

ORDINANCE NO. -2018

AN ORDINANCE AMENDING THE DINGMAN TOWNSHIP
SAWKILL WATERSHED MANAGEMENT ORDINANCE, PROVIDING WATERSHED
REGULATIONS FOR THAT PORTION OF THE SAWKILL CREEK WATERSHED
LYING WITHIN DINGMAN TOWNSHIP.

**ARTICLE I
GENERAL PROVISIONS**

SECTION 101. STATEMENT OF FINDINGS

The Board of Supervisors of the Township of Dingman finds that:

- A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed may increase flow volumes and velocities, contribute to erosion and sedimentation, overtax the carrying capacity of streams and storm sewers, increase the cost of public facilities to carry and control stormwater, undermine floodplain management and flood control efforts in downstream communities, reduce groundwater recharge, deteriorate the water quality of receiving waters, and threaten public health and safety.
- B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff is fundamental to the public health, safety, and welfare and the protection of the people of the Township of Dingman and all the people of the Commonwealth, their resources, and the environment.
- C. Areas of the Sawkill Watershed are sensitive to development due to the exceptional value water resources and the nature of the Watershed geology, requiring additional mitigating measures for earth disturbance and site development. Additional safeguards must also be provided for commercial and industrial developments to minimize the potential for hazardous substance spills, ***including, but not limited to the implementation of spill preventions plans.***
- D. The Milford Water Authority secures its drinking water from the Milford Springs which lie within the Sawkill Watershed. The Authority has identified source water protection zones, entitled Zone 1, Zone 2, and Zone 3 in its Source Water Protection Plan ***for the Milford Springs***, as approved by PADEP in 2006. The geology found within the Zone 1 and Zone 2 areas are sensitive to environmental impacts due to the potential for contamination of the Milford Water Authority Public Drinking Water supply.

- E. *The above referenced Source Water Protection Plan identifies several methods for managing potential risks to the Milford Springs. Among these is the need for municipal cooperation and for tributary municipal bodies, including Dingman Township and its Planning Commission, to identify any development aspect posing a potentially significant impact to the Milford Springs so that appropriate protective measures can be implemented.*

SECTION 102. PURPOSE

The purpose of this Ordinance is to promote the public health, safety and welfare and protect surface and groundwater resources within the Sawkill Creek Watershed by minimizing the damages described in Section 101 of this Ordinance. To accomplish this, the Ordinance establishes a comprehensive stormwater management program designed to:

- A. Minimize increases in stormwater volume.
- B. Minimize impervious surfaces
- C. Manage accelerated runoff and erosion and sedimentation problems at their source by regulating activities which cause such problems.
- D. Utilize and preserve existing natural drainage systems.
- E. Encourage recharge of groundwater where appropriate.
- F. Maintain the existing flows of streams and watercourses in the Township of Dingman and the Commonwealth.
- G. Preserve and restore the flood carrying capacity of streams.
- H. Provide for proper design, installation, and maintenance of all permanent stormwater management structures which are constructed in the Township of Dingman.
- I. Promote project designs and best management practices that minimize impacts to surface and ground water quality and quantity from development and pollution sources.
- J. Provide procedures and performance standards for stormwater planning and management.

SECTION 103 STATUTORY AUTHORITY

The Township of Dingman is empowered to regulate these activities by the authority of the Act of October 4, 1978, PL 864 (Act 167), the "Stormwater Management Act" and the Second Class Township Code.

SECTION 104. APPLICABILITY

- A. This Ordinance shall apply to those areas of the Township of Dingman as delineated on Plate 3 of the Sawkill Creek Stormwater Management Plan.
- B. This Ordinance contains only those stormwater runoff control criteria and standards which are necessary or desirable from a total watershed perspective. Additional design standards (i.e. inlet spacing, inlet type, collection system details, etc.) may be listed in the Township's subdivision/land development ordinance, or may be instituted by the Township's Engineer.
- C. The following activities are defined as Regulated Activities and shall be regulated by this Ordinance, except those individual land disturbance activities which meet the criteria to qualify for exemption, as described in Section 402:
 - 1. General earth disturbance activities, including clearing, ***drilling, blasting, trenching,*** and excavation.
 - 2. Land development
 - 3. Subdivision
 - 4. Agricultural Operations
 - 5. Construction of new or additional impervious or semi-pervious surfaces (driveways, parking lots, etc.)
 - 6. Construction of new buildings or additions to existing buildings
 - 7. Redevelopment of a site that will increase runoff or change a discharge point
 - 8. Forest management operations
 - 9. Nursery operations
 - 10. Diversion or piping of any natural or man made drainage channel
 - 11. Installation of stormwater best management practices, systems or appurtenances thereto
 - 12. ***Use and/or storage of hazardous materials***
 - 13. ***Development of groundwater monitoring wells or wells for non-residential uses.***

ARTICLE II
DEFINITIONS

Unless otherwise stated, the following words shall, for the purpose of this Ordinance, have the meaning herein indicated. Words in the present tense include the future tense. Words in the singular include the plural and words in the plural include the singular. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Technical definitions not included in this article can be found in Appendix C. Words not defined herein or in Appendix C shall be construed to have the meaning given by common and ordinary use.

Act - The Pennsylvania Storm Water Management Act of October 4, 1978 (P.L. 864, No. 167).

Agricultural Activity - The work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

BMP (Best Management Practice) - Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "non-structural". In this ordinance, non-structural BMPs refer to operational and/or behavior-related practices that control stormwater runoff quantity or quality, such as innovative site design, impervious area and grading reduction or protection of natural depression areas. Structural BMPs are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff.

Conservation District – Pike County Conservation District.

Critical Area – An area defined by this Ordinance to require more stringent control of post-development runoff quality than those specified for the general watershed area.

Dam - An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semi-fluid or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semi-fluid.

Design Storm - The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., 10-yr. storm) and duration (e.g., 24-hours), and used in the design and evaluation of stormwater management control systems.

Developer - A person or persons, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any Regulated Activities covered by this Ordinance.

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

Drainage - The flow of water and the methods directing such flow, whether natural or artificial.

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

Earth Disturbance Activity - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, road maintenance, building construction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials, and any other action that causes or may cause any alteration to the present condition of the land or that affects or may affect stormwater runoff.

Enforcement Officer - The designated code enforcement officer of Dingman Township.

Engineer - A professional engineer licensed as such in the Commonwealth of Pennsylvania.

Erosion - The removal of soil particles or rock fragments of the land surface by the action of running water, wind, ice, or other geological agents.

FHWA - Federal Highway Administration, United States Department of Transportation.

Forest Management / Timber Operations - Planning and activities necessary for the management of forestland. These include timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

Hazardous Materials - Any substance which exhibits one of the four (4) characteristics defined in 40 CFR § 261 Subpart G – ignitability, corrosivity, reactivity, toxicity, including but not limited to:

Acetone, ammonia, benzene, calcium carbide, carbon disulfide, celluloid, chlorine, hydrochloric acid, hydrocyanic acid, magnesium, nitric acid and oxides of nitrogen, petroleum products, phosphorus, potassium, sodium, sulfur and sulfur products, pesticides (including insecticides, fungicides, and rodenticides), **and** radioactive substances

Impervious Surface (Impervious Area) - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or covers) shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, streets, sidewalks, driveways and compacted fill. .

Land Development - Any of the following activities: (1) The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (i) a group of two or more residential or nonresidential building on a lot or lots regardless of the number of occupants; or (ii) the division or allocation of land or space, whether initially or cumulatively, 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. (2) A subdivision of land. (3) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

Land Surveyor - A professional land surveyor licensed as such in the Commonwealth of Pennsylvania.

Material Safety Data Sheet (MSDS) - A document that contains information on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products.

Memorandum of Understanding (MOU) -An agreement initiated by the Township and outside agency(s) to document the responsibilities and liabilities of concerned parties for specified task(s). The document may also include provisions for enacting a fee schedule for work performed.

Municipality – Dingman Township, Pike County, Pennsylvania.

NRCS - Natural Resources Conservation Service (previously SCS).

Non-Point Source Pollution – Pollution that enters a water body from diffuse origins in the watershed and does not result from discernible, confined or discrete conveyances.

Nursery – A tract of land on which trees and plants are raised or stored for transplanting and sale.

Client - Any person, partnership, corporation, company or other legal entity holding a current legal title.

PA DEP - Pennsylvania Department of Environmental Protection.

Qualified Professional – Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by the Ordinance.

PA DOT - Pennsylvania Department of Transportation.

Regulated Activity - Action or proposed action which impact upon proper management of stormwater runoff and which is governed by this Ordinance as specified in Section 104.

Riparian - Relating to or situated on the banks of rivers and streams.

Runoff - That part of precipitation which does not enter the soil but, flows over the surface of the land.

Semi-pervious Surface - A surface such as stone, porous bituminous pavement or other materials which permits some vertical transmission of water into the ground and areas which have a recommended runoff coefficient of 0.75 to 0.89 per Appendix B.4.

Source Water Protection Plan - The "Source Water Protection Plan for the Milford Springs" dated June 2006, as prepared for the Municipal Authority of the Borough of Milford.

Source Water Protection Zone - The zones (1,2, & 3) as defined by the Milford Municipal Authority in the "Source Water Protection Plan for the Milford Springs" June 2006, and as depicted on Appendix C.

Stormwater - Runoff and drainage from land surfaces resulting from precipitation including snow or ice melt.

Stormwater management - A program of controls and measures designed to regulate the quantity and quality of stormwater from a development and/or land disturbance while promoting the protection and conservation of ground waters and groundwater recharge.

Stormwater Management Plan - The plan for managing stormwater runoff adopted by the Pike County Commissioners as required by the Act.

