

Chapter 94

GRADING AND DRAINAGE

- 94-1. Short title
- 94-2. Purpose.
- 94-3. Scope.
- 94-4. Definitions.
- 94-5. General requirements.
- 94-6. Activities requiring grading permit.
- 94-7. Activities not requiring permit.
- 94-8. Application for permit.
- 94-9. Required data.
- 94-10. Special requirements.
- 94-11. Approval.
- 94-12. Standards for permit issuance.
- 94-13. Inspections.
- 94-14. Costs of inspection.
- 94-15. Fee.
- 94-16. Violations and penalties.
- 94-17. Additional remedies.

(HISTORY: Adopted by the Board of Commissioners of the Township of Wilkins 10-12-1992 as ORD. No. 827. Amendments nopted where applicable.)

GENERAL REFERENCES

Construction within flood hazard areas – See Ch 72 Art II, Subdivision and land development – See Chap 148 Zoning – See Chap 173.

94.1 Short Title

This chapter shall be known and may be cited as the “Soil Erosion, Sedimentation and Grading Control Ordinance,” implementing Title 25, Rules and Regulations, Pt. I, Commonwealth of PA, Department of Environmental Resources, Subpart C. Protection of Natural Resources, Article II, Water Resources, Chapter 102, Erosion Control.

94.2 Purpose

The purposes of this chapter are to regulate the modification of the natural terrain and the alteration of drainage and to provide for certain erosion and sediment-control measures with the township to assure and safeguard health, safety, ecology and the general welfare in the township.

94.3. Scope.

From and after the effective date of this chapter, any subdivision and/or land development approved under the Subdivision and Land Development or Zoning Ordinances¹ or activity qualified under 94.5 and 94.6 herein shall be in conformity with this chapter. In the event of a conflict between this chapter and flood plain regulations, the floodplain regulations shall take precedence.²

94.3 Definitions.

As used in this chapter, the following terms shall have the meanings indicated unless a different meaning clearly appears from the context:

ALLUVIAL SOILS – An agonal great group of soils, developed from transported and relatively recently deposited material (alluvium), characterized by a weak modification (or none) of the original material by soil-forming processes.

CUT AND/OR FILL – The process of earthmoving by excavating part of an area and/or using excavated material for embankments or fill areas.

EROSION:

- A. The wearing away of the land surface by running water, wind, ice, chemical or other geological agents.
- B. Detachment and movement of soil or rock fragments by water, wind, ice or gravity.

GRADE:

- A. The slope of a road, channel or natural ground.
- B. The finished surface of a canal bed, roadbed, top of embankment or bottom of excavation; any surface prepared for the support of construction like paving or laying a conduit.
- C. To finish the surface of a canal bed, roadbed, top of embankment or bottom of excavation.

RUNOFF (hydraulics) – That portion of the precipitation of a drainage area or watershed that is discharged from the area in stream channels; types include surface runoff, groundwater runoff or seepage.

¹ Editors Note: See Ch 148, Subdivision and Land Development, and Ch. 173 Zoning.

² Editors Note: See Ch 72, Building Construction, Art. II.

SEDIMENT – Solid material, both mineral and organic, that is in suspension, is being transported or has been moved from its site of origin by air, water, gravity of ice and has come to rest on the earth's surface either above or below sea level.

SLOPE – The degree of deviation of a surface from the horizontal, usually expressed in percent or degrees.

SOIL DRAINAGE – A condition of the soil, referring to the frequency and duration of periods when the soil is free of saturation.

WATERCOURSE – A natural drainage route or channel for the flow of water.

94-5. General requirements.

Whenever the landscape is to be permanently disturbed as to either contours, soil or slope characteristics or vegetation or any ground cover is to be permanently removed, a plan is required showing how resulting erosion and sediment shall be controlled. This plan shall include the following:

- A. The amount of site alteration proposed.
- B. Development of a schedule.
- C. Erosion – and sediment-control practices (both temporary and permanent) and the operation and maintenance arrangements.

