

MUDDY RUN WATERSHED
ACT 167 STORMWATER MANAGEMENT ORDINANCE

ARTICLE I
GENERAL PROVISIONS

SECTION 101. STATEMENT OF FINDINGS

The governing body of the Municipality finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, and threatens public health and safety.
- B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated erosion, is fundamental to the public health, safety, welfare, and the protection of the people of the Municipality and all the people of the Commonwealth, their resources, and the environment.

SECTION 102. PURPOSE

The purpose of this Ordinance is to promote public health, safety, and welfare within the Muddy Run Watershed by minimizing the damages described in Section 101.A of this Ordinance through provisions designed to:

- A. Manage accelerated runoff and erosion and sedimentation problems at their source by regulating activities that cause these problems.
- B. Utilize and preserve the existing natural drainage systems.
- C. Encourage recharge of groundwater where appropriate and prevent degradation of groundwater quality.
- D. Maintain existing flows and quality of streams and watercourses in the Municipality and the Commonwealth.
- E. Preserve and restore the flood-carrying capacity of streams.
- F. Provide proper maintenance of all permanent stormwater management facilities that are constructed in the Municipality.
- G. Provide performance standards and design criteria for watershed-wide stormwater

management and planning.

SECTION 103. STATUTORY AUTHORITY

The Municipality is empowered to regulate land use activities that affect runoff by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), the "Stormwater Management Act," [and the applicable Municipal Ordinance].

SECTION 104. APPLICABILITY

This Ordinance shall only apply to those areas of the Municipality that are located within the Muddy Run Watershed, as delineated on an official map available for inspection at the Municipal office and at the office of the Plan Administrator. A map of the Muddy Run Watershed at a reduced scale is included as Plate 1 of this Ordinance for general reference.

This Ordinance shall only apply to permanent stormwater management facilities constructed as part of any of the Regulated Activities listed in this Section. Stormwater management and erosion and sedimentation control during construction activities are specifically not regulated by this Ordinance, but shall continue to be regulated under existing laws and ordinances.

This Ordinance contains only the stormwater management performance standards and design criteria that are necessary or desirable from a watershed-wide perspective. Local stormwater management design criteria (e.g. inlet spacing, inlet type, collection system details, outlet structure design, etc.) shall continue to be regulated by the [applicable Municipal Ordinance].

The following activities are defined as "Regulated Activities" and shall be regulated by this Ordinance:

- A. Land development.
- B. Subdivision.
- C. Construction of new or additional impervious or semi-pervious surfaces (driveways, parking lots, etc.).
- D. Construction of new buildings or additions to existing buildings.
- E. Diversion or piping of any natural or man-made stream channel.
- F. Installation of stormwater management facilities or appurtenances thereto.

SECTION 105. REPEALER

Any ordinance of the Municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

SECTION 106. SEVERABILITY

Should any section or provision of this Ordinance be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

SECTION 107. COMPATIBILITY WITH OTHER ORDINANCE REQUIREMENTS

Approvals issued pursuant to this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance.

ARTICLE II DEFINITIONS

For the purposes of this chapter, certain terms and words used herein shall be interpreted as follows:

- A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.
- B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.
- C. The word "person" includes an individual, firm, association, organization, partnership, trust, company, corporation, or any other similar entity.
- D. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.
- E. The words "used or occupied" include the words "intended, designed, maintained, or arranged to be used or occupied."

Alteration - As applied to land, a change in topography as a result of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; land disturbance.

Applicant - A landowner or developer who has filed an application for approval to engage in any Regulated Activities as defined in Section 104 of this Ordinance.

Cistern - An underground reservoir or tank for storing rainwater.

Conservation District - The Huntingdon County Conservation District.

Design Storm -The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g. a 5-year storm) and duration (e.g. 24-hours), used in the design and evaluation of stormwater management systems.

Detention Basin - An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

Developer - A person, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any Regulated Activity of this Ordinance.

Development Site - The specific tract of land for which a Regulated Activity is proposed.

Drainage Easement - A right granted by a landowner to a grantee, allowing the use of private land for stormwater management purposes.

Drainage Plan - The documentation of the stormwater management system, if any, to be used for a given development site, the contents of which are established in Section 403.

Erosion - The movement of soil particles by the action of water, wind, ice, or other natural forces.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary Maps as being a special flood hazard area. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Resources (PA DER) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PA DER).

Groundwater Recharge - Replenishment of existing natural underground water supplies.

Impervious Surface - A surface that prevents the percolation of water into the ground.

