

**Model Steep Slope Ordinance for  
Hunterdon County Municipalities  
With  
Explanations**

*This model ordinance has been prepared as a base document for use in preparing a Steep Slope Disturbance Ordinance by the municipalities of Hunterdon County.*

**Prepared by:**

**The Steep Slope Disturbance Committee**

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**MODEL STEEP SLOPE ORDINANCE  
FOR  
HUNTERDON COUNTY MUNICIPALITIES**

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## **I. PURPOSE**

Construction on steep slopes results in accelerated runoff of stormwater. The destruction of natural vegetation and the increase in impervious surfaces compounds the problems of runoff. Excess runoff causes loss of topsoil, silting in of streams, flood damages and erosion, as well as the accumulation of pollutants that are carried into downstream water bodies. Leaving woodlands and steep slopes undisturbed aids the control of erosion and sedimentation, the capability of the underlying soils to absorb and retain moisture and the protection of the quality of watershed and streams.

The purpose of this ordinance is to regulate the intensity of use in areas of steep slope terrain in order to limit soil loss, erosion, excessive stormwater runoff, excessive removal of vegetation, the degradation of surface water and to maintain the natural topography, ridgelines and drainage patterns of land as well as maintain continuing replenishment of ground water resources and the maintenance of springs.

Another purpose of this ordinance is to regulate the extent of disturbance, so as to reduce the visual impact of dwellings located on ridges or within unique viewsheds, help preserve the rural character of the Municipality, and promote additional environmental benefits.

This ordinance is intended to regulate steep slope terrain outside of those lands regulated by a riparian corridor protection ordinance. A riparian corridor ordinance shall always take precedence in the riparian zone.

Effective and reasonable application of these regulations will protect the health, safety and welfare of the citizens of the Municipality.

It is not the intent of this ordinance to prohibit the use of land for agricultural activities on properties qualified for Farmland Assessment under the Farmland Assessment Act (cite) or for right to farm protection under the Right to Farm Act (NJSA 4:1C-1-11).

For more information about farming practices and their coverage by the Right to Farm Act, or issues arising in connection with slopes on farms, contact the County Agriculture Development Board.

## II. DEFINITIONS

The following definitions shall be used in the interpretation and construction of this Ordinance:

**Best Management Practices:** Specific, technical natural resource management techniques found in the following sources: (And as updated)

New Jersey Stormwater Best Management Practices Manual  
[www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm](http://www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm) or  
[swbmpmanual@dep.state.nj.us](mailto:swbmpmanual@dep.state.nj.us)

United States Department of Agriculture - Natural Resources Conservation Service  
National Conservation Practice Standards [http://www.ftw.nrcs.usda.gov/nhcp\\_2.html](http://www.ftw.nrcs.usda.gov/nhcp_2.html)

Standards for Soil Erosion and Sediment Control in New Jersey, State Soil Conservation Committee, 1999

**Disturbance (Site)** – Any activity involving the clearing, excavating, storing, grading, filling or transporting of soil, or any other activity which causes soil to be exposed to the danger of erosion including clearing of vegetation.

**Erosion** - Detachment and movement of soil or rock fragments by water, wind, ice and gravity. (NJS 40:55D-4)

**Flood Plain** - the relatively flat area adjoining the channel of a natural stream which has been or may be hereafter covered by flood water.

**Grading** - any soil stripping, cutting, filling, stockpiling, or any combination there-of, which shall include the land in its cut or filled condition.

**Land** - any ground, soil or earth including marshes, swamps, drainage ways and areas not permanently covered by water, and includes improvements and fixtures on, or above or below the surface.

