

**DAUPHIN COUNTY
SUBDIVISION
AND
LAND DEVELOPMENT
ORDINANCE**

Adopted by the Dauphin County Board of Commissioners: *April 27, 2011*

This project was financed in part by a grant from the Commonwealth of Pennsylvania
Department of Community & Economic Development

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DAUPHIN COUNTY
SUBDIVISION AND LAND DEVELOPMENT
ORDINANCE

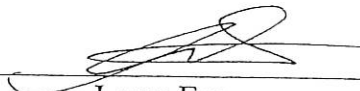
For additional information either write or call the Dauphin County Planning Commission

Addresses: 112 Market Street, 2nd Floor, Harrisburg, PA. 17101

Telephone Numbers: (717) 234-2639

CERTIFICATION:

I certify this ordinance is a true and correct copy of the Dauphin County Subdivision and Land Development Ordinance enacted by the Dauphin County Board of County Commissioners on April 27, 2011.



Laura Evans
Chief Clerk



INTRODUCTION

These regulations have been adopted by the Dauphin County Board of Commissioners for the primary purpose of encouraging the best development of Dauphin County. This Ordinance, and regulations contained herein, have been enacted in accordance with the Pennsylvania Municipalities Planning Code (MPC).

In adopting this Ordinance the Board of Commissioners has designated the Dauphin County Planning Commission as the agency responsible for the administration of the regulations established by this Ordinance.

The new ordinance replaces an ordinance initially adopted in 1970 and subsequently amended. This Ordinance has been adopted to generally reflect the Tri-County Regional Planning Commission Model Subdivision and Land Development Ordinance which was adopted in April 2008.

Owners or developers who anticipate subdividing land into two or more lots, tracts, or parcels in Dauphin County and/or land development should become familiar with this Ordinance. The Ordinance was prepared in order to provide clear cut procedures for the preparation, submission, review and report or approval of subdivision and land development plans. These regulations include a description of all the specific steps required for the submission of subdivision and land development plans; together with design standards; and improvement and construction requirements.

Applicants may come to the Dauphin County Planning Commission's office with a sketch plan (pre-application plan) of the land they proposed to subdivide or develop before preparing and submitting a preliminary plan. In that manner the applicant could obtain professional advice at the time it would be most valuable.

Lot size in a subdivision is one of the first decisions to be made. It influences street design, block length, community facilities required, etc. In those subdivisions and land development plans that will have on lot septic tanks and absorption fields, percolation tests and soil analysis of the tract should be the first step before preparing a preliminary plan. Lot size can be affected on the basis of the percolation tests.

The preliminary plan is the stage when ideas and plans are developed. It requires the coordinated efforts of many agencies, utility companies and public officials.

The final plan is the detailed official document to be recorded in the Dauphin County courthouse, and is the basis for the construction and improvements placed on the tract.

Content of the Subdivision and Land Development Ordinance

The organized format for this Ordinance is as follows:

- Article I Short Title
- Article II Purpose, Authority, Application, and Interpretation
- Article III Definitions
- Article IV Plan Processing Procedures and Requirements
- Article V Design Standards & Improvement and Construction Standards
- Article VI Improvements and Maintenance Guarantees
- Article VII Mobile Home and Recreational Vehicle Parks and Campgrounds
- Article VIII Fees & Reviews/Approvals

- Article IX Modification of Requirements *(Identifies the mechanism for the granting of waivers to the Ordinance's minimum requirements.)*
- Article X Enforcement, Amendments, Violations, Appeals, Preventive Remedies, Penalties, Severability and Repealer
- Article XI Effective Date and Enactment

APPENDICES have been included in the back of the Ordinance.

DAUPHIN COUNTY SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

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ORDINANCE NO. 2-2011

AN ORDINANCE REGULATING THE SUBDIVISION OF LAND AND LAND DEVELOPMENT WITHIN DAUPHIN COUNTY, PENNSYLVANIA; PROVIDING FOR THE PREPARATION AND PROCESSING OF PRELIMINARY AND FINAL PLATS FOR SUCH PURPOSES; REQUIRING CERTAIN IMPROVEMENTS TO BE MADE OR GUARANTEED TO BE MADE BY THE APPLICANT; REGULATING THE LAYOUT AND SALE OF LOTS; ERECTION OF BUILDINGS, LAYING OUT, CONSTRUCTION, OPENING AND DEDICATION OF STREETS, STORM AND SANITARY SEWERS, AND OTHER PUBLIC IMPROVEMENTS IN CONNECTION WITH SUBDIVISION AND LAND DEVELOPMENT; AND PRESCRIBING PENALTIES FOR THE VIOLATION THEREOF.