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 the existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development: provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

Sub-area - The smallest breakdown unit of watershed for hydrologic modeling purposes for which the runoff control criteria have been established in the Stormwater Management Plan. These areas are identified in Table 6, Page 56 of the Sawkill Stormwater Management Plan.

Township - Dingman Township

USDA - United State Department of Agriculture

USDI - United States Department of Interior

USDOT - United States Department of Transportation.

USEPA - United States Environmental Protection Agency.

USFWS - United States Fish and Wildlife Service.

Watershed - The entire region or area drained by a river, watercourse or other body of water, whether natural or manmade.

Water Obstruction - Any dike, bridge, culvert, wall, wingwall, fill, pier, wharf, embankment, abutment, or other structure located in, along, or across or projecting not any watercourse, whether natural or artificial with perennial or intermittent flow.

Wet land - Those areas that are inundated or saturated by surface or groundwater 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 REQUIREMENTS

SECTION 301. GENERAL REQUIREMENTS

- A. Any facilities that entail earth disturbance activity, as described in Article // 44, shall be conducted in such a way as to minimize accelerated erosion and sediment pollution. Measures to control erosion and sediment pollution and stormwater runoff shall at a minimum, meet the standards of the Pike County Conservation District and 25 PA Code Chapter 102 (Erosion Control) the Delaware River Basin Commission (DRBC) Special Protection Waters regulations, the National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from construction activities, and PA Code Chapter 93 Water Quality Antidegradation Regulations. Where the above regulations and this ordinance conflict, the more restrictive of the two on the matter at issue shall control.
- B. Any facilities that are regulated by PA DEP Chapter 105 regulations (Dam Safety and Waterway management, as amended or replaced from time to time by PA DEP) shall be designed in accordance with Chapter 105 and will require a permit from PA DEP. Any other drainage conveyance facility that does not require a Chapter 105 permit must be able to convey, without damage to the drainage structure upland areas 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. ***Structures intended to impound surface water or groundwater shall not negatively impact the recharge of groundwater to the source water aquifer.***
- C. Stormwater management facilities located within or affecting the floodplain of any watercourse shall be subject to the requirements of Chapter 106 regulations (Flood Plain management Act) and any Township ordinance which regulates construction and development within areas which are subject to flooding.
- D. Stormwater management facilities must be designed so that the post development runoff rates are controlled in accordance with the mean annual (2.33) (pre-development and post-development flows) and 10 year design storm with applied release rates. The facilities shall require safe passing of up to and including 100 year storm event through basin structures. Should the physical parameters of a detention basin be such that more than 1,000 acre feet of storage, or if the dam is more than 40 feet high, Chapter 105 regulations should require a design flow greater than the 100-year event.

- E. Any Stormwater Management Facilities regulated by this Ordinance that would be located on a State Highway Right-of-Way shall be subject to approval by PA DOT.
- F. It is the responsibility of the developer to provide a site specific drainage design that controls the rate, volume and quality of stormwater runoff from the project using the following design principles:
1. Minimize disturbed areas
 2. Retain and utilize natural site conditions and topography
 3. Maintain natural hydrology
 4. Minimize impervious areas and disconnect impervious surfaces
 5. Provide opportunities for groundwater recharge (where applicable)
 6. Utilize non-structural BMPs before structural BMPs
 7. Fully evaluate non-discharge alternatives and Implement water quality controls for all stormwater discharges to surface or groundwater
 8. Protect stream channels from degradation (e.g. scour, streambank destabilization) **and maintain riparian buffers.**
 9. Prevent increased flooding or erosion due to the runoff rate or volume
 10. Ensure long-term operation and maintenance of BMPs
- G. Impervious Area for drainage design should be calculated using the following:
1. The measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in stages.
 2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
 3. For projects that add impervious area to a parcel, the total impervious area on the parcel is subject to the requirements of this ordinance.
- H. It is the responsibility of the developer to assure that the maximum rate of storm water runoff is no greater after development than prior to development activities and that the quantity, velocity and direction of resulting storm water runoff is managed to protect health and property from possible injury
- I. Stormwater shall be conveyed to a natural outfall that has sufficient capacity to receive the design storm peak runoff from the watershed without deterioration of the facility and without adversely affecting property in the watershed. This natural outfall may be a river, creek, intermittent flow drainage ditch or other drainage facility identified by the site

topography and field conditions. Discharge at the natural outfall shall also be velocity controlled to prevent erosion.

- J. Sites which present the potential for hazardous substances entering the stormwater water collection and conveyance system shall employ containment and treatment measures to prevent the transport of hazardous materials to the ground or surface water.

All sites where hazardous materials are stored for use or re-sale on a temporary or permanent basis shall prepare a Spill Prevention Plan as required by Sections 503 **and 504** for review by the Township, and the Milford Water Authority. Innovative stormwater management systems maybe used when approved by the Township of Dingman. Various combinations of stormwater management systems should be developed to suit the particular, unique requirements of the development and topographic features of the development site. Engineering data shall be supplied to the Township in support of such measures.

Approval of a proposed stormwater management control facility using these innovative methods shall depend on the effectiveness of the facility in controlling the impacts of post-development runoff rates and volumes and the design and construction specifications. The following is a partial listing of control methods which can be used in stormwater management facilities where appropriate:

- a. French Drains
- b. Infiltration Trenches
- c. Porous Pavement
- d. Pre-cast Concrete Lattice Blocks and Bricks
- e. Terraces, Diversions and Runoff Spreaders
- f. Seepage Pits or Dry Wells
- g. Seepage Beds or Ditches
- h. Seepage Areas
- i. Detention Basins
- j. Parking Lot Storage

General descriptions, including the operation and maintenance of these Stormwater Management Facilities are provided in Section 5 of the Sawkill Stormwater Management Plan.

- K. ***Should a given property contain portions of multiple protection zones, it is the responsibility of the developer to minimize impacts to the more critical zone to the extent possible when implementing stormwater management controls.***

~~L. K.~~ Due to the sensitive nature of the surface and groundwater within the Sawkill watershed, pretreatment of stormwater shall be required for all infiltration practices and discharges. Pre-treatment practices shall comply with the PADEP Best Management Practices Manual and shall be for 100% of the two (2) year storm events.

~~M.L.~~ Access to facilities shall be provided for maintenance and operation. This access shall be a cleared and graded access that is, a minimum of fifteen (15) feet wide. Proximity of facilities to public Rights-of-Ways shall be encouraged in order to minimize the length of **easements or** Rights-of-Ways. Multiple accesses shall be encouraged for major facilities. Appropriate easements or Rights-of-Ways must be provided to allow access to the stormwater management facilities by Township personnel and equipment. Facilities shall be designed to provide necessary access for required maintenance.

N. Due to the sensitive nature of the surface waters and groundwater within the Sawkill Watershed, new water source withdrawals for private development, including the construction of new private water supply wells, should be developed as to avoid impact to the Milford Springs

~~O.M.~~ All control facility designs shall conform to the applicable standards and specifications of the following governmental and institutional agencies.

- American Society of Testing and Materials (ASTM)
- Asphalt Institute (AI)
- Pike County Conservation District
- Federal Highway Administration (FHWA)
- National Crushed Stone Association (NCSA)
- National Sand and Gravel Association (NSGA)
- Pennsylvania Department of Environmental Protection (PADEP)
- Pennsylvania Department of Transportation (PADOT)

~~P.N.~~ No Harm Option

The intent of this Section is to allow for flexibility of design when downstream storage volume is available to development projects located near lakes, streams, wetlands or other natural features. This option is only available once the developer can demonstrate compliance with the nondischarge alternatives and existing use provisions of 25 PA Code 93.4c(b)(1)(i)(A) and (B). **"No Harm" proposals are not acceptable for Zone 2 of the Source Source Water Protection Zone.** The final determination of this "no harm" option shall rest solely and exclusively with the Township.

Proposed "no harm" justifications shall be submitted by the developer as part of the Drainage Plan Submission re: Article IV.

Proposals to prove “no harm” based upon downstream peak flow versus capacity analysis shall be based on a 10 year storm event for flows and shall be governed by the following provisions:

1. The peak flows to be used for downstream areas for various return period storms shall be the values from the PSRM Model for the Sawkill Creek Watershed.
2. Any available capacity in the downstream conveyance systems as documented by a developer and approved by the Township may be used by the developer and approved by the Township may be used by the developer only in proportion in their development site acreage relative to the total upstream acreage from the identified capacity (i.e. if their site is 10% of the upstream acreage, they may use up to 10% of the documented downstream available capacity.)
3. Developer-proposed runoff controls which would generate increased peak flow rates at documented storm drainage problem areas as determined by the Township shall, by definition, be precluded from using the “no harm” option, except in conjunction with proposed capacity improvements for the problem areas.

SECTION 302. STORMWATER MANAGEMENT SUBAREAS

- A. Mapping of Stormwater Management Subareas – In order to implement the provisions of the Sawkill Creek Stormwater Management Plan, the Township is divided in to subareas as delineated on Plate No. 3 in the Stormwater Plan.
- B. Identification of Critical Areas – Critical areas for peak flow rates have been defined using the Release Rate formula. These release rates dictate the extent to which post development runoff must be controlled. Within a given sub-watershed, the post development peak flow rate of storm runoff must be controlled to the stated percentage of the pre-development peak rate of storm runoff in order to protect downstream watershed areas. All sub-watersheds not listed in the following table have a release rate of 100%.