94-6. Activities requiring grading permit.

The following activities require a grading permit:

- A. Modifying, disturbing, blocking, diverting or otherwise adversely affecting the natural overland or subsurface flow of stormwater.
- B. Construction, erection or installation of any drainage dam, ditch, culvert, drain pipe, bridge or any other structure or obstruction affecting the drainage of any premises.
- C. Paving, filling, stripping, excavating, grading or regrading of any land.
- D. Disturbing the landscape, vegetation or any ground cover by any proposal involving an area in excess of five thousand (5,000) square feet.

94-7. Activities not requiring permit.

The following activities require no grading permit:

- A. Improvements such as erection of retaining walls, driveway paving, Minor regarding or activities on a property which do not adversely Affect the natural overland or subsurface flow of stormwater, Drainage of any premises or adversely disturb the landscape, In a gross area of up to twenty-five (25) acres on any one (1) Property.
- B. Farming, gardening or lawn restoration, but not including sod farming.

94-7. Application for permit.

- A. Any person, firm or corporation proposing to engage in an activity Requiring a grading permit hereunder shall apply by the submission of a plan.
- B. The applicant should, before submitting a preliminary plan for review, Consult the Zoning Ordinance, the Floodplain Regulations, the Sub-Division and Land Development Ordinance and Grading Ordinance which regulate the development of land in the Township of Wilkins.
- C. A separate plan shall be required for each grading permit.
- D. Five (5) copies of the proposed plan, including specifications and Development schedules, shall be submitted to the Township Manager for a grading permit. The Manager shall forward one (1) copy of the plan to the Planning Commission, one (1) copy to the Township Engineer and one (1) copy to the Zoning Officer.
- E. The plan for a grading permit shall be accompanied by a fee established in the township's schedule of fees and collection procedure for all applications and other matters pertaining to the subdivision and Land Development Ordinance and this chapter.

94.9. Required data.

The plan for a grading permit shall include:

- A. A valid boundary-line survey of the site on which the work is to be performed.

- B. A description of the features, existing and proposed, surrounding the site which are of importance to the proposed development.
- C. A plan of the general topography (including drainage) and soil Conditions on the site (the latter available through the County Conservation District
- D. The location and a description of existing and future man-made features of importance to be proposed development (i.e., cuts and/or fills, buildings, roads and driveways).
- E. Plans and specifications of soil erosion and sediment control measures in accordance with standards and specifications of the Township of Wilkins and the County Conservation District.
- F. A development schedule indicating the anticipated starting and completion dates of the development sequence and the time of exposure of each area prior to the completion of effective erosion – and sediment – control measures.

94.10.Special requirements.

In addition to the requirements of 94-9 and where deemed necessary by the Township Engineer and the Planning Commission, or the Commissioners the applicant shall submit with the plan a detailed drainage study prepared by a registered professional engineer qualified in hydrology in the commonwealth. This study shall include:

- A. A plan of the property showing the location of all present and proposed ditches, streams, pipes and other drainage structures and proposed cuts and/or fills. In addition to showing present elevations and dimensions and the location and extent of all proposed grading and/or drainage, the plan shall clearly indicate all woodlands, buildings, parking areas and driveways. Further, the plan shall indicate the present and proposed sources, storage and disposition of water being channeled through or across the premises, together with elevations, gradients and maximum flow rates. The plan shall describe the work to be performed and disposition of cut and/or fill, the materials to be used and the manner or method of performance, including provisions for protecting and maintaining existing drainage facilities, whether on public or private property. The applicant shall also supply the supporting data for the plan as developed by the engineer.

B. Calculations to determine runoff which shall be based on the Soil-Cover Complex Method, a description of which is available from the United States Department of Agriculture Soil Conservation Service and outlined in the Erosion and Sediment Control Handbook, Allegheny County, Pennsylvania.