**M.L.U.L.** – the State of New Jersey Municipal Land Use Law *N.J.S.* 40:55D-1, et. seq.

**Planned industrial development** - an area of a minimum contiguous or noncontiguous size as specified by ordinance to be developed according to a plan as a single entity containing one or more structures with appurtenant common areas to accommodate industrial uses and any other uses incidental to the predominant use as may be permitted by ordinance. (NJS 40:55D-6)

**Planned unit development** - an area with a specified minimum contiguous or noncontiguous acreage of 10 acres or more to be developed as a single entity according to a plan, containing one or more residential clusters or planned unit residential developments and one or more public, quasi-public, commercial or industrial areas in such ranges of ratios of nonresidential uses to residential uses as shall be specified in the zoning ordinance. (NJS 40:55D-6)

**Planned unit residential development** - an area within a specified minimum contiguous or noncontiguous acreage of 5 acres or more to be developed as a single entity according to a plan containing one or more residential clusters, which may include appropriate commercial, or public or quasi-public uses all primarily for the benefit of the residential development. (NJS 40:55D-6)

**Ridgeline Development** - Development on the crest of a hill, which has the potential to create a silhouette or other substantially adverse impact when viewed from a common public viewing area. The “crest” of a hill is defined by Merriam-Webster’s Collegiate Dictionary as “something suggesting a crest especially in being an upper line or prominence, edge or limit . . . the top line of a mountain or hill.”

**Sediment** – Soil or soil materials or components that have been transported from their prior location.

**Sedimentation** – The deposition of soil that has been transported from its site of origin by water, ice, wind, gravity of other natural means as a product of erosion (NJS 40:55D-7).

**Soil** - the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of vegetation.

**Stability** - A condition within a channel or on a landform such that flowing water, saturated soil conditions, wind, ice or gravity will not erode the soil surface.

**Steep Slope** - Areas of extreme gradient change that potentially pose as sources of excessive runoff and erosion if managed improperly. The actual slope range shall be defined as set forth in Section IV of this Ordinance.

**Storm water runoff** - The water that flows overland during a rainstorm. As a rainstorm occurs, the water that reaches the lower atmosphere is either absorbed by trees and plants, infiltrates into the ground, re-evaporates or flows overland. The portion of the water that flows overland is storm water runoff.

**Stream Corridor** - Is comprised of the stream channel (the bed and banks of a stream which confine and conduct continuously or intermittently flowing water), the area within the one hundred year flood line and a minimum of 100 feet from the one hundred year flood line, extending outward from the stream channel, on both sides of the stream. If there is no one hundred year flood line delineated, the distance shall be measured outward from the top of the bank of the stream channel. The corridor width shall not exceed 300 feet. (Or as defined by the local municipality)

**Vegetative Protection** - Stabilization of erosive or sediment producing areas by covering the soil with:

- a. Permanent seeding, producing long-term vegetative cover,
- b. Short-term seeding, producing temporary vegetative cover, or
- c. Sodding, placement of cultivated sod onto prepared topsoil causing instant soil stabilization.

**Watershed** - A geographic area defined by topographic high points such that precipitation falling within the boundaries of the high points drains to a single outlet, such as a mouth of a stream, lake or river.

### III. APPLICABILITY

#### A. General

In order to promote environmental soundness in the development of property and in the layout and design of site plans and subdivisions, the natural resource regulations and restrictions within this Steep Slope Ordinance shall apply to the following activities within the Municipality:

1. All applications for major subdivision, site plan or land disturbance approval, Planned Unit Development (PUD) or Planned Industrial Development (PID) as those terms are defined in this Ordinance and the M.L.U.L..
2. Any site disturbance, development or redevelopment for commercial uses, greater than or equal to \*\*\*\* square feet gross disturbance, or for which the N.J. Uniform Construction Code would require a building permit.
3. Any site disturbance, development or redevelopment for residential uses, greater than or equal to \*\*\*\* square feet gross disturbance, or for which the N.J. Uniform Construction Code would require a building permit.
4. Any site disturbance, development or redevelopment for Public use (e.g., roads, bridges, schools, parks, athletic facilities, etc.) greater than or equal to \*\*\*\* square feet gross disturbance, or for which the N.J. Uniform Construction Code would require a building permit.