SUB-WATERSHED	RELEASE RATE PERCENTAGE
4	70
13	80
14	80
15	80
17	80
18	80
19	80
20	80
22	80

SECTION 303. METHODS OF CALCULATION OF RUNOFF FLOW PARAMETERS

- A. The methods of computation used to determine peak discharge volume of runoff or design hydrographs shall be one of the following four methods or any other method approved by the Township engineer in advance.
1. The USDA NRCS Soil Cover Complex Method as set forth in the latest edition of "Urban Hydrology for Small Watersheds", Technical Release No. 55.
 2. The USDA NRCS Soil cover Complex Method as set forth in the "TR-20 computer Program for Project Formulation Hydrology" Technical Release No. 20.
 3. The Penn State Runoff Model (PSRM) as set forth in the Penn State Runoff Model User's Manual, latest revision.
 4. For drainage areas less than 20 acres without retention/detention systems or up to 200 acres for design of local pipe system, the Rational method may be used. Where any overland control facility is proposed, one of the above methods shall be used. The "Rational method" of $Q=CIA$, where Q is the peak discharge from the watershed in cubic feet per second (cfs), C is the co-efficient of runoff, I is the intensity of rainfall in inches per hour and A is the area of the watershed in acres.
- B. Rainfall frequency data to be used depends on the method of computation selected.
1. When the NRCS Soil cover Complex method is used, storm runoff shall be based on the following storm events and reflect the SCS Type II 24-hour rainfall distribution.

STORM EVENT	INCHES OF RAINFALL
2.33-year	2.94
5 – year	3.76
10 – year	4.43
25 - year	5.25
50 – year	5.89
100 – year	6.50

When the Rational Method is used, the Region 4 or Region 5 Rainfall Intensity Duration Frequency charts shown in the PADOT Design Manual (Manual), Part 2, latest revision, as amended shall be used to determine the rainfall intensity, in inches per hour. The charts are shown on Figures 2.10 4.2(D) and 2.10 4.2(E) of the Manual should be used to determine if Region 4 or Region 5 curves are to be used.

- C. Runoff Curve Numbers (CN's) to be used in the Soil Cover Complex methods shall be based upon the matrix presented in NRCS TR 55, Table 2.2.a.
- D. Time of Travel (Tt) estimates for overland flows shall be computed using the method as describe din NRCS TR 55, Chapter III.
- E. Runoff coefficients for use in the Rational Method shall be based upon the table presented in Appendix B.4 of this Ordinance.
- F. The Manning equation shall be used to calculate the capacity and velocity of flow in open channels without backwater producing structures and in closed drains not under pressure. Manning "n" values used in the calculations shall be consistent with the table presented in Appendix B.5 of this Ordinance. Where backwater impacts are potentially present, the US Army Corps of Engineers HEC 2 program as set forth in "HEC 2 Water Surface Profiles Users Manual" or equivalent shall be used.
- G. All runoff calculations shall include both a hydrologic and hydraulic analysis indicating: 1) rates and velocities of flow; 2) grades, dimensions, and capacities of water carrying structures and impoundment structures; and 3) sufficient design information to construct such stormwater management facilities. Runoff calculations shall include both pre-development and post development rates of peak discharges and volumes of storm runoff from the project development site. Runoff calculations for the site's conditions during development shall be used to size temporary control measures.

ARTICLE IV
DRAINAGE PLAN REQUIREMENTS

SECTION 401. GENERAL REQUIREMENTS

Prior to the preliminary approval of subdivision and/or land development plans and the commencement of any land disturbance activity involving any of the Regulated Activities of this Ordinance, the owner, subdivider, developer or his agent shall submit a Drainage Plan to the Township of Dingman for approval. The plan shall meet the requirements set forth herein, and shall also meet all requirements of Title 25 Rules and Regulations of the PADEP – Chapter 102 (Erosion Control), Chapter 105 (Dam Safety and Waterway management, and Chapter 106 (Flood Plain management), and Chapter 92 (NPDES Permitting, Monitoring and Compliance) and Chapter 93 (Water Quality Standards).

SECTION 402. EXEMPTIONS

The following activities are specifically exempt from a drainage plan submittal, review and permit requirements of this Ordinance.

- A. Use of land for gardening for home consumption.
- B. Any earth disturbance from a subdivision creating less than five thousand (5000) square feet of impervious surface. (See Section 301 F re: calculating impervious area). Nevertheless, any such earth disturbance shall be provided with adequate soil erosion and sedimentation controls, as prescribed by the County Conservation District.
- C. Any land development creating less than five thousand 5000 square feet of impervious surface (see Sect. 301 F re: calculating impervious area). Nevertheless, such earth disturbance associated with the land development shall be provided with adequate soil erosion and sedimentation controls, as prescribed by the County Conservation District.
- D. Agricultural Operations Exclusion
Any land disturbance associated with agricultural activities operated in accordance with a conservation plan or Erosion and Sedimentation Control Plan found adequate by the Conservation District is exempt from the Drainage Plan preparation provision of this Ordinance, **except for those included within Source Water Protection Zone 2.**
- E. Forest Management Operations Exclusion
Any land disturbance associated with forest management operations, not associated with a larger common plan of development, which is following the PADEP's management practices (contained in its publication "Soil and

Erosion and Sedimentation Control Guidelines for Forestry”) and is operating under an Erosion and Sedimentation Control Plan found adequate by the Conservation District and a Forest Management Plan is exempt from the Drainage Plan preparation provision of this Ordinance.

SECTION 403. PLAN COMPONENTS

The following items, where appropriate, shall be included in the Drainage Plan:

A. Written narrative, including the following information:

1. A general description of the project.
2. A general description of proposed stormwater controls (temporary and permanent) both during and after development including the stormwater runoff calculations identifying method used, assumptions and factors considered, and criteria used for both pre-development and post development conditions.

Supporting calculations including:

- Design Frequency storm rainfall amounts
- area of impervious surface (see Art. III Sect.301 F 2)
- Curve Number or Runoff Coefficient
- Runoff from the design frequency storm
- volume of water infiltrated through BMP's
- volume of water treated by BMP's
- Peak discharge amounts from the design frequency storm

3. A general description of an ownership and maintenance program that clearly sets forth the ownership and maintenance responsibility of all temporary and permanent stormwater management facilities and erosion and sedimentation control facilities including:

- a. Description of temporary and permanent maintenance requirements.
- b. Identification of responsible individual, corporation, association or other entity for ownership and maintenance of both temporary and permanent stormwater management and erosion and sedimentation control facilities.
- c. Establishment of suitable easements for access to all facilities.
- d. The intent of these regulations is to provide private ownership and maintenance of stormwater management and erosion and sediment control facilities. Where the Drainage Plan proposes that the Township of Dingman own or

maintain the facilities, a description of the methods, procedures, and the extent to which any facilities shall be turned over to the Township of Dingman shall be incorporated as an integral part of the Drainage Plan.

e. Where private development is involved, deed covenants and restrictions must be submitted to provide for maintenance of stormwater facilities by property owner or owner's association.

4. Expected project time schedule, including anticipated start and completion date.

5. The plans must indicate that they have been prepared by a Pennsylvania licensed Engineer or Landscape Architect.

B. Plans, showing the following information:

1. General

a. All plans shall be on sheet sizes consistent with (the Township subdivision and land development ordinance).

b. Proposed name or identifying title of project.

c. Name and address of the landowner and developer of the project site.

d. Plan date and date of the latest revision to the plan, north point, graphic scale and written scale. All plans shall be at a scale of ten (10), twenty (20), forty (40), fifty (50), or one hundred (100) feet to the inch.

e. Total acreage and boundary lines of the project site and the tract of land on which the project site is located.

f. A location map, for the purpose of locating the project site to be developed, at a minimum scale of two thousand (2,000) feet to the inch, showing the relation of the tract to adjoining property and to all highways, streets, Township boundaries, and other identifiable landmarks existing within one thousand (1,000) feet of any part of the tract of land on which the project site is proposed to be developed. Map should also include overlay/identification of affected subareas to readily see their release rates as defined in the Sawkill Creek Management Plan. Plate 4 include in the Sawkill Creek Stormwater Management Plan may be used.

g. Review Statement by Township engineer.

h. Signature blocks for approval by the Board of Supervisors and review by the Planning Commission.

- i. Signature blocks for review by the Township's planning commission.

2. Existing Features

- a. Tract boundaries showing distances, bearings and curve data, as located by field surveys or by deed plotting.
- b. Existing contours at vertical intervals of two (2) feet in areas of construction unless otherwise required by the Township.
- c. The names of all owners of all immediately adjacent unplatted land, the names of all proposed or existing developments immediately adjacent, and the locations and dimensions of any streets or easements shown thereon.
- d. The names, locations and dimensions of all existing highways, streets, railroads, watercourses, wetlands and other bodies of water, as delineated by a wetland scientist drainage features and facilities, floodplains, existing vegetation to be preserved, and other significant features within (two hundred) feet of any part of the tract proposed to be developed and the location of all buildings.
- e. Locations and dimensions of overhead and underground utilities, sewers and water lines.
- f. Soil types as designated by the Pike County Soil Survey.
- g. ***The source water protection zone areas as depicted on Exhibit A.***

3. Proposed Features

- a. The proposed land use, the number of lots and dwelling units and the extent of commercial, industrial or other non-residential uses.
- b. The locations and dimensions of all proposed streets, parks, playgrounds, and other public areas; overhead and underground utilities and the sewer and water facilities; lot lines and building locations, and parking compounds and other impervious and semi-impervious surfaces.
- c. The proposed changes to land surface and vegetative cover, including limits of earth disturbance and amount of impervious area to be added.
- d. Areas of final grade cuts or fills.
- e. Final contours at vertical intervals of two (2) feet for areas.

- f. A fifteen (15) foot Right-of-Way around all stormwater management structures and from such structures to a public Right-of-Way.