Infiltration Structures - A structure designed to direct runoff into the ground (e.g. french drains, seepage pits, seepage trench).

Land Development - (i) the improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (a) a group of two or more buildings, or (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) any subdivision of land; (iii) any lot improvements regulated under the Municipal Zoning Regulations.

Land Disturbance - Any activity involving grading, tilling, digging, or filling of ground or stripping of vegetation or any other activity that causes an alteration to the natural condition of the land.

Municipality - [The Borough or Township of (name)].

Open Channel - A drainage element in which stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, canals, and pipes flowing partly full.

Plan Administrator - The entity set up specifically to review Act 167 Drainage Plans, inspect stormwater management structures, and otherwise enforce all regulations as outlined in the "Muddy Run Watershed Act 167 Stormwater Management Ordinance."

Peak Discharge - The maximum rate of stormwater runoff from a specified storm event.

Pipe - A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

Regulated Activities - Actions or proposed actions that have an impact on stormwater runoff and that are specified in Section 104 of this Ordinance.

Release Rate - The percentage of the pre-development peak rate of runoff from a subarea to which the post-development peak rate of runoff must be reduced to protect downstream areas.

Retention Basin - An impoundment in which stormwater is stored and not released during the storm event. Stored water may be released from the basin at some time after the end of the storm.

Return Period - The average interval, in years, within which a storm event of a given magnitude can be expected to recur. For example, the 25-year return period rainfall would be expected to recur on the average once every twenty-five years.

Runoff - Any part of precipitation that flows over the land surface.

SCS - U. S. Department of Agriculture, Soil Conservation Service.

Sedimentation - The process by which mineral or organic matter is accumulated or deposited by the movement of water.

Sediment Basin - A barrier, dam, retention, or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

Seepage Pit/Seepage Trench - An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

Soil-Cover Complex Method - A method of runoff computation developed by the SCS that is based on relating soil type and land use/cover to a runoff parameter called a Curve Number (CN).

Storage Indication Method - A reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

Storm Sewer - A system of pipes and/or open channels that convey intercepted runoff and stormwater from other sources, but excludes domestic sewage and industrial wastes.

Stormwater - The total amount of precipitation reaching the ground surface.

Stormwater Management Facility - Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration structures.

Stormwater Management Plan - The plan for managing stormwater runoff in the Muddy Run Watershed adopted by Huntingdon County as required by the Act of October 4, 1978, P.L. 864, (Act 167), and known as the "Muddy Run Watershed Act 167 Stormwater Management Plan."

Subarea - The smallest drainage unit of a watershed for which stormwater management criteria have been established in the Stormwater Management Plan.

Subdivision - The division or re-division of a lot, tract, or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, transfer of ownership, or building or lot development.

Wetland - Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, and similar areas.

ARTICLE III
STORMWATER MANAGEMENT

SECTION 301. GENERAL REQUIREMENTS

- A. Stormwater drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by stormwater management facilities or open channels consistent with this Ordinance.
- B. The existing points of concentrated drainage that discharge onto adjacent property shall not be relocated and shall be subject to any applicable release rate criteria specified in this Ordinance.
- C. Areas of existing diffused drainage discharge shall be subject to any applicable release rate criteria in the general direction of existing discharge, whether proposed to be concentrated or maintained as diffused drainage areas.

If diffused flow is proposed to be concentrated and discharged onto adjacent property, the Developer must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding, or other harm will result from the concentrated discharge.
- D. Where a Development Site is traversed by watercourses other than permanent streams, a drainage easement shall be provided conforming substantially to the line of such watercourse. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may affect adversely the flow of stormwater within any portion of the easement. Also, maintenance and mowing of vegetation within the easement shall be required.
- E. Any stormwater management facilities regulated by this Ordinance that would be located on State highway right-of-ways shall be subject to approval by the Pennsylvania Department of Transportation (PADOT).
- F. Any stormwater management facilities regulated by this Ordinance that would be located in or adjacent to waters of the Commonwealth or potential wetlands shall be subject to approval by PA DER through the Joint Permit Application process, or, where deemed appropriate by PA DER, the General Permit process. When there is a question whether wetlands may be involved, it is the responsibility of the Developer or his agent to show that the land in question cannot be classified as wetlands, otherwise approval to work in the area must be obtained from PA DER.
- G. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work

within natural drainageways shall be subject to approval by PA DER through the Joint Permit Application process, or, where deemed appropriate by PA DER, through the General Permit process.