#### B. Exemptions

1. Site disturbance with a gross area of disturbance of less than \*\*\*\* square feet shall be exempt from these standards. Site developers of small-scale exempt projects are encouraged to become familiar with the technical requirements and Performance Standards within this ordinance and to implement best management practices for protection of steep slope areas on the development site.
2. Site disturbance for the construction of one (1) single-family dwelling unit involving a gross area of disturbance of less than \*\*\*\* square feet and not part of a development involving two (2) or more such units. Site developers of such projects are encouraged to become familiar with the technical requirements and Performance Standards within this ordinance and to implement best management practices for protection of steep slope areas on the development site.
3. Site development or redevelopment for the purpose of non-commercial home gardening or horticulture primarily for home consumption, provided such activity involves the disturbance of less than \*\*\*\* square feet.

*This Model Ordinance has been drafted to allow the local municipality considerable flexibility in implementing the desired level of stringency or laxity in applicability. The “trigger” of gross square feet of disturbance was chosen because it is objectively measurable as well as being consequential to the magnitude of adverse impacts that may result from failure to implement appropriate management practices and development restrictions. For this purpose we have left blank those trigger points for insertion by the municipality. We recommend that municipalities consider an area of disturbance in the range of 3000 to 5000 square feet gross area as the triggering point for applicability.*

4. Quarries, gravel pits, sand pits and shale pits, when permitted and regulated under other ordinances of this Municipality.

5. Sanitary landfill operations that are in conformance with Municipal and/or State Codes and Regulations.

*The municipality may wish to insert language in the ordinance which establishes primacy of another pre-existing ordinance or state regulation or permit over the provisions of this ordinance (for example, an existing Riparian Corridor Protection ordinance, Mining Ordinance, State Solid Waste Permit, etc.). Alternatively, the municipality may wish to use non-specific language making ordinance applicability “subject to other laws, ordinances or the discretion of the municipality”.*

Nothing herein contained shall be construed to prohibit the use of land for farming activities, provided that such use is permitted in the zone in which the property is located and is consistent with all other applicable Municipal, County and State regulations, or for which property has an approved Agricultural Management Plan, Farm Conservation Plan or Woodland Management Plan.

*The ordinance requires that whenever there is land disturbance as defined in the Municipal Land Use Ordinance, certain procedures must be followed to protect the receiving water bodies prior to approval. The proposed ordinance prohibits any development on slopes of 25% or greater and requires developers to adhere to variance proofs for roadway and utility improvements in areas of 25% slopes or greater.*

*The Committee believes that each municipality should decide if it wishes to exempt small areas that contain rock outcroppings, man made steep slopes or other small land risings from the provisions of this model ordinance. In New Jersey, some communities exempt 1,000 square feet while others have kept the number to 500 square feet. There are some municipalities who may wish to require more stringent requirements and have no exemptions. This is a policy matter for each community.*

*Your current zoning ordinance may already contain certain steep slope provisions and if it does, we ask that you compare the model ordinance with your current requirements and adopt the more stringent requirements. The model ordinance should be considered as minimum standards acceptable for protecting water quality*

*Language in the Applicability section of the draft Model Ordinance has been adapted from various sources, including, but not limited to: parts of Delaware Township, Franklin Township, Kingwood Township, Readington Township and West Amwell Township Soil Disturbance ordinances; Clinton Township Steep Slope ordinance.*

## IV. STEEP SLOPE DEVELOPMENT

### A. Prohibition and Limitations

1. No development, grading of the land or stripping of vegetation shall be permitted on slopes of 25% or steeper.
2. Any proposed disturbance for roadway crossings or utility construction in areas of 25% slopes or steeper shall require variance application and approval, and in addition to the required M.L.U.L. burden of proof, the applicant must affirmatively demonstrate, via analysis of alternatives, that the roadway or utility improvements are necessary in the sloped area and affect the sloped area to minimum extent possible.
3. The maximum disturbance allowed in slope areas between 20.0% to 24.9% shall be 10 %.  
The maximum disturbance allowed in slope areas between 15.0% and 19.9% shall be 20 %.  
The maximum disturbance allowed in slope areas between 0 and 14.9% shall be as limited by the site development standards pertinent to the zoning in which the property lies.
4. Site design and grading on slopes greater than 15% shall provide the minimum disruption of view corridors and scenic vistas and shall preserve significant natural topographic features, to the greatest extent possible, including ridgelines, to the extent that any portion of the ridgeline is within the regulated steep slope area. Roads and driveways shall follow the natural topography to the greatest extent possible to minimize the cutting and grading of critical slope areas.
5. Except in conformance with a woodland management plan approved by the State of New Jersey and County Soil Conservation District, no trees with a diameter at breast height of 10 inches or more shall be removed from that portion of a lot with slopes greater than 15%

