CHAPTER 22

SUBDIVISION AND LAND DEVELOPMENT

PART 1

PURPOSE, TITLE AND AUTHORITY

§22-101. General
§22-102. Effect
§22-103. Title
§22-104. Authority

PART 2

DEFINITIONS

§22-201. Definitions

PART 3

VARIANCES

§22-301. Conditions
§22-302. Large Scale Development

PART 4

PLAN REQUIREMENTS AND PROCESSING PROCEDURES

§22-401. General
§22-402. Preapplication Conference (Optional)
§22-403. Plans and Data for Preliminary Approval
§22-404. Plans and Data for Final Approval
§22-405. Filing of Plans
§22-406. Minor Subdivisions

PART 5

DESIGN STANDARDS

§22-501. General Standards
§22-502. Streets

§22-503. Easements
§22-504. Blocks
§22-505. Lots
§22-506. Building Lines
§22-507. Public Grounds and Open Spaces
§22-508. Storm Drainage
§22-509. Sanitary Sewers and Public Water
§22-510. Utility Location
§22-511. Erosion and Sediment Control
§22-512. Grading for Drainage
§22-513. Responsibilities

PART 6

IMPROVEMENT AND CONSTRUCTION REQUIREMENTS

§22-601. Monuments and Markers
§22-602. Utility and Street Improvements
§22-603. Erosion and Sediment Compliance
§22-604. Stormwater Runoff/Drainage

PART 7

CONDITIONS OF ACCEPTANCE

§22-701. Subdivision Control
§22-702. Recording
§22-703. Sale of Lots; Issuance of Building Permit or Erection of Building
§22-704. General Provisions

PART 8

ADMINISTRATION

§22-801. Preventive Remedies
§22-802. Enforcement Remedies
§22-803. Appeals to Court From Subdivision and Land Development Decisions
§22-804. Amendments

PART 9

MOBILE HOME PARKS

§22-901. Purpose
§22-902. Definitions
§22-903. Permits and License
§22-904. Submission of Plans and Specifications to the Township
§22-905. Fees
§22-906. Licenses
§22-907. Inspection of Mobile Home Parks
§22-908. Required Separation Between Mobile Homes
§22-909. Required Recreation Areas
§22-910. Required Setbacks, Buffer Strips and Screening
§22-911. Park Street System
§22-912. Required Off-Street Parking Areas
§22-913. Mobile Home Stand
§22-914. Dimensions of Mobile Home Lots
§22-915. Water Supply
§22-916. Sewage Collection and Disposal
§22-917. Electrical Distribution System
§22-918. Refuse Handling
§22-919. Insect and Rodent Control
§22-920. Fire Protection
§22-921. Responsibilities of the Park Management

PART 10

STORMWATER MANAGEMENT

§22-1001. Purposes
§22-1002. Applicability
§22-1003. Applicability
§22-1004. Exemption
§22-1005. Review Costs
§22-1006. Application Requirements
§22-1007. Stormwater Management Standards
§22-1008. Sinkhole Protection
§22-1009. Erosion and Sediment Control
§22-1010. Ownership/Maintenance Responsibility
§22-1011. General Criteria
§22-1012. Modifications
§22-1013. Nuisance
§22-1014. Definitions

Appendix A

- **Figure A-1, Design Storm Curves for Huntingdon Region**
- **Table A-2, TR 55 Curve Numbers**
- **Table A-3, Rational Equation Runoff Coefficients**
- **Table A-4, Manning Roughness Coefficients**
- **Table A-5, Permissible Velocities for Channels**
  - **Table A-5.1, Bare Earth Channels**
  - **Table A-5.2, Lined with Vegetation**
  - **Table A-5.3, Rock Lined channels with Riprap**
  - **Table A-5.4, Reno Matress and Gabions**

PART 1

PURPOSE, TITLE AND AUTHORITY

§22-101. General.

This Chapter has been designed and adopted to provide uniform standards and procedures for the regulation and control of subdivision and land development within Smithfield Township. The purpose of such regulation and control is to provide for the safe and coordinated development of the Township by assuring sites suitable for building purposes and human habitation; by coordinating proposed streets and other proposed public improvements with those existing; by assuring that adequate easements or rights-of-way are provided for drainage facilities and public utilities in general; and by assuring that reservations, if any, by the developer of any area designated for use as public grounds shall be suitable in size and location for their designated uses.

(Ord. 1985-5, 7/10/1985, §101)

§22-102. Effect.

This Chapter, including Appendices, shall be in full force and effect, including definitions, plan requirements and processing procedures, design standards, improvements and construction requirements and conditions of acceptance of public improvements by the Township of Smithfield.

(Ord. 1985-5, 7/10/1985, §102)

§22-103. Title.

This Chapter shall be known as the "Smithfield Township Subdivision and Land Development Ordinance."

(Ord. 1985-5, 7/10/1985, §103)

§22-104. Authority.

This Chapter is adopted pursuant to the provisions of the Pennsylvania Municipalities Planning Code (Act 247), effective January 1, 1969, as amended.

(Ord. 1985-5, 7/10/1985, §104)

PART 2

DEFINITIONS

§22-201. Definitions.

Unless otherwise expressly stated, the following words shall, for the purposes of this Chapter, have the meaning herein indicated:

APPLICANT — a landowner or developer, as hereinafter defined, who has filed an application for development including his heirs, successors and assigns.

APPLICATION FOR DEVELOPMENT — every application, whether preliminary, tentative or final required to be filed and approved prior to start of construction or development including, but not limited to, an application for a building permit, for the approval of a subdivision plat or plan or for the approval of a development plan. [Ord. 1999-1]

BERM — that portion of a street lying on either side of the cartway between the edge thereof and the adjacent road ditch, intended primarily for stopping and parking purposes.

BUILDING — a combination of materials to form a permanent structure having walls and a roof and including mobile homes.

COMMON OPEN SPACE — a parcel or parcels of land or an area of water, or a combination of land and water within a development site and designed and intended for the use or enjoyment of residents of a development, not including streets, off-street parking areas and areas set aside for public facilities. [Ord. 1999-1]

COUNTY — the County of Huntingdon, Pennsylvania.

CUT — an excavation. The difference between a point on the original ground and a designated point of lower elevation on the final grade. Also, the material removed in excavation.

DEVELOPER — any landowner, agents of such landowner or tenant with permission of such landowner, who makes or causes to be made a subdivision of land or a land development.

DEVELOPMENT PLAN — the provisions for development including a planned residential development, a plat of subdivision, all convenants relating to use, location and bulk of buildings and other structures, intensity of use or density of development, streets, ways and parking facilities, common open space and public facilities. The phrase "provisions of development plan," when used in this Chapter,

shall mean the written and graphic materials referred to in this definition. [Ord. 1999-1]

DWELLING — a building designed or used for residential occupancy as the living quarters for one or more families.

EROSION — the removal of surface materials by the action of natural elements.

EXCAVATION — Any act by which earth, sand, gravel, rock or any other similar material is dug into, cut, quarried, uncovered, removed, displaced, relocated or bulldozed and shall include the conditions resulting therefrom.

FILL — any act by which earth, sand, gravel, rock or any other material is placed, pushed, dumped, pulled, transported or moved to a new location above the natural surface of the ground or on top of the stripped surface and shall include the conditions resulting therefrom. The difference in elevation between a point on the original ground and a designated point of higher elevation on the final grade. The material used to make fill.

FLOOD FRINGE — the portion of the floodplain outside the floodway for which detailed hydrologic information is available.

FLOODPLAIN — a relatively flat or low land area adjacent to a river, stream or water course which is subject to partial or complete inundation. An area subject to unusual and rapid accumulation or runoff of surface water of any source.

FLOODWAY — the portion of the floodplain required to carry and discharge the flood waters of a given magnitude without increasing the water surface elevation more than one foot at any point. For the purposes of this Chapter, the floodway shall be capable of accommodating a flood of the 100 year magnitude.

GOVERNING BODY — the Board of Supervisors of Smithfield Township, Huntingdon County, Pennsylvania.

LAND DEVELOPMENT — any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:

   (1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or,

   (2) 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;

B. A subdivision of land.

C. "Land development" does not include development which involves:

(1) The conversion of an existing single-family detached dwelling or single-family semidetached dwelling into not more than three residential units, unless such units are intended to be a condominium;

(2) The addition of an accessory building, including farm building, on a lot or lots subordinate to an existing principal building; or,

(3) The addition or conversion of buildings or rides within the confines of an enterprise which would be considered an amusement park. For the purposes of this Subsection, an amusement park is defined as a tract or area used principally as a location for permanent amusement structures or rides. This exclusion shall not apply to newly acquired acreage by an amusement park until initial plans for the expanded area have been approved by the proper authorities.

[Ord. 1999-1]

LANDOWNER — the legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any conditions), a lessee if he is authorized under the lease to exercise the rights of the landowner or other persons having a proprietary interest in land.

LOT — a designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit. [Ord. 1999-1]

MOBILE HOME — any structure intended for or capable of human habitation with or without wheels and capable of being driven, propelled, transported or towed from place to place by whatsoever name or title it is colloquially or commercially known. Provided, that this definition shall not include transport trucks, or vans equipped with sleeping space for a driver or drivers, or unoccupied vehicles, whether self-propelled or not, commonly referred to as campers and travel vans, or sectional and/or prefabricated homes hauled on trucks or other vehicles. [Ord. 1999-1]

MOBILE HOME LOT — a parcel of land in a mobile home park, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobile home. [Ord. 1999-1]

MOBILE HOME PARK — a parcel or contiguous parcels of land which has been so designated and improved that it contains two or more mobile home lots for the placement thereon of mobile homes. [Ord. 1999-1]

MUNICIPAL AUTHORITY — a body politic and corporate created pursuant to the Act of May 2, 1945 (P.L. 382, No. 164), known as the "Municipalities Authority Act of 1945." [Ord. 1999-1]

ONE HUNDRED YEAR FLOOD — a flood that, on the average, is likely to occur every 100 years (i.e., that has a 1% chance of occurring each year, although the flood may occur in any year); for the purposes of this Chapter, the regulatory flood.

PUBLIC GROUNDS — includes:

A. Parks, playgrounds, trails, paths and other recreational areas and other public areas;

B. Sites for schools, sewage treatment, refuse disposal and other publicly owned or operated facilities; and,

C. Publicly owned or operated scenic and historic sites.

[Ord. 1999-1]

PUBLIC HEARING — a formal meeting held pursuant to public notice by the Board of Supervisors or Planning Commission, intended to inform and obtain public comment prior to taking action in accordance with this Chapter. [Ord. 1999-1]

PUBLIC MEETING — a forum held pursuant to notice under the Act of June 3, 1986 (P.L. 388, No. 84), known as the "Sunshine Act," 53 P.S. §§271 et seq. [Ord. 1999-1]

PUBLIC NOTICE — notice published once each week for two successive weeks in a newspaper of general circulation in the Township. Such notice shall state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first publication shall not be more than 30 days and the second publication shall not be less than seven days from the date of the hearing. [Ord. 1999-1]

REGULATORY FLOOD — the flood which has been selected to serve as the basis upon which the floodplain management provisions of this Chapter have been prepared; for purposes of this Chapter, the 100 year flood. The 100 year flood elevation plus a free board safety factor of 1 1/2 feet.

REGULATORY FLOOD ELEVATION — the elevations of the 100 year flood. The 100 year flood elevation plus a free board safety factor of 1 1/2 feet.

RUNOFF — the surface water discharge or rate of discharge of a given watershed after a fall of rain or snow that does not enter the soil but runs off the surface of the land.

SEDIMENTATION — the process by which mineral or organic matter is accumulated or deposited by moving wind, water or gravity. Once this matter is deposited (or remains suspended in water), it is usually referred to as "sediment."

SLOPE — the face of an embankment or cut section; any ground whose surface makes an angle with the plane of the horizon. Slopes are usually expressed in a percentage based upon vertical difference in feet per 100 feet of horizontal distance.

SOIL STABILIZATION — Chemical or structural treatment of a mass of soil to increase or maintain its stability or otherwise to improve its engineering properties.

STREET — includes street, avenue, boulevard, road, highway, freeway, parkway, lane, alley, viaduct or any other ways used or intended to be used by vehicular traffic or pedestrians, whether public or private. [Ord. 1999-1]

A. ALLEYS — are minor ways which are used primarily for vehicle service access to the back or the side of properties otherwise abutting on a street.

B. ARTERIAL STREETS — those which are used primarily for through, fast or heavy traffic.

C. COLLECTOR STREETS — are those which carry traffic from minor streets to the major system of arterial streets, including principal entrance streets of a residential development and streets for major circulation within such developments.

D. MARGINAL ACCESS STREETS — are minor streets which are parallel and adjacent to arterial streets and which provide access to abutting properties and protection from through traffic.

E. MINOR STREETS — those which are used primarily for access to the abutting properties.

STRUCTURE — any manmade object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.

SUBDIVIDER — a person, co-partnership or corporation, who or which owns land in the Township for which a subdivision application is filed and processed under the provisions of this Chapter.

SUBDIVISION — the division or redivision 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, 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 10 acres, not in-

volving any new street or easement of access or any residential dwelling, shall be exempted. [Ord. 1999-1]

A. MAJOR SUBDIVISION — any subdivision involving six or more lots, parcels of land or other divisions of land whether or not they involve new streets, additional utilities or other facilities, immediate or future.

B. MINOR SUBDIVISION — any subdivision involving not more than five lots, parcels of land, or other divisions of which abut a street of sufficient width and does not require a new street, the installation of sanitary sewers, store sewers, water mains or pipes, or other facilities.

SUBSTANTIALLY COMPLETED — where in the judgment of the Township Engineer at least 90% (based on the cost of the required improvements for which financial security was posted pursuant to the requirements of this Chapter) of those improvements required as a condition for final approval have been completed in accordance with the approved plan, so that the project will be able to be used, occupied or operated for its intended use. [Ord. 1999-1]

SWALE — a low lying stretch of land which gathers or carries surface water runoff.

TOPOGRAPHIC — area map contours or elevations.

TOP SOIL — surface soils and subsurface soils which presumably are the soils and soil material, ordinarily rich in organic matter or humus debris. Top soil is usually found in the uppermost soil layer called the A horizon.

WATERCOURSE — a permanent stream, intermittent stream, river, brook, creek or a channel or ditch for water whether natural or manmade.

WATER SURVEY — an inventory of the source, quantity, yield and use of groundwater and surface water resources within the Township. [Ord. 1999-1]

(Ord. 1985-5, 7/10/1985, §201; as amended by Ord. 1996-1, 5/6/1996; and by Ord. 1999-1, 6/14/1999)

PART 3

VARIANCES

§22-301. Conditions.

Where the Planning Commission finds that extraordinary hardship may result from strict compliance with these regulations, it may request that the Board of Supervisors vary the regulations so that substantial justice may be done and the public interest secured; provided, that such variation will not have the effect of nullifying the interest and purpose of the Comprehensive Plan or these regulations.

A. Conditions.

(1) The standards and requirements of these regulations may be modified for encouraging and promoting flexibility, economic and ingenuity in the layout and design of subdivisions and land developments including provisions authorizing the planning agency to alter site requirements and for encouraging other practices which are in accordance with modern and evolving principles of site planning and development.

(2) In granting variances and modifications, the Planning Commission may require such conditions, as will, in its judgment, secure substantially the objectives of the standards or requirements so varied or modified. The granting of variances by the Planning Commission shall be conditional and subject to the final approval of the Board of Supervisors of the Township in cases where standards or requirements are reduced, varied or modified.

(Ord. 1985-5, 7/10/1985, §301)

§22-302. Large Scale Development.

The standards and requirements of these regulations may be modified by the Board of Supervisors in the case of a plan or a program for a complete community, neighborhood unit, or a mobile home park, which in the judgment of the Planning Commission shall provide adequate public space and improvements for circulation, recreation, light, air and service needs of the tract when fully developed and populated and which also provides such covenants or other legal provisions as will assure conformity to and achievement of the plan.

A. Mobile Home Parks. See Part 9, “Mobile Home Parks.”

B. Other Large Scale Development. Not involving the subdivision of land to include, but not necessarily be limited to, campgrounds, fairgrounds, indus-

trial parks, shopping centers, campus type educational facilities, nursing homes, correctional institutions and similar installations shall be subject to plan review, comment and adjustment by the Township Planning Commission and Board of Supervisors; however, prior to any local approvals, evidence of compliance with all rules and regulations of the State Department of Environmental Protection and Transportation will be required. [Ord. 1999-1]

(Ord. 1985-5, 7/10/1985, §302; as amended by Ord. 1999-1, 6/14/1999)

PART 4

PLAN REQUIREMENTS AND PROCESSING PROCEDURES

§22-401. General.

The plan requirements and processing procedures shall be followed by the applicants as set forth herein and all applications for subdivisions and land developments shall be submitted to the Planning Commission of the Township for review and tentative approval prior to consideration for formal approval by the Board of Supervisors.

(Ord. 1985-5, 7/10/1985, §401)

§22-402. Preapplication Conference (Optional).

Previous to the filing of an application for approval of the preliminary subdivision plan, the applicant should submit to the Planning Commission the following plans and data:

A. General information shall describe or outline existing covenants, land characteristics, community facilities and utilities; and information describing the proposed subdivision such as the number of residential lots, typical lot width and depth, price range, business areas, playgrounds, park areas, other public areas, proposed protective covenants and proposed utilities and street improvements.

B. Location map shall show the relationship of the proposed subdivision and land development to existing community facilities which serve or influence it and shall include development name, location and any existing facilities; traffic arteries; public or other schools, parks, playgrounds, utilities, churches, shopping centers, airports, hospitals, principal places of employment, title, scale, north arrow and date.

C. A sketch shall show in a simple sketch form the proposed layout of streets, lots and other features in relation to existing conditions and may be freehand on a copy of a general topography map as shown on a U.S. Geological Survey Map, and/or a copy of tax maps showing the property under discussion.

D. Prospective subdividers will consult the County Soil and Water Conservation District representative and a certified geologist concerning erosion and sediment control and the effect of geologic conditions on the proposed development. At the same time, a determination can be made as to the result of the subdivision or development. Land that is subject to a lesser frequency of flooding, unusual and rapid accumulation of ground water and mudslides, can be platted for development with the provision that the developer ade-

quately floodproof all buildings and structures. (See Appendix II for floodproofing measures).

(Ord. 1985-5, 7/10/1985, §402)

§22-403. Plans and Data for Preliminary Approval.

Previous to the filing of an application for final approval of the subdivision plan, the applicant shall submit to the Planning Commission the following plans and data:

A. Existing Conditions Data. As required for §22-402, plus the following:

(1) Boundary lines or property lines, bearings and distances.

(2) Existing Easements. Location, width and purpose.

(3) Existing Streets. On and adjacent to the tract by name, right-of-way, location, type, width and elevation of surfacing; walks, curbs, gutters and culverts.

(4) Existing Utilities. When applicable, show on and adjacent to the tract; location, size and invert elevation of sanitary, storm and combined sewers; location and size of water mains; location of gas lines, fire hydrants, electric and telephone poles and street lights; if any of the above are not available at the site indicate direction and distance to the nearest ones and furnish statement of availability.

(5) Other Existing Conditions. Water courses, marshes, rock outcrop, wooded areas, houses, barns and other significant features. If the applicant's tract is located where flood hazard exists the following information shall be provided:

(a) A drainage plan satisfactory to the Planning Commission. No plan shall be approved when the Planning Commission finds that drainage or flood control protection is necessary until plans for drainage and flood control are approved.

(b) Street Elevation. The Planning Commission shall not recommend approval of streets subject to flooding.

(6) Proposed Public Improvements. Highways, utilities or other major improvements planned by public authorities for future construction on or near the tract.

(7) Ground Elevations on Tract. Based on datum approved by the Township Engineer; for land that slopes less than 2%, show elevations at all breaks in grade along drainage channels or swales not more than 100

feet apart; for land that slopes more than 2%, show contours with an interval of not more than five feet and less in cases where necessary to show irregular land for planning purposes.

(8) Title and Certificates. Designation under which subdivision is to be recorded; names and addresses of owners; acreage, scale, north point and benchmarks and date of survey. Certification of registered civil engineer or surveyor may be required when in the opinion of the Planning Commission the service is necessary to the public welfare.

B. Preliminary plan shall be at a scale of 100 feet to one inch or larger and shall show all existing conditions required in subsection §22-403(A), above, and shall show all applicable proposals including, and not necessarily limited to the following:

(1) Streets. Names, right-of-way and cartway widths; approximate grades and typical cross-sections.

(2) Easements. Location, width and purpose.

(3) Utilities. Location, type and approximate size; this information may be shown on a separate exhibit.

(4) Lots. Lot lines and numbers.

(5) Sites. To be reserved for parks, playgrounds or other public uses.

(6) Sites. For shopping centers, churches, industry, multifamily dwellings or other use exclusive of single-family dwellings.

(7) Building Lines. Dimensions of minimum building setback lines.

(8) Site Data Tabulation. Number of residential lots, typical lot size and acreage and use of other land areas.

(9) Title, scale, north arrow and date.

(10) Surface Water Drainage. General plans for the collection of surface water and its outfall; and surface water runoff.