H. Sinkholes shall be protected as follows:

1. Stormwater from roadways, parking lots, storm sewers, roof drains, or other concentrated runoff paths shall not be discharged directly into sinkholes.
2. Sinkholes with sufficient capacity to receive appreciable amounts of stormwater, as determined by the Plan Administrator, shall be designated as such by posting on-site notices clearly visible at the sinkhole prohibiting any disposal of refuse, rubbish, hazardous wastes, organic matter, or soil into the sinkhole. Rock fill may be permitted in the sinkhole for the purpose of preventing dumping of said materials. The discharge of stormwater runoff to the subsurface using sinkholes shall be considered as potential pollution and prohibited unless the disposal method is designed so that contaminants in the runoff will be absorbed/adsorbed in the soil mantle and be acted upon by the bacteria naturally present in the mantle before reaching the groundwater. Systems intended to meet this requirement shall be designed by a hydrogeologist.
3. If increased or concentrated runoff is to be discharged into a sinkhole, including filtered discharge, a geologic assessment of the effects of such runoff on increased land subsidence and groundwater quality shall be prepared and the results submitted with the Drainage Plan. Such discharge shall be prohibited if the Plan Administrator determines that the discharge poses a hazard to life, property, or groundwater resources.

SECTION 302. STORMWATER MANAGEMENT PERFORMANCE STANDARDS

The applicable performance standards for managing runoff from each subarea in the Muddy Run Watershed for the 2-, 5-, 10-, 25-, 50-, and 100-year design storms are provided in the release rate table on Plate 2 of this Ordinance. Post-development peak flows at the mouth of each of the subareas, shown on Plate 2, must not exceed the arithmetic product of the applicable subarea release rate times the pre-development peak flow at the mouth of the subarea.

Stormwater management facilities that reduce post-development peak flows may not be required or recommended for some subareas as specified on Plate 2 of this Ordinance. However, the capacity of existing drainage facilities in these subareas may be inadequate for conveying post-development peak flows. Where the existing drainage facilities are inadequate for conveying post-development peak flows, the Developer shall either release post-development peak flows at 100 percent of the pre-existing peak flow, or increase the conveyance capacity of the inadequate drainage elements, as specified in this Ordinance.

When post-development peak flows are released at 100 percent of the pre-development peak, significant changes in the timing of post-development runoff shall not be permitted. The release of post-development peak flows at 100 percent of the pre-development peak flow may increase the duration of the peak discharge from a site and may in turn increase peak discharges in areas that are located downstream of the site. Increases in peak discharges at downstream locations resulting from releasing post-development peaks at 100 percent of pre-development peak flows shall not be permitted and an acceptable alternative stormwater management facility or technique or capacity improvements must be used.

SECTION 303. DESIGN CRITERIA FOR STORMWATER MANAGEMENT FACILITIES

- A. Any stormwater management facilities required or regulated by this Ordinance shall be designed to meet the performance standards presented on Plate 2 of this Ordinance. Compensatory stormwater management facilities shall not be permitted.
- B. Any stormwater management facilities required or regulated by this Ordinance shall be designed to provide a minimum 1.0 foot of freeboard above the maximum 100-year water surface elevation for post-development conditions. Should any stormwater management facilities qualify as a dam under PA DER Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of Chapter 105 concerning dam safety.
- C. Any hydraulic capacity analysis conducted in accordance with this Ordinance shall use the following criteria to determine if adequate hydraulic capacity exists:
 - 1. Open channels must be able to convey post-development runoff from a 10-year design storm within their banks at velocities that would not erode the channel bed or banks. Acceptable velocities shall be based on criteria included in the PA DER Soil Erosion and Sedimentation Control Manual (as amended or replaced from time to time by PA DER) and presented in Table C-4 in Appendix C of this Ordinance.
 - 2. Open channels must be able to convey post-development runoff from a 100-year design storm within their banks with a minimum 1.0 foot of freeboard and not create a hazard to any persons or property.
 - 3. Roadway crossings, including pipes, bridges, storm sewers, or any other drainage conveyance facility must be able to convey, without damage to the drainage structure or roadway, runoff from the 25-year design storm with a minimum 1.0 foot of freeboard measured below the lowest point along the top of the roadway. Roadway crossings located within designated floodplain areas must be able to convey runoff from a 100-year design storm with a minimum 1.0 foot of freeboard measured below the lowest point along the top of the roadway. Any facilities that constitute stream enclosures, as described in PA DER Chapter 105 regulations (as amended or replaced from time to time by PA DER), shall be designed in accordance with Chapter 105 and will require a permit

from PA DER. Any facility located within a PADOT right-of-way must meet PADOT minimum design standards and permit submission requirements.