4. Stormwater Management Facilities

- a. A written description of the overall stormwater management concept for the project designed in accordance with the requirements of this ordinance.
- b. Subarea boundaries as defined in Table 6, page 56 of the Sawkill Management Plan and applicable to the development site.
- c. Non-structural BMPs
- d. All storm sewers along with any proposed connections to existing facilities.
- e. Groundwater recharge methods such as seepage pits, beds or trenches. When these structures are used, the locations of septic tank infiltration areas and wells must be shown.
- f. Other control devices or methods such as roof top storage, grass swales, parking lot ponding, vegetative strips and detention or retention basins.
- g. Plans and profiles of all proposed stormwater management facilities including vertical and horizontal alignment, size and type of material. This information shall be of the quality required for the construction of all facilities.
- h. A certificate, signed and sealed by a Qualified Professional indicating the compliance of the design of the stormwater management facilities with the provisions of this Ordinance.
- i. A engineering report detailing the engineering characteristics of all existing and proposed stormwater control structures shall be provided.

5. Erosion and Sedimentation Controls

- a. The type, location and extent of all erosion and sedimentation control measures shall be shown on an erosion and sedimentation control plan that conforms to the requirements of Chapter 102 (Erosion Control) of Title 25 Rules and Regulations of the PADEP. Any requirements set forth in the Chapter 93 Antidegradation Regulations and current NPDES regulations shall be satisfied.

- b. Financial security for the completion of stormwater management facilities as set forth in Article VII of this Ordinance.
- c. Maintenance guarantee, as set forth in Article VIII of this Ordinance.
- d. When a Drainage Plan is submitted in sections, a generalized drainage plan for the entire project site shall be submitted in addition to the detailed drainage plan for the stormwater of the proposed section as it relates to the entire development. The amount and velocity at the discharge point of the section shall be included in the data submitted. If temporary facilities are required for construction of a section, such facilities shall be included in the submitted Drainage Plan.

6. **Site Water Supply**

- a. ***The location, type, and proposed volume of what withdrawal for private, onsite water supply, including wells and surface water withdrawals.***
- b. ***For proposed non-residential water uses in excess of 10,000 gallons-per-day (gpd), include a statement from a registered hydrogeologist stating there will be no detrimental impact to the Milford Springs.***

SECTION 404. PLAN SUBMISSION

- A. For Regulated activities specified in Section 104:
 - 1. The Drainage Plan shall be submitted by the developer to the Township of Dingman as part of the submission of the Drainage Plan for the Regulated Activity.
 - 2. **Six Five (65)** copies of the Drainage Plan shall be submitted.
 - 3. Distribution of the Drainage Plan will be as follows:
 - a) Two (2) copies to the Board of Supervisors
 - b) One (1) copy to the Township Engineer
 - c) One (1) copy to the Township Planning Commission
 - d) One (1) copy to the Pike County Conservation District
 - e) One (1) copy to the Milford Water Authority
- B. The Drainage Plan shall be accompanied by the requisite fee, as set forth in Article VI of this Ordinance.

SECTION 405. PLAN REVIEW AND APPROVAL

Plan review and approval by agencies outside of the municipal government are contingent upon a memorandum of Understanding with the Township of Dingman.

A. Township Engineer

The Township of Dingman shall review the Drainage Plan for consistency with the adopted Sawkill Creek Stormwater Management Plan, as embodied by this Ordinance and with any additional storm drainage provisions contained in the Township's applicable codes, regulations and ordinances. The Township engineer shall provide written comment of his review to the Township of Dingman.

B. Township Planning Commission/Pike County Conservation District Review

The Township Planning Commission/Pike County Conservation District shall review the Drainage Plan for consistency with the Sawkill Creek Watershed Stormwater Management Plan. The Commission/District shall provide written comment of their review to the Township of Dingman.

C. Milford Water Authority

The Milford Water Authority shall review the drainage plan for consistency with **and adherence to** the Source Water Protection Plan for the Milford Springs. The Authority shall provide written comment of their review to the Township of Dingman.

D. Public Hearing

The Township of Dingman may require a public hearing if the Township Engineer, or the Township Planning Commission request one and/or the Township of Dingman deems it appropriate. The Township may, in its discretion, hold a hearing concurrently with the other hearings on the project. Provisions for a public hearing include:

1. A minimum of a two week public notice in a local newspaper or in a mailed newsletter.
2. The notice shall contain a brief summary of the Drainage Plan and a reference to the places where copies may be examined or purchased at a cost.

E. Notification of Decision

The decision of the Township of Dingman shall be in writing and shall be communicated to the developer personally or mailed to him at his last known address no later than ninety (90) days from receipt of a complete

Drainage Plan submission. A decision does not have to be rendered until a drainage plan is considered complete by the Township of Dingman.

F. Disapproval Stipulations

When the Drainage Plan is not approved in terms as submitted, the decision shall specify the defects found in the Drainage Plan and describe the requirements which have not been met and shall, in each case, cite to the provisions of the Ordinance relied upon.

G. Approval Time Limitations

Failure of the Township of Dingman to render a decision and communicate it to the developer within the time and in the manner required herein shall be deemed an approval of the Drainage Plan in terms as presented unless the developer has agreed in writing to an extension of time. Approval shall be based on itemized list of submission contents with all revision dates of follow up transmittals provided by drainage plan applicant.

H. Approval Agency

The agency who prepares the plan should not be the agency who approves the plan.

I. Records

The developer shall record the approved submission and land development plan and drainage plan and all accompanying documentation at the Pike County Prothonotary Office within ninety (90) days of approval.

SECTION 406. MODIFICATIONS OF PLANS

A modification to an approved Drainage Plan which involves a change in control methods or techniques, or which involves the relocation or redesign of control measures, or which is necessary because soil or other conditions are not as stated on the approved plan application (as determined by the Township engineer or their designee), shall require a resubmission of the modified Drainage Plan consistent with Section 404 and subject to review per Section 405 of this Ordinance.

**ARTICLE V
HAZARDOUS MATERIAL STORAGE/USE**

SECTION 501.

Prior to the preliminary approval of land development or subdivision plans of the owner/developer shall submit a Spill Prevention Plan to Dingman Township for review and approval. The plan shall meet the requirements set forth herein.

SECTION 502. EXEMPTIONS

The following activities are exempt from a Spill Prevention Plan submittal, review and permit requirements of this ordinance.

- A. Any construction activity or land development or use which stores/sells/utilizes any hazardous materials ~~in quantities~~ **with a combined total quantity of** less than 55 gallons for ~~any individual~~ **all** substances.
- B. Permanent residential uses, **provided that the total volume of any stored/used hazardous materials is less than 55 gallons.** (This does not exclude the construction activities associated with residential construction).

SECTION 503. SOURCEWATER PROTECTION ZONE

- A. The source water protection zone areas are as depicted on Exhibit A. **Should a given property contain portions of multiple protection zones, the provisions of this ordinance will be applied with priority given to the protection of the more critical zone.** In the event that the Applicant disputes the Zone boundaries depicted on Appendix C A, the applicant may employ a Professional Geologist to prepare a hydrogeologic survey to definitively delineate the boundary line. The burden of proof in determination of the specific zone boundary shall fall on the developer/property owner.
- B. Storage of the following hazardous substances shall be prohibited in Source Water Protection Zone 2 except as exempted in paragraph 6.
 - 1. Petroleum hydrocarbon compounds including, but not limited to, gasoline, kerosene, diesel fuel, aviation fuel, jet fuel and heating oil.
 - 2. Degreasing compounds and dry cleaning solvents including, but not limited to, trichloroethene, trichloroethane, trichloroethylene, perchloroethylene (also called tetrachloroethylene) and paint thinners.

3. Herbicides, pesticides, insecticides and fertilizers in liquid or granular (solid) form.
4. Formaldehyde and embalming compounds containing arsenic, zinc, mercury, copper, lead, silver, antimony, chloral or cyanogens, or of any compound containing any of these, or any poisonous alkaloid.
5. Rock salt and de-icing compounds, in either solid or liquid form, and containing but not limited to, sodium chloride, calcium chloride, potassium chloride and magnesium chloride, and ethylene-glycol based anti-freeze compounds.
6. The use, sale and/or storage of the above chemicals and compounds other than for residential purposes **and less than 55 total gallons** is prohibited, with the exception of gasoline, kerosene, diesel fuel and heating oil that may be utilized for heating of onsite structures or be stored for resale in accordance with the storage tank, piping, dispenser, monitoring, registration and licensing requirements and regulations of the Pennsylvania Department of Environmental Protection.

The petroleum hydrocarbons of gasoline, kerosene, diesel fuel and heating oil are permitted for self use on site. However, in ground storage tanks in excess of 400 gallons must have secondary containment and active interstitial leak monitoring and alarm systems. Above ground and inside building tanks and containers in excess of 400 gallons must have secondary containment and the ability to monitor the interstitial space between the primary and secondary containers.

Storage containers include above ground tanks and containers, in ground tanks and containers, tanks and containers inside buildings, and tank trucks and freight trucks containing drums or other containers parked for a period longer than twenty-four (24) hours.

- C. Infiltration of stormwater from commercial sites in Source Water Protection Zone 2 shall be ~~prohibited~~ **employed only with the provisions for adequate pre-treatment in accordance with the PADEP BMP Manual. BMP design should incorporate sampling locations upstream of the infiltration BMP as well as the ability to temporarily disconnect the infiltration BMP from the site stormwater management system(s) in the event runoff became contaminated.**

SECTION 504. SPILL PREVENTION PLAN

The following items shall be included in the Spill Prevention Plan:

- A. Written narrative including the following information:
 1. A general description of the project.

2. A detailed listing of the hazardous materials, including anticipated quantities to be stored and/or utilized on the subject property both during construction and upon completion of site development. MSDS sheets for each stored material shall be included in the report.
 3. The plan shall describe in detail the measures one must take to prevent, contain and clean up a hazardous material spill.
 4. Explanation of regulatory applicability, penalties and appropriate certifications;
 5. Description of oil storage and handling areas;
 6. Description of surface and interior drainage patterns;
 7. Description of past spill events;
 8. Analysis of potential spill scenarios;
 9. Evaluation of the potential impact of spills on the environment, **including the protected source waters.**
 10. Description of spill response and notification procedures;
 11. Description of emergency response equipment;
 12. Description of emergency prevention procedures and logs documenting proper training and inspections;
 13. Designation of responsibilities and
 14. Description of site security measures
 15. Professional Engineer's review and signature.
- B. The SPP shall be updated upon any change in **ownership or** operation of the facility, including a modification of the hazardous material stored/used or every five (5) years. **All updates shall be submitted to the Township and Milford Water Authority for review.**
- C. MSDS (Material Safety Data Sheets) shall be provided in the SPP for all chemicals used/stored on the site.