(1) The design criteria for storm-sewer piping on inlet systems within a subdivision being developed shall be designed for a twenty-five year frequency storm; culverts across roadways shall be designed for a fifty-year frequency storm; open watercourses or swales shall be designed for a one hundred-year frequency storm as prescribed in accordance with the following:

(a) The coefficient of runoff used for all areas upstream of any drainage structure shall be computed on the basis of existing land use and the projected land use described and shown on the Township's Comprehensive Plan and adjacent municipalities Comprehensive Plans, where applicable.

(2) The following provisions apply to the carrying and disposal of stormwater runoff:

(a) All drainage facilities shall be designed to carry surface water in such a manner as to prevent erosion or overflow.

(b) The applicant shall agree to the granting and recording of easements covering the installation and maintenance of drainage facilities.

(c) The rate of runoff shall be no greater during and after a one-hundred-year frequency storm when the development is completed than that which existed before the development began, and appropriate measurements of calculations shall be provided to verify such provisions.

C. A soils investigation report, if load-bearing fill is proposed, which shall consist of test borings, laboratory testings and engineering analysis to correlate surface and subsurface conditions with the proposed grading plan. The results of the investigation shall be presented in a report by a registered professional soils engineer and shall include data regarding the nature, distribution and supporting ability of existing soils and rocks on the site, conclusions and

recommendations to ensure stable soil conditions and groundwater control as applicable. The Township may require such supplemental reports and data as is deemed necessary by the Township Engineer. Recommendations included in such reports and approved by the Township Engineer shall be incorporated in the plan or specifications. In addition:

- (1) Fills toeing out on natural slopes steeper than four (4) horizontal to one (1) vertical shall not be made unless a report is received which is deemed acceptable by the Township Engineer and approved by the Commissioners. The report shall be made by a registered professional soils engineer certifying that he has investigated the property, made soils tests and that, in his opinion, such steeper slopes will safely support the proposed fill.
- (2) Natural and/or existing slopes exceeding five (5) horizontal to one (1) vertical shall be benched or continuously stepped into competent materials prior to placing all classes of fill.

94-11. Approval.

Upon the approval of the plan by the Township Engineer, the Township Manager shall issue the necessary grading permit.

94-12. Standards for permit issuance.

- A. Notwithstanding any provision of this chapter or any condition of the grading permit, the permittee is responsible for the prevention of damage to other property or personal injury which may be effected by the activity requiring a grading permit.
- B. No person, firm or corporation shall modify, fill, excavate, pave, grade or regrade land in any manner so close to a property line as to endanger or damage, any adjoining street, alley or any other public or private property without supporting and protecting such property from settling, cracking, erosion, sediment, flooding or any other physical damage or personal injury which might result.
- C. No person, firm or corporation shall deposit or place any debris or any other Material whatsoever or cause such to be thrown or placed in any drainage ditch or drainage structure in such a manner as to obstruct free flow.
- D. No person, firm or corporation shall fail to adequately maintain in good operating order any drainage facility on his premises. All drainage ditches, culverts, drainpipes, and drainage structures shall be kept open and free-flowing at all times.