4. Storm sewers must be able to convey post-development runoff from a 25-year design storm without surcharging inlets.
 5. Storm sewer inlet spacing and road cross-section design must ensure that post-development runoff resulting from a 10-year design storm does not flood more than one half of a driving lane.
- D. Easements along open channels shall be provided. The minimum width of the required easement shall be equal to the width of the 100-year water surface (for post-development conditions), including a minimum 1.0 foot of freeboard.
 - E. In subareas where individual stormwater management facilities would be provided for each development site, the individual stormwater management facilities shall be designed to ensure that the post-development peak discharge at the mouth of the subarea does not exceed the arithmetic product of the applicable release rate, specified on Plate 2 of this Ordinance, and the pre-development peak discharge at the mouth of the subarea.
 - F. For development sites that would be located in two or more subareas, the applicable release rates for the portions of the site located in different subareas shall be based on natural subarea drainage boundaries. The natural drainage boundaries between subareas shall not be modified, nor shall drainage from a development site be diverted or otherwise conveyed from one subarea to another subarea, except where runoff naturally crosses subarea drainage boundaries.
 - G. "No Harm" Option - For any development site, the developer has the option of discharging post-development runoff at a higher rate than pre-development runoff if the Developer can prove that "no harm" would be caused to any person or property located upstream or downstream of the development site. The Developer must assume that the entire subarea in which the site is located is developed. The type and amount of development that the Developer must consider shall be either based on current zoning or established by the Plan Administrator, whichever results in a greater amount of imperviousness. Proof of no harm must demonstrate conformance with the hydraulic capacity criteria specified in this Ordinance. Proof of no harm must also demonstrate that post-development peak flows at the mouth of the subarea would not exceed the arithmetic product of the applicable release rate, specified on Plate 2 of this Ordinance, and the pre-development peak flow at the mouth of the subarea. Areas that drain through documented drainage problem areas, shown on Plate 3 of this Ordinance, would be precluded from any no harm based peak runoff increases, except where hydraulic capacity improvements would be provided, consistent with this Ordinance.
 - H. Regional or Sub-Regional Stormwater Management Facilities - For certain areas within

the watershed, it may be more cost-effective to provide one stormwater management facility for an entire subarea, group of subareas, or portion of a subarea incorporating more than one development site than to provide an individual stormwater management facility for each development site. The initiative and funding for any regional or sub-regional stormwater management alternatives are the responsibility of prospective developers. The design of any regional stormwater management facilities must assume development of the entire area that would drain to the regional facility. The type and amount of development that the Developer(s) must consider shall be either based on current zoning or established by the Plan Administrator, whichever results in a greater amount of imperviousness. The peak outflow from a regional stormwater management facility would be determined on a case-by-case basis using TR-20, as developed for the Muddy Run Watershed Act 167 Stormwater Management Plan. When regional or sub-regional stormwater management facilities are utilized, the effect of phased growth on stormwater runoff flows must be considered. At no time from the initial phase through ultimate development shall the peak runoff flows exceed the pre-development peak multiplied by the applicable release rate.

- I. Capacity Improvements - If the Developer could prove that it would be feasible to provide capacity improvements to relieve the capacity deficiency in the existing drainage network, then adequate capacity improvements could be provided by the Developer in lieu of stormwater management facilities on the development site. Any capacity improvements would be designed based on development of all areas tributary to the improvement and the capacity criteria specified in this Ordinance. The type and amount of development that the Developer must consider shall be either based on current zoning or established by the Plan Administrator, whichever results in a greater amount of imperviousness. It shall be assumed that all new development upstream of a proposed capacity improvement would implement applicable stormwater management techniques, consistent with this Ordinance.
- J. Adequate erosion protection shall be provided along all open channels, and at all points of discharge.
- K. Ponds and other similar water features that are not designed as stormwater management facilities shall be designed in accordance with U.S. Department of Agriculture, Soil Conservation Service (SCS), Ponds - Planning, Design, Construction (as amended or replaced from time to time by SCS), and shall be treated as impervious surfaces for stormwater runoff computations.
- L. The design of all stormwater management facilities shall incorporate sound engineering principles and practices. The Plan Administrator shall reserve the right to disapprove any design that would result in the occurrence or perpetuation of an adverse hydrologic or hydraulic condition within the watershed.

SECTION 304. CALCULATION METHODOLOGY

- A. Any stormwater runoff calculations involving drainage areas greater than 20 acres, including on- and off-site areas, shall use any generally accepted calculation technique that is based on the SCS soil cover complex method.