*The use of conservation easements on steep slopes should be encouraged to preserve the area in perpetuity. Conservation methods may include voluntary donation of lands to be preserved in one hundred percent, (100%), open space dedicated by the developer or landowner, purchase of conservation easements by the municipality, and/or county and/or private land trust or a non-profit agency in order to preserve and maintain the area in its natural state.*

*The municipality should consider that comprehensive ridgeline protection may require adopting a specific ridgeline or vista protection ordinance in addition to this ordinance.*

### B. Performance Standards; Site Plan and Other Report Requirements

Before a permit is issued for any construction or site disturbance activity on any land located within or affected by this Steep Slope Ordinance, the following material shall be submitted for review by the municipal Engineer. If the disturbed site contains no steep slopes as verified by the written report of the municipal Engineer, the Zoning Officer and / or Construction Official shall process the permit applications of the applicant without regard to this ordinance. Alternatively, if the disturbed area contains steep slopes, the municipal Engineer shall review the application and related reports, and provide a written report on compliance with the terms of this Ordinance as regards to the application for a single lot building permit, and / or prior to and as part of the subdivision / site plan approval being sought before the municipal planning board / board of adjustment. The applicant shall provide:

1. Site Plan. For all earth moving, disturbances, clearing or site development activities on slopes of 15% or greater, the Applicant shall submit a site plan prepared by a New Jersey Licensed Professional Engineer (in conjunction with a licensed Land Surveyor certifying topographic and other necessary surveying data). The Applicant's Site Plan shall include as a minimum, each and every element for a major site plan as required by the Development Regulations of the municipality, and also including, but not limited to the following:
  - A. Location of existing natural and topographic features on and within 200 feet of the site boundary.
  - B. Location of all existing and proposed site improvements, other impervious surfaces, storm drainage facilities, retaining walls, all waterbodies including but not limited to streams, lakes and wetlands.
  - C. General location and density of all existing vegetation including meadow, forest and scrub lands, and a tabulation of those areas of vegetation which will be removed as well as vegetation to be preserved.
2. Grading Plan. A Grading Plan of the property, at an appropriate scale which will result in a legible document, and which indicates existing grades with contour lines at two (2) foot intervals and proposed grades within the area of any proposed activity, disturbance or construction, including access routes. The Grading Plan shall depict slope classes of 0-14.9%, 15-24.9% and greater than 25%, based on two foot (2') contours analyzed on a ten foot (10') horizontal interval.
3. Architectural Plans. The Architectural plans including elevations and sections, with statements, signed and sealed by the Architect and Professional Engineer, explaining the building methods to be used to overcome foundation and other structural problems created by slope conditions, preserving the natural watersheds, and preventing soil erosion and excessive surface water runoff to neighboring properties and/or streets.
4. Sediment and Soil Erosion Control Plan. A Sediment and Erosion Control Plan, with construction narrative and proposed construction schedule, and a statement and description of the stability of the soils on site and the appropriateness of the construction method proposed. The plan shall set forth the specific structural and non-structural measures to control sediment generated on site, soil loss and excessive stormwater runoff both during and after construction. The plan shall be prepared according to the standards and procedures established by the County Soil Conservation District and the Standards for Soil Erosion and Sediment Control in New Jersey. Specifications for revegetation shall also be included. The Site Plan shall also provide profiles and typical cross-sections of any proposed street, emergency access, or driveway within areas of prohibitive and/or precautionary slopes as defined in section IV.A.
5. Hydrology, Drainage and Flooding Analysis Report. A Hydrology, Drainage and Flooding Analysis Report to include a statement (a) on the effect of the proposed development upon water bodies or wetlands in the vicinity of the project; (b) the underlying geology attesting to the stability of the site; and (c) the building methods to be used in overcoming foundation and other structural problems created by slope conditions, preserving the natural watersheds, and preventing soil erosion and excessive surface water runoff to neighboring properties and/or streets.