(11) Water Supply. If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Board of Supervisors that the subdivision is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a certificate of public convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative

agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable. [Ord. 1999-1]

C. Percolation Tests. Percolation tests are required, unless all building lots are to be immediately served by a public sanitary sewer system, and shall be made in accordance with the rules and regulations of the Pennsylvania Department of Environmental Protection. All costs incurred shall be the responsibility of the applicant. [Ord. 1999-1]

D. Other Preliminary Plans. When required by the Planning Commission, due to severe topography or other physical conditions, the preliminary plan shall be accompanied by such additional profiles showing existing ground surface deemed necessary to ascertain the workability of the plans.

E. Plan Review Certificates.

(1) The following certificate shall be included on the plans for signatures of the Huntingdon County Planning Commission:

Reviewed by the Huntingdon County Planning Commission on _____ _____ 20 _____.

Chairman _____

Director _____

(2) The following certificate shall be included on the plans for signatures of the Smithfield Township Planning Commission:

Recommended for approval by the Smithfield Township Planning Commission on _____ 20 _____.

Chairman _____

Secretary _____

(3) The following certificate shall be included on the plans for signatures of the Smithfield Township Board of Supervisors:

This preliminary plan has been approved by the Smithfield Township Board of Supervisors on _____ 20 _____.

Chairman _____

Secretary _____

[Ord. 2001-1]

(Ord. 1985-5, 7/10/1985, §403; as amended by Ord. 1999-1, 6/14/1999; and by Ord. 2001-1, 3/12/2001)

§22-404. Plans and Data for Final Approval.

Prior to final approval by the Planning Commission, final plans shall be submitted as follows:

A. Final subdivision plan shall be drawn in ink on durable material at a scale of 100 feet to one inch or larger. Where necessary, the plan may be on several sheets accompanied by an index sheet showing the entire subdivision. The final plan shall show:

(1) Primary control points, to which all dimensions, angles, bearings and similar data on the plan shall be referred.

(2) Information as required under §403(B) hereof.

(3) Location and description of survey monuments.

(4) Names of owners of adjoining land.

(5) Certification as to the accuracy of survey and plan by surveyor or engineer.

(6) Statement of title to the land signed by the owner.

(7) Statement by owner dedicating streets, rights-of-way and any sites for public uses.

(8) Erosion and sediment control measures (vegetation, mulching, structural control, etc., See §603).

(9) Flood Proofing Measures. When a subdivision or land development lies partially or completely in a floodplain district. (See Part 10).

(10) Water Supply. If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Board of Supervisors that the subdivision is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a certificate of public convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable. [Ord. 1999-1]

B. Cross Sections and Profiles.

(1) Final plans and profiles of streets showing grades and horizontal and vertical curves when applicable.

(2) Cross-sections of streets showing the type of construction, the width of right-of-way, width of cartway, location and width of sidewalks, and locations and size of utility mains, as applicable.

(3) Plans and profiles of proposed sanitary and/or stormwater sewers, with grades and pipe sizes indicated, and a plan of any proposed water distribution system showing pipe sizes and location of valves and fire hydrants as applicable.

(4) Street lighting facilities as applicable.

C. Other Data. Such other documentation as may be required in the enforcement of these regulations to include, but not be limited to:

(1) Review and comment by the County Planning Commission.

(2) Approvals and/or review comment of the Department of Environmental Protection. [Ord. 1999-1]

(3) Recommendations and comment by Soil Conservation Service.

(4) Evidence of PennDOT review when applicable.

D. An erosion and sedimentation control plan pursuant to the rules and regulations of the Pennsylvania Department of Environmental Protection and evidence that any required erosion and sedimentation control permit has been issued. If an erosion and sedimentation control permit is not required, the applicant shall provide evidence that the erosion and sedimentation plan has been reviewed and approved by the Huntingdon County Conservation District Office; however, if the district office does not desire to review the plan, the Township Supervisors may, at their discretion, have the plan reviewed by the Township Engineer. The cost of the review by the Township Engineer shall be paid for by the applicant.

E. Plan Review Certificates.

(1) The following certificate shall be included on the plans for signatures of the Huntingdon County Planning Commission:

Reviewed by the Huntingdon County Planning Commission on _____ _____ 20 _____.

Chairman _____

Director _____

(2) The following certificate shall be included on the plans for signatures of the Smithfield Township Planning Commission:

Recommended for approval by the Smithfield Township Planning Commission on _____ 20 _____.

Chairman _____

Secretary _____

(3) The following certificate shall be included on the plans for signatures of the Smithfield Township Board of Supervisors:

This final plan has been approved by the Smithfield Township Board of Supervisors on _____ 20 _____.

Chairman _____

Secretary _____

[Ord. 2001-1]

(Ord. 1985-5, 7/10/1985, §404; as amended by Ord. 1999-1, 6/14/1999; and by Ord. 2001-1, 3/12/2001)

§22-405. Filing of Plans.

1. When filing plans for approval, whether preliminary or final for subdivision and/or land development, the applicant shall submit three copies of all plans and other information to the Planning Commission, and additional copies as required to satisfy the need as set forth under §404(C) hereof.

2. At the time of filing, the applicant shall pay to the Township, fees to be used to defray the cost of processing such plans. The filing fees for subdivision shall be established from time to time by resolution of the Board of Supervisors. The Township shall charge and the applicant shall pay to the Township such sums as are necessary to reimburse to the Township all costs incurred in the evaluation and review of the plans including, but not limited to, engineering costs, legal fees and consultant costs. The Township may require the applicant to deposit a reasonable amount of money with the Township to pay the costs of reviewing and evaluating

the applications and may require additional deposits from time to time as the review process takes place and costs are incurred. The amount of the deposit shall be determined by the Township. However, it shall be limited to an amount reasonably calculated to reimburse the costs of the review and evaluation of the applications. [Ord. 1999-1]

3. All plans shall be submitted to the Planning Commission 10 business days prior to the regular meeting of the Planning Commission at which it is desired to seek approval thereof. If plans are submitted prior to the 10 business days as indicated, the record of receipt by the Planning Commission shall show that the plans were received 10 business days prior to their regular meeting data and such shall be the official date of the filing. The Planning Commission shall review the plans. After preliminary review, the Planning Commission may require modification to the plan and, subject to such modification, may concur with the plan. The Planning Commission shall submit the preliminary plan to the Board of Supervisors for review, comment and approval. [Ord. 2004-5]

4. After final plan review and approval, the Planning Commission shall submit the plan and supporting documentation together with its recommendations to the Board of Supervisors.

5. Review Fees.

   A. Review fees shall include the reasonable and necessary charges by the Township's professional consultants or engineer for review and report to the Township, and shall be set by resolution. Such review fees shall be reasonable and in accordance with the ordinary and customary charges by the Township Engineer or consultant for similar service in the community, but in no event shall the fees exceed the rate or cost charged by the engineer or consultant to the Township when fees are not reimbursed or otherwise imposed on applicants.

   B. In the event the applicant disputes the amount of any such review fees, the applicant shall, within 10 days of the billing date, notify the Township that such fees are disputed, in which case the Township shall not delay or disapprove a subdivision or land development application due to the applicant's request over disputed fees.

   C. In the event that the Township and the applicant cannot agree on the amount of review fees which are reasonable and necessary, then the fees shall be recalculated and recertified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third engineer is so chosen, fees for the services of said engineer shall be paid equally by the Township and the applicant or developer.

[Ord. 1999-1]

6. Action by Board of Supervisors. All applications for approval of a plan (preliminary or final) shall be acted upon by the Board of Supervisors which shall render its decision and communicate it to the applicant not later than 90 days after such application is filed. [Ord. 1999-1]

   A. The decision of the Board of Supervisors shall be in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 10 days following the decision.

   B. When the plan is not approved as filed, the decision shall specify the defects found and describe the requirements which have not been met and shall, in each case, cite to the provisions of the statute or ordinance relied upon.

   C. Failure of the Board of Supervisors to render a decision and communicate it to the applicant within the time and in the manner required herein shall be deemed an approval of the plan as presented unless the applicant has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision, in which case, failure to meet the extended time or change in manner of presentation of communication shall have like effect.

   D. From the time an application for approval of a plan, whether preliminary or final, is duly filed as provided in this Chapter, and while such application is pending approval or disapproval, no change or amendment of the zoning, subdivision or other governing ordinances or plan shall affect the decision of such application adversely to the applicant and the applicant shall be entitled to a decision in accordance with the provisions of the governing ordinance or plans as they stood at the time the application was duly filed. Refer to Article V, §508, (4) of Act 247, the Pennsylvania Municipalities Planning Code, for the effect of ordinance amendments on subdivision plans.

[Ord. 1992-4]

(Ord. 1985-5, 7/10/1985, §405; as amended by Ord. 1987-4, 8/12/1987, §1; by Ord. 1990-2, 11/5/1990, §1; by Ord. 1990-3, 11/5/1990, §1; by Ord. 1992-4, 7/6/1992, §§1, 2; by Ord. 1999-1, 6/14/1999; and by Ord. 2004-5, 8/9/2004)

§22-406. Minor Subdivisions.

In the case of a "minor subdivision," the subdivider may comply with the following procedures in lieu of submission of a preliminary and final plan:

   A. Meet with the Planning Commission and discuss the proposed development as set forth under §22-402(C), hereof. Preliminary plans are reviews may be bypassed and complete plans prepared at the direction of the Planning

Commission. The term "complete plan" for a minor subdivision shall be a final plan for all purposes.

B. Submission. The subdivider shall submit two copies of the complete plan of any minor subdivision to the Planning Commission. Said plan shall outline the subdivider's proposals in sufficient detail to permit a determination by the Planning Commission that the proposed subdivision conforms with the intent and purpose of this Chapter, including the responsibilities as set forth under §22-404(C), hereof.

C. Engineering services may not be required for all minor subdivisions, particularly for those reflecting one or two lots. Nevertheless, if in the opinion of the Planning Commission there is question regarding the validity of lot description and/or location in respect to recording, engineering services could be required.

D. Fees. At the time of filing a complete plan of a minor subdivision the applicant shall pay to the Township a fee in an amount as established from time to time by resolution of the Board of Supervisors. [Ord. 1999-1]

E. Review and Approval. Upon a determination by the Planning Commission that the proposed subdivision is in accordance with this Chapter, the subdivider shall be advised of the concurrence of the Planning Commission or of such changes as may be required, and requested to submit three copies of the plan.

F. The Planning Commission shall submit the complete plan to the Board of Supervisors for action as set forth in §22-405(5), hereof.

(Ord. 1985-5, 7/10/1985, §406; as amended by Ord. 1999-1, 6/14/1999)

PART 5

DESIGN STANDARDS

§22-501. General Standards.

1. Where no public water supply is available to the subdivision, the Board of Supervisors shall require the developer to obtain from the District Sanitarian of the Pennsylvania Department of Environmental Protection, certificates of approval as to the quality and adequacy of the water supply proposed and approval of the type and construction methods to be employed in the installation.

2. Where the subdivision is inaccessible to sanitary severs, the Board of Supervisors shall require the developer to obtain from the District Sanitarian of the Pennsylvania Department of Environmental Protection, certificates of approval of the proposed sewage disposal facilities. [Ord. 1999-1]

3. Improvement construction requirements will be completed under specifications included or referred to herein.

(Ord. 1985-5, 7/10/1985, §501; as amended by Ord. 1999-1, 6/14/1999)

§22-502. Streets.

All streets which by design or intent are to become a part of the Official Map and the Township circulation system, by legal action of the Board of Supervisors, shall conform to the following design standards and be planned in a manner acceptable to the Planning Commission:

A. Where a subdivision abuts or contains an existing or proposed arterial street or a railroad right-of-way, access thereto shall be limited to a minimum and such access shall be determined with due regard for sight distance, distance between intersections, approach grades and requirements for future grade separations.

B. Marginal access and reverse frontage streets paralleling, limited access and/or arterial streets shall be required. Access to such streets shall not be more frequent than one in 500 feet.

C. Street jogs with centerline offsets are less than 125 feet shall be avoided.

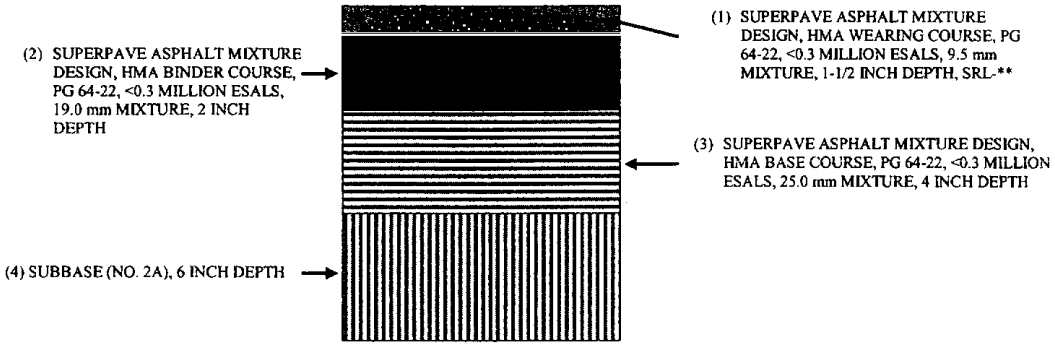
D. Street improvement specifications.

(1) All streets and roads in Smithfield Township as identified on the Official Map of the Township and intended to be included on the Official Map of the Township shall be constructed, designed and/or improved

in accordance with the latest edition of PENNDOT Publication 408, PENNDOT Publication 242, PENNDOT Publication 72M and the following:

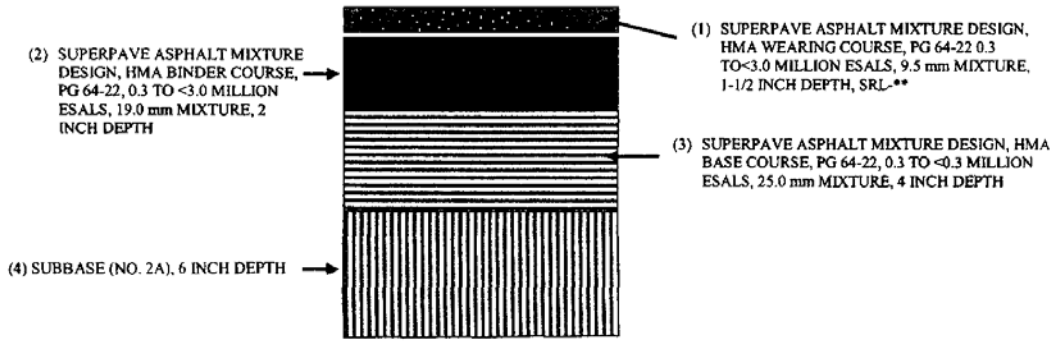
(2) Pavement.

(a) Street Pavement Section, Minor Road, Marginal Road, and Alley Classification:



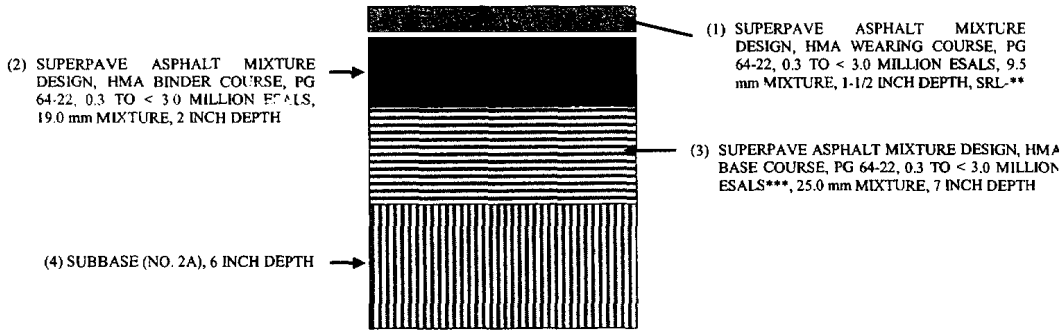
** SRL-L or SRL-M, traffic Dependent

(b) Street Pavement Section, Collector Road Classification:



** SRL-L or SRL-M, traffic Dependent

(c) Street Pavement Section, Arterial Road Classification:



** - SRL-L or SRL-M, Traffic Dependent
*** - Anticipated 20-year ESAL must be determined by Applicant

(d) Pavement base drain shall be installed on all new, reconstructed, and widened streets to drain subsurface water beneath the pavement structure. Combination storm sewer/underdrain may be used in lieu of base drain wherever a conflict exists between the proposed base drain and proposed storm sewer.

(e) Streets located in the Industrial Zone or Commercial Zone of the Township Zoning Ordinance shall be constructed to the arterial street standards.

(f) A pavement design, in accordance with PENNDOT Publication 242, shall be required for all facilities or developments that will generate a total of 100 or more Equivalent 18-kip Single Axle Loads (ESALS) in a given weekday in all directions. The pavement design requirements will be determined by the Transportation Engineer and will take into account the supporting road networks' capacity to handle additional heavy vehicle loading.

(g) Private streets, parking lots and driveways shall be graded, surfaced with 1 1/2 inches HMA wearing course over two inches HMA binder course over six inches subbase, at a minimum, where there is no truck traffic and no truck parking.

(h) A subgrade soil evaluation shall be conducted for all new, reconstructed and widened streets. This evaluation must include, as a minimum:

[1] Gradation test to determine the percent of given particle sizes of the different soil types of the project. Gradation test results shall be used to determine the Unified Soils Classification for the subgrade.

[2] In-place moisture content and optimum moisture content.

[3] In-place density and dry mass density.

[4] California Bearing Ratio (CBR).

These tests shall be performed on the existing subgrade material (in-situ) on which the streets will be built. Select borrow materials placed as part of the street construction must be tested prior to the placement of the pavement. Stabilizing will be required if the CBR values are equal to five or less. Under no circumstances are the in-site subgrade soils or select borrow materials with a CBR less than three to be used in the street construction.

The exact number of tests required will be determined at the discretion of the Transportation Engineer, given the size of the project and soil conditions. At a minimum, three tests will be required. All test locations require the approval of the Transportation Engineer before beginning field work.

(i) Soil cement, geogrids and/or Class 4, Type C Geotextiles may be used in lieu of undercutting to stabilize weak subgrades, at the Engineer's discretion.

(j) The subgrade soil shall be prepared and tested in strict accordance with PENNDOT Publication 408, Section 210. Field Dynamic Cone Penetration (DCP) test shall be conducted by the applicant and observed by the Engineer on the prepared subgrade soil prior to the placement of stone subbase. The location and number of the test will be determined by the Engineer for the given site conditions. Subgrades that display a CBR correlation from DCP testing of the less than three shall be deemed unacceptable for street construction and will require removal prior to placement for the subbase stone.

(k) No stone shall be laid on frozen ground.

(l) Private streets, driveways, and parking lots are exempt from requirements.

(3) Subbase.

(a) Prior to the placement of the subbase, the subgrade shall be prepared and tested in accordance with Section 403H. All defects in the subgrade, including wheel ruts, soft patches and other defects, shall be fully corrected to the satisfaction of the Engineer. Subbase placed without fully complying with Section 403H shall be considered defective and shall be removed at the applicant's sole expense.

(b) PENNDOT Publication 408, Section 350, shall be strictly enforced for subbase placement, except as amended by applicable Township ordinances, and shall include all testing requirements to be performed by the applicant under the supervision of the Engineer at the applicant's sole expense.

(4) HMA Base Course.

(a) Prior to the placement of the course, the subbase shall be prepared and tested in accordance with Section 404. All defects in the subbase, including wheel ruts, soft patches and other deficiencies shall be fully corrected to the satisfaction of the Engineer. Base course placed without fully complying with Section 404 shall be considered defective and shall be removed at the applicant's sole expense.

(b) PENNDOT Publication 408, Section 309, shall be strictly enforced for subbase placement, except as amended by applicable Township ordinances, and shall include all testing requirements to be performed by the applicant under the supervision of the Engineer at the applicant's sole expense.

(5) Tack Coat. Tack coat shall be provided between sections, according to PENNDOT Publication 408, Section 460.

(6) HMA Binder Course.

(a) Prior to the placement of the binder course, the base course shall be prepared and tested in accordance with Section 405. All defects in the base course, to include cracking, wheel ruts, soft patches and other deficiencies shall be fully corrected to the satisfaction of the Engineer. Binder course placed without fully complying with Section 405 shall be considered defective and shall be removed at the applicant's sole expense.

(b) PENNDOT Publication 408, Section 309, shall be strictly enforced for subbase placement, except as amended by applicable Township ordinances, and shall include all testing requirements to be performed by the applicant under the supervision of the Engineer at the applicant's sole expense.

(7) HMA Wearing Course. Prior to the placement of the wearing course, the binder course shall be prepared and tested in accordance with Section 407. All defects in the binder course, to include cracking, wheel ruts, soft patches and other deficiencies shall be fully corrected to the satisfaction of the Engineer. Wearing course placed without fully complying with Section 407 shall be considered defective and shall be removed at the applicant's sole expense.

(8) Weather Limitations.

(a) The placing of HMA base course or HMA binder course shall terminate after October 31 of each year, and shall not be resumed until April 1 of the following year, unless the ground temperature and air temperature do not fall below, and are continuously above, 40° F. for five consecutive days prior to the day of placement of said materials. When the air temperature falls below 50° F., extra cold weather precautions shall be taken in drying the aggregate, controlling the temperature of the delivered material and compacting the mixture. HMA base course or HMA binder course shall not be placed on wet surfaces, nor when the air temperature is 40° F. or lower.