The Plan Administrator may approve the use of the Rational Method to estimate peak discharges from drainage areas that contain less than 20 acres.

- B. The design of any stormwater detention facilities intended to meet the performance standards of this Ordinance shall be verified by routing the design storm hydrograph through these facilities using the Storage-Indication Method. For drainage areas greater than 20 acres in size, the design storm hydrograph shall be computed using a calculation method that produces a full hydrograph. The Plan Administrator may approve the use of any generally accepted full hydrograph approximation technique for drainage areas that contain less than 20 acres. Any full hydrograph approximation technique shall use a total runoff volume that is consistent with the volume from a method that produces a full hydrograph.
- C. All calculations consistent with this Ordinance using the soil cover complex method shall use the appropriate design rainfall depths for the various return period storms presented on Figure C-1 in Appendix C of this Ordinance. If a hydrologic computer model such as PSRM or HEC-1 is used for stormwater runoff calculations, then the duration of rainfall shall be 24 hours.
- D. All calculations using the Rational Method shall use rainfall intensities consistent with appropriate times of concentration for overland flow and return periods from the Design Storm Curves for Muddy Run on Figure C-1 in Appendix C of this Ordinance. Times of concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, SCS, TR-55 (as amended or replaced from time to time by SCS). Times of concentration for channel and pipe flow shall be computed using Manning's equation.
- E. Runoff Curve Numbers (CN) for both existing and proposed conditions to be used in the soil cover complex method shall be obtained from Table C-1 in Appendix C of this Ordinance.
- F. Runoff coefficients (c) for both existing and proposed conditions for use in the Rational Method shall be obtained from Table C-2 in Appendix C of this Ordinance.
- G. Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations, and to determine the capacity of open channels, pipes, and storm sewers. Where non-uniform flow is anticipated, the hydraulic effects of "backwater" caused by hydraulic obstructions (e.g. culverts, bridges, dams, reservoirs, etc.) shall be evaluated

using the standard step method for determining water surface profiles. Values for Manning's roughness coefficient (n) shall be consistent with Table C-3 in Appendix C of this Ordinance.

- H. Outlet structures for stormwater management facilities shall be designed to meet the performance standards of this Ordinance using any generally accepted hydraulic analysis technique or method.

ARTICLE IV DRAINAGE PLAN REQUIREMENTS

SECTION 401. GENERAL REQUIREMENTS

For any of the activities regulated by this Ordinance, the final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, or the commencement of any land disturbance activity may not proceed until the Property Owner or Developer or his/her agent has received written approval of a Drainage Plan from the Plan Administrator.

SECTION 402. EXEMPTIONS

Any Regulated Activity that would create 5,000 square feet or less of impervious area is exempt from the Drainage Plan preparation provisions of this Ordinance. This criteria shall apply to the total development even if development is to take place in phases. Exemption shall not relieve the applicant from providing adequate stormwater management to meet the purpose of this Ordinance.

No exemption shall be provided for Regulated Activities as defined in Section 104.E and 104.F of this Ordinance.

SECTION 403. DRAINAGE PLAN CONTENTS

The Drainage Plan shall consist of all applicable calculations, maps, and plans. A note on the maps shall refer to the associated computations and erosion and sedimentation control plan by title and date. The cover sheet of the computations and erosion and sedimentation control plan shall refer to the associated maps by title and date. All Drainage Plan materials shall be submitted to the Plan Administrator in a format that is clear, concise, legible, neat, and well organized; otherwise, the Drainage Plan shall be disapproved and returned to the Applicant.

The following items shall be included in the Drainage Plan:

A. General

1. General description of project.

2. General description of permanent stormwater management techniques, including construction specifications of the materials to be used for stormwater management facilities.
 3. Complete hydrologic, hydraulic, and structural computations for all stormwater management facilities.
- B. Map(s), of the project area, shall be submitted on 24-inch x 36-inch or 30-inch x 42-inch sheets and shall be prepared in a form that meets the requirements for recording in the offices of the Recorder of Deeds of Huntingdon County. The contents of the map(s) shall include, but not be limited to:
1. The location of the project relative to highways, municipalities or other identifiable landmarks.
 2. Existing contours at intervals of two feet. In areas of steep slopes (greater than 15 percent), five-foot contour intervals may be used.
 3. Existing streams, lakes, ponds, or other bodies of water within the project area.
 4. Other physical features including flood hazard boundaries, sinkholes, streams, existing drainage courses, areas of natural vegetation to be preserved, and the total extent of the upstream area draining through the site.
 5. The locations of all existing and proposed utilities, sanitary sewers, and water lines within 50 feet of property lines.
 6. An overlay showing soil names and boundaries.
 7. Proposed changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added.
 8. Proposed structures, roads, paved areas, and buildings.
 9. Final contours at intervals of two feet. In areas of steep slopes (greater than 15 percent), five-foot contour intervals may be used.
 10. The name of the development, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.
 11. The date of submission.
 12. A graphic and written scale of one (1) inch equals no more than fifty (50) feet; for tracts of twenty (20) acres or more, the scale shall be one (1) inch equals no

more than one hundred (100) feet.