6. A statement, signed by the owner or Contract Purchaser at the time of subdivision, land development, or building, that there is a full understanding of the difficulties associated with access stemming from the steep slope conditions.

The Municipal Engineer shall review the plans submitted by the applicant and recommend acceptance or rejection, as well as, specific conditions to be complied with in order for the plans to be approved.

No building permit shall be issued and no grading or site clearing shall occur until the performance standards of subsection IV.B. above have been reviewed and approved in writing by the Municipal Engineer, or municipal Planning Board/Board of Adjustment on an application for development.

*Language in the Performance Standards section of the draft Model Ordinance has been adopted from various sources, including, but not limited to: parts of The Ten Towns Committee model ordinances, Morris County; Delaware Township, Kingwood Township, Readington Township Steep Slope ordinances, Hunterdon County.*

### **C. Special Exemptions**

Should it be necessary to grant relief from the prohibitions or limitations of this Ordinance to permit a driveway/roadway crossing or utility construction where no other means of access or provision for utilities to a property exists or can be provided, such variance relief may be granted upon satisfaction of the burden of proof required by the M.L.U.L., but only to the minimum extent needed to afford access and only if such relief does not involve the disturbance of any slopes over thirty-five (35) percent, and further provided the location and design of the driveway or utility crossing and of any mitigation measures necessitated by the clearance of vegetation and/or regrading of are in strict conformance with the standards established by the County Soil Conservation District.

*The Municipality may wish to consider the inclusion of certain actions as special exemptions to the prohibitions and limitations embodied in the ordinance.*

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## **V. ADMINISTRATION, ENFORCEMENT, VIOLATION AND PENALTIES**

### **A. General**

The provisions of this ordinance shall be enforceable by the (*choose: Municipal Engineer or Zoning Official, or Construction Code Official, or County Soil Conservation District, other*) as the designated Enforcement Official.

*The Municipality must designate an Enforcement Official empowered to evaluate compliance with the provisions of the ordinance and take enforcement action, when appropriate, on behalf of the Municipality.*

It shall be the duty of the Enforcement Official or their designee to perform physical inspections periodically during construction of site improvements. It is an expressed condition of any permit or approval granted pursuant to this section that the Enforcement Official be granted unconditional access to the project site for the purpose of inspection.

The applicant shall ensure that a copy of the approved plan is on-site during all phases of construction.

**B. Violations and Penalties**

Failure to comply with any of the standards and conditions in this ordinance may result in the issuance of a stop-work order, revocation of building permits, refusal to approve further work, or denial of certificates of occupancy. Remedial and corrective measures shall be mandated if the appropriate construction and site planning techniques, as outlined in the applicant’s approved plan, are not followed, or any disturbance in an area governed by this Ordinance is undertaken without appropriate application and prior approval, with the result of these actions or inappropriate actions resulting in conditions that adversely affect soil and water resources of the Municipality. Remedial or correctional measures which may be ordered by the municipality and / or Court shall include reforestation of the disturbed area to properly reclaim the site with such reforestation being implemented through a comprehensive plan to reestablish desirable native tree species so as to expedite the return of the site to a stable forest ecosystem. The mandated reforestation plan shall follow the technical criteria described in “Building Greener Communities – Planting for Woodland Conservation” published by the Hunterdon County Planning Board, Flemington, New Jersey, June, 2003 (pages 42-44, Appendix C, page 90).

Any person found to be in violation of any provision of this ordinance or any standard promulgated pursuant to this ordinance shall be subject to a penalty of not less than \_\_\_\_(*example: one hundred dollars (\$100.00)*) nor more than \_\_\_\_(*example: three thousand dollars (\$3000.00)*) per offense, and/or imprisonment for \_\_\_\_(*example: thirty (30) days and/or a period of community service for 30 days*), or both, at the discretion of the judge of the Municipal Court.