(b) The placing of HMA wearing course or surface course shall terminate after October 15 of each year, and shall not be resumed until April 1 of the following year, unless the ground temperature and air temperature do not fall below, and are continuously above 45° F. for five consecutive days prior to the day of placement of said materials. When the air temperature falls below 50° F, extra cold weather precautions shall be taken in drying the aggregate, controlling the temperature of the delivered material and compacting the mixture. HMA wearing course or surface course shall not be placed on wet surfaces, or when the air temperature is 45° F. or lower.

(9) Backfilling. Utility excavations in areas of streets shall be backfilled, in accordance with the following standards:

(a) Backfilling shall be done as promptly as possible.

(b) The trench shall be filled with hand-placed stone acceptable to the Township, to a height of at least one foot above the top of the conduit, pipe or pipe bell.

(c) The remainder of the trench shall be backfilled with 2-RC or 2A and promptly compacted. The backfill material shall be mechanically tamped in approximately six-inch layers.

(d) Where openings are made behind the curbline, work shall be performed as required in these specifications, and the opening covered with good topsoil to a depth of six inches and seeded or sodded to the satisfaction of the Township.

(e) Whenever the trenches have not been properly filled, or if settlement occurs, they shall be refilled, compacted, smoothed off, and finally made to conform to the surface of the ground.

(f) Frozen material shall not be used for backfill, nor shall any backfilling be done when materials already in the trench are frozen.

E. When a street line changes direction more than 10°, it shall be connected with a curve with a radius sufficient to assure adequate sight distance.

F. Streets shall be laid out to intersect as near as possible at right angles and no street shall intersect any other street at less than 60°.

G. Collector and arterial streets shall not intersect at intervals of less than 800 feet.

H. Alleys shall be prohibited unless special permission is granted by the Board of Supervisors.

I. Street right-of-way widths shall conform to the following:

(1) Arterial streets shall conform to standards of the Pennsylvania Department of Transportation.

(2) Collector streets shall conform to the standards of the Pennsylvania Department of Transportation.

(3) Residential Streets. 50 feet.

(4) Minor Residential Marginal Access Streets. 36 to 40 feet.

(5) Alley (When permitted). 20 feet.

J. Dead-end streets (cul-de-sacs) designed to be so permanently shall be provided with a turnaround having an outside cartway diameter of at least 80 feet and a property line diameter of at least 100 feet. Cul-de-sacs planned in excess of 1500 feet in length shall be subject to the review and approval of the Board of Supervisors. Approval of additional length shall be granted only when deemed to the best interests of the citizens and the Township and when no jeopardy in regard to public protection is found.

K. No street grade shall be less than .5% or more than 10% unless approved by the Board of Supervisors.

L. Where the grade of any street at the approach of an intersection exceeds 4%, a leveling area shall be provided having not greater than 4% grade for a distance of 25 feet measured from the nearest right-of-way line of the intersecting street.

M. At intersections, cartway or curb radii shall not be less than 20 feet.

N. Partial streets shall not be permitted. Suitable access to adjacent unsubdivided land shall be provided when such land does not abut a public street and may be landlocked by the subdivision under consideration.

O. Multiple intersections involving junction of more than two roads shall be prohibited.

P. Horizontal and vertical street alignment:

(1) The minimum radius at the centerline for horizontal curves shall be 150 feet for local streets.

(2) Vertical curves shall be used in grade differentials exceeding an algebraic difference of 2 1/2%, and shall be designed for maximum visibility.

(Ord. 1985-5, 7/10/1985, §502; as amended by Ord. 2007-3, 5/22/2007)

§22-503. Easements.

Easements across lots, centered on rear or side lot lines, or where necessary for lot access, utilities, watercourse, drainage way, channel or stream shall be not less than 20 feet wide.

(Ord. 1985-5, 7/10/1985, §503)

§22-504. Blocks.

1. Block lengths shall not exceed 1,600 feet.

2. In cases where the block length exceeds 1,200 feet or where deemed essential to provide pedestrian circulation to schools, playgrounds, shopping centers and other community facilities, a cross-walk shall be provided with a pavement width of not less than eight feet.

(Ord. 1985-5, 7/10/1985, §504)

§22-505. Lots.

1. Lot dimensions and areas shall conform to Township Zoning regulations [Chapter 27], or in the absence thereof, to the following minimums and other applicable State regulations:

A. Without water and sewer services:

(1) Single-Family Dwellings. 20,000 square feet.

(2) Two-Family Dwellings. 26,000 square feet.

(3) Lot Width at Building Line. 100 feet.

B. With water service only:

(1) Single-Family Dwellings. 12,000 square feet.

(2) Two-Family Dwellings. 18,000 square feet.

(3) Lot Width at Building Line. 80 feet.

C. With both water and sewer service:

(1) Single-Family Dwellings. 9,000 square feet.

(2) Two-Family Dwellings. 11,000 square feet.

(3) Lot Width at Building Line. 75 feet.

2. Lot Area and Width Adjustments.

A. On a lot held in single and separate ownership at the effective date of this Chapter which does not fulfill the regulations for the minimum lot area and width, a building may be erected, altered and used thereon when approved by the Board of Supervisors; and as further regulated by the Township Zoning Ordinance [Chapter 27].

B. Lot areas shall be increased to any size deemed necessary by reason of, (i) poor soil conditions determined by percolation tests; (ii) in areas with slopes steeper then 20% grade; or (iii) in drainageways.

C. The area, width and depth of lots shall provide adequate open space for off-street loading, unloading and/or parking area and yards. In all cases where public sewers are not available, the lot areas shall be of sufficient size to provide open areas, exclusive of parking areas or other paved areas for a septic tank and leeching field.

D. The lot areas and width specified above may be reduced by 10% when the lot is in a subdivision or land development of 20 lots or more, providing the area by which the lots are reduced is established for playgrounds, parks and open space.

3. The subdividing of the land shall be such that each lot is provided with direct access to a public street. Such access shall be an easement or an actual extension of the lot or property at least 20 feet in width.

(Ord. 1985-5, 7/10/1985, §505)

§22-506. Building Lines.

In no case shall the required setbacks from streets be less than the following:

A. Front Yard.

(1) Arterial Streets. 70 feet from right-of-way centerline.

(2) Collector Streets. 55 feet from right-of-way centerline.

(3) Minor Streets. 50 feet from right-of-way centerline.

B. Side Yards Two side yards not less than 10 feet each. This regulation shall not apply when the Township Zoning Ordinance [Chapter 27] directs a greater or lesser control.

C. Rear Yard. Not less than 10 feet.

D. Building Line Adjustments.

(1) Where subsurface disposal is to be located on the lot and in an area adjacent to the right-of-way line, the building line or setback line shall be increased enough to provide sufficient area for that subsurface drainage field. The Planning Commission may modify setback requirements as necessary. Final approval shall be by the Pennsylvania Department of Environmental Protection. [Ord. 1999-1]

(2) Except as provided for in §22-506(D)(1), hereof, when an unimproved lot adjoins an improved lot having a building thereon, the setback of any building on the unimproved lot may be the average setback of such adjoining improved lot and the required setback for the unimproved lot. The adjoining unimproved lot second from the original improved lot must have at least the minimum required setback.

(3) Where topographic or other physical conditions dictate, the Planning Commission may increase or decrease the setback, subject to approval of the Pennsylvania Department of Environmental Protection. [Ord. 1999-1]

(Ord. 1985-5, 7/10/1985, §506; as amended by Ord. 1999-1, 6/14/1999)

§22-507. Public Grounds and Open Spaces.

Where a proposed park, playground, school, easement or other public use shown in the Comprehensive Plan or, in the opinion of the Planning Commission, is necessary, the Board of Supervisors may require the reservation of such area within the subdivision or land development in a reasonable manner.

(Ord. 1985-5, 7/10/1985, §507)

§22-508. Storm Drainage.

1. All drainage facilities and plans shall comply with the Pennsylvania Stormwater Management Act and such County and Township ordinances or regulations that may be applicable.

2. Lots shall be laid out and graded to provide positive drainage away from buildings. The Township may require a grading and drainage plan for individual lots indicating a buildable area within each lot, complying with the setback requirements, for which positive drainage is assured.

3. No person, corporation or other entity shall block, impede the flow of, alter, construct any structure or deposit any material or thing or commit any act which will affect normal or flood flow in any communal stream or watercourse without having obtained prior approval from the Township or Department of Environmental Protection, whichever is applicable.

4. Where a subdivision of land development is traversed by a natural watercourse, there shall be provided a drainage easement or right-of-way conforming substantially with the line of such watercourse and of such width as will be adequate to safely convey runoff from a 100 year design storm.

5. The subdivider or developer and each person, corporation or other entity which makes any surface change shall be required to:

    A. Design all storm drainage facilities and plan to be in conformity with the Pennsylvania Stormwater Management Act.

    B. Collect onsite surface runoff and dispose of it to the point of discharge into the common natural watercourse of the drainage areas.

    C. Design drainage facilities to handle runoff from upstream areas, assuming full development of those areas.

    D. Design, construct and/or install such drainage structures and facilities as are necessary to prevent erosion damage to the subdivision or land development, adjacent property and downstream property. Such structures and

facilities shall satisfactorily convey such surface waters to the nearest practical street, storm drain, detention pond or natural watercourse. Special consideration shall be given to avoid problems which could arise from concentration of stormwater runoff over adjacent properties.

6. Storm sewers, culverts and related installations shall be provided to permit unimpeded flow of natural watercourses, to drain all low points along streets and ensure adequate drainage and to intercept stormwater runoff along streets at intervals reasonably related to the extent and grade of the area drained.

7. Storm sewers, as required, shall be placed in front of the curb or curb line when located in a street right-of-way. When located in undedicated land, they shall be placed within a construction easement not less than 50 feet wide and a permanent easement not less than 20 feet wide, as approved by the Township Engineer, who may require additional width of easement as circumstances warrant.

8. Street drainage will not be permitted to cross intersections or the crown of the road.

   A. Maximum spacing of street inlets shall not exceed 450 feet.

   B. All street inlets shall be PennDOT Type C or M. Inlet tops shall be cast in place reinforced concrete or precast concrete.

   C. All culvert ends shall be provided with either reinforced concrete headwalls or pipe end sections.

   D. Storm sewers shall have a minimum diameter of 15 inches and a minimum grade of 1/2 of 1%. Lesser grades may be permitted by the Township Engineer when substantiated with calculations which prove that cleaning velocities will be maintained.

   E. When material for storm drain systems is not specified, PennDOT specifications will govern.

9. Bridges or culverts shall be designed to support and carry loads in accordance with Publication 470 of the Pennsylvania Department of Transportation.

10. All springs and sump pump discharges shall be collected so as not to flow in streets.

11. Stormwater roof drains shall not discharge water directly over a sidewalk.

12. Stabilized outlets shall be provided for footer drains, floor drains and downspouts.

13. Minimum grade of drainage courses shall be designed to create a minimum cleaning effect (velocity of two feet per second). Lesser grades may be permitted by the

Township Engineer when substantiated with calculations which prove that cleaning velocities will be maintained.

14. The soils cover complex method of the Soil Conservation Service of the U.S. Department of Agriculture shall be used as the primary means of estimating Stormwater runoff.

15. The rational method may be used for analysis of storm sewer systems and for Stormwater management facilities in minor subdivisions.

16. Where the estimated runoff based upon the above methods is doubtful, several recognized methods should be studied and compared.

17. The minimum design criteria shall be a 100 year storm. Calculations shall also be submitted for two, 10 and 25 year storms. Higher frequency conditions shall be used in sensitive areas where an overflow would endanger public or private property.

18. The developer shall submit runoff data upon which the size of conduits, culverts and swales for proposed Stormwater control has been based. Runoff calculations must include complete hydrologic and hydraulic design and analysis of all control facilities.

19. Control Facilities.

    A. Permanent control measures/facilities shall be designed to assure that the maximum rate of stormwater runoff is not greater after development than prior to development for a two, 10, 25 and 100 year storm frequency. More stringent criteria may be required in sensitive areas where stormwater problems presently exist.

    B. Control facilities shall be designed to meet, as a minimum, the design standards and specifications of the Pennsylvania Department of Environmental Protection "Erosion and Sediment Pollution Control Program Manual" (March 2000).

        (1) Detention ponds may be waived by the Township on the recommendation of the Township Engineer at sites in close proximity to the major streams. This is to facilitate drainage prior to stream flooding.

        (2) In areas underlain with limestone geology, ponds shall be limited to the detention (dry) type unless the developer can show a special need for a retention pond, in which case it shall have a lining. Detention ponds shall be prohibited in areas of known sinkholes unless the pond is lined. If a sinkhole develops in a pond or channel before acceptance by the Township, a lining shall be required.

(3) Any ponds with slopes steeper than three to one shall be fenced with a six foot fence with a type subject to the approval of the Township.

C. A maintenance program for control facilities must be included as part of the grading and drainage plan.

(1) Maintenance during development activities of a project shall be the responsibility of the contractor, developer and owner.

(2) Arrangement for maintenance of permanent control facilities after completion of development activities shall be made before approval of final plan is given by the Township. In cases where permanent control facilities are owned by an entity, it shall be the responsibility of that entity to maintain control facilities (e.g., homeowner's association). In such cases a legally binding agreement between the owner and the Township shall be made providing for maintenance of all permanent erosion control facilities, including the inspection by the Township.

(Ord. 1985-5, 7/10/1985, §508; as amended by Ord. 2001-1, 3/12/2001)

§22-509. Sanitary Sewers and Public Water.

1. Sanitary Sewers. The developer shall plan and construct sanitary sewers with provisions for connection to each lot in the proposed subdivision in all cases where public sewers are planned or available within 1,000 feet of the subdivision.

2. Public Water. The developer shall plan and install water mains with provision for connection to each lot in the proposed subdivision in all cases where a public water main is available or exists within 1,000 feet of the proposed subdivision. The developer shall also place fire hydrants along said water mains at locations approved by the Township Engineer, and in keeping with fire protection standards.

(Ord. 1985-5, 7/10/1985, §509)

§22-510. Utility Location.

Whenever the subdivision plan involves five or more lots, utilities shall be installed underground.

(Ord. 1985-5, 7/10/1985, §510)

§22-511. Erosion and Sediment Control.

1. Standards.

A. No changes shall be made in the contour of the land; no grading, excavating, removal or destruction of the topsoil, trees or other vegetative cover of the land shall be commenced until an erosion and sediment control plan has been processed and reviewed by the Township Planning Commission, or a determination by the Commission that such plans are not necessary.

B. No subdivision or land development plan shall be approved unless (i) there has been a plan approved by the Board of Supervisors that provides for minimizing erosion and sedimentation consistent with this Section, and an improvement bond or other acceptable securities are deposited with the Township in the form of an escrow guarantee which will ensure installation and completion of the required improvements; or (ii) there has been a determination by the Board of Supervisors that a plan for minimizing erosion and sedimentation is not necessary.

C. Measures used to control erosion and reduce sedimentation shall, as a minimum, meet the U.S.D.A. Soil Conservation standards and specifications. The Township Engineer, or other officials as designated, shall ensure compliance with the appropriate specification, copies of which are available from the local district.

2. Guidelines. The following measures shall be included where applicable in the control plan:

A. Stripping of vegetation, regrading or other activities shall be done in such a way that will minimize erosion.

B. Development plans shall preserve natural features, minimize cut-fill operations and ensure conformity with topography so as to create the least erosion potential and adequately handle surface water runoff.

C. Whenever feasible, natural vegetation shall be retained, protected and supplemented.

D. The disturbed area and the duration of exposure shall be kept to a minimum.

E. Disturbed soils shall be stabilized as quickly as practical.

F. Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.

G. The permanent (final) vegetation and structural erosion control and drainage measures shall be installed as soon as practical in the development.

H. Provisions shall be made to accommodate the increased runoff during and after development. Where necessary the rate of surface water runoff will be structurally retarded.

I. Sediment in the runoff water shall be trapped until the disturbed area is stabilized by the use of debris basins, sediment basins, silt traps or similar measures.

(Ord. 1985-5, 7/10/1985, §511)

§22-512. Grading for Drainage.

In order to provide more suitable building sites, the following requirements shall be met:

A. All lots, tracts or parcels shall be graded to provide proper drainage from buildings without ponding, and all land within a development shall be graded to drain surface water without ponding, except where other arrangements are approved by the Commission.

B. All drainage provisions shall be adequate to handle the surface runoff and carry it to the nearest curbed street, storm drain or natural water course. Where drainage swales are used they shall be sodded or planted and of adequate slope, shape and size.

C. Concentration of surface water runoff shall only be permitted in swales or watercourses.

D. Excavations and Fills.

(1) Cut and fill slopes shall not be steeper than 2:1 unless stabilized by a retaining wall or cribbing and except as approved by the Commission when handled under special conditions.

(2) Adequate provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surfaces of fills.

(3) Cut and fills shall not endanger adjoining property.

(4) Fill shall be placed and compacted to minimize sliding or erosion.

(5) Fills shall not encroach on natural watercourses or constructed channels.

(6) Fills placed adjacent to natural watercourses or constructed channels shall have suitable protection against erosion during periods of flooding.

(7) Grading will not be done in such a way so as to divert water onto the property of another land owner without the expressed consent of the Commission and the landowner.

(8) Necessary measures for dust control will be exercised.

(9) Grading equipment will not be allowed to cross live streams. Provision will be made for the installation of culverts or bridges.

(Ord. 1985-5, 7/10/1985, §512)

§22-513. Responsibilities.

1. Whenever sedimentation results from stripping vegetation, regrading or other activity, it shall be the responsibility of the person, corporation or other entity causing such sedimentation to remove it from all adjoining surfaces, drainage system and watercourses and to repair any damage at his expense as quickly as possible.

2. Maintenance of all drainage facilities and watercourses within any subdivision or land development is the responsibility of the developer until accepted by the Township or other official agency, which accepts responsibility thereafter.

3. It is the responsibility of any person, corporation or other entity doing any act on or across any communal stream, watercourse or swale or upon the floodplain or right-of-way thereof, to maintain said facility in its present state during all activity and to return it to its original condition after activity is completed.

4. Maintenance of drainage facilities or watercourses originating and remaining on private property is the responsibility of the owner to the point of open discharge at the property line or at a communal watercourse within the property.

5. No entity shall undertake any activity affecting any communal stream or watercourse without having obtained approval from the Township or Department of Environmental Protection or both. [Ord. 1999-1]

6. Where a subdivision is traversed by a watercourse, there shall be provided a drainage easement or right-of-way conforming substantially with the line of such watercourse, and of such width as will be adequate to preserve natural drainage.

7. Any person, corporation or other entity making any surface changes shall be required to:

   A. Collect onsite surface runoff and dispose of it into the common natural watercourse of the drainage area.

   B. Handle all runoff through the development by designing to adequately handle stormwater runoff from any developed area.

C. Pay a proportionate share of the total cost of off-site improvements to the common natural watercourse, based on a fully developed drainage area.

D. Provide and install all drainage and erosion control improvements (temporary and permanent) as required by the erosion and sediment control plan.

(Ord. 1985-5, 7/10/1985, §513; as amended by Ord. 1999-1, 6/14/1999)

PART 6

IMPROVEMENT AND CONSTRUCTION REQUIREMENTS

§22-601. Monuments and Markers.

1. Placement Marking. Monuments and markers must be so placed that the scored or marked point coincides exactly with the point of intersection of the lines being monumented. The top of the monument or marker must be level with the surface of the surrounding ground. Concrete monuments shall be marked on top with a copper or brass dowel. Cut stone monuments shall have a point marking.

2. Monuments must be set at:

   A. The intersection of major street right-of-way lines.

   B. The intersections of lines forming angles in the boundaries of the subdivision.

   C. Such intermediate points as may be required by the Board of Supervisors.

STANDARD			
A	**B**	**C**	
X	X		Public water (see §22-509).
X	X		Public sanitary sewer (if feasible) (see §22-509).
X	X	X	Arterial Streets. In accordance with Comprehensive Plan and as determined by the Township Engineer and the Pennsylvania Department of Transportation.
X	X	X	Collector Streets. In accordance with Comprehensive Plan and as determined by the Township Engineer and the Pennsylvania Department of Transportation.
X	X	X	Minor and Marginal Access Streets: A. Original cartway construction shall not be less than 20 feet in width as determined by the Township Engineer.
X	X	X	Alleys. Paved full width.
X	X	X	Grading and Centerline Profiles of Streets. Per approved plans.
X	X	X	Stormwater facilities and other drainage improvements; per approved plans
X	X		Curbs when necessary to control stormwater runoff. The decision as to the need shall be at the discretion of the Township Engineer.

STANDARD			
A	**B**	**C**	
			A. Cement. 24 inches by eight inches with six inch top battered to eight inches at a point seven inches below the top.
			B. Extruded bituminous curb held in place with an epoxy adhesive, when approved by the Board of Supervisors
		X	Streets. Six inch compacted base grades and drained.
	X		Streets. Six inch base choked and surface with tar and chips.
X			Streets. Conform to Pennsylvania Department of Transportation construction standards
X	X	X	Portland cement concrete four inches thick and not less than four feet wide where deemed necessary for public safety by the Board of Supervisors at schools, churches and other places of public assembly.
X	X	X	Street Trees. One and one-half inch caliper. Forty to 60 feet apart. Street trees shall be planted between the sidewalk and the building line. Street trees may be eliminated where, in the opinion of the Board of Supervisors, sufficient trees exist and will be permitted to remain. In no circumstances will any of the following trees be permitted either to remain or to be planted as street trees:
			A. Poplars; all varieties.
			B. Willows; all varieties.
			C. White or Silver Maple (Acer Saccharinum).
			D. Aspen; all varieties.
			E. Common Black Locust.
X	X	X	Seeding and plantings strips.
X	X	X	Street name signs at all intersections; form and material to be approved by the Board of Supervisors.