SECTION 505. SITE REQUIREMENTS

Properly managing hazardous and toxic substances and petroleum products in the project site will greatly reduce the potential for stormwater pollution by these substances. Good housekeeping practices, along with proper use and storage of these substances, form the basis of proper management of potentially harmful substances.

- A. Bulk storage tanks having a capacity of more than 55 gallons shall have secondary containment. Containment can be provided by a prefabricated containment mat, an earthen berm with an impervious liner, concrete dikes, or other accepted measure.
- B. Storage of hazardous materials, chemicals, fuels and oils and fueling of equipment shall not take place within 200 feet of any drainage, watercourse, wetland, spring, **stormwater BMP**, or other water feature.
- C. Stormwater collection systems shall be equipped with a means to contain and detain spilled hazardous chemicals. Systems may include holding tanks and valves. Systems shall be designed to accommodate the type and quantity of hazardous materials present on the site. The design of these systems shall be by a professional engineer licensed in the Commonwealth of Pennsylvania, subject to review of the Township.
- D. The employment of infiltration practices on sites requiring a SPC may not be permitted due to the increased potential from groundwater contamination.

SECTION 506. PLAN REVIEW AND APPROVAL

Plan review and approval by agencies outside of the municipal government are contingent upon a memorandum of Understanding with the Township of Dingman.

- A. Township Engineer
The Township of Dingman shall review the Spill Prevention Plan for consistency with the adopted Sawkill Creek Stormwater Management Plan, as embodied by this Ordinance and with any additional storm drainage provisions contained in the Township's applicable codes, regulations and ordinances. The Township engineer shall provide written comment of his review to the Township of Dingman.
- B. Township Planning Commission/Pike County Conservation District Review
The Township Planning Commission/Pike County Conservation District shall review the Spill Prevention Plan for consistency with the Sawkill Creek Watershed Stormwater Management Plan. The Commission/District shall provide written comment of their review to the Township of Dingman.
- C. Milford Water Authority
The Milford Water Authority shall review the Spill Prevention Plan for consistency with **and adherence to** the Source Water Protection Plan for

the Milford Springs. The Authority shall provide written comment of their review to the Township of Dingman Public Hearing.

D. The Township of Dingman may require a public hearing if the Township Engineer, or the Township Planning Commission request one and/or the Township of Dingman deems it appropriate. The Township may, in its discretion, hold a hearing concurrently with the other hearings on the project. Provisions for a public hearing include:

1. A minimum of a two week public notice in a local newspaper or in a mailed newsletter.
2. The notice shall contain a brief summary of the Drainage Plan and a reference to the places where copies may be examined or purchased at a cost.

E. Notification of Decision

The decision of the Township of Dingman shall be in writing and shall be communicated to the developer personally or mailed to him at his last known address no later than ninety (90) days from receipt of a complete Spill Prevention Plan submission. A decision does not have to be rendered until a Plan is considered complete by the Township of Dingman.

F. Disapproval Stipulations

When the Spill Prevention Plan is not approved in terms as submitted, the decision shall specify the defects found in the Plan and describe the requirements which have not been met and shall, in each case, cite to the provisions of the Ordinance relied upon.

G. Approval Time Limitations

Failure of the Township of Dingman to render a decision and communicate it to the developer within the time and in the manner required herein shall be deemed an approval of the Spill Prevention Plan in terms as presented unless the developer has agreed in writing to an extension of time. Approval shall be based on itemized list of submission contents with all revision dates of follow up transmittals provided by Plan applicant.

H. Approval Agency

The agency who prepares the Plan should not be the agency who approves the Plan.

I. Records

The developer shall record the approved submission and land development plan and Spill Prevention Plan and all accompanying

documentation at the Pike County Recorder's Office within ninety (90) days of approval.

SECTION 507. MODIFICATIONS OF PLANS

A modification to an approved Drainage Plan which involves a change in control methods or techniques, or which involves the relocation or redesign of control measures, or which is necessary because soil or other conditions are not as stated on the approved plan application (as determined by the Township engineer or their designee), shall require a resubmission of the modified Drainage Plan consistent with Section 404 and subject to review per Section 405 of this Ordinance.

ARTICLE VI
INSPECTIONS

SECTION 601. GENERAL REQUIREMENTS

- A. Prior to approval of the constructed stormwater management facilities of the approved Drainage Plan, the developer must provide a schedule of inspections with a final inspection and submission of "as built" drawings to the Township engineer. These inspection provisions pertain only to construction activities regulated by the plan preparation provisions of Article IV and V. However, any activities granted exemption from plan preparation provisions as described in Section 402 and Section 1101 and therefore exemption from the inspection provisions must manage stormwater in the manner specified in the other provisions of this Ordinance.
- B. Prior to Final Inspection, the developer shall submit drawings bearing the seal of a Qualified Representative indicating the "As Built" improvements in the approved plan. These improvements shall at a minimum identify elevations of structures, outfalls, slopes, contours in regarded areas and locations of all structures identified by Qualified Representative. Any deviations from the design shall be identified and justified in writing as part of as-built submission. Where deviations exist affecting the capacity of structures to handle the design criteria in the intended manner they shall be addressed and remedied by procedures identified in Section 406.

SECTION 602. SCHEDULE OF INSPECTIONS

- A. The developer must submit a certification by a Qualified Professional; which certifies that all elements of the approved Drainage Plan have been constructed as designed and approved.
- B. The Township engineer or ~~designed~~ **designee** shall inspect all phases of development of the site including, but not limited to:
 - 1. Completion of preliminary site preparation including stripping of vegetation, stockpiling of topsoil, and construction of temporary stormwater management and erosion control facilities.
 - 2. Completion of rough grading, prior to placing top soil, permanent drainage or other site development, improvements and ground covers.
 - 3. During construction and installation of the permanent stormwater facilities at such times to be specified by the Township engineer.

4. Upon completion of permanent stormwater management facilities, including established ground covers and plantings.
 5. Upon completion of any final grading, vegetative control measures or other site restoration work done in accordance with the approved Drainage Plan.
- C. No work shall begin on a subsequent stage until the proceeding stage has been inspected and approved by the Township Engineer or the designee.
- D. It is the responsibility of the developer to notify the Township of Dingman forty-eight (48) hours in advance of the completion of each identified phase of development. The Township of Dingman may then request the Township engineer or the designee to perform the necessary field reviews.
- E. In the event the Township engineer or designee discovers that the work does not comply with the approved Drainage Plan or any applicable laws and ordinances, the Township of Dingman shall stop work until corrections are made. Any portion of the work that does not comply with the approved plan must be corrected by a developer within ten (10) days. No work may proceed on any subsequent phase of the Drainage Plan, the subdivision or land development or building construction until the required corrections have been made.
- F. If at any stage of the work, the Township engineer or the designee determines that the soil or other conditions are not as stated or shown in the approved Drainage Plan, he may refuse to approve further work and the Township of Dingman may revoke approvals until a revised Drainage Plan is submitted and approved, as required by Section 406 of this Ordinance. If the revised Drainage Plan cannot remedy that situation then the Township of Dingman reserves the right to revoke the Township of Dingman approval and halt all work except for that work required to "close out" the activity and return the site to pre-activity conditions as much as is reasonably possible.
- G. If the Township Engineer or designee discovers that the facilities or measures installed may be in violation of Chapter 102 of the Clean Streams Law or related provisions of Chapters 92 and 93), the Township engineer or designee will refer these violations to the Pike County Conservation District.

SECTION 603. FINAL INSPECTION

When the developer has completed all the required facilities, he shall notify the Township of Dingman in writing by certified mail, and shall send a copy of such notice to the Township engineer, the Township of Dingman shall within, ten (10) days after receipt of such notice, authorize the Township engineer to inspect the required facilities. Following this final inspection, the township engineer shall

promptly file a report, in writing, with the Township of Dingman and shall mail a copy of the report to the developer by certified or registered mail. The report shall be made and mailed within fifteen (15) days after receipt by the Township Engineer of the aforesaid authorization by the Township of Dingman.

**ARTICLE VII
FEES AND EXPENSES**

SECTION 701. GENERAL

Drainage permit fees and Spill Prevention Plan fees covering costs to the governing body for plan review, permit issuance, and inspections shall be established by resolution of the governing body. No permit to begin any work on the project shall be issued and no reviews performed until the requisite fees have been paid. The submission shall be considered incomplete if the required fees have not been paid.

SECTION 702. MODIFICATION OF PLANS

If it is determined that a modification to the existing drainage plan is required under Section 406 of this Ordinance, a new drainage permit shall not be issued until additional fees have been paid by the applicant.

SECTION 703. EXPENSES COVERED BY FEES

The fees payable by an applicant shall at a minimum cover:

- A. The review of the Drainage Plan by the Township engineer as presented in Section 405 of this Ordinance.
- B. The site inspection.
- C. The inspection of required controls and improvements during construction as presented in Section 602 of this Ordinance.
- D. The final inspection upon completion of the controls and improvements required in the plan as presented in Section 603 of this Ordinance.
- E. Any additional work required to enforce any provisions regulated by this Ordinance, correct violations and assure the completion of stipulated remedial actions.
- F. Review of Spill Prevention Plans under Section 506.