Additionally, if any person violates any of the provisions of this ordinance or any standard promulgated pursuant to it or fails to comply with the provisions of an approved plan, the Municipality may institute a civil action in the Superior Court for injunctive relief to prohibit and prevent such violation or violations.

If a violation of any provision of this ordinance or any standard promulgated pursuant to this ordinance is of a continuing nature, each and every day during which such violation continues shall constitute an additional, separate and distinct violation.

**Mitigation**

*When reviewing Zoning or Planning applications that have steep slopes, approval determinations may need to be made. The basic premise for any determination must always be conformance with your Master Plan goals and the required legal arguments. The following is a list of considerations and circumstances that may occur when reviewing steep slope applications.*

- 1. Extent to which steep slopes impact is so severe as to constrain the potential property use. Legal advice is advised and a review of relevant recent cases should be completed.*
- 2. Excessive disturbance due to driveway design or construction. Consideration should be given to alternative access and adjacent land acquisition in order to improve design options.*
- 3. Inappropriate use of woodland management plan permitting as a way to clear land prior to development. Sometimes a developer will obtain a plan and clear cut a large harvest of trees thereby creating the income related to several years of forest plan harvest. This is*

- particularly troubling when there is no reforestation obligation required under the woodland management permit.*
- 4. Use of least intrusive man-made erosion control structures and encouragement of natural sediment, water and soil retention methods as a primary approach to erosion control. If the design presented requires unattractive or invasive erosion control approaches, alternative designs should be considered. Natural designs may reduce the need for construction disturbance and may allow for a naturally managed erosion approach rather than a man-made one. If the community desires, an applicant could be required to provide a least intrusive plan for disturbance mitigation on any steep slope property.*
  - 5. Consideration of previous disturbances (i.e., what has the history of this area been), potential for off-site impact (i.e., possibility for intensive disturbance from off-site sources) and collective on-site activity (i.e., multiple applications) when determining suitability for disturbance consideration. Reviewing the history of the site and the adjacent sites will assist in evaluating the potential for unintended consequences and the approval of a high risk solution.*
  - 6. Lot coverage. When coverage is exceeded on an application, reduction of coverage is usually the desired goal. The goal of water recharge may be able to be reached, if drywells or other infiltration mechanisms are introduced on the property.*
  - 7. Driveways. Long and wide driveways may be necessary when providing access to a steep slope lot. Using infiltration basins rather than catch basins allows for the water recharge rather than shifting the burden to the roads and streams where silt and debris can interfere with stream activity.*

*The existence of steep slopes may not by itself render a parcel “un-buildable” or “un-approvable”. Conditions may exist where variances or waivers can be appropriate if the detrimental impacts of the disturbance can be reduced. However, when steep slopes exist in combination with high impervious coverage, substandard lot size, wetlands or other conditions protected by the Master Plan, building code or state statute language, the property may be unsuitable for disturbance. Other uses including conservation easement, preservation or farming may be preferred. If a steep slope parcel is combined with an adjacent lot, greater privacy or farmland value may result. These options should be considered when making a determination of any significance regarding land containing steep slopes.*

## **VI. Other Sources**

- Ten Towns Committee Steep Slope Model Ordinance (October 22, 2003)
- East Amwell Steep Slopes: Disturbance Standards
- Bethlehem Township, (open space planning objectives for ridgeline and steep slopes, section 7.2.4)
- East Nantmeal Township, Chester County, Pennsylvania Steep Slopes Ordinance

*Language in the Enforcement section of the draft Model Ordinance has been adapted from various sources, including, but not limited to: parts of Delaware Township, Franklin Township, Kingwood Township and Readington Township Soil Disturbance Ordinances; Clinton Township and Lebanon Township Steep Slope Ordinance; Township of Logan Soil and Earth Removal Ordinance; Annandale Limestone Ordinance and USDA Soil Erosion and Sediment Control Act.*