3. Location of Lot Markers. Lot markers must be set at all corners, except those monumented, by the time the lot is offered for sale.

4. Removal. Any monuments or markers that are removed shall be replaced by a registered engineer or surveyor at the expense of the person removing them.

5. Monuments and markers shall be as follows:

A. Monuments shall be six inches square or four inches in diameter and shall be 30 inches long. Monuments shall be made of concrete, stone or by setting a four inch cast iron or steel pipe filled with concrete.

B. Markers shall be 3/4 of an inch square or 3/4 of an inch in diameter and 15 inches long. Markers shall be made of iron pipes or iron or steel bars.

6. In minor subdivisions and at the discretion of the Planning Commission, markers may be substituted for monuments.

(Ord. 1985-5, 7/10/1985, §601)

§22-602. Utility and Street Improvements.

1. Utility and street improvements shall be provided in each new subdivision in accordance with the following standards and requirements and as indicated in §603 hereof:

A. For apartment, townhouse and other multifamily residential types, improvements to be in accord with Standard A.

B. For single-family dwellings and duplexes with lot area 1/2 acre or less improvements to be in accord with Standard B.

C. For single-family dwellings and duplexes with lot area 1/2 acre improvements to be in accord with Standard C.

D. For commercial, industrial and other special type uses, the standards shall be as determined by the Board of Supervisors and the Township Engineer.

E. Improvement Schedule. In cases where the above requirements are deemed not appropriate by the Board of Supervisors and the Township Engineer to serve in the public interest, the right is reserved to increase, change, alter or substitute materials, manner and specifications for utility and street improvements, provided that such changes, alterations, etc., are approved by the Board of Supervisors.

(Ord. 1985-5, 7/10/1985, §602)

§22-603. Erosion and Sediment Compliance.

1. The Board of Supervisors, in considering all preliminary plans of subdivision and land development, shall condition its approval upon the execution of erosion and sediment control measures as contained in this Section and §22-511 hereof.

2. The installation and design of the required erosion and sediment control measures shall be in accordance with U.S.D.A. Soil Conservation Service (Pa.) Standards and Specifications, including:

   A. Temporary cover on critical areas, (Spec. No. 342).

   B. Permanent grass and legumeme cover on critical areas with prepared seedbed, Spec. No. 342).

   C. Permanent grass and legume cover in critical areas with unprepared seedbed, (Spec. No. 324).

   D. Sodding, (Spec. No. 342).

   E. Mulching, (Spec. No. 484).

   F. Temporary diversion, (Spec. No. 362-U).

   G. Permanent diversion, (Spec. No. 362).

   H. Grassed waterway or outlet, (Spec. No. 412).

   I. Grade stabilization structure, (Spec. No. 410).

   J. Debris basin, (Spec. No. 350).

   K. Drain, (Spec. No. 606).

   L. Drainage; main or lateral, (Spec. No. 480).

   Stream channel construction on watersheds with drainage areas in excess of 320 acres, or in those cases where downstream hazards exist, will conform to criteria established by the Pennsylvania Department of Environmental Protection. [Ord. 1999-1]

3. The erosion and sediment control plan will be incorporated into the agreement and bond requirements as required under §22-704 hereof. Said plan shall be a part of the final plans of subdivision and land development.

4. At the time of application for a building permit, a review shall be conducted by the Township Engineer to insure conformance with the plan as approved. During construction consultative technical assistance will be furnished, if necessary, by the Township Engineer and the County Soil and Water Conservation District. The Township Engineer shall inspect the development site and enforce compliance with the approved plans.

(Ord. 1985-5, 7/10/1985, §603; as amended by Ord. 1999-1, 6/14/1999)

§22-604. Stormwater Runoff/Drainage

1. A drainage system adequate to serve the needs of the proposed natural waterways and overland flow will be required in new subdivisions and land developments. The developer shall construct s storm sewer system and connect the drainage system with the Township's storm sewer system if one exists.

2. If a development generates such additional storm drainage sewer flows as to required changes to the Township storm sewer collection system, the developer will be requested to pay a share of the costs consistent with the provisions of Act 203 of 1990. It is the purpose of these regulations that development which occur under this Chapter shall pay their fair share toward needed improvements as set forth by Act 203 of 1990.

3. Bridges or culverts shall be designed to support and carry loads in accordance with Publication 70 of the Pennsylvania Department of Transportation.

4. Where open watercourses are planned, adequate safety, erosion control, drainage, protection of capacity and appearance measures shall be taken by the developer to insure proper, safe, healthful disposal of storm water. All open watercourses must be approved by the Township Engineer.

5. Minimum grade of drainage courses shall be designed to create a minimum cleaning effect (velocity of two feet per second). Lesser grades may be permitted by the Township Engineer where such required grades cannot be achieved.

6. Storm sewers shall have a minimum diameter of 15 inches and a minimum grade of 1/2 of 1%. Lesser grades may be permitted by the Township Engineer when substantiated with calculations which prove that cleaning velocities will be maintained.

7. Manholes shall normally be spaced at 300 feet maximum spacing where pipe sized of 24 inches or less are used and not over 400 feet where larger sizes are installed. Inlets may, if approved by the Township Engineer, be substituted for manholes.

8. All phases of construction of open ditches, gutters or storm sewers including width, depth, shapes, erosion control, minimum grade, size and area shall be in accordance with the requirements of these regulations and all storm drainage facilities shall be inspected and certified by the Township Engineer.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

PART 7

CONDITIONS OF ACCEPTANCE

§22-701. Subdivision Control.

No subdivision or land development shall be made except in strict accordance with the provisions of this Chapter.

(Ord. 1985-5, 7/10/1985, §701)

§22-702. Recording.

Within 90 days after the date of approval, the final plan shall be recorded in the office of the Recorder of Deeds of the County. The developer shall furnish the Board of Supervisors a recorder's certificate that said plan is properly recorded. The requirements of Act 247, the Pennsylvania Municipalities Planning Code, shall govern the action of the developer in the recording of documents.

A. After the subdivision or land development plan is officially recorded, the streets, public grounds and other public areas shown thereon shall be considered a part of the Official Map of the Township.

B. Streets, public grounds, casements, and other public improvements may be offered for dedication to the Township by formal notation on the plan, or the owner may note that any such improvements have not been offered for dedication to the Township.

C. Streets and public grounds shown on a recorded subdivision plan shall be deemed private until offered for dedication to the Township and accepted by ordinance or resolution; or until condemned for use by the public.

D. The recording of the plan shall not constitute grounds for assessment increases until such time as lots are sold or structures are installed on the lots included within the subject plan.

(Ord. 1985-5, 7/10/1985, §702)

§22-703. Sale of Lots; Issuance of Building Permit or Erection of Building.

No lot in a subdivision or land development may be sold, no permit to erect, alter or repair any building upon land in a subdivision or land development, unless and until a plan of such subdivision or land development has been approved and recorded, and improvements constructed or guaranteed as herein provided.

(Ord. 1985-5, 7/10/1985, §703)

§22-704. General Provisions.

1. The Board of Supervisors shall not approve any subdivision or land development plan except in strict conformance with the provisions of this Chapter.

2. The Board of Supervisors may alter any subdivision or land development plan and specify alteration, changes and modifications therein which it deems necessary and may make its approval subject to such alterations, changes or modifications.

3. No right-of-way or related improvement shall be accepted by the Township for maintenance unless opened, laid out, graded and improved in strict accordance with standards and specifications of the Township and/or this Chapter.

4. Completion of Improvements or Guarantee Thereof Prerequisite to Final Plat Approval.

   A. No plat shall be finally approved unless the streets on such plat have been improved to a mud-free or otherwise permanently passable condition, or improved as may be otherwise required by this Chapter and any walkways, curbs, gutters, street lights, fire hydrants, shade trees, water mains, sanitary sewers, storm sewers and other improvements as may be required by this Chapter have been installed in accordance with this Chapter. In lieu of the completion of any improvements required as a condition for the final approval of a plat, including improvements or fees otherwise required by this Chapter, the developer may deposit with the Township financial security in an amount sufficient to cover the costs of such improvements or common amenities including basins and other related drainage facilities, recreational facilities, open space improvements, or buffer or screen plantings which may be required.

   B. When requested by the developer, in order to facilitate financing, the Board of Supervisors, shall furnish the developer with a signed copy of a resolution indicating approval of the final plat contingent upon the developer obtaining a satisfactory financial security. The final plat or record plan shall not be signed nor recorded until the financial improvements agreement is executed. The resolution or letter of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within 90 days unless a written extension is granted by the Board of Supervisors; such extension shall not be unreasonably withheld and shall be placed in writing at the request of the developer.

   C. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, 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.

D. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth.

E. Such bond or other security shall provide for, and secure to the public, the completion of any improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of the improvements.

F. The amount of financial security to be posted for the completion of the required improvements shall be equal to 110% of the cost of completion estimated as of 90 days following the date scheduled for completion by the developer. Annually, the Township may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the ninetieth day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the Township may require the developer to post additional security in order to assure that the financial security equals said 110%. Any additional security shall be posted by the developer in accordance with this subsection.

G. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements, submitted by the applicant or developer and prepared by a professional engineer licensed as such in this Commonwealth and certified by such engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept such estimate for good cause shown. If the applicant or developer and the Township are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third engineer is so chosen, fees for the services of said engineer shall be paid equally by the Township and the applicant or developer.

H. If the party posting the financial security requires more than one year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional 10% for each one year period beyond the first anniversary date from posting of financial security or to an amount not exceeding 110% of the cost of completing the required improvements as reestablished on or about the

expiration of the preceding one year period by using the above bidding procedure.

I. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of final plats by sections or stages of development subject to such requirements or guarantees as to improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.

J. As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Supervisors to release or authorize the release, from time to time, of 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 Board of Supervisors, and the Board of Supervisors shall have 45 days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Board of Supervisors that such portion of the work upon the improvements has been completed in accordance with the approved plat. Upon such certification the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the improvements completed or, if the Board of Supervisors fails to act within said 45 day period, the Board of Supervisors shall be deemed to have approved the release of funds as requested. The Board of Supervisors may, prior to final release at the time of completion and certification by its engineer, require retention of 10% of the estimated cost of the aforesaid improvements.

K. Where the Board of Supervisors accepts dedication of all or some of the required improvements following completion, the Board of Supervisors may require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plat for a term not to exceed 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 improvements, and the amount of the financial security shall not exceed 15% of the actual cost of installation of said improvements.

L. If water mains or sanitary sewer lines, or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the rules and regulations of a public utility or municipal authority separate and distinct from the Township, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling public utility or municipal authority and shall not be included within the financial security as otherwise required by this Section.

M. If financial security has been provided in lieu of the completion of improvements required as a condition for the final approval of a plat as set forth in this Section, the Township shall not condition the issuance of building, grading or other permits relating to the erection or placement of improvements, including buildings, upon the lots or land as depicted upon the final plat upon actual completion of the improvements depicted upon approved final plat. Moreover, if said financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following the improvement of the streets providing access to and from existing public roads to such building or buildings to a mud-free or otherwise permanently passable condition, as well as the completion of all other improvements as depicted upon the approved plat, either upon the lot or lots or beyond the lot or lots in question if such improvements are necessary for the reasonable use of or occupancy of the building or buildings.

[Ord. 1999-1]

5. Release From Improvement Bond.

A. When the developer has completed all of the necessary and appropriate improvements, the developer shall notify the Board of Supervisors, in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the Township Engineer. The Board of Supervisors shall, within 10 days after receipt of such notice, direct and authorize the Township Engineer to inspect all of the aforesaid improvements. The Township Engineer shall, thereupon, file a report in writing, with the Board of Supervisors, and shall promptly mail a copy of the same to the developer by certified or registered mail. The report shall be made and mailed within 30 days after receipt by the Township Engineer of the aforesaid authorization from the Board of Supervisors; said report shall be detailed and shall indicate approval or rejection of said improvements, either in whole or in part, and if said improvements, or any portion thereof, shall not be approved or shall be rejected by the Township Engineer, said report shall contain a statement of reasons for such nonapproval or rejection.

B. The Board of Supervisors shall notify the developer, within 15 days of receipt of the Engineer's report, in writing by certified or registered mail of the action of said Board of Supervisors with relation thereto.

C. If the Board of Supervisors or the Township Engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the developer shall be released from all liability, pursuant to its performance guaranty bond or other security agreement.

D. If any portion of the said improvements shall not be approved or shall be rejected by the Board of Supervisors, the developer shall proceed to com-

plete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

E. Nothing herein, however, shall be construed in limitation of the developer's right to contest or question by legal proceedings or otherwise any determination of the Board of Supervisors or the Township Engineer.

F. Where herein reference is made to the Township Engineer, he shall be a duly registered professional engineer employed by the Township or engaged as a consultant thereto.

G. The applicant or developer shall reimburse the Township for the reasonable and necessary expense incurred for the inspection of improvements according to a schedule of fees adopted by resolution of the Board of Supervisors and as from time to time amended. Such expense shall be reasonable and in accordance with the ordinary and customary fees charged by the Township Engineer or consultant for work performed for similar services in the community, but in no event shall the fees exceed the rate or cost charged by the Engineer or consultant to the Township when fees are not reimbursed or otherwise imposed on applicants.

(1) In the event the applicant disputes the amount of any such expense in connection with the inspection of improvements, the applicant shall, within 10 working days of the date of billing, notify the Township that such expenses are disputed as unreasonable or unnecessary, in which case the Township shall not delay or disapprove a subdivision or land development application or any approval or permit related to development due to the applicant's request over disputed engineer expenses.

(2) If, within 20 days from the date of billing, the Township and the applicant cannot agree on the amount of expenses which are reasonable and necessary, then the applicant and the Township shall jointly, by mutual agreement, appoint another professional engineer licensed as such in the Commonwealth of Pennsylvania to review the said expenses and make a determination as to the amount thereof which is reasonable and necessary.

(3) The professional engineer so appointed shall hear such evidence and review such documentation as the professional engineer in his or her sole opinion deems necessary and render a decision within 50 days of the billing date. The applicant shall be required to pay the entire amount determined in the decision immediately.

(4) In the event that the Township and applicant cannot agree upon the professional engineer to be appointed within 20 days of the billing date, then, upon application of either party, the President Judge of the court of common pleas of the judicial district in which the Township is

located (or if at the time there be no President Judge, then the senior active judge then sitting) shall appoint such engineer, who, in that case, shall be neither the Township Engineer nor any professional engineer who has been retained by, or performed services for the Township or the applicant within the preceding five years.

(5) The fee of the appointed professional engineer for determining the reasonable and necessary expenses shall be paid by the applicant if the amount of payment required in the decision is equal to or greater than the original bill. If the amount of payment required in the decision is less than the original bill by $1,000 or more, the Township shall pay the fee of the professional engineer, but otherwise the Township and the applicant shall each pay 1/2 of the fee of the appointed professional engineer.

[Ord. 1999-1]

6. Remedies to Effect Completion of Improvements. In the event that any improvements which may be required have not been installed as provided in this Chapter or in accord with the approved final plat, the Board of Supervisors is hereby granted the power to enforce any corporate bond or other security by appropriate legal and equitable remedies. If the proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said security, the Board of Supervisors may, at its option, install part of such improvements in all or part of the subdivision or land development and may institute appropriate legal or equitable action to recover the moneys necessary to complete the remainder of the improvements. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the improvements covered by such security and not for any other Township purpose.

[Ord. 1999-1]

(Ord. 1985-5, 7/10/1985, §704; as amended by Ord. 1999-1, 6/14/1999)

PART 8

ADMINISTRATION

§22-801. Preventative Remedies.

1. In addition to other remedies, the Township may institute and maintain appropriate actions by law or in equity to restrain, correct or abate violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

2. The Township may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a subdivision of real property in violation of this Chapter. This authority to deny such a permit or approval shall apply to any of the following applicants:

   A. The owner of record at the time of such violation.

   B. The vendee or lessee of the owner of record at the time of such violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

   C. The current owner of record who acquired the property subsequent to the time of violation without regard as to whether such current owner had actual or constructive knowledge of the violation.

   D. The vendee or lessee of the current owner of record who acquired the property subsequent to the time of violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

3. As an additional condition for issuance of a permit or the granting of an approval to any such owner, current owner, vendee or lessee for the development of any such real property, the Township may require compliance with the conditions that would have been applicable to the property at the time the applicant acquired an interest in such real property.

(Ord. 1985-5, 7/10/1985, §801; as amended by Ord. 1999-1, 6/14/1999)

§22-802. Enforcement Remedies.

1. Any person, partnership or corporation who or which has violated the provisions of this Chapter shall, upon being found liable therefor in a civil enforcement pro-

ceeding commenced by the Township, pay a judgment of not more than $500 plus all court costs, including reasonable attorney fees incurred by the Township as a result thereof. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the district justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the district justice determining that there has been a violation further determines that there was a good faith basis for the person, partnership or corporation violating this Chapter to have believed that there was no such violation, in which event there shall be deemed to have been only one such violation until the fifth day following the date of the determination of a violation by the district justice and thereafter each day that a violation continues shall constitute a separate violation.

2. 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.

3. Nothing contained in this Section shall be construed or interpreted to grant to any person or entity other than the Township the right to commence any action for enforcement pursuant to this Section.

4. District justices shall have initial jurisdiction in proceedings brought under this Section.

(Ord. 1985-5, 7/10/1985, §802; as amended by Ord. 1999-1, 6/14/1999)

§22-803. Appeals to Court from Subdivision and Land Development Decisions.

The decisions of the Board of Supervisors or the Planning Agency with respect to the approval or disapproval of plats may be appealed directly to court in the same manner and within the same time limitations, as is provided for zoning appeals from the decisions or findings of the Zoning Hearing Board by Act 247 (Pennsylvania Municipalities Planning Code).

(Ord. 1985-5, 7/10/1985, §803)

§22-804. Amendments.

1. Amendments to this Chapter shall become effective only after a public hearing held pursuant to public notice. A brief summary setting forth the principal provisions of the proposed amendment and a reference to the place within the Township where copies of the proposed amendment may be secured or examined shall be incorporated in the public notice. Unless the proposed amendment shall have been prepared by the Planning Commission, the Board of Supervisors shall submit the amendment to the Planning Commission at least 30 days prior to the

hearing on such amendment to provide the Planning Commission an opportunity to submit recommendations. In addition, at least 30 days prior to the public hearing on the amendment, the Township shall submit the proposed amendment to the County planning agency for recommendations.

2. Within 30 days after adoption, the Board of Supervisors shall forward a certified copy of the amendment to the County planning agency.

3. Proposed amendments shall not be enacted unless notice of proposed enactment is given in the manner set forth in this Section, and shall include the time and place of the meeting at which passage will be considered, a reference to a place within the Township where copies of the proposed amendment may be examined without charge or obtained for a charge not greater than the cost thereof. The Board of Supervisors shall publish the proposed amendment once in a newspaper of general circulation in the Township not more than 60 days nor less than seven days prior to passage. Publication of the proposed amendment shall include either the full text thereof or the title and a brief summary, prepared by the Township Solicitor and setting forth all the provisions in reasonable detail. If the full text is not included:

   A. A copy thereof shall be supplied to a newspaper of general circulation in the Township at the time the public notice is published.

   B. An attested copy of the proposed amendment shall be filed in the County law library (or other County office designated by the County Commissioners).

4. In the event substantial amendments are made in the proposed amendment, before voting upon enactment, the Board of Supervisors shall, at least 10 days prior to enactment, readvertise, in one newspaper of general circulation in the Township, a brief summary setting forth all the provisions in reasonable detail together with a summary of the amendments.

(Ord. 1985-5, 7/10/1985, §805; as amended by Ord. 1999-1, 6/14/1999).

PART 9

MOBILE HOME PARKS

§22-901. Purpose.

Establishing minimum standards for mobile home parks; establishing requirements for the design, construction, alteration, extension and maintenance of mobile home parks and related utilities and facilities.

(Ord. 1985-5, 7/10/1985, §901)

§22-902. Definitions.

The following terms have the meaning indicated when used hereinafter:

MOBILE HOME — any structure intended for or capable of human habitation with or without wheels and capable of being driven, propelled, transported or towed from place to place by whatsoever name or title it is colloquially or commercially known. Provided, that this definition shall not include transport trucks or vans equipped with sleeping space for a driver or drivers, or unoccupied vehicles, whether self propelled or not, commonly referred to as campers and travel vans, or sectional and/or fabricated homes hauled on trucks or other vehicles. [Ord. 1999-1]

MOBILE HOME LOT — a parcel of land for the placement of a single mobile home and the exclusive use of its occupants.

MOBILE HOME PARK — a parcel of land under a single ownership which has been planned and improved for the placement of two or more mobile homes for nontransient use.

MOBILE HOME STAND — that part of an individual lot which has been reserved for the placement of the mobile home, appurtenant's structures or additions.

(Ord. 1985-5, 7/10/1985, §902; as amended by Ord. 1999-1, 6/14/1999)

§22-903. Permits and License.

It shall be unlawful for any person to construct, alter or extend any mobile home park within the limits of the Township unless he holds a valid permit issued by the Department of Environmental Protection in the name of such person and also a license issued by the Township hereunder. (See §22-906.)

A. All applications when necessary for review and approvals shall be made by the owner to the State Department of Environmental Protection, Department of Labor and Industry, Department of Transportation, etc., when applicable.