SECTION 704. FEE SCHEDULE

- A. A fee schedule is available from the Township of Dingman during regular business hours.
- B. ***As it pertains to required reviews by the Milford Water Authority and the Authority's engineer, the Authority will assess fees in addition to those established by the Township. An Authority Fee Schedule is***

available at the Milford Water Authority office during regular business hours.

ARTICLE VIII
FINANCIAL GUARANTEES AND MAINTENANCE

SECTION 801. PERFORMANCE GUARANTEES

- A. The developer shall provide the Township of Dingman financial security as a performance guarantee in a form to be approved by the Township Solicitor.
- B. Without limitation as to other types of financial security which the Township of Dingman may approve, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security for the purposes of this section.
- C. Such financial security shall be posted with a Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said lending institution is authorized to conduct such business within the Commonwealth.
- D. Such security shall provide for, and secure to the public, completion of the installation of all stormwater management facilities on or before the date fixed on the approved Drainage Plan for the completion of such facilities.
- E. The amount of financial security to be posted shall be equal to one hundred ten percent (110%) of the cost to install the required facilities estimated as of ninety (90) days following the date scheduled for completion by the developer. Annually, the Township of Dingman may adjust the amount of the financial security by comparing the actual cost of the facilities which have been installed and the estimated cost for the completion of the remaining facilities as of the expiration of the 90th day after either the original date scheduled for completion or the rescheduled date of completion. Subsequent to said adjustment, the Township of Dingman may require the developer to post additional security in order to assure that the financial security equals 110%. Any additional security shall be posted by the developer in accordance with this subsection.
- F. The amount of financial security required shall be based upon an estimate of the cost of completion of the required facilities, submitted by an applicant or developer and prepared by a Qualified Representative and certified by such Individual to be fair and reasonable estimate of such cost. The Township of Dingman, upon the recommendation of the Township Engineer, may refuse to accept such estimate for good cause shown.
- G. Financial Security for Staged Development - In the case where development is projected over a period of years, the Township of Dingman may authorize submission of Drainage Plan application by sections or stages of development so as to require or guarantee that Stormwater Management Facilities in both current and future stages of development will provide the protection of the finally approved stage of the development.

- H. Release of Financial Security – As the work of installing the required Stormwater Management Facilities proceeds, the Developer posting the financial security may request the Township of Dingman to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Township of Dingman who shall have forty-five (45) days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Township of Dingman that such portion of the work upon the facilities has been completed in accordance with the approved plan. Upon such certification, the Township of Dingman shall authorize release by the lending institution of an amount as estimated by the Township Engineer fairly representing the value of the facilities completed or, if the Township of Dingman fails to act within said fifteen (15) day period, the Township of Dingman shall be deemed to have approved the release of funds as requested. The Township of Dingman may, prior to final release, require retention of ten percent (10%) of the estimated cost of the aforesaid facilities. The final release of the financial security provisions shall be permitted only after receipt by the Township of Dingman of certification and “As-Builts” as required in Section 501. In no event shall the financial security be less than one hundred ten percent (110%) of the estimated cost of completion.
- I. Where the Township of Dingman accepts dedication of all or some of the required facilities following completion, the Township of Dingman may require the posting of financial security to secure structural integrity of said facilities as well as the functioning of said facilities in accordance with the design and specifications as depicted on the Drainage Plan for a term of eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this section with regard to installation of such facilities, and the amount of the financial security shall not exceed fifteen percent (15%) of the actual cost of installation of said facilities. The developer will also be required to maintain the facilities for that eighteen (18) month period.
- J. Based on the report of the Township Engineer, the Township of Dingman shall indicate approval or rejection of the Stormwater Management Facilities, either in whole or in part; and if not approved, state reasons for the rejection. The Township of Dingman shall notify the developer, within fifteen (15) days of receipt of the Engineer’s report, in writing by certified or registered mail, of its actions.
- K. If any portion of said improvements are not approved or are rejected by the Township of Dingman, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.
- L. Nothing herein, however, shall be construed in limitation of the developer’s right to contest or questions by legal proceedings or otherwise, any determination of the Township of Dingman or the Township Engineer.

M. Where herein reference is made to the Township Engineer, he shall be as a consultant hereto.

SECTION 802. MAINTENANCE RESPONSIBILITIES

The maintenance responsibilities for permanent stormwater runoff control facilities shall be determined based upon the type of ownership of the property.

- A. Single Entity Ownership – In all cases where the permanent stormwater facilities are designed to manage runoff from property in a single entity ownership as defined below, the maintenance responsibility for the Stormwater Control Facilities shall be with the single entity owner. In this case a legally binding agreement between the entity and the Township of Dingman shall be made providing for maintenance of all permanent control facilities, and allowing inspection by the Township of Dingman **and/or the Milford Water Authority** of all such facilities at any reasonable time. A single entity shall be defined as an individual, association, public or private corporation, partnership firm, trust, estate, or any legal entity empowered to own real estate.
- B. Multiple Ownership – In cases where the property is in multiple ownership (i.e. many individual owners of various portions of the property) the developer shall enter into an agreement with the Township of Dingman to determine the maintenance of the permanent stormwater facilities. Any such agreements shall be specifically binding upon any homeowners association of other permanent entity which may be formed.

SECTION 803. MAINTENANCE GUARANTEES

Upon approval of any Stormwater Management Facilities by the Township of Dingman the developer shall provide a financial security, in a form approved by the Township solicitor for maintenance guarantees, as follows:

A. Construction Maintenance Bond

The Township of Dingman may require the posting of a maintenance bond to secure the structural integrity of said facilities as well as the functioning of said facilities in accordance with the design and specifications as depicted on the approved Drainage Plan for a term not to exceed eighteen (18) months from the date of acceptance of dedication. Said financial security shall be the same type as required in Section 801 with regard to installation of such facilities, and the amount of the financial security shall not exceed fifteen percent (15%) of the actual cost of installation of said facilities.

B. Documentation

The terms of maintenance guarantees shall be documented as part of the Drainage Plan as per Section 403.D of this Ordinance.

ARTICLE IX
ENFORCEMENT AND PENALTIES

SECTION 901. ENFORCEMENT

The Township of Dingman shall designate by resolution a qualified individual, agency, or combination thereof to act as the Enforcement Officer. Said Enforcement Officer will execute the regulations set forth in this Ordinance. In the event that the Enforcement Officer is unable to perform his duties, or in the event of a conflict of interest, the Township of Dingman may appoint an alternate to fulfill his/her responsibilities.

SECTION 902. RIGHT OF ENTRY

Upon presentation of proper credentials, duly authorized representatives of the Township of Dingman **and Milford Water Authority** may enter at reasonable times upon any property within the Township of Dingman to investigate or ascertain whether proper maintenance is being provided for any Stormwater Management Facilities or Spill Prevention Plan for which the Township of Dingman is not directly responsible for maintenance, as provided in Section 802.

SECTION 903. VIOLATIONS

Any activity conducted in violation of this Ordinance is declared to be a public nuisance.

A. Notice

In the event that an owner, applicant, developer, property manager, or his/her agent fails to comply with the Ordinance, the Enforcement Officer shall provide a written notice of the violation to be served upon the person. Such notice shall set forth the nature of the violation(s) and direct the person to whom it is served to comply with all the terms of this Ordinance within seven (7) days, or such additional period, not to exceed thirty (30) days, as the Enforcement Officer shall give notice to the owner, applicant, developer, property manager, or agent thereof that if the violation is not corrected, the Township of Dingman may correct the same and charge the landowner or other person responsible the cost thereof plus penalties as specified herein for failure to comply. The Board of Supervisors may, for good cause shown by the owner, applicant, developer, property manager, or agent thereof, extend the period for compliance under this section.

SECTION 904. PENALTIES

- A. Anyone violating the provisions of this Ordinance shall upon conviction shall be subject to a fine not more than \$1,000.00 for each violation, recoverable with costs, or imprisonment of not more than thirty (30) days, or both. Each day that the violation continues shall be a separate offense. The court of common pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.
- B. In case any building, structure, or land is, or is proposed to be, erected, constructed, reconstructed, altered, converted, maintained or used in violation of this ordinance the Township Supervisors or, with the approval of the Township Supervisors, an officer of the Township, in addition to other remedies, may institute in the name of the Township any appropriate action or proceeding to prevent, restrain, correct, or abate such building, structure, or land, or to prevent in or about such premises, any act, conduct, business or use constituting a violation.
- C. Nothing contained in this section shall be construed or interpreted to grant to any person or entity other than the Township of Dingman the right to commence any action for enforcement pursuant to this section.

ARTICLE X
APPEALS

SECTION 1001. APPEAL TO BOARD OF SUPERVISORS

Any person, partnership, corporation, or organization aggrieved by any decision of the Township of Dingman or its designee may appeal to the Board of Supervisors within thirty (30) days of that action.

SECTION 1002. APPEAL TO COURT

Any person, partnership, corporation, or organization aggrieved by any decision of the Board of Supervisors may appeal to the Court of Common Pleas of Pike County within thirty (30) days of that decision.