13. A North arrow.
14. The total tract boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
15. Existing and proposed land use(s).
16. A key map showing all existing man-made features beyond the property boundary that would be affected by the project.
17. Horizontal and vertical profiles of all open channels, including hydraulic capacity.
18. Overland drainage paths.
19. A twenty-foot wide access easement around all stormwater management facilities that would provide ingress from and egress to a public right-of-way.
20. A note on the plan indicating the location and responsibility for maintenance of stormwater management facilities that would be located off-site. All off-site facilities shall meet the performance standards and design criteria specified in this Ordinance.
21. A construction detail of any improvements made to sinkholes and the location of all notices to be posted, as specified in this Ordinance.
22. A statement, signed by the landowner, acknowledging the stormwater management system to be a permanent fixture that can be altered or removed only after approval of a revised plan by the Plan Administrator.
23. The following signature block for the Plan Administrator:

"I, (Plan Administrator), on this date (date of signature), have reviewed and hereby certify that the Drainage Plan meets all design standards and criteria of the Muddy Run Watershed Act 167 Stormwater Management Ordinance."
24. The location of all erosion and sedimentation control facilities.

C. Supplemental Information

1. A written description of the following information shall be submitted.

- a. The overall stormwater management concept for the project.
 - b. Stormwater runoff computations as specified in this Ordinance.
 - c. Stormwater management techniques to be applied both during and after development.
 - d. Expected project time schedule.
2. A soil erosion and sedimentation control plan, including all reviews and approvals, as required by PA DER.
 3. A geologic assessment of the effects of runoff on sinkholes as specified in this Ordinance.
 4. The effect of the project (in terms of runoff volumes and peak flows) on adjacent properties and on any existing municipal stormwater collection system that may receive runoff from the project site.
 5. A Declaration of Adequacy and Highway Occupancy Permit from the PADOT District Office when utilization of a PADOT storm drainage system is proposed.

D. Stormwater Management Facilities

1. All stormwater management facilities must be located on a map and described in detail.
2. When groundwater recharge methods such as seepage pits, beds or trenches are used, the locations of existing and proposed septic tank infiltration areas and wells must be shown.
3. All calculations, assumptions, and criteria used in the design of the stormwater management facilities must be shown.

SECTION 404. PLAN SUBMISSION

A. For activities regulated by this Ordinance:

1. The Drainage Plan shall be submitted by the Developer as part of the Preliminary Plan submission for the Regulated Activity.
2. Three (3) copies of the Drainage Plan shall be submitted.
3. Distribution of the Drainage Plan will be as follows:
 - a) One (1) copy to the Municipality accompanied by the requisite Municipal Review Fee, as specified in this Ordinance.

- b) One (1) copy to the Municipal Engineer.
 - c) One (1) copy to the Plan Administrator accompanied by the requisite Plan Administrator Review Fee as specified in this Ordinance.
- B. For activities regulated by this Ordinance that require a PA DER Joint Permit Application and are regulated under Chapter 105 (Dam Safety and Waterway Management) or Chapter 106 (Floodplain Management) of PA DER's Rules and Regulations:
- 1. The Drainage Plan shall be submitted by the Developer as part of the Preliminary Plan submission for the Regulated Activity.
 - 2. Four (4) copies of the Drainage Plan shall be submitted.
 - 3. Distribution of the Drainage Plan will be as follows:
 - a) One (1) copy to the Municipality accompanied by the requisite Municipal Review Fee, as specified in this Ordinance.
 - b) One (1) copy to the Municipal Engineer.
 - c) Two (2) copies to the Plan Administrator accompanied by the requisite Plan Administrator Review Fee as specified in this Ordinance.