(Ord. 1985-5, 7/10/1985, §903; as amended by Ord. 1999-1, 6/14/1999)

§22-904. Submission of Plans and Specifications to the Township.

Any person, firm or corporation, from and after the passage of this Part, who proposes to operate or maintain any premises area or tract or piece of land for use as a mobile home park shall first submit to the Township a plan for the layout and design thereof, including legal description and map clearly setting forth the following information:

A. Name and address of applicant.

B. Interest of the applicant in the mobile home park.

C. Location and legal description of the mobile home park.

D. A sketch plan shall be presented to the Planning Commission for review and comment prior to preparing any final plans to accompany an application. The sketch plan may be free hand superimposed on a plot plan of the property to be used for the mobile home park. The sketch shall indicate general topography, locations for mobile homes or groups thereof; accessory buildings; access, circulation and parking areas.

E. Complete engineering plans and specifications of the proposed park showing: (see §§22-403 and 22-404 of this Chapter).

(Ord. 1985-5, 7/10/1985, §904)

§22-905. Fees.

A fee for each mobile home lot shall be in an amount established from time to time by resolution of the Board of Supervisors.

(Ord. 1985-5, 7/10/1985, §905; as amended by Ord. 1999-1, 6/14/1999)

§22-906. Licenses.

1. It shall be unlawful for any person to operate any mobile home park within the limits of the Township unless he holds a valid license, in the name of such person for the specific mobile home park. All applications for licenses shall be made annually to the Township who shall issue or reissue a license annually upon compli-

ance by the applicant with the provisions of this Chapter and regulations issued hereunder and other applicable legal requirements.

2. Applications for original licenses shall be in writing, signed by the applicant, accompanied by an affidavit of the applicant as to the truth of the application and by the deposit of a fee in an amount as established from time to time by resolution of the Board of Supervisors, and shall contain: the name and address of the applicant; the location and legal description of the mobile home park, and a site plan of the mobile home park showing all mobile home lots, structures, roads, walkways, and service facilities. The issuance of a license in no way eliminates the need for a building permit and the cost thereof, for each and every individual mobile home to be placed within the mobile home park. [Ord. 1999-1]

3. Applications for annual renewal of licenses shall: (i) be made in writing by the holders of the licenses; (ii) be accompanied by the deposit of a fee in an amount as established from time to time by resolution of the Board of Supervisors; and (iii) contain any change in the information submitted since the original license was issued or the latest renewal granted. [Ord. 1999-1]

4. Whenever, upon inspection of any mobile home park, the Township finds that conditions or practices exist which are in violation of any provision of this Chapter or regulations issued hereunder, the Township shall give notice in writing to the person to whom the license was issued that unless such conditions or practices are corrected within a reasonable period of time as specified in the notice by the Township, the license shall be suspended. At the end of such period the Township shall reinspect the mobile home park and, if such conditions or practices have not been corrected, the license shall be suspended and notice given, in writing, of such suspension to the person to whom the license is issued. Upon receipt of notice of such suspension, such person shall ease operation of such mobile home park.

5. A license, upon written request therefor, may be issued by the Board of Supervisors for every mobile home park in existence at the effective date of this Chapter, permitting the mobile home park to be operated after the effective date of this Chapter in accordance with such conditions as the Township may require.

   A. The fee for a license to continue to operate a mobile home park existing at the effective date of this Chapter shall be calculated as follows:

      (1) Should the effective date of this Chapter fall between the dates of December 31 and March 1, a fee for a license shall be charged as set forth under Subsection (3), hereof.

      (2) Should the effective date of this Chapter fall between March 1 and November 30, a fee equal to 1/2 of the fee established, (See Subsection (3)) shall be charged for a license.

      (3) Should the effective date of this Chapter fall between November 30 and January 1, no license will be required for that period; however a

full license fee shall be required on or after January 1 of the succeeding year. (See Subsection (3), hereof.).

B. Compliance herewith:

(1) The owner, operator and/or manager of a mobile home park existing at the effective date of this Chapter is required to meet with the local Board of Supervisors and the Planning Commission, and to cooperatively identify the extent of conformance with these regulations that it is possible within the existing mobile home park; and such conformance must be effectuated within 180 calendar days of the date of such cooperative determination.

(2) Should any mobile home park existing at the effective date of this Chapter be discontinued for any reason for a period exceeding six consecutive months, such mobile home park shall not be reopened, reused and/or reoccupied unless it is in full conformance with this Chapter.

(3) Any extension, enlargement and/or expansion of an existing mobile home park, whether on land owned by the park or acquired by the park prior to or after the effective date of this Chapter, shall be in full conformance with this Chapter.

(Ord. 1985-5, 7/10/1985, §906; as amended by Ord. 1999-1, 6/14/1999)

§22-907. Inspection of Mobile Home Parks.

The Township is hereby authorized to make such inspections as are necessary to determine satisfactory compliance with this Chapter and regulations issued hereunder.

(Ord. 1985-5, 7/10/1985, §907)

§22-908. Required Separation Between Mobile Homes.

Mobile homes shall be separated from each other and from other buildings and structures by at least 20 feet; provided that mobile homes placed end to end may have a clearance of 15 feet where opposing rear walls are staggered.

(Ord. 1985-5, 7/10/1985, §908)

§22-909. Required Recreation Areas.

Where a proposed park, playground, school, easement or other public use shown in the Comprehensive Plan or in the opinion of the Planning Commission is necessary, the Board of Supervisors may require the reservation of such area within the mobile home

park or land development in a reasonable manner. Such areas should in total approximate 6% of the mobile home park area.

(Ord. 1985-5, 7/10/1985, §909)

§22-910. Required Setbacks, Buffer Strips and Screening.

1. All mobile homes shall be located at least 25 feet from any property boundary line abutting upon a public street or highway, and at least 15 feet from other park property boundary lines.

2. There shall be a minimum distance of 15 feet between an individual mobile home and (i) adjoining pavement of a park street, (ii) adjoining recreation area, (iii) parking area or (iv) other common area.

3. All mobile home parks located adjacent to industrial or commercial land use shall be provided with screening, such as fences or natural growth, along the property boundary line separating the park and such adjacent nonresidential uses.

4. In the event that mobile homes are located in reference to Township roads or rights-of-way intended to be dedicated as public roads, the following setbacks shall he required:

    A. Front Yard.

        (1) Arterial Streets. 50 feet from right-of-way line.

        (2) Collector Streets. 30 feet from right-of-way line.

        (3) Minor Streets. 25 feet from right-of-way line.

(Ord. 1985-5, 7/10/1985, §910)

§22-911. Park Street System.

1. General Requirements. All mobile home parks shall be provided with safe and convenient vehicular access from abutting public streets or roads to each mobile home lot. Alignment and gradient shall be properly adapted to topography.

2. Access. Access to mobile home parks shall be designed to minimize congestion and hazards at the entrance or exit and allow free improvement of traffic on adjacent streets. The entrance road connecting the park streets with a public street or road shall have minimum road pavement width of 26 feet, within which parking shall be prohibited.

3. Internal Streets. Surfaced roadways shall be of adequate width to accommodate anticipated traffic, and in any case, shall meet the following minimum requirements:

   A. Where parking is permitted on both sides, a minimum width of 36 feet will be required.

   B. A minimum road pavement width of 27 feet will be required where parking is limited to one side.

   C. Dead end streets shall be provided at the closed end with a turn around having an outside roadway radius of at least 60 feet.

4. Required Illumination of Park Street Systems. All parks shall be furnished with lighting units so spaced and equipped with luminaries placed at such mounting heights as will provide for the safe environment of pedestrians and vehicles at night.

5. Street Construction and Design Standards.

   A. Pavement. All streets shall be provided with a smooth, hard and dense surface which shall be durable and well drained under normal use and weather conditions. The pavement shall be constructed as set forth under Part 6 of this Chapter.

   B. Design Standards. See Part 5 of this Chapter.

(Ord. 1985-5, 7/10/1985, §911)

§22-912. Required Off-Street Parking Areas.

1. Off-street parking areas shall be provided in all mobile home parks for the use of park occupants and guests. Such areas shall be furnished at the rate of at least 1.5 car spaces for each mobile home lot.

2. Required car parking spaces shall be so located as to provide convenient access to the mobile home but shall not exceed distance of 200 feet from the mobile home that it is intended to service. A smooth, dense, solid and dust-free surface capable of use throughout the year shall be provided.

(Ord. 1985-5, 7/10/1985, §912)

§22-913. Mobile Home Stand.

The area of the mobile home stand shall be improved to provide an adequate foundation for the placement of the mobile home, thereby securing the super structure against uplift, sliding or rotation.

A. The mobile home stand shall not heave, shift or settle unevenly under the weight of the mobile home due to frost action, inadequate drainage, vibration or other forces acting on the superstructure.

B. The mobile home stand shall be provided with anchors and tie-downs such as cast in place concrete "deadman" eyelets imbedded in concrete foundations or runaways, screw augers, arrowhead anchors or other devices securing the stability of the mobile home.

C. Each mobile home stand shall have a paved patio of at least 190 square feet. The least dimension shall not be less than eight feet.

(Ord. 1985-5, 7/10/1985, §913)

§22-914. Dimensions of Mobile Home Lots.

A mobile home park shall have an average gross area per mobile home lot of not less than 6,000 square feet.

A. The minimum width of a mobile home lot shall be 40 feet.

B. The minimum depth of a mobile home lot shall be 100 feet or at least 40% longer than the mobile home to be placed thereon.

C. A mobile home park plan may propose clustering of the units in order to provide common open space of a size to better serve all the residents of the park. In no circumstance, however, shall the average area of a mobile home lot be less than 4,000 square feet. In order to approve the "cluster plan" the Planning Commission shall apply the following test: The number of mobile home lots times 4,000 plus the area of common open space in square feet, divided by the number of mobile home lots, shall equal at least 6,000 square feet.

(Ord. 1985-5, 7/10/1985, §914)

§22-915. Water Supply.

1. General Requirements. An accessible, adequate, safe and potable supply of water shall be provided in each mobile home park. Where a public supply of water of satisfactory quantity, quality and pressure is available, connection shall be made

thereto and its supply used exclusively. When a satisfactory public water supply is not available, a private water system may be developed and used as approved by the Pennsylvania Department of Environmental Protection.

(Ord. 1985-5, 7/10/1985; §915; as amended by Ord. 1999-1, 6/14/1999)

§22-916. Sewage Collection and Disposal.

1. General Requirements. An adequate and safe sewerage system shall be provided in all parks for conveying and disposing of sewage from mobile homes, service buildings and other accessory facilities. Such system shall be designed, constructed and maintained in accordance with the regulations of the Pennsylvania Department of Environmental Protection, and all local sanitary sewer regulations.

2. Sewage Treatment and/or Discharge. Where the sewer lines of the mobile home park are not connected to a public sewer, all proposed sewage disposal facilities shall be approved by the Pennsylvania Department of Environmental Protection prior to construction.

(Ord. 1985-5, 7/10/1985, §916; as amended by Ord. 1999-1, 6/14/1999)

§22-917. Electrical Distribution System.

1. General Requirements. Every park shall contain an electrical wiring system consisting of wiring, fixtures, equipment and appurtenances which shall be installed and maintained in accordance with local electric power company's specifications regulating such systems.

(Ord. 1985-5, 7/10/1985, §917)

§22-918. Refuse Handling.

The storage, collection and disposal of refuse in the mobile home park shall be so conducted as to create no health hazards, rodent harborage, insect breeding areas, accident or fire hazards or air pollution and shall comply with health regulations governing mobile home parks. Plans for refuse handling, storage and disposal shall be subject to review and approval by the Board of Supervisors, Planning Commission and Pennsylvania Department of Environmental Protection.

(Ord. 1985-5, 7/10/1985, §918; as amended by Ord. 1999-1, 6/14/1999)

§22-919. Insect and Rodent Control.

Grounds, buildings and structures shall be maintained free of insect and rodent harborage and infestation. Extermination methods and other measures to control insects and rodents shall conform with the requirements of the Pennsylvania Department of Environmental Protection regulations governing mobile home parks.

(Ord. 1985-5, 7/10/1985, §919; as amended by Ord. 1999-1, 6/14/1999)

§22-920. Fire Protection.

1. The mobile home park area shall be subject to all rules and regulations of the Township, County and Commonwealth pertaining to fire prevention.

2. Mobile home park areas shall be kept free of litter, rubbish and other flammable materials.

3. Portable fire extinguishers of a type approved by the area fire marshal shall be kept in public service buildings under park control.

(Ord. 1985-5, 7/10/1985, §920)

§22-921. Responsibilities of the Park Management.

1. The person to whom a license for a mobile home park is issued shall operate the park in compliance with this Chapter and shall provide adequate supervision to maintain the park, its facilities and equipment in good repair and in a clean and sanitary condition.

2. The park management shall supervise the placement of each mobile home on its mobile home stand which includes assurance of stability and installation of all utilities and connections.

3. The park management shall give the health officer free access to all mobile home lots, service buildings and other community service facilities for the purpose of inspection.

4. The management shall maintain a register containing the names of all park occupants. Such register shall be available to any authorized person inspecting the park.

5. The management shall notify the local Pennsylvania Department of Environmental Protection immediately of any suspected communicable or contagious disease within the park.

(Ord. 1985-5, 7/10/1985, §921; as amended by Ord. 1999-1, 6/14/1999)

PART 10

STORMWATER MANAGEMENT

§22-1001. Purposes.

1. This Part is enacted for the following purposes:

   A. To control accelerated runoff and erosion and sedimentation problems at their source by regulating activities which cause such problems, to utilize and preserve desirable existing natural drainage systems, to encourage recharge of groundwater, to protect the watercourses in the Township and to preserve and restore the flood carrying capacity of streams.

   B. To provide for the design, installation and proper maintenance of all permanent stormwater management structures which are constructed in the Township.

   C. To assure that the peak rate of stormwater runoff (peak discharge) is no greater after development than prior to development within any predevelopment drainage subarea.

   D. To minimize danger to public health and safety and damages to property by providing for management of stormwater runoff.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1002. Applicability.

1. This Part shall apply to all land and watercourses within the Township in conjunction with the following activities: land development, land disturbance and alteration, construction of additional impervious surfaces, new structures and additions to existing structures, changes or alterations of any watercourse or drainageway, diversion or piping of any natural or manmade stream channel, installation of stormwater systems or appurtenances thereto and logging or mining operations.

2. Permits and approvals issued pursuant to this Part 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, erosion and sediment pollution control and floodplain management are contained in the other code, rule, act or ordinance, the more stringent regulation shall apply.

3. Specific methods and publications indicated in this Part shall, in all cases, refer to the latest available edition and include revisions or amendments thereto. (Listed in the Appendix A)

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1003. Applicability.

1. A stormwater management plan and other information specified herein shall be submitted to the Township for all land subdivided or for which land development plans are prepared after the enactment of this Part. A stormwater management plan and other information specified herein shall be submitted at the same time and together with submission of a preliminary subdivision or land development plan along with a completed checklist supplied by the Township indicating the items contained within the submission.

    A. Such plans and information shall be considered part of said application documents and shall be reviewed in accordance with procedures established thereunder. Preliminary approval or final approval of a subdivision or land development plan shall be contingent upon the submission of a stormwater management plan in accordance with provisions of this Part.

    B. All stormwater management plans shall be submitted to the Township Engineer for review and comment. Such review shall include a statement by the Township Engineer specifying the provisions of this Part which have not been met by the plan as submitted.

    C. Once a stormwater management plan has been approved together with a subdivision of land development plan approval, said stormwater management plan shall be valid only for the subdivision or land development approved. Any further development on the lot or lots requiring a revision of the approved plan or other construction shall require the submission of a new, amended or revised stormwater management plan and other information specified herein.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1004. Exemptions.

The following activities are specifically exempt from the plan preparation and submission provisions of this Part, but remain subject to the design standards and criteria specified all other Parts of this Chapter.

    A. Land disturbances affecting less than 5,000 square feet.

B. Land disturbance associated with the construction or alteration of one- and two-family dwellings, provided that the disturbance does not alter any stormwater conditions beyond the boundaries of the lot or alter provisions of a previously approved stormwater management plan for the lot or encompassing subdivision.

C. Use of land for gardening for home consumption.

D. Agriculture.

E. Forest management operations.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1005. Review Costs.

Owner is responsible to bear all monetary costs for plan review including engineering and staff reviews.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1006. Application Requirements.

1. The content of the plans shall consist of annotated maps, drawings, engineering plans and construction details. Said plan shall be prepared by a professional engineer with said preparer's seal and registration number affixed to the plan. Plans for tracts of less than 20 acres shall be drawn at a scale of one inch equals no more than 50 feet; for tracts of 20 acres or more, plans shall be drawn at a scale of one inch equals no more than 100 feet. Plans shall be submitted on the following sheet size: 24 inches x 36 inches. All lettering shall be drawn to a size to be legible if the plans are reduced to half size. All sheets comprising a submission shall be on one size.

2. The following information, unless specifically exempted in writing by the Township Engineer, must be provided for stormwater management plan submissions:

   A. The name of the proposed development and the name and address of the owner of the property and the individual or firm preparing the plan.

   B. Date of submission and revision.

   C. Graphic and written scale.

   D. North point.

E. Total tract boundary with distances marked to the nearest foot and bearings to the nearest degree and total acreage of the tract.

F. Key map showing all existing natural and manmade features beyond the property boundary affected by the project and the extent of the watershed or subbasin which drains through the project site.

G. Topographic conditions of both existing and proposed elevations at intervals of two feet for land with an average natural slope of 4% or less and at intervals of five feet for land with an average natural slope exceeding 4%.

H. Drainage areas and subareas affecting the site, including areas necessary to determine downstream impacts analysis, where required, for proposed stormwater management facility.

I. Existing and proposed use, including the total area of impervious surfaces after construction.

J. Existing soil types, Karst formations, floodplain boundaries, sinkholes, undrained depressions, rock outcrops, streams, drainage courses, wetlands based on existing sources and references and vegetation.

K. Complete drainage systems for the site, including details for construction. All existing drainage features which are to be incorporated in the design shall be so identified. If the site is to be developed in stages, a general drainage plan for the entire site shall be presented with the first stage and appropriate development stages for the drainage system indicated.

L. Location and selected plan material used for vegetative filter paths to sinkholes.

M. If stormwater management facilities are offsite, a note on the plan referring to location and agreements indicating responsibility for conveyance to and maintenance of the facilities; all such offsite facilities shall meet the design standards and criteria specified in this Part and details of the facilities shall be included with the plan. Details of the offsite facilities shall be included with the plan.

N. Proposed easement locations, including drainage, maintenance and access easements in conformance with this Part.

O. A statement, signed by the landowner, acknowledging the stormwater management system is to be maintained in accordance with the approved ownership and maintenance program and remain a permanent fixture which can be altered or removed only after approval of a revised plan.

P. The location of the permanent watercourse to which stormwater from the site will drain.

Q. The location of all erosion and sedimentation control facilities.

R. Hydraulic capacity of all conveyance systems.

S. The following signature block for the registered professional preparing the stormwater management plan:

"I, _____, hereby certify that the stormwater management plan meets all design standards and criteria of the Smithfield Township Subdivision and Land Development Ordinance."

T. The following signature block for the Township Engineer reviewing the stormwater management plan:

"I, _____, have reviewed this stormwater management plan in accordance with the design standards and criteria of the Smithfield Township Subdivision and Land Development Ordinance."

U. The following signature block for the technician from the Huntingdon County Conservation District reviewing the soil erosion and sediment pollution control plan:

"This plan appears adequate to meet State requirements on erosion and sediment pollution control and appears to adequately satisfy the requirements of Title 25, Chapter 102, the Erosion Control Regulations of the Pennsylvania Clean Streams Law.

_____

Erosion & Sediment Pollution Control Technician Date

3. In addition to the plan information enumerated above, the following information shall be submitted:

A. A written description of:

(1) The overall project concept.

(2) Stormwater runoff computations as specified in this Part and in accordance with criteria contained in Appendix A.

(a) Capacities of all existing and proposed conveyance systems.

(b) Hydraulic, hydrologic and structural computations for all proposed stormwater management facilities and measures.

(3) Stormwater controls both during and after development.

(4) Expected project time schedule.

B. The effect of the project on runoff volume, time to peak flow and rate of flow on adjacent property and upon existing Township stormwater drainage system when such will be utilized.

C. Description of all watercourses, impoundments and wetlands on or adjacent to the site or into which stormwater flows.

D. Soils investigation report, including boring logs, compaction requirements and recommendations for construction of detention basins.

E. Karst features identification and analysis reports and a hydrogeologic assessment of the effects of runoff on sinkholes as specified in this Part.

F. A soil erosion and sediment pollution control plan, including all reviews and approvals, by the Pennsylvania Department of Environmental Protection and/or Huntingdon County Conservation District.

G. All easements, deed restrictions, convenants and maintenance measures of the system shall be outlined in an ownership and maintenance program in accordance with this Part. For stormwater management systems to be dedicated to the Township a maintenance guarantee, as specified by the Municipalities Planning Code, and this Part will be required by the Township. The Township has the explicit right to reject any offer of dedication.

H. All permits required by the Pennsylvania Department of Environmental Protection, Pennsylvania Department of Transportation and Army Corps of Engineers and other regulatory agencies.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1007. Stormwater Management Standards.