ARTICLE XI
MISCELLANEOUS

SECTION 1101. HARDSHIP WAIVER PROCEDURE

- A. The Board of Supervisors may hear requests for waivers where it is alleged that the provisions of this Ordinance inflict unnecessary hardship upon the applicant. The waiver request shall be in writing using an application form promulgated by the Township of Dingman. A copy of the completed application form shall be provided to each of the following: Township, Township Engineer, Township Solicitor, ~~and~~ Township Planning Commission, **and the Milford Water Authority**. The application shall state in full the grounds and facts of hardship on which the request is based, the provision or provisions of the Ordinance involved and the minimum waiver necessary.
- B. The Township of Dingman may grant a waiver of one or more provisions of this Ordinance provided that such waiver will not be contrary to the public interest and that all of the following findings are made in a given case:
1. That there are unique physical circumstances or conditions, including irregularity of lot size or shape, or exceptional topographical or other physical conditions peculiar to the particular property, and that the unnecessary hardship is due to such conditions, and not the circumstances or conditions generally created by the provisions of this Ordinance **(The presence of Source Water Protection Zone 2 on a given property shall not be considered a valid basis for waiver)**;
 2. That because of such physical circumstances or conditions, there is no possibility that the property can be developed in strict conformity with the provisions of this Ordinance, including the direct discharge option documented in Section 301 ~~(N)(P)~~, and that the authorization of a waiver is therefore necessary to enable the reasonable use of the property;
 3. That such unnecessary hardship has not been created by the applicant; and
 4. That the waiver, if authorized, will not represent the minimum waiver that will afford relief and will represent the least modification possible of the regulation in issue.
- C. In granting any waiver, the Township of Dingman may attach such reasonable conditions and safeguards as it may deem necessary to

implement the purposes of this Ordinance. The Township of Dingman shall keep a record of all action on all requests for waivers.

SECTION 1102. REPEALER

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

SECTION 1103. COMPATIBILITY WITH OTHER PERMIT AND ORDINANCE REQUIREMENTS

Permits and 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. If more stringent requirements concerning regulation of stormwater or erosion or sedimentation pollution control are contained in any other code, rule, act, or ordinance, the more stringent regulation shall apply.

**ARTICLE XII
ENACTMENT**

SECTION 1201. SEVERABILITY

If any section, subsection, or requirement of this Ordinance shall be held to be unconstitutional or invalid by any court of competent jurisdiction, such decision shall not affect the legality of the remaining provisions of this Ordinance or of this or of this ordinance as a whole.

SECTION 1202. AMENDMENTS

Amendments to this Ordinance may be initiated by the Township Planning Commission or the Board of Supervisors. If the amendments are initiated by the Board of Supervisors, the proposed amendment or amendments shall be submitted to the Township Planning Commission for review and comment at least thirty (30) days prior to a public hearing. Before enactment of a proposed amendment or amendments the Board of Supervisors shall hold a public hearing thereon pursuant to public notice.

SECTION 1203. EFFECTIVE DATE

This Ordinance shall become effective on the day of adoption.

Ordained and enacted this ____ day of _____, 2018

DINGMAN TOWNSHIP BOARD OF SUPERVISORS

Attest:

APPENDIX A

LIST OF RELATED REGULATIONS, CODES, AND ORDINANCES

- A.1 Subdivision/Land Development Ordinance No. 13
Enacted April 30, 1970, as amended
- A.2 Zoning Ordinance No. 18
Enacted September 3, 1974, as amended
- A.3 Floodplain Management Regulations No. 59
Enacted July 1, 1986, as amended
- A.4 Road Encroachment Ordinance No. 19
Enacted October 1, 1974, as amended
- A.5 Building Code No. 16
Enacted July 2, 1974, as amended

APPENDIX B.1

STANDARD SCS 24-HOUR, TYPE II DISTRIBUTION
CUMULATIVE RAINFALL TABLE
(REVISED MAY 1982)

Time Increment = 15 minutes (0.25 hour)

0.0000	0.0020	0.0050	0.0080	0.0111
0.0140	0.0170	0.0200	0.0230	0.0260
0.0290	0.0320	0.0350	0.0380	0.0410
0.0440	0.0480	0.0520	0.0560	0.0600
0.0640	0.0680	0.0720	0.0760	0.0800
0.0850	0.0900	0.0950	0.1000	0.1050
0.1100	0.1150	0.1200	0.1260	0.1330
0.1400	0.1470	0.1550	0.1630	0.1720
0.1810	0.1910	0.2030	0.2180	0.2360
0.2570	0.2830	0.3870	0.6630	0.7070
0.7350	0.7580	0.7760	0.7910	0.8040
0.8150	0.8250	0.8340	0.8420	0.8490
0.8560	0.8630	0.8690	0.8750	0.8810
0.8870	0.8930	0.8980	0.9030	0.9080
0.9130	0.9180	0.9220	0.9260	0.9300
0.9340	0.9380	0.9420	0.9460	0.9500
0.9530	0.9560	0.9590	0.9620	0.9650
0.9680	0.9710	0.9740	0.9700	0.9800
0.9830	0.9860	0.9890	0.9920	0.9950
0.9980	1.0000	1.0000	1.0000	1.0000

APPENDIX B.3

STORM INTENSITY-DURATION-FREQUENCY CURVES FOR REGION 4

See Attached (two pages)

REGION 4

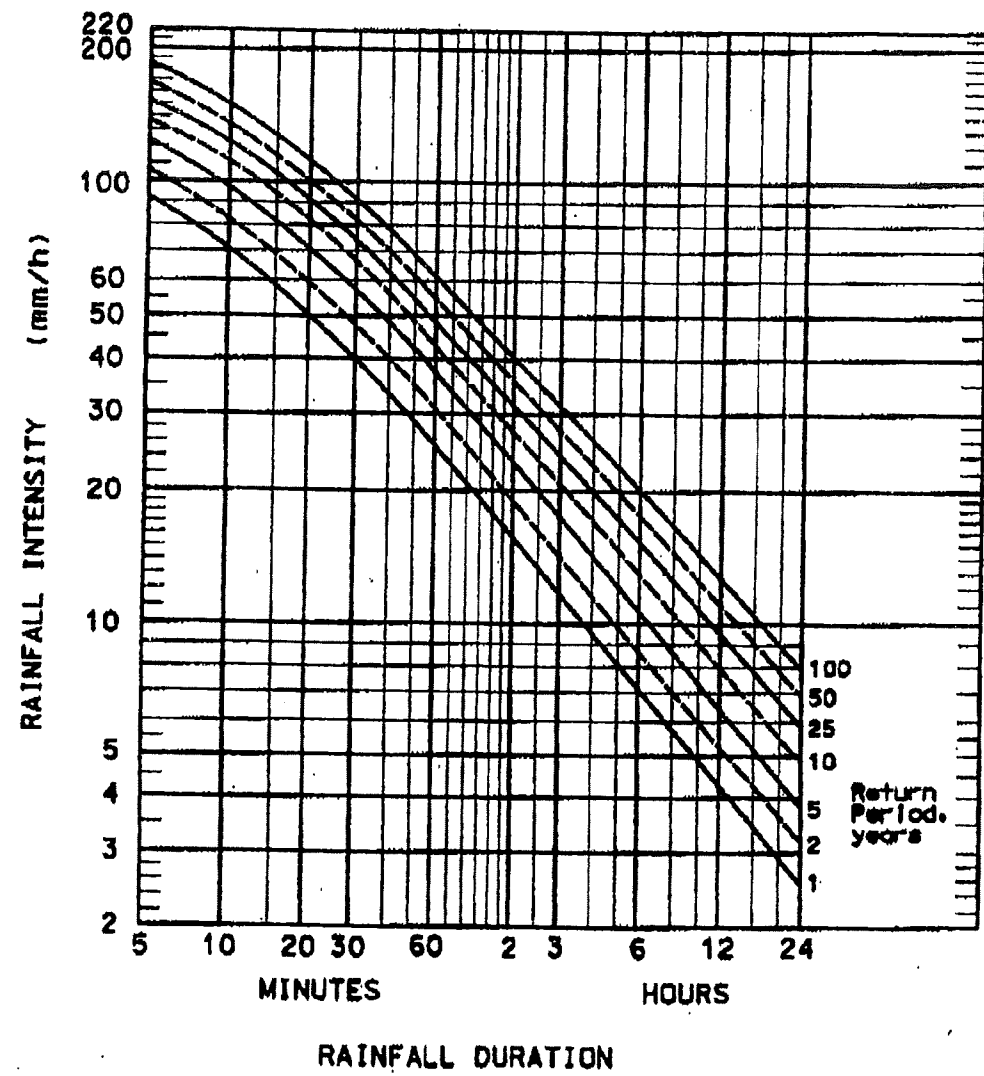
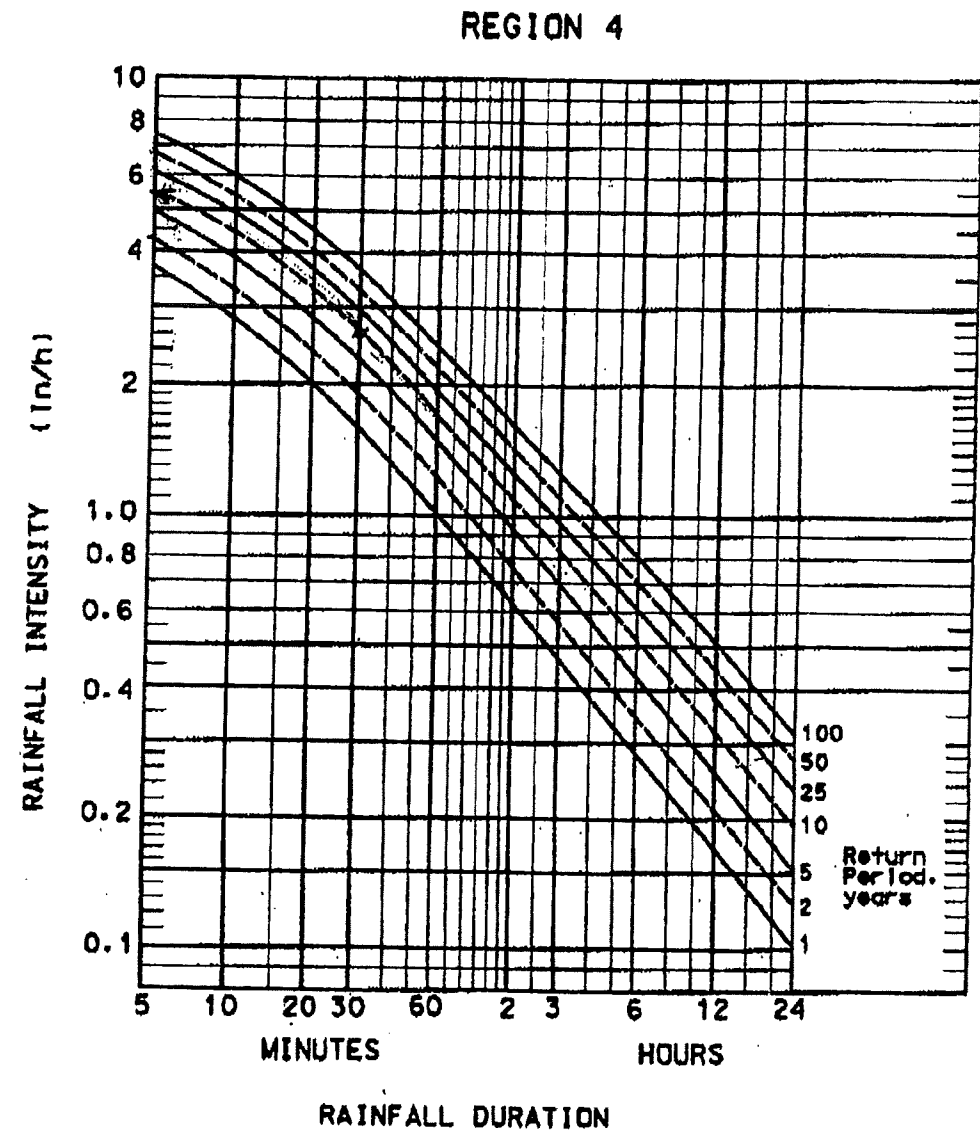