SECTION 405. DRAINAGE PLAN REVIEW

- A. The Plan Administrator shall review the Drainage Plan for consistency with the adopted Muddy Run Watershed Act 167 Stormwater Management Plan. The Plan Administrator shall require receipt of a complete plan, as specified in this Ordinance.
- B. The Municipal Engineer shall review the Drainage Plan for any subdivision or land development against the municipal subdivision and land development ordinance provisions not superseded by this Ordinance.
- C. For activities regulated by this Ordinance, the Plan Administrator shall notify the Municipality in writing, within 90 calendar days, whether the Drainage Plan is consistent with the Stormwater Management Plan. Should the Drainage Plan be determined to be consistent with the Stormwater Management Plan, the Plan Administrator will forward an approval letter to the Municipal Secretary with a copy to the Developer.

Should the Drainage Plan be determined to be inconsistent with the Stormwater Management Plan, the Plan Administrator will forward a disapproval letter to the Municipal Secretary and Developer citing the reason(s) for the disapproval. Any

disapproved Drainage Plans may be revised by the Developer and resubmitted consistent with this Ordinance.

- D. For Regulated Activities specified in Sections 104.C and 104.D. of this Ordinance, the Plan Administrator shall notify the Municipal Building Permit Officer in writing, within a time frame consistent with the Municipal Building Code, whether the Drainage Plan is consistent with the Stormwater Management Plan and forward a copy of the approval/disapproval letter to the Developer. Any disapproved drainage plan may be revised by the Developer and resubmitted consistent with this Ordinance.
- E. For Regulated Activities requiring a PA DER Joint Permit Application, the Plan Administrator shall notify PA DER whether the Drainage Plan is consistent with the Stormwater Management Plan and forward a copy of the review letter to the Municipality and the Developer. PA DER may consider the Plan Administrator's review comments in determining whether to issue a permit.
- F. The Municipality shall not approve any subdivision or land development for Regulated Activities specified in Sections 104.A and 104.B of this Ordinance if the Drainage Plan has been found to be inconsistent with the Stormwater Management Plan, as determined by the Plan Administrator, or without considering the comments of the Municipal Engineer.
- G. The Municipal Building Permit Officer shall not issue a building permit for any Regulated Activity specified in Section 104.C and 104.D of this Ordinance if the Drainage Plan has been found to be inconsistent with the Stormwater Management Plan, as determined by the Plan Administrator, or without considering the comments of the Municipal Engineer.
- H. The Developer shall be responsible for completing an "As-Built Survey" of all stormwater management facilities included in the approved Drainage Plan. The As-Built Survey and an explanation of any discrepancies with the design plans shall be submitted to the Plan Administrator for final approval. In no case shall the Plan Administrator approve the As-Built Survey until the Plan Administrator receives a copy of an approved Declaration of Adequacy, Highway Occupancy Permit from the PADOT District Office, and any applicable permits from PA DER.
- I. The Plan Administrator's approval of a Drainage Plan shall be valid for a period not to exceed one (1) year. This one-year time period shall commence on the date that the Plan Administrator signs the approved Drainage Plan. If stormwater management facilities included in the approved Drainage Plan have not been constructed, or if an As-Built Survey of these facilities has not been approved within this one-year time period, then the Plan Administrator may consider the Drainage Plan disapproved and may recommend that the Municipality revoke any and all permits. Drainage Plans that are considered disapproved by the Plan Administrator shall be resubmitted in accordance with Section 407 of this Ordinance.

SECTION 406. MODIFICATION OF PLANS

A modification to a submitted Drainage Plan for a development site that involves a change in stormwater management facilities or techniques, or that involves the relocation or re-design of stormwater management facilities, or that is necessary because soil or other conditions are not as stated on the Drainage Plan (as determined by the Plan Administrator or the Municipal Engineer), shall require a resubmission of the modified Drainage Plan consistent with Section 404 of this Ordinance and be subject to review as specified in Section 405 of this Ordinance.

A modification to an already approved or disapproved Drainage Plan shall be submitted to the Plan Administrator, accompanied by the applicable Plan Administrator Review Fee. A modification to a Drainage Plan for which a formal action has not been taken by the Plan Administrator shall be submitted to the Plan Administrator, accompanied by the applicable Plan Administrator Review Fee.

SECTION 407. RESUBMISSION OF DISAPPROVED DRAINAGE PLANS

A disapproved Drainage Plan may be resubmitted, with the revisions addressing the Plan Administrator's concerns documented in writing, to the Plan Administrator in accordance with Section 404 of this Ordinance and be subject to review as specified in Section 405 of this Ordinance. The applicable Plan Administrator Review Fee must accompany a resubmission of a disapproved Drainage Plan.