1. All subdivision and land development activities involving an increase in impervious cover (i.e., reduction in permeability) shall be conducted in conformance with the following standards:

A. After installation of impervious cover, peak discharges for the 2, 10, 25 and 100 year frequency storms from the site shall not exceed the respective peak discharge rates before development for all drainage areas and subareas.

B. Stormwater runoff shall be controlled so that no downstream increases in flood damages or impairment of streets and other public facilities occur. The Township Engineer may require that downstream impacts be evaluated at critical locations such as dams, tributaries, existing development, under-

sized culverts and floodprone areas. The applicant shall evaluate the effects of the proposed plan on such critical locations by providing computed water surface elevations (WSEL) for the 10 and 100 year storms. Methods of computation shall have prior approval of the Township Engineer. At such downstream critical locations, stormwater control may be exercised by:

(1) Providing offsite improvements to downstream conveyances in order to contain flow increases.

(2) Providing downstream drainage easements with sufficient widths to contain the flood limits.

The Township shall make the final determination with respect to the degree of control required for any site.

2. The Township may impose water quality control measures in accordance with Section IV of Appendix A to protect against ground or surface water pollution where the type of business of the nature of the runoff and soils underlying stormwater control facilities would constitute a substantial risk of contamination.

3. In establishing the watershed conditions for calculating runoff prior to development, the following assumptions shall apply:

A. Woodland or meadow in good condition shall be used for all undeveloped areas.

B. Average antecedent moisture conditions as defined by the Soil Conservation Service.

C. Drainage area reductions equal to the area of undrained depressions or pond factor adjustments in accordance with the SCS TR 55 procedure shall be applied in determining predevelopment peak discharges from Karst geologic areas as approved by the Township.

4. Plans for facilities other than storm sewers should determine stormwater peak discharge and runoff by the use of the modified rational method or other methods for calculation of the storage capacity of a stormwater control facility from drainage areas of 50 acres or less.

A. Acceptable runoff coefficient values for use in the rational method and permissible curve numbers for TR 55, maximum velocities and suggested roughness coefficients and permissible velocities for channels are identified in Tables A-2 through A-5 of Appendix A.

B. The rational method may be used in lieu of the soil cover complex method to compute design flows for the sizing of storm sewers, inlets and swales. Methods approved by the Pennsylvania Department of Transportation

and/or Environmental Protection may be used to design the waterway areas of bridges.

C. Rainfall amounts for the return periods specified shall be determined using the Pennsylvania Department of Transportation Intensity Duration Frequency Curves presented in Figure A-1 or Appendix A.

D. In order to reduce runoff volumes from developed areas and encourage groundwater recharge, underground storage methods are permitted in those areas where soils, geologic and water table conditions permit. Performance criteria which govern the location, design, construction and maintenance of these infiltration facilities are contained in Appendix A.

5. Stormwater management facilities and related installations are provided:

A. To permit unimpeded flow or natural watercourses. Such flow may be redirected only if there is no practicable alternatives and subject to the approval of the Pennsylvania Department of Environmental Protection and the Township.

B. To ensure adequate drainage of all low points along the curb line of streets.

C. To intercept stormwater runoff along streets at intervals reasonably related to the extent and grade of the area drained, and to prevent substantial flow of water across intersections or flooded intersections during storms, in accordance with the procedures contained in Design Manual, Part 2 (DM-2), Chapter 10, of the Pennsylvania Department of Transportation.

D. To ensure adequate and unimpeded flow of stormwater under driveways in, near or across natural water courses of drainage swales. Suitable swales or other waterways shall be provided as necessary.

E. To properly drain stormwater runoff from the land development projects. All lot and open areas shall be designed to drain to the nearest practical street or drainage system, existing or proposed, as defined by the Township Engineer, with no impact on adjoining properties unless an area specifically designed for stormwater detention is provided.

6. Storm Sewers and Related Installations.

A. Storm sewers, where required by applicable ordinances, shall be placed under or immediately adjacent to the roadway side of the curb, or as directed by the Township, when parallel to the street within the right-of-way. When located in undedicated land, they shall be placed within the drainage easement not less than 20 feet wide as approved by the Township Engineer. Storm sewers constructed in areas susceptible to sinkhole formation shall have watertight joints to prevent exfiltration or stormwater into the surrounding soil. The use of properly designed, graded and turfed drainage

swales is encouraged in lieu of storm sewers in commercial and industrial areas and, where approved by the Township Engineer, in residential areas. Such swales are to be stabilized through the use of erosion control fabrics and vegetation.

B. The design capacity of storm sewer and drainage swales shall be determined in accordance with the 10 year frequency storm of the duration equal to the time of concentration. More stringent criteria may be required where a 10 year storm will aggravate existing problems or create new problems. Storm drainage systems shall be designed without surcharging inlets to provide controlled conveyance of the 10 year storm into a detention basin or similar facility utilized to control the rate of runoff. Conveyance of storms to the stormwater pond, up to and including the 100 year frequency, shall be provided so as not to endanger life or seriously damage property.

C. Inlet types and inlet assemblies shall conform to the Pennsylvania Department of Transportation standards for roadway construction as approved by the Township Engineer. Inlet tops shall be precast concrete top units with a 10 inch hood or equivalent in order to place the inlet in a two inch sump condition and they shall be compatible with the type of curb installed.

(1) Inlets shall, at a minimum, be located at the lowest point of street intersections to intercept the stormwater before it reaches pedestrian crossings or at sag points of vertical curves in the street alignment which provide a natural point of ponding of surface stormwater. On curbed sections, a double inlet shall be placed at a low point on sag vertical curves.

(2) Where the Township deems it necessary because of special land requirements, special inlets may be approved.

(3) The interval between inlets collecting stormwater runoff shall be determined in accordance with DM-2, Chapter 10, Section 5, "Capacity of Waterway Areas."

(4) In curbed sections, the maximum encroachment of water on the roadway pavement shall not exceed half of a through traffic lane or one inch less than the depth of curb during the 10 year design storm of five minute duration. Inlets shall be provided to control the encroachment of water on the pavement. When inlets are used in a storm system within the right-of-way limits of a street in lieu of manholes, the spacing of such inlets shall not exceed the maximum distance of 450 feet.

D. Accessible drainage structures shall be located on a continuous storm sewer system at all vertical dislocations, at all locations where a transition in storm sewer pipe sizing is required, at all vertical and horizontal angle points exceeding 5° and at all points of convergence of two or more influent

storm sewer mains. The construction locations of accessible drainage structures shall be as indicated on the subdivision drainage plan or area drainage plan approved by the Township.

E. When evidence available to the Township indicates that existing storm sewers have sufficient capacity as determined by hydrograph summation and are accessible, the subdivider may connect their stormwater facilities to the existing storm sewers so long as the peak rate of discharge does not exceed the amount.

7. Bridges and culverts shall have ample waterway to carry expected flows, based on a minimum storm frequency of 10 years for driveways, 25 years for local streets, 50 years for collector streets and 100 years for arterials, or as required by the Township Engineer.

A. The design criteria contained in this Part are intended for use in conjunction with the Chapter 105 regulations or the Pennsylvania Department of Environmental Protection entitled "Water Obstructions and Encroachments." All information and regulations contained in Chapter 105 shall be considered to be incorporated into this part as if reproduced in full. A DEP permit in accordance with Chapter 105 shall be required for any obstruction or encroachment in the regulated waters of the Commonwealth prior to the approval of the stormwater plan. In the event any question or conflict arises between this Part and the DEP Chapter 105 regulations, the design criteria contained in the DEP regulations shall govern.

B. Refer to Appendix A for additional design criteria.

8. Detention or retention basins for the control of stormwater peak discharges shall meet the following requirements:

A. Basins shall be installed prior to or concurrent with any earthmoving or land disturbances which they will serve. The phasing of their construction shall be noted in the narrative and on the plan.

B. The design of all facilities over limestone formations shall include measures to prevent groundwater contamination and, where required, sinkhole formation.

C. Energy dissipaters and/or level spreaders shall be installed at points where pipes or drainageways discharge to or from basins. Generally, outlet pipes designed to carry the predevelopment, one year storm flow will be permitted to discharge to a stream with only an energy dissipater; discharges to drainage swales shall be spread with a level spreader or piped to an acceptable point of discharge downstream.

D. Outlet structures within detention/retention basins shall be constructed of reinforced concrete or an approved alternate. With the exception of those

openings designed to carry perennial stream flows, design openings shall have childproof, nonclogging trash racks over all openings 12 inches or larger in dimension. Outlet protection shall extend at a minimum to the toe of the basin slope. Where spillways will be used to control peak discharges in excess of 10 year storm, the control weirs shall be constructed to withstand the pressure of impounded waters and convey flows at computed outlet velocities without erosion.

(1) Detention facilities shall be designed to release their total volumes detained within the following maximum time periods:

Roofs, parking lots	24 hours
Detention basins	48 hours
Infiltration facilities	72 hours

E. When the Pennsylvania Department of Environmental Protection (DEP) requires facilities to be permitted, the designer shall submit all information to the DEP and obtain all necessary approvals and permits.

F. Downstream Analysis.

(1) Where deemed necessary by the Township Engineer, the applicant shall submit an analysis of the impacts of detained stormwater flows on downstream areas within the watershed, established with the concurrence of the Township Engineer. The analysis shall include hydrologic and hydraulic calculations necessary to determine the impact of peak discharge modifications of the proposed development on critical locations such as dams, tributaries, existing development, undersized culverts and floodprone areas.

(2) Review and comment of the analysis by the Township Engineer of a downstream Township shall be obtained when stormwater management facilities are proposed within 1,000 feet of the affected downstream Township.

G. Detention basins may be waived by the Township, upon recommendation of the Township Engineer, at sites in close proximity to larger receiving streams, depending on the hydrology of the watershed. This is to facilitate drainage prior to main stream flooding. It shall be incumbent upon the applicant to demonstrate that no downstream increase in stream flooding or channel erosion will result in accordance with Subsection (F) above and that no increases in peak discharge within the receiving stream will occur as outlined under Subsection (1). All conveyance facilities between the project and the stream must have adequate capacity to safety pass the proposed 10 year storm, or greater is required by the Township, or they must be improved.

H. The design and construction of multiple use stormwater detention facilities are strongly encouraged. In addition to stormwater management facilities should, where appropriate, allow for recreational uses including: ballfields, play areas, picnic grounds, etc. Provision for parking facilities within basins and permanent wet ponds with stormwater management capabilities may also be appropriate. Prior approval and consultation with the Township are required before design.

I. Stormwater management facilities designed to serve more than one property or development in the same watershed are encouraged. Staged construction of existing or proposed multiple-use detention facilities by several developers in conjunction with watershed development is encouraged. Each developer shall be responsible for the incremental increase in runoff generated by the respective development and incremental construction improvements necessary for the overall detention facility. Prior approval and consultation with the Township is required before design of such facilities.

J. Alternative stormwater detention facilities including rooftop, subsurface basins or tanks and in-pipe detention storage or other approved alternative designs are permitted as determined by the Township Engineer.

K. Specific criteria related to the design of detention basins is contained in Appendix A.

9. Natural drainageways shall be utilized to the maximum extent possible in carrying stormwater runoff, provided such use remains consistent with the purpose of this Part.

10. Stormwater management facilities located outside of existing or proposed right-of-ways shall be located within and accessible by easements as follows:

A. Where a tract is traversed by a watercourse, drainageway, channel or stream, there shall be provided a drainage easement paralleling the line of such watercourse, drainageway, channel or stream. The width of the drainage easement will be adequate to preserve the unimpeded flow of natural drainage in the 100 year flood plan. Drainage easements shall provide for occasional maintenance and for the purpose of widening, deepening, improving or protecting such drainage facilities.

B. Where proposed stormwater management facilities are not adjacent to proposed or existing public right-of-ways or are not accessible due to physical constraints, as determined by the Township Engineer, a 30 foot wide passable access easement specifying rights of entry shall be provided. Access easements shall provide for vehicle ingress and egress.

C. A maintenance easement shall be provided which encompasses the stormwater facility and appurtenances and provides for access for maintenance purposes. The maintenance easement must be located by at least 20 feet

outside of the 100 year surface elevation and the stormwater facility and appurtenances.

D. Easements shall stipulate that no trees, shrubs, structures, excavation or fill be placed and no regrading be performed within the area of the easement without written approval from the Township upon review by the Township Engineer. Upon approval of the Township Engineer such landscaping may be placed in maintenance easements, provided it does not impede access.

E. Whenever practicable, easements shall be parallel with and conjunctive to property lines of the subdivision.

F. All easement agreements shall be recorded with a reference to the recorded easement indicated on the site plan.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1008. Sinkhole Protection.

1. Stormwater from roadways, parking lots, storm sewers, roof drains or other concentrated runoff paths shall not be discharged directly into sinkholes without Township approval and without prior filtration in accordance with Subsection (2) below.

2. Sinkholes capable of absorbing substantial amounts of stormwater shall be protected by diverting such runoff around the sinkhole or, upon recommended approval of the Township Engineer, by planting and maintaining a dense path of suitable vegetative material (refer to Appendix A) in such manner and location to disperse and slow the runoff to a sheet flow condition to promote the maximum possible filtration and sedimentation of impurities. The filter path must be at least 100 feet in length and 20 feet in width. Ten feet wide filter paths are acceptable if land slope is less than 2%. Filter paths shall be designed and installed so that they filter sheet flow rather than concentrated flow. If concentrated flow occurs, grading and shaping or the use of best management practices such as grass waterways or drop structures may be required. Sedimentation basins designed to DEP Chapter 102, standards or permanent stormwater storage criteria, whichever is larger, and proposed vegetative filter paths, in conjunction with temporary stone filter creek dams, shall be installed prior to subdivision or land development construction activities where sinkholes are used to accept stormwater discharges.

3. If increased runoff is to be discharged in to a sinkhole, even in filtered condition, a hydrogeologic assessment of the effects of such runoff on the increased risk of land subsidence and adverse impacts to existing sinkhole floodplains and groundwater quality shall be made by a qualified professional and submitted with the stormwater management plan. Such discharge shall be prohibited if the Township En-

gineer determines that such poses a hazard to life, property or groundwater resources.

4. To protect sensitive Karst areas the Township Engineer may require basins to contain an impervious liner. The liner may be of the impervious membrane type, placed in accordance with the manufacturer's recommendations, or consist of soils with suitable clay content, or may be constructed by mixing bentonite or an approve alternative with existing soil available at the site as approved by the Township Engineer.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1009. Erosion and Sediment Control.

All plans for erosion and sediment pollution control (E&SPC) shall meet the requirements of The Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §691.1 et seq. and 25 Pa. Code, §102.1, et seq., "Erosion Control." The Department of Environmental Protection, Office of Water Management, Erosion and Sediment Pollution Control Program Manual shall be used as the basis for E&SPC design. The Huntingdon County Conservation District has been delegated the authority by the Pennsylvania Department of Environmental Protection to administer the Erosion and Sediment Pollution Control Program in Huntingdon County. It shall be the responsibility of the land developer to submit the E&SPC plan, application and other necessary material to the conservation district. A copy of the transmittal letter shall be provided to the Township. Comments shall be received and E&SPC plan approval obtained from the conservation district prior to issuance of any building permits for construction within the area covered by the stormwater management plan.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1010. Ownership/Maintenance Responsibility.

Each stormwater management plan shall contain provisions which clearly set forth the ownership and maintenance responsibility of all permanent stormwater management and erosion and sediment control facilities including:

A. Description of maintenance requirements.

B. Establishment of suitable easements for access to all facilities by public officials in accordance with §22-1007(10) of this Part.

C. Identification of the responsible party or entity for ownership and maintenance of both temporary and permanent stormwater management erosion control facilities. In meeting this requirement, the following options are hereby provided for upon approval by the Township Engineer. Facilities may be incorporated within individual lots so that the respective lot owners

will own and be responsible for maintenance in accordance with recorded deed restriction. A description of the facility or system and the terms of the required maintenance shall be incorporated as part of the deed to the property. Ownership and maintenance may be the responsibility of a property owners association. The stated responsibilities of the property owners association in terms of owning and maintaining the stormwater management facilities shall be submitted with final plans for determination of the adequacy and upon their approval shall be recorded with the approved subdivision plan among the deed records of Huntingdon County, Pennsylvania. In addition, the approved subdivision plan and deed written from said plan for a lot or lots shown herein shall contain a condition that it shall be mandatory for the owner or owners of said lot to be members of said property owners association. It shall be the Township's responsibility to maintain any facilities that are dedicated to the Township. Upon completion of the facilities which the developer or owner wishes to dedicate ownership to the Township and before their acceptance by the Township, the applicant shall provide to the Township an amount determined by the Township which at a rate of 6% per annum, will provide sufficient interest income per year to cover the annual maintenance of such facilities, which the developer or owner wishes the Township to accept for future maintenance.

Example: Maintenance $250 per year = $4,166.67 deposit

Maintenance $500 per year = $8,333.33 deposit

Prior to the Township approving the final D/SWM plan upon which the facilities are shown for dedication to the Township, the developer or owner shall provide to the Township satisfactory surety as approved by the Township Solicitor to ensure the payment of the said required maintenance amount at the completion of construction and prior to acceptance by the Township Engineer/Consultant.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1011. General Criteria.

Compliance with the provisions of this Part shall be in accordance with the following additional general criteria:

A. All materials, workmanship and methods of work shall comply with the Pennsylvania Department of Transportation Form 408 specifications, as accepted and commonly used by the Township and shall be considered to be incorporated into this Part as if copied in full. In the event a conflict arises between the requirements of this Part and the Form 408 specifications, the Township Engineer shall resolve the difference, and his opinion shall be binding.

B. At the completion of the project and as a prerequisite for the release of the guarantee or issuance of an occupancy permit, the owner or his representative shall:

(1) Provide a certification of completion from a registered professional verifying that all permanent facilities have been constructed according to the plans and specifications and approved revisions thereto.

(2) Provide a set of approved stormwater management plan drawings showing all approved revisions and elevations and inverts to all manholes, inlets, pipes and stormwater control facilities.

C. Maintenance inspections may be performed by the Township to ensure proper functioning of all stormwater management facilities.

D. If the Township determines at any time that any permanent stormwater management control facility has been eliminated, altered or improperly maintained, the owner of the property shall be advised of corrective measures required and given a reasonable period of time to take necessary action. If such action is not taken by the property owner, the Township may cause the work to be done and back charge all costs to the property owner in accordance with this Part.

E. Supplemental standards and criteria technical reference materials incorporated into these controls for information and to govern the design and hydrologic control provisions of this Part are contained in Exhibit 12 in the Appendix.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1012. Modifications.

The purpose of this Section is to "cut red tape" and provide a procedure to permit the modification of specific technical requirements of the Part where the effect of the modification is 1) to propose an alternative technical solution which, in the circumstances, is as practical and effective as the technical requirement in the Part, or two) to propose the waive of a requirement which, because of circumstances, is of negligible importance (i.e., de minimis) in meeting the specific requirement of this Part.

A. A landowner may request a waiver of one or more specific technical requirements of the Part applicable to the plan submitted. Such request for waiver shall be made in writing by the landowner or his agent to the Township Engineer. Such request shall specify each specific requirement of the Part, identifying the Section of the Part and stating the reasons that waiver is requested.

B. The Township Engineer shall review the request for waiver and shall report thereon in writing to the landowner his recommendations.

C. Upon consideration of final approval of a stormwater management plan, the Board of Supervisors may waive specific technical requirements or this Part upon receipt of the written recommendation of the Township Engineer. In order to qualify for waiver, the Township Engineer shall certify in writing that the proposed item recommended for waiver meets the requirements for waiver specified above

D. In the event of a dispute between the landowner and Township Engineer's recommendation as to a waiver, the Board of Supervisors shall consider the waiver at the time of final approval and may grant or deny the waiver after hearing both parties. It shall be presumed in all events that the requirements specified are valid, reasonable and binding upon all developments and the only ground of a granting of a waiver shall be: i) uniqueness where, in the circumstances, an alternative technical solution is as practical and effective as the technical requirement in the Article and ii) uniqueness, where because of the circumstances, meeting the specific requirement would be of negligible importance (i.e., de minimus) in meeting the specific requirement of the Part.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1013. Nuisance.

Any activity conducted in violation of this Part is declared by State law (§15 of the Pennsylvania Stormwater Management Act, 32 P.S. §680.15(a)) and by this Part, to be a public nuisance.

A. In the event that the owner, developer, occupant, applicant, property manager or other person responsible fails to comply with terms of the enforcement notice in the time specified therein by the designated Township representative, the Township may take actions necessary to remove the public nuisance. The costs of removal of the public nuisance shall be in addition to any civil penalties for violation or other actions.

B. In addition to the penalties for violation and actions to remove public nuisances provided for by this Part, the Township may institute proceedings in Courts of Equity to require owners and/or persons responsible for comply with the provisions of this Part.

C. The cost of removal, penalty, attorneys fees and costs herein above mentioned may be entered by the Township as a lien against such property in accordance with existing provision of law.

(Ord. 1985-5, 7/10/1985; as added by Ord. 2001-1, 8/13/2001)

§22-1014. Definitions.

For the purposes of this Part, certain terms and works 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 "include" 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."

F. For purposes of this Part the following terms shall have the meaning given to them in this Part. To the extent of any conflict with definitions contained elsewhere within this Chapter, the definitions contained in this Section shall apply with respect to Part 10.

ALLUVIAL SOIL — those areas delineated pursuant to the Soil Survey of Huntingdon County, Pennsylvania, November 1978, and subsequent revisions.