- E. The owner of any property on which any work has been done pursuant to a grading permit granted under this chapter shall continuously maintain and repair all graded surfaces and antierosion devices, retaining walls, drainage structures or means and other protective devices, plantings and ground cover, installed or completed. The township is responsible for maintenance and repair within the right-of-way of municipal roads.
- F. All graded surfaces shall be permanently seeded and/or planted or otherwise Protected from erosion within thirty (30) days, weather permitting, and shall be tended and/or maintained until growth is well established. The disturbed area and duration of exposure shall be kept to a minimum using temporary erosion – and sediment-control measures immediately, as outlined in the Erosion and Sediment Control Handbook, Allegheny County, Pennsylvania.
- G. All trees in an area of extreme grade change shall be protected with suitable tree wells unless the necessity for removal is established. Precautions shall be taken to prevent the unnecessary removal of trees.
- H. When required, adequate provisions shall be made for dust-control measures as are deemed acceptable by the Township Engineer.
- I. All plans and specifications submitted for a grading permit shall include provisions for both interim (temporary) and ultimate (permanent) erosion and sediment control. The design, installation and maintenance of erosion-and sediment-control measures shall be accomplished in accordance with standards and specifications of the United States Soil Conservation Service and as outlined in the Erosion and Sediment Control Handbook, Allegheny County, Pennsylvania.
 - (1) Technical standards for the design and installation of erosion-and installation of erosion – and sediment-control measures are on file with the township, the office of the County Conservation District and other governmental agency offices.
 - (2) Standards and specifications adopted for the purposes of this chapter and by the County Conservation District include but are not limited to the following basic conservation measures:
 - (a) Temporary cover on critical areas.
 - (b) Permanent grass and legume cover for critical areas on prepared seedbed.
 - (c) Permanent grass and legume cover for critical areas on unprepared Seedbed.
 - (d) Sodding.
 - (e) Mulching.

- (f) Temporary diversion.
- (g) Permanent diversion.
- (h) Grassed waterway or outlet.
- (i) Grade stabilization structure.
- (j) Debris basin.
- (k) Drain.
- (l) Drainage mains or laterals.

J. A quality control program is critical for fills; therefore, wherever fill material is to be used, the person, firm or corporation shall be responsible for testing to determine its dry density as per ASTM D 1556. The density of each layer shall be not less than ninety-five percent (95%) of maximum density as determined by ASTM D 1557.

- (1) Inspection procedure shall follow the general procedure as stated in 94-13
- (2) Compaction test reports shall be kept on file at the site and be subject to review at all times.
- (3) The degree of compaction required shall be determined by the Township Engineer following the guidelines in this section.

94-13. Inspections.

- A. All inspections shall be the responsibility of the Township Engineer or, in his absence, a qualified person acceptable to the Township Engineer and the Commissioners.
- B. Inspections will be carried out on a random basis except as stated below. However, a set of as-built plans shall be on file at the site and authenticated by a registered professional engineer. When it is deemed acceptable to the Township Engineer, a designated qualified person may authenticate the as-built plans and will assume full responsibility for the quality of work.
- C. Any and all as-built plans shall be available on the site at all times and be subject to inspection and inquiry.
- D. Engineering checknotes shall accompany all as-built plans which involve structural or mechanical measures and shall serve as supporting evidence that structures meet design standards and specifications specified herein.
- E. A final inspection shall be conducted by the Township Engineer to certify compliance with this chapter shall be necessary before issuance of an occupancy or use permit.

94-14. Costs of inspection.

Permittees shall bear all costs of inspections required or permitted hereunder and shall deposit with the township such sum as the Commissioners shall determine to guarantee payment of the costs of such inspections. The costs of inspections shall be in accordance with the established schedule of fees and collection procedure for matters pertaining to this chapter.

94-15. Fee.

The fee for a grading permit shall be fixed by the Commissioners pursuant to resolution.³

94.16. Violations and penalties.⁴

Any person, firm or corporation who shall violate any provision of this chapter shall, upon conviction thereof, be sentenced to pay a fine of not more than one thousand dollars (\$1,000.), plus costs of prosecutions, and, in default of payment, to undergo imprisonment for a term not exceeding thirty (30) days. Each day that a violation of this chapter continues shall constitute a separate offense.

94.17. Additional remedies.

In addition to the penalties as set forth in 94.16, any movement of the landscape, vegetation or any ground cover performed in violation of this chapter shall be restored to its previous condition, including replacement of excavated earth, removal of illegally placed fill and restoration of grades and planting. In order to enforce this section, the Township Solicitor may seek injunctive relief in accordance with the rules of civil procedure.

³³ Editor's Nolte: The current fee resolution is on file in the office of the Township Secretary.

⁴ Editors's Note: Amended at time of adoption of Code; see Ch. 1, General Provisions, Art I