ARTICLE V INSPECTIONS

SECTION 501. SCHEDULE OF INSPECTIONS

- A. The Plan Administrator or his assignee shall inspect all phases of the installation of the permanent stormwater management facilities.
- B. During any stage of the work, if the Plan Administrator determines that the permanent stormwater management facilities are not being installed in accordance with the approved Stormwater Management Plan, the Municipality shall revoke any existing permits until a revised Drainage Plan is submitted and approved, as specified in this Ordinance.

**ARTICLE VI
FEES AND EXPENSES**

SECTION 601. GENERAL

The fees required by this Ordinance are the Municipal Review Fee and the Plan Administrator Review Fee. The Municipal Review Fee shall be established by the Municipality to defray review costs incurred by the Municipality and the Municipal Engineer. The Plan Administrator Review Fee shall be established by the Plan Administrator to defray the Plan Administrator's review costs. All fees shall be paid by the Applicant.

SECTION 602. PLAN ADMINISTRATOR DRAINAGE PLAN REVIEW FEE

The Plan Administrator shall establish a Review Fee Schedule based on the size of the Regulated Activity and based on the Plan Administrator's costs for reviewing Drainage Plans. The Plan Administrator shall periodically update the Review Fee Schedule to ensure that review costs are adequately reimbursed.

SECTION 603. EXPENSES COVERED BY FEES

The fees required by this Ordinance shall at a minimum cover:

- A. The review of the Drainage Plan by the Plan Administrator and the Municipal Engineer.
- B. The site inspection.
- C. The inspection of stormwater management facilities and drainage improvements during construction.
- D. The final inspection upon completion of the stormwater management facilities and drainage improvements presented in the Drainage Plan.
- E. Any additional work required to enforce any permit provisions regulated by this Ordinance, correct violations, and assure proper completion of stipulated remedial actions.

**ARTICLE VII
MAINTENANCE RESPONSIBILITIES**

SECTION 701. MAINTENANCE RESPONSIBILITIES

Following final approval of the As-Built Survey by the Plan Administrator, the Developer shall dedicate the permanent stormwater management facilities to the specific entity responsible for

the overall maintenance and control of the stormwater management facilities. Any designated entity, other than the Municipality, shall be approved by the local Municipality and the Plan Administrator as an acceptable and duly authorized organization to carry on the responsibilities and obligations of maintenance upkeep and be legally bound by this Ordinance. Such responsible entities shall be set up as a legal organization bound by the laws of the Commonwealth of Pennsylvania and the Municipality. In addition to Municipal ownership, such entities can be Homeowner's Associations, corporations, or direct landowners. The Developer shall post a surety bond corresponding to the present worth of maintenance of the facilities for a ten-year period. The surety shall be based on the estimated annual maintenance cost for the facilities, using a fee schedule provided by the Municipal Engineer or Plan Administrator and adopted by the Municipality.

A Maintenance Plan must be submitted detailing the maintenance operations and specifications that would be required to ensure that the proposed Stormwater Management facilities would operate as designed and described in the submitted Drainage Plan.

CERTIFICATE

I, the undersigned, (Assistant) Secretary of the Township of Oneida, Huntingdon County, Pennsylvania (the "Township"), certify that: the foregoing is a true and correct copy of an Ordinance of the Board of Supervisors of the Township which duly was enacted by affirmative vote of a majority of the members of the Board of Supervisors of the Township at a meeting held on APRIL 7, 1993, at which meeting a quorum was present; said Ordinance duly has been recorded in the Ordinance Book of the Township; said Ordinance duly has been published as required by law; and said Ordinance remains in effect, unaltered and unamended, as of the date of this Certificate.

I further certify that the Board of Supervisors of the Township met the advance notice requirements of the Sunshine Act, Act No. 1986-84 of the General Assembly of the Commonwealth of Pennsylvania, approved July 3, 1986, by advertising said meeting and by posting prominently a notice of said meeting at the principal office of the Township or at the public building in which said meeting was held, all in accordance with such Act.

IN WITNESS WHEREOF, I set my hand and affix the official seal of the Township, this 7TH day of APRIL, 1993.

(SEAL)

R. P. Breunerman
(Assistant) Secretary

DULY ENACTED AND ORDAINED, this 7th day of April, 1993, by the Board of Supervisors of the Township of Oneida, Huntingdon County, Pennsylvania, in lawful session duly assembled.

TOWNSHIP OF ONEIDA,
Huntingdon County, Pennsylvania

By: John A. Wagner
(Vice) Chairman of the
Board of Supervisors

ATTEST:

R. M. Brunner
(Assistant) Secretary

(SEAL)