturbance of the critical upland forest area, and to preserve unique and predominant views.

25-28.9 Adequate Contiguous Area.

When a lot contains rock formations, wetlands, wetland transition areas, State open waters, floodway, riparian zones, slopes exceeding ten percent (10%), land within 100 feet of a cliff face, land within 100 feet of a ridge line, depth to bedrock of less than four feet, or similar constraining conditions, the appropriate Board (Planning or Zoning), after adequate investigation shall determine whether adequate contiguous area free of restraining conditions exist. In such an instance it must be demonstrated that there is an adequate contiguous area on the lot which is free of constraining factors and which is sufficient to accommodate the proposed development, including but not limited to all access drives, parking areas, front, rear and side yards and the like, constructed in accordance with all the provisions of this section. The unconstrained area shall have a width as defined in Chapter 25-4 lot width, but for a depth sufficient to build a structure, within the minimum bulk requirements.

25-28.10 Variances.

Any applicant subject to the requirements of this chapter seeking to construct, disturb or clear in excess of the requirements of this ordinance shall require a variance under N.J.S.A 40:55D-70(c).