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

CARBONATE — a sediment formed by the organic or inorganic precipitation of mineral compounds characterized by the fundamental chemical ion CO_3, the principle element in limestone and dolomite strata.

CHANNEL — a perceptible natural or artificial waterway which periodically or continuously contains moving water having a definite bed and banks which confine the water.

CONSERVATION DISTRICT — the Huntingdon County Conservation District.

CLOSED OR UNDRAINED DEPRESSION — in a Karst geologic area, a distinct bowl-shaped depression in the land surface; size and amplitude are variable; drainage is internal. If differs from a sinkhole in that the ground surface is unbroken and usually occurs in greater density per unit area.

DBH – Diameter at Breast Height — the diameter of a tree at a height of 4 1/2 feet above the ground, on the uphill side.

DESIGN STORM — the magnitude of precipitation from a storm event measured in probability of occurrence (e.g., 10 year storm) and duration (e.g., 24 hour) and used in designing stormwater management control systems.

DETENTION BASIN — a pond or basin designed to retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. A detention pond may be designed to drain completely after a storm event (dry pond) or it may be designed to contain a permanent pool of water (wet pond).

EASEMENT — a recorded agreement of right-of-way granted, but not dedicated, for limited use of private land for a public or quasi-public purpose, identified on the final plan and within which the owner of the property shall not erect any permanent structures but shall have the right to make any other use of the land which is not inconsistent with the rights of the grantee.

FLOODPLAIN — a floodplain or flood hazard area is that land, within the Township, adjoining any watercourse subject to a 100 year recurrence interval flood as delineated by: a study prepared by any Federal, State or County agency, a registered professional engineer experienced in the preparation of hydrological and hydraulic studies and the determination of flood boundary lines or the area denoted as having alluvial soils on the most recent soil survey of the Soil Conservation Service, United States Department of Agriculture.

GABION — a large rectangular box of heavy gage wire mesh which holds large cobbles and boulders. Used in streams and ponds to change flow patterns, stabilize banks or prevent erosion.

GEOLOGIC FORMATION — the basic or fundamental rock stratigraphic unit in the local classification or rocks, consisting of a body or rock (usually a sedimentary stratum or strata but also igneous or metamorphic) generally characterized by some degree of internal lithologic homogeneity or distinctive lithologic features (such as chemical composition, structures, textures, gross aspect of fossils or time of deposition). Typically used for mapping the geology of an area.

GEOLOGIC MEMBER — a rock stratigraphic unit which is subordinate (a subject) of a formation. This unit is not necessarily mappable and is usually a unified subdivision of local extent that may or may not be contained in more than one formation.

GHOST LAKE — a body of standing water occurring in a sinkhole or closed depression of a Karst region that is usually visible after sufficient precipitation has occurred. They may form from slow permeability of soils, rises in the water table or the development of a natural liner of slow permeable clay or soils.

GRADING — the act of excavating and/or filling land for the purpose of changing natural slope.

GROUNDWATER RECHARGE — replenishment of existing natural underground water supplies.

IMPERVIOUS AREA — impermeable surfaces, such as pavement or rooftops, which limits the infiltration of water into the soil, as outlined in Appendix A.

INFILTRATION STRUCTURE — a structure designed to direct runoff into the ground such as french drains, seepage pits or seepage trenches.

KARST — a type of topography that is formed over limestone, dolomite or gypsum by bedrock solution and is characterized by closed depressions or sinkholes, caves and underground drainage (from AGI, Glossary of Geology, 1972).

LAND DISTURBANCE — any activity involving grading, tilling, digging or filling of ground or stripping of vegetation or any other activity which causes land to be exposed to erosion.

LEVEL SPREADER — a device used to spread out stormwater runoff uniformly over the ground surface as sheet flow (i.e., not through channels). The purpose of level spreaders are to prevent concentrated, erosive flows from occurring and to enhance infiltration.

LINEAMENTS — straight or gently curved, lengthy features frequently expressed topographically as depressions or lines on the earth's surface. They can be more easily observed at a height of 100 meters or more and are usually found by researching aerial photographs or satellite photography. They are usually located in areas of faulting or in dense jointing along some rock stratigraphy.

LOW FLOW CHANNEL — an incised or paved channel from inlet to outlet in a dry basin which is designed to carry low runoff flows and/or base flow directly to the outlet without detention.

PEAK DISCHARGE — the maximum rate of flow of water at a given point and time resulting from a storm event.

REGISTERED PROFESSIONAL — an individual registered in and licensed by the State of Pennsylvania including, for the purposes of this Part, land surveyors, landscape architects, architects and engineers.

RETENTION BASIN — a basin in which the runoff from a given flood event is stored and not discharged into the downstream drainage system during the flood event.

RIPRAP — a combination of large stone, cobbles and boulders used to line channels, stabilize banks and reduce runoff velocities.

RUNOFF — that part of precipitation which flows over the land.

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

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 water transported material.

SHEET FLOW — runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel. Flow depth is generally 0.1 feet or less.

SINKHOLE — a localized, gradual or rapid sinking of the land surface to a variable depth, occurring in areas of carbonate bedrock, generally characterized by a roughly circular outline, a distant breaking of the ground surface and downward movement of soil into bedrock voids.

SINKHOLE FLOODPLAIN — the area inundated by the 100 year, 24 hour storm, assuming no drainage from the sinkhole or closed depression based upon anticipated runoff volumes with maximum development permitted by zoning within the catchment area or area draining to the sinkhole.

SOIL-COVER COMPLEX METHOD — a method of runoff computation developed by SCS and found in its publication "Urban Hydrology for Small Watersheds," Technical Release No. 55, as revised.

STORM SEWER — a system of pipes or other conduits which carries intercepted surface runoff, street water and other wash water or drainage, excluding domestic sewage and industrial wastes.

STORMWATER — the drainage runoff from the surface of the land resulting from precipitation, snow or ice melt.

STRATA — tabular or sheet-like mass, distinct layers of homogenous or gradation sedimentary material (consolidated rock or unconsolidated earth) of any thickness, visually separable from other layers above and below by a discrete change in the character of the material deposited or by a sharp physical break, deposition or both.

STRATIGRAPHIC UNIT — a stratum or body of strata recognized as a unit in the classification of the rocks of the earth's crust with respect to any specific rock character, property, attribute or for any purpose such as description, mapping, and correlation.

SWALE — a low-lying vegetated stretch of land or wide shallow ditch, usually grassed or paved, which gathers or carries surface water runoff.

TOPOGRAPHY — the general configuration of a land surface or any part of the earth's surface, including its relief and position of its natural and manmade features. The natural or physical surface features of a region, considered collectively as to its form.

USDA — United States Department of Agriculture.

WATERSHED — the entire region or area drained by a river or other body of water, whether natural or artificial, a drainage basin or sub basin.

WETLANDS — those areas defined in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands," latest edition.

22 Attachment 10

Township of Smithfield

TABLE A-5.4
Maximum Permissible Velocities for Reno Mattress & Gabions

Type	n	Thickness (in)	Rock Fill Gradation (in)	Permissible* Velocity – fps
	.025	6	3 – 6	13.5
Reno Matress	.025	9	3 – 6	16.0
	.025	12	4 – 6	18.0
Gabion	.027	18 +	5 – 9	22.0

* Permissible velocities may be increased by the introduction of sand mastic grout. Refer to manufacturers' recommendations/specifications for permissible velocities.

SOURCE: PA DER Bureau of Soil and Water Conservation Erosion and Sediment Pollution Control Program Manual, April 1990.

Refer to this reference for additional stipulations in the use of Tables A-5.1 through A-5.4.

Section 2. Design Criteria for Drainage Swales, Perennial Streams, Culverts and Drainage Channels.

A. Drainage Swales

Criteria:

1. Where vegetated drainage swales are used in lieu of or in addition to storm sewers, they shall be designed to carry the 10 year discharge without erosion, and also to increase the time of concentration, reduce the peak discharge and velocity, and permit the water to percolate into the soil.

2. Depth of flow in swales provided in cut areas shall not encroach upon the shoulder during a 10-year frequency storm of five minute duration. Frequent and/or sustained flooding of the sub-base shall be avoided.

3. The maximum velocity as determined by Manning's equation shall not exceed the allowable velocity for specific types of vegetative material as specified in Table A-5, Section 1. Inlets shall be provided to control the shoulder encroachment and water velocity.

4. The side slope for any vegetated drainage channel requiring mowing of the vegetation shall have a maximum grade of three horizontal to one vertical on those areas to me mowed.

5. Erosion Prevention: All drainage swales shall be designed to prevent the erosion of the bed and bank areas. Suitable stabilization during vegetative cover establishment shall be provided to prevent erosion.

6. All storm sewers or drainage swales shall discharge to a detention or retention basin for the control of peak runoff discharge except as provided in the plan.

7. Design Standard: Because of the critical nature of vegetated drainage channels, the design of all vegetated channels hall, as a minimum, conform to the design procedures outlined in the Erosion & Sediment Pollution Control Program Manual.

8. A minimum grade of 1% shall be maintained for all swales. Grades less than 1% may be approved by the Township Engineer on a case-by-case basis and only if there are no other alternatives.

Guidelines:

1. Deed restrictions may be required on property(ies) containing draining swales and/or perennial streams. When required, these deed restrictions shall specify that no property owner obstruct or alter any drainage swale or perennial stream identified in the stormwater management plan.

B. Criteria:

1. Design Flow Standard: Culverts and drainage channels shall be designed to carry flow rates determined as outlined in Section 1.11.7 (Soil Conservation Service, Technical Release No. 55)

2. Erosion Prevention: All drainage channels shall be designed to prevent the erosion of the bed and bank areas. Suitable bank stabilization shall be provided where required to prevent erosion of the drainage channels.

   a. The maximum velocities permitted for lined water carrying channels shall be in accordance with the values presented in Table A-5 in Section 1 of this Appendix.

   b. A minimum grade of 1% shall be maintained for all channel flow. Grades less than 1% may be approved by the Township Engineer on a case-by-case basis and only if there are no other alternatives.

3. Pipe Capacity: The capacity of all pipe culverts shall, as a minimum, provide the required carrying capacity as determined by the following sources:

   - Federal Highway Administration Hydraulic Design of Highway Culverts Hydraulic Design Series No. 5 September 1985

   Reference to publications and source documents in this section shall be deemed to include any amendments and revisions thereof.

4. Minimum Grade and Size: All storm drain culvert pipes shall be designed to maintain a minimum grade of 1/2%. All storm pipes shall have minimum inside diameter of 15 inches or a cross-sectional area of 176 square inches, except that pipes under a 25 foot or greater fill shall not be less than 24 inches or a cross-sectional area of 453 square inches, and shall consist of reinforced concrete.

5. Where storm sewers discharge into existing drainage channels at an angle greater than 30° from parallel with the downstream channel flow, the far side bank shall be stabilized by the use of riprap or masonry, and/or concrete walls, the stabilization shall be designed to prevent erosion and frost heave under and behind the stabilizing media.

Guidelines:

1. Pipe Arches: Where cover is restricted, equivalent pipe arches may be used in lieu of circular pipe.

Section 3. Runoff Control Measures.

A. Design of Detention Basins

Criteria:

1. All detention basin storage shall be designed by hydrograph routings. Hydrographs shall be developed from methods outlined in Section 107.4 under the approval of the Township Engineer. Hydrographs shall be routed through the basin or stormwater control facility using the Modified Puls Method.

B. Basin Design

Criteria:

The design criteria contained in Section 107 shall be used in the design of all detention basins in the Township. The emergency spillway must have the ability to pass the post development 100 year flow.

1. Riser: Where a riser is provided at the outlet of the detention basin, the riser shall be constructed of metal or concrete as approved by the Township Engineer. Risers shall be designed so that the rate of outflow is controlled by the pipe barrel through the basin berm when the depth of the water within the basin exceeds the height of the riser, or by accurately sized orifices. All metal risers, where approved for use, shall be suitably coated to prevent corrosion. A trash rack or similar appurtenance shall be provided to prevent debris from entering the riser. All metal risers shall have a concrete base attached with a watertight connection.

   The base shall be sufficient weight to prevent flotation of the riser. An anti-vortex device consisting of a thin vertical plate normal to the basin berm, shall be provided on the top of all metal risers. Suitable perforated metal riser designs are outlined in the following sources:

   - Erosion and Sediment Pollution Control Program Manual

2. Emergency Spillway: Emergency spillways shall be constructed of reinforced concrete, vegetated earth, or riprap in accordance with generally accepted engineering practice. All emergency spillways shall be constructed so that the detention basin berm is protected against erosion. The minimum capacity of all emergency spillways shall be the peak flow rate from the post-development 100 year design storm. The dimensions of the emergency spillways can be determined from the Erosion and Sediment Pollution Control Program Manual. Emergency spillways shall extend along the upstream and downstream berm embankment a minimum of three feet below the spillway crest elevation. The downstream slope of the spillway shall as a minimum extend to the toe of the berm embankment. The emergency spillway shall not discharge over uncompacted earthen fill and/or easily erodible material.

3. Antiseep Collars: Antiseep collars shall be installed around the principal pipe barrel within the normal saturation zone of the detention basin berms. The antiseep collars and their connections to the pipe barrel shall be watertight. The antiseep collars shall extend a minimum of two feet beyond the outside of the principal pipe barrel. The maximum spacing between collars shall be 14 times the minimum projection of the collar measured perpendicular to the pipe.

4. Freeboard: Freeboard is the difference between the design flow elevations in the emergency spillway and the top of the settled detention basin embankment. The minimum freeboard shall be one foot.

5. Slope of Detention Basin Embankment: The top of toe of any slope shall be located a minimum of 10 feet from any property line. Whenever possible the side slopes and basin shape shall be amenable to the natural topography. Straight side slopes and rectangular basins shall be avoided whenever possible.

    a. Exterior slopes of compacted soil shall not exceed three feet horizontal to one foot vertical, and may be further reduced if the soil has unstable characteristics.

    b. Interior slopes of the basin shall not exceed three feet horizontal to one foot vertical, except with approval of the Township.

    c. An access ramp at least 10 feet wide must be constructed of durable, non-slip material to a grade of less than 10% to facilitate accessing the basin's bottom and outlet structure.

6. Width of Berm: The minimum top width of detention basin berms shall be 10 feet.

7. Slope of Basin Bottom: In order to ensure proper drainage of the detention basin, a minimum grade of 2% shall be maintained for all sheet flow.

    a. Inlet and outlet structures will be located at maximum distances from one another. The Township Engineer may required a rock filter berm, rock-filled gabions, or suitable landscaping or vegetative material between inlet and outlet areas when the distance is deemed insufficient, for improved sediment trapping.

    b. A collecting swale or low flow channel and/or underdrain shall be provided to drain basins.

8. Energy Dissipaters: Energy dissipating devices (riprap, end sills, etc.) shall be placed at all basin outlets.

9. The distance from the highest free water surface of any detention basin or drainage facility to a dwelling unit shall be a minimum of 50 feet.

10. Landscaping and Grading of Detention Basins: All landscaping and grading standards particularly applicable to detention basins are included in Section 5 of this Appendix.

11. Construction of Basins:

a. A quality control program is critical for embankment fills. Therefore, wherever embankment fill material in excess of three feet is to be used, each layer of compacted fill shall be compacted to not less than 90% of the dry weight density determined in accordance with PTM No. 112 or PTM No. 402. Embankment material must be placed in uniform horizontal layers not more than a loose eight inches depth.

b. Compaction test reports shall be kept on file at the site and be subject to review at all times with copies being forwarded to the Township Engineer.

c. When rock is encountered during the excavation of a pond, it shall be removed to an elevation of at least 12 inches below the proposed basin floor. For a manufactured line, 24 inches – 30 inches.

d. Temporary and permanent grasses or stabilization measures shall be established on the sides and base of all earthen basins within 15 days of construction.

12. Design Information: As part of the Stormwater Management Plan and Report, all design information along with the information required in Section 1.9 of this Ordinance shall be submitted including, but not limited to, the following:

a. General description of proposed facilities and the operation of the runoff control measures.

b. A detail of the detention basin showing the berm embankment and outlet structure, the embankment top elevation and width, embankment side slopes, emergency spillway elevation, perforated riser dimensions, pipe barrel dimensions, and dimensions and spacing of antiseep collars.

c. Design computations for the pipe barrel and riser.

d. A plot or table of the stage-storage (acre-feet vs. elevation) and all supporting computations.

e. Flood routing computations.

f. A detailed plan of the trash rack and anti-vortex device.

g. A plan, at a scale of one inch equals 50 feet or larger showing the grading, landscaping, and fencing around the detention basin.

Section 4. Design Criteria for Facilities to Encourage Recharge.

A. Methods of Stormwater Infiltration

1. Methods of stormwater infiltration including, but not limited to: seepage pits and seepage trenches, multiple, staged, or extended detention (i.e., greater than 24 hours), wet ponds with stormwater detention capabilities, infiltration trenches and basins, porous pavement, and vegetative practices including urban forestry, basin landscaping or shallow marsh creation may be used. Suggested guidelines and design criteria for these alternatives are outlined in the publications Controlling Urban Runoff – A Practice Manual for Planning and Designing Urban BMPs, Metropolitan Washington Council of Governments, July 1987, and Standards and Specifications for Infiltration Practices (MD DNR). All design methods and selected alternates shall have prior approval of the Township Engineer.

Section 5. Grading and Landscaping.

A. Cuts

Criteria:

1. No Excavation shall be made with a cut face steeper than three feet horizontal to one foot vertical, except under the conditions that the material in which the excavation is made is sufficiently stable to sustain a slope of steeper than three feet horizontal to one foot vertical. Retaining walls will be required if a stable slope cannot be maintained. Any retaining wall design must be approved by the Township Engineer. The top of the slope of headwall of any cut must be located a minimum of 10 feet from property lines.

B. Fills

Criteria:

1. No fill shall be made which creates any exposed surface steeper in slope than three feet horizontal to one foot vertical, except where the fill is located so that settlement, sliding, or erosion will not result in property damage or be a hazard to adjoining property, streets, or buildings. For an exposed surface steeper than 3:1 to be permitted, the applicant must provide documentation that the 3:1 slope is not a safety concern.

Guidelines:

A concrete or stone masonry wall designed and constructed in accordance with these specifications and standards may be required to support face of the fill where the above-specified slopes are exceeded.

C. Planting

Criteria:

1. Grassed or Grass/Ground Cover Combination: All such areas specified on proposed or approved plans shall be prepared, installed, and maintained in accordance with Pennsylvania Department of Transportation, Form 408 Specifications as amended.

2. Open Space, Storm Drainage, and Retention Areas:

   a. Planting Requirement: All areas proposed for recreational use, whether active or passive, shall be planted to effectively naturalize the areas to become an integral and harmonious element in the natural landscape.

   b. Drainage Channels and Retention Areas: All storm drainage channels and retention areas, whether existing or proposed, shall be graded and planted to effectively naturalize area(s) so as to become an integral and harmonious part of the landscape by contour and type of plant material employed.

   c. Vegetative Filter Path: To work properly, a filter strip must be 1) equipped with some sort of level spreading device; 2) densely vegetated with a mix of erosion resistant plant species that effectively bind the soil; 3) graded to a uniform, even, and relatively low slope; 4) be at least as long as the contributing runoff area; and 5) top soil within the vegetative filter path be 12 inches to 18 inches deep.

   A dense cover of erosion resistant grass suitable to existing site conditions shall be established including: Kentucky 31 Tall Fescue, where draught resistance is required, or Reed Canary grass, where water tolerance is required.

   d. Top Soil: A minimum of six inches of topsoil material shall be placed on all areas affected by the basin construction (bottom of basin, side slopes, top of berm, etc.). The material must meet the requirements of the Pennsylvania Department of Transportation, Form 408 Specifications as amended.

Guidelines:

1. Crown Vetch: Detention basins may be seeded with crown vetch, or turfed if, in the opinion of the Township, a crown vetch covering would reduce the use of the detention basin for recreational purposes or would be unsightly.

2. Fencing and Screening: A fence or suitable vegetative screening may be provided, as required by the Township, around all detention basins. All fencing should be at least 3 1/2 feet in height as approved by the Township. A vegetative screening of suitable landscaping plant material in or around a detention basin may also be required. Vegetative screening should generally provide a barrier to prevent entrance to, and effectively naturalize the appearance of, the detention basin area.

   Combinations of grassed areas and densely planted shrub areas consisting of species suited to use in the highway environment are encouraged. Species of raspberry (Rubus spp.) are recommended.

   Rock filter check dams are encouraged for use as level spreaders.

D. Building Site Excavation and Surface Runoff

Criteria:

1. If temporary or permanent diversion channels or berms have not been established during general site preparation, diversion channels or berms shall be installed whenever slopes exceed 10% above or below proposed excavation areas.

   Installation shall occur prior to or concurrent with excavations or other earthmoving on the uphill or downhill sides of the building location and any other areas to be disturbed. This requirement may be waived if it would result in the destruction of trees and shrubs. In all cases, hay bales or silt fence shall be installed and maintained downhill of all excavations and until the diversion channels or berms required by the Township Engineer have been stabilized.

2. All exposed earth shall be stabilized with appropriate grasses or other materials no later than 15 days after construction.

Section 6. Supplemental Standards and Criteria.

The following technical reference materials are hereby incorporated into these controls for information and to govern the design and hydrologic control provisions of this Ordinance.

1. Controlling Urban Runoff — A Practice for Planning and Designing Urban Best Management Practices, Metropolitan Washington, Council of Governments, July 1987.