FIGURE 10.4.2(D) (METRIC)
STORM INTENSITY - DURATION - FREQUENCY
CURVES FOR REGION 4



**FIGURE 10.4.2(D) (ENGLISH)
STORM INTENSITY - DURATION - FREQUENCY
CURVES FOR REGION 4**

APPENDIX B.4

RUNOFF COEFFICIENTS FOR THE RATIONAL METHOD

<u>Type of Surface</u>	<u>Normal Range</u>	<u>Recommended Value</u>
Pavement:		
Concrete or Bituminous Concrete	0.75 – 0.95	0.90
Bituminous Macadam or Surface Treated Gravel	0.65 – 0.80	0.75
Sandy Soil:		
Cultivated or Light Growth	0.15 – 0.30	0.20
Woods or Heavy Brush	0.14 – 0.30	0.20
Clay Soil:		
Bare or Light Growth	0.35 – 0.75	0.50
Woods or Heavy Growth	0.25 – 0.60	0.40
Mixed:		
Industrial/Commercial	0.70 – 0.95	0.90
Moderate Density Residential	0.50 – 0.70	0.65
Low Density Residential	0.35 – 0.60	0.45
Rural Areas, Parks, Golf Courses	0.15 – 0.30	0.25

MANNING'S EQUATION

See Attached

Manning's equation is as follows:

METRIC

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

ENGLISH

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

where:

V = Velocity of the water (m/s (ft/s)).

R = Hydraulic radius which is equal to the net effective area (A) divided by the wetted perimeter (WP):

$$R = \frac{A}{WP}$$

The wetted perimeter is the length in meters (feet) of the drainage facility cross-section which is wetted by the water.

S = Slope of energy line (for approximation, use water surface slope in wetted stream and stream bed slope in dry stream).

n = The roughness coefficient. Acceptable roughness coefficients are presented in Table 10.5.1.

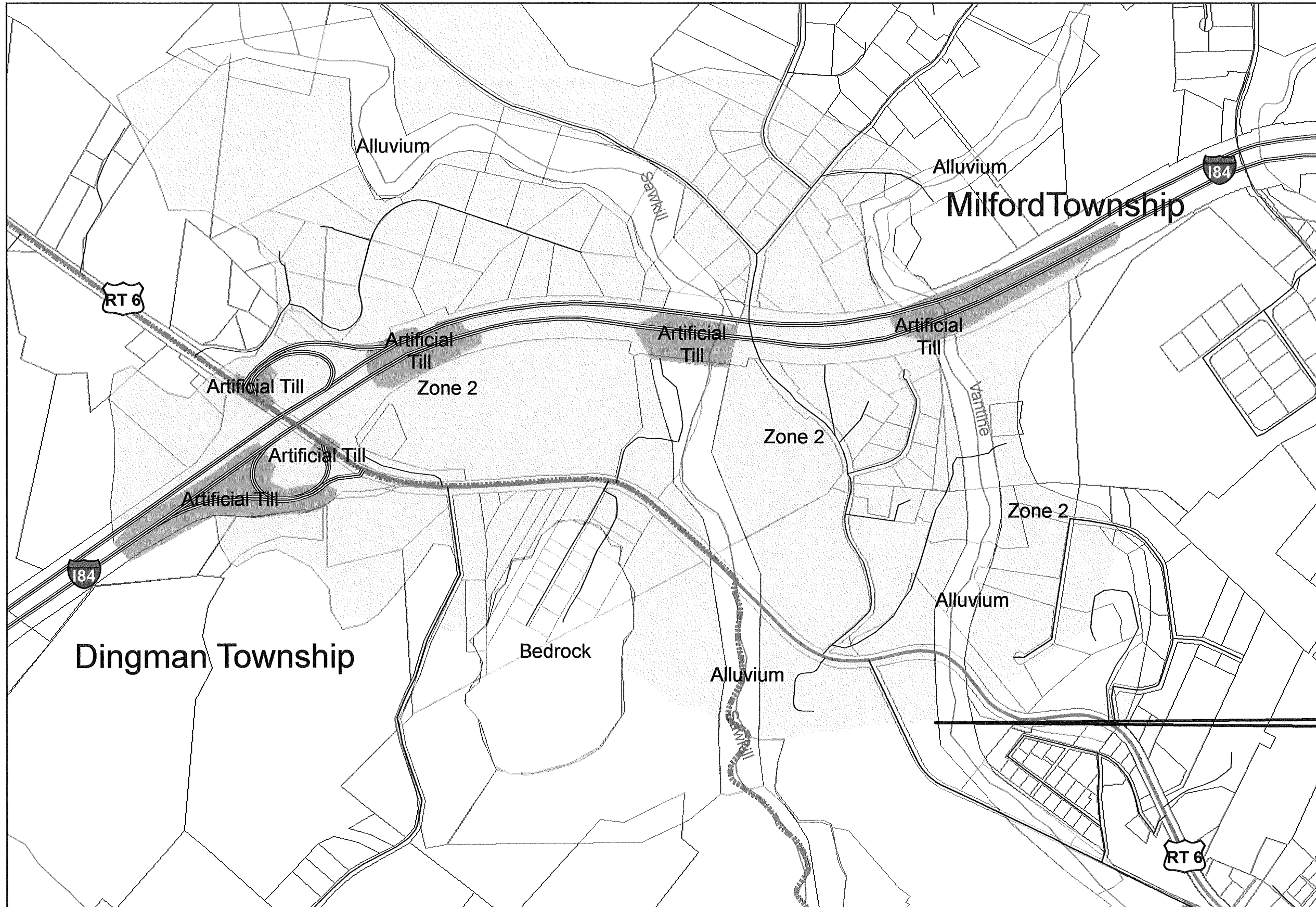
APPENDIX B.5

MANNING "n" VALUES

<u>SURFACE</u>	<u>n</u>
Uncoated cast-iron pipe	0.013
Coated cast-iron pipe	0.012
Commercial wrought-iron pipe, black	0.013
Commercial wrought-iron pipe, galvanized	0.014
Smooth brass and glass pipe	0.010
Smooth lockbar and welded "OD" pipe	0.011
Riveted and spiral steel pipe	0.015
Vitrified sewer pipe	0.013
Common clay drainage tile	0.012
Glazed brickwork	0.013
Brick in center mortar; brick sewers	0.015
Neat cement surfaces	0.011
Cement mortar surfaces	0.013
Concrete pipe	0.012
Wood stove pipe	0.011
Plank flumes:	
Planed	0.012
Unplaned	0.013
With battens	0.015
Concrete-lined channels	0.014
Cement-rubble surface	0.020
Dry-rubble surface	0.030
Dressed-ashlar surface	0.014
Semi-circular metal flumes, smooth	0.012
Semi-circular metal flumes, corrugated	0.025
Canals and ditches:	
Earth, straight and uniform	0.025
Rock cuts, smooth and uniform	0.033
Rock cuts, jagged and irregular	0.040
Winding sluggish canals	0.025
Dredged earth channels	0.0275
Canals with rough stony beds, weeds on earth banks	0.035
Earth bottom, rubble sides	0.030
Natural stream channels:	
(1) Clean, straight bank, full stage, no rifts or deep pools	0.029
(2) Same as (1), but some weeds and stones	0.035
(3) Winding, some pools and shoals, clean	0.039
(4) Same as (3), lower stages, more ineffective slope and sections	0.047
(5) Same as (3), some weeds and stones	0.042
(6) Same as (4), stony sections	0.052
(7) Sluggish river reaches, rather weedy\ or with very deep pools	0.065
(8) Very weedy reaches	0.112

For additional "n" values, refer to Table 2.10.5.1 in PDT Publication B.

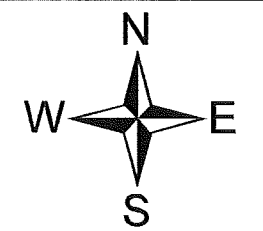
Milford Springs Zone 2 Dingman Township



Legend

- Township Lines
- Streams
- Milford Springs Watershed
- Zones**
 - Alluvium
 - Artificial Till
 - Bedrock
 - Zone 2

Milford Water Authority



Zone 2 acquired from graphic image
December 2006