2. Design Manual Part 2, Highway Design, Publication 13, Commonwealth of Pennsylvania, Department of Transportation, January 1990.

3. Engineering Field Manual, USDA SCS, 1977.

4. Engineering Standard and Specifications, USDA SCS, May 1977.

5. Field Manual of Pennsylvania Department of Transportation Storm Intensity-Duration-Frequency Carts, Department of Civil Engineering and Institute for Research on Land Water Resources, Pennsylvania State University, University park, PA 1986.

6. Flood Hazard Study, Township of Smithfield, Huntingdon County, Federal Insurance Administration, 1989.

7. Guidelines for Erosion and Sediment Control Planning and Implementation, U.S. Government Printing Office, Washington, DC, EPA-R2-72-015, August 1972.

8. National Engineering Handbook, Section 4, Hydrology, USDA, August 1972.

9. Practices in Detention of Urban Stormwater Runoff, Special Report No. 43, American Public Works Association, June 1974.

10. Erosion and Sediment Pollution Control Manual, Pennsylvania Department of Environmental Protection, March 2000.

11. Soil Survey of Huntingdon County, Pennsylvania, USDA SCS, 1978.

12. Standards for Roadway Construction, Series RC-0 to 100, Pennsylvania Department of Transportation, Bureau of Highway Design, Publication No. 72, May 1983.

13. Standards and Specifications for Infiltration Practices, Maryland Department of Natural Resources, Water Resources Administration, February 1984.

14. Title 25 Rules and Regulations, Chapter 105, Dam Safety and Waterway Management, as amended, Commonwealth of Pennsylvania, Department of Environmental Resources.

15. Urban Hydrology for Small Watersheds, Technical Release No. 55, USDA SCS, June 1986.

22 Attachment 1

Township of Smithfield

APPENDIX A

SPECIFIC STORMWATER MANAGEMENT DESIGN CRITERIA

Section 1. Stormwater Management Computational Values.

Figure A-1: Design Storm Curves for Huntingdon Region

Table A-2: TR 55 Curve Numbers

Table A-3: Rational Equation Runoff Coefficients

Table A-4: Manning Roughness Coefficients

Table A-5: Permissible Velocities for Channels

A-5.1: Bare Earth Channels

A-5.2: Lined with Vegetation

A-5.3: Rock Lined channels with Riprap

A-5.4: Reno Matress and Gabions

Section 2. Design Criteria for Drainage Swales, Perennial Streams, Culverts and Drainage Channels.

Section 3. Runoff Control Measures.

Section 4. Design Criteria for Facilities to Encourage Recharge.

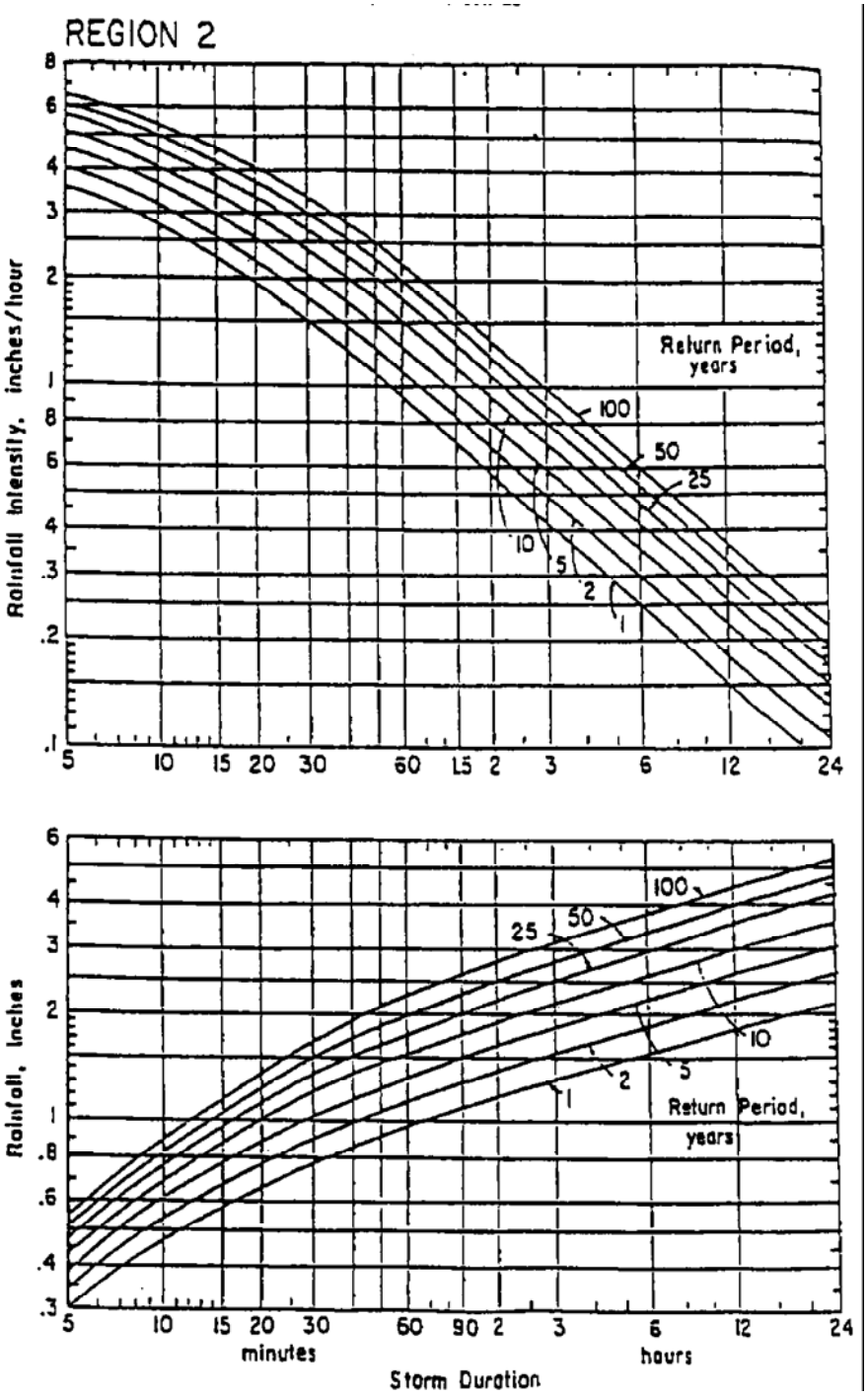
Section 5. Grading and Landscaping.

Section 6. Supplemental Standards and Criteria.

22 Attachment 2

Township of Smithfield

FIGURE A-1
DESIGN STORM CURVES



Source: Pennsylvania Department of Transportation

22 Attachment 3

Township of Smithfield

TABLE A-2
TR-55 RUNOFF CURVE NUMBERS AND AVERAGE IMPERVIOUSNESS FOR VARIOUS LAND USES BY HYDROLOGIC SOIL GROUP

COVER DESCRIPTION LAND USE/COVER TYPE	AVERAGE IMPER-VIOUSNESS (%)	CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP			
		A	B	C	D
Open Space (lawns, parks, golf courses, cemeteries, etc.):	–				
Good condition (grass cover Greater than 75%)	n/a[a]	39	61	74	80
Impervious Areas:					
Paved parking lots, roofs	n/a	98	98	98	98
Driveways, etc. (excluding right-of-way)					
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)	n/a	98	98	98	98
Paved; open ditches (including right-of-way)	n/a	98	98	98	98
Gravel (including right-of-way)	76	85	89	91	
Urban Districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential Districts by Average					
Lot Size:					
χ acre or less (townhouses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
α acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Woods:	n/a	30	55	70	77
Brush:		35	56	70	77
Meadow:		30	58	71	78

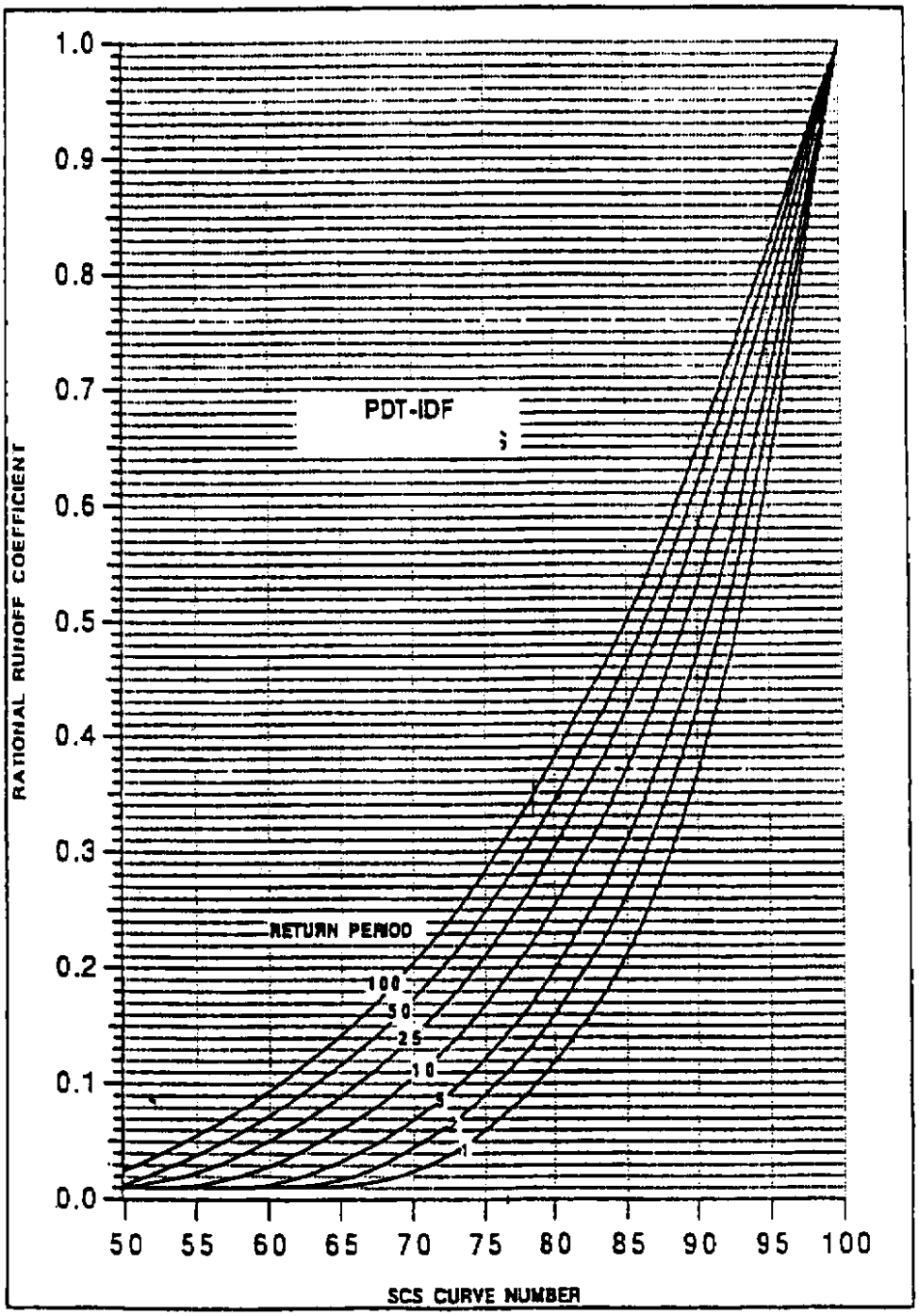
[a] Not applicable

Source: U.S. Department of Agriculture, Soil conservation Service, Engineering Division, 1986, "Urban Hydrology for Small Watersheds," Technical Release 55, Washington, D.C.

22 Attachment 4

Township of Smithfield

TABLE A-3
RUNOFF COEFFICIENTS AS A FUNCTION OF CURVE NUMBER



Source: Dr. Gert Aron, The Pennsylvania State University

22 Attachment 5

Township of Smithfield

Table A-4
Manning Roughness Coefficients

	Manning's n range
I. Closed Conduits:	
A. Concrete pipe	0.011-0.013
B. Corrugated-metal pipe or pipe arch:	
1. 2-2/3 by 1/2 in. corrugation (riveted) pipe):	
a. Plan or fully coated	0.024
b. Paved invert (range values are for 25 and 50% of circumference paved):	
(1) Flow full depth	0.021-0.018
(2) Flow 0.8 depth	0.021-0.016
(3) Flow 0.6 depth	0.019-0.013
2. 6 by 2-in. corrugation (field bolted)	0.030
C. Cast-iron pipe, uncoated	0.013
D. Steel pipe	0.009-0.011
E. Monolithic concrete:	
1. Wood forms, rough	0.015-0.017
2. Wood forms, smooth	0.012-0.014
3. Steel forms	0.012-0.013
F. Cemented rubble masonry walls:	
1. Concrete floor and top	0.017-0.022
2. Natural floor	0.019-0.025
II. Open Channels, Lined (straight alignment):	
A. Concrete, with surfaces as indicated:	
1. Formed, no finish	0.013-0.017
2. Trowel finish	0.012-0.014
3. Float finish	0.013-0.015
4. Float finish, some gravel on bottom	0.015-0.017
5. Gunite, good section	0.016-0.019

	Manning's n range
6. Gunite, wavy section	0.018-0.022
B. Concrete, bottom float finished, sides as indicated:	
1. Dressed stone in motor	0.015-0.017
2. Random stone in motor	0.017-0.020
3. Cement rubble masonry	0.020-0.025
4. Cement rubble masonry, plastered	0.016-0.020
5. Dry rubble (riprap)	0.020-0.030
C. Gravel bottom, sides as indicated:	
1. Formed concrete	0.017-0.020
2. Random stone in mortar	0.020-0.023
3. Dry rubble (riprap)	0.023-0.033
D. Asphalt	
1. Smooth	0.013
2. Rough	0.016
E. Concrete-lined excavated rock:	
1. Good section	0.017-0.020
2. Irregular section	0.022-0.027
III. Open Channels, Excavated (straight alignment, natural lining);	
A. Earth, uniform section:	
1. Clean, recently completed	0.016-0.018
2. Clean, after weathering	0.018-0.020
3. With short grass, few weeds	0.022-0.027
4. In gravelly soil, uniform section, clean	0.022-0.025
B. Earth, fairly uniform section:	
1. No vegetation	0.022-0.025
2. Grass, some weeds	0.025-0.030
3. Dense weeds or aquatic plants in deep channels	0.030-0.035
4. Sides clean, gravel bottom	0.025-0.030
5. Sides clean, cobble bottom	0.030-0.040
C. Dragline excavated or dredged:	
1. No vegetation	0.028-0.033

	Manning's n range
2. Light brush on banks	0.035-0.050
D. Rock:	
1. Based on design section	0.035
2. Based on actual mean section:	
a. Smooth and uniform	0.035-0.040
b. Jagged and irregular	0.040-0.045
E. Channels not maintained, weeds and brush uncut:	
1. Dense weeds, high as flow depth	0.080-0.120
2. Clean bottom, brush on sides	0.050-0.080
3. Clean bottom, brush on sides, highest stage of flow	0.070-0.110
4. Dense brush, high stage	0.100-0.140
IV. Channels & Swales w/Maintained Vegetation (Values shown are for velocities of 2 & 6 f.p.s.):	
A. Depth of flow up to 0.7 foot:	
1. Bermudagrass, Kentucky bluegrass, buffalograss	
a. Mowed up to 2 inches	0.045-0.070
b. Length 4-6 inches	0.050-0.090
2. Good stand, any grass:	
a. Length about 12 inches	0.090-0.180
b. Length about 24 inches	0.150-0.300
3. Fair stand, any grass:	
a. Length about 12 inches	0.080-0.140
b. Length about 24 inches	0.130-0.250
V. Street and Expressway Gutters:	
A. Concrete gutter, troweled finish	0.012
B. Asphalt pavement:	
1. Smooth texture	0.013
2. Rough texture	0.016
C. Concrete gutter with asphalt pavement:	
1. Smooth	0.013
2. Rough	0.015

	Manning's n range
D. Concrete pavement:	
1. Float finish	0.014
2. Broom finish	0.016
E. For gutters with small slope, where sediment may accumulate increase above values of x by	0.002
VI. Natural Stream Channels	
A. Minor streams (surface width at flood stage less than 100 feet):	
1. Fairly regular section:	
a. Some grass & weeds, little or no brush	0.030-0.035
b. Dense growth of weeds, depth of flow materially greater than weed height	0.035-0.050
c. Some weeds, light brush on banks	0.035-0.050
d. Some weeds, heavy brush on banks	0.050-0.070
e. Some weeds, dense willows on banks	0.060-0.080
f. For trees within channel with branches submerged at high stage, increase all above values by	0.010-0.020
2. Irregular sections, with pools, slight channel meander; increase values given in (1)(a-e) above	0.010-0.020
3. Mountain streams, no vegetation in channel, banks usually steep, trees and brush along banks submerged at high stage	
a. Bottom of gravel, cobbles and few boulders	0.040-0.050
b. Bottom of cobbles, with large boulders	0.050-0.070
B. Floodplains (adjacent to natural streams):	
1. Pasture, no brush:	
a. Short grass	0.030-0.035
b. High grass	0.035-0.050
2. Cultivated areas:	
a. No crop	0.030-0.040
b. Mature row crops	0.035-0.043
c. Mature field crops	0.040-0.050
3. Heavy weeds, scattered brush	0.050-0.070
4. Light brush and trees:	
a. Winter	0.050-0.060

	Manning's n range
b. Summer	0.060-0.080
5. Medium to dense brush:	
a. Winter	0.070-0.110
b. Summer	0.100-0.160
6. Dense willows, summer, not bent over by current	0.150-0.200
7. Cleared land w/tree stumps, 100-150 per acre:	
a. No sprouts	0.040-0.050
b. With heavy growth of sprouts	0.060-0.080
8. Heavy stand of timber, a few down trees, little undergrowth:	
a. Flood depth below branches	0.100-0.120
b. Flood depth reaches branches	0.120-0.160
C. Major streams (surface width at flood stage more than 100 ft.): Roughness coefficient is usually less than for minor streams of similar description on account of less effective resistance offered by irregular banks or vegetation on banks. Values of n may be somewhat reduced. Follow recommendation in publication cited if possible. The value of n for larger streams of most regular section, with no boulders or brush, may be in the range of	0.028-0.033

22 Attachment 6

Township of Smithfield

TABLE A-5
MANNING'S ROUGHNESS COEFFICIENTS FOR SHEET FLOW

SURFACE DESCRIPTION	**n[1]**
Smooth Surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	
Residue cover 20%	0.06
Residue cover 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.40
Dense underbrush	0.80

Source: Chow, V.T., 1959, "Open Channel Hydraulics," McGraw Hill, New York.

22 Attachment 7

Township of Smithfield

TABLE A-5.1
Maximum Permissible Velocities in Bare Earth Channels – For Straight Channels where slope < .02 ft/ft

Soil Materials	n*	Clear Water (V fps)	Water Transporting Colloidal Silts (V fps)
Fine sand, noncolloidal	.020	1.50	2.50
Sandy loam, noncolloidal	.020	1.75	2.50
Silt loam, noncolloidal	.020	2.00	3.00
Alluvial silts, noncolloidal	.020	2.00	3.50
Ordinary firm loam	.020	2.50	3.50
Stiff clay, very colloidal	.025	3.75	5.00
Alluvial silts, colloidal	.025	3.75	5.00
Shales and hardpen	.025	6.00	6.00
Fine Gravel	.020	2.50	5.00
Graded loam – cobbles (when noncolloidal)	.030	3.75	5.00
Graded silt – cobbles (when noncolloidal)	.030	4.00	5.50
Course gravel, noncolloidal	.025	4.00	6.00
Cobbles and shingles	.035	5.00	5.50

* Listed n values assume good to excellent construction techniques which produce uniform channel dimensions. Values should be adjusted, by use of SCS Engineering Handbook #5, Supplement B, for other construction conditions.

22 Attachment 8

Township of Smithfield

TABLE A-5.2
Maximum Permissible Velocities for Channels Lined with Vegetation

		Permissible Velocity ft/sec.	
Cover	**Slope Range Percent**	**Erosion Resistant Soil**	**Easily[2] Eroded Soil**
Kentucky Bluegrass	< 5	7[3]	5
Tall Fescue	5-10	6[3]	4
	> 10	5	3
Grass Mixture	< 5	5	4
Reed Canarygrass	5-10	4	3
Sericea Lespedeza	< 5	3.5	2.5
Weeping Lovegrass			
Redtop			
Red Fescue			
Annuals temporary cover only Sudangrass	< 5	3.5	2.5

[2] Cohesive (clayey) fine grain soils and coarse grain soils with a plasticity index of 10 to 40 (CL, CH, SC, & GC). Soils that do not meet the requirements for erosion resistant soils.

[3] Use velocities exceeding five ft/sec only where good cover and proper maintenance can be obtained.

22 Attachment 9

Township of Smithfield

TABLE A-5.3
Maximum Permissible Velocities for Rock Lined Channels and Riprap

	Graded Rock Size (In.)			
NSA No.	**Max.**	**D_{50}**	**Min.**	**Permissible Velocity fps***
R-1	1.5	.75	NO. 8	2.5
R-2	3	1.50	1	4.5
R-3	6	3	2	6.5
R-4	12	6	3	9.0
R-5	18	9	7	11.5
R-6	24	12	7	13.0
R-7	30	15	12	14.5

* Permissible velocities based on rock at 165 lbs. per cubic foot. Adjust velocities for other rock weights used. See Figure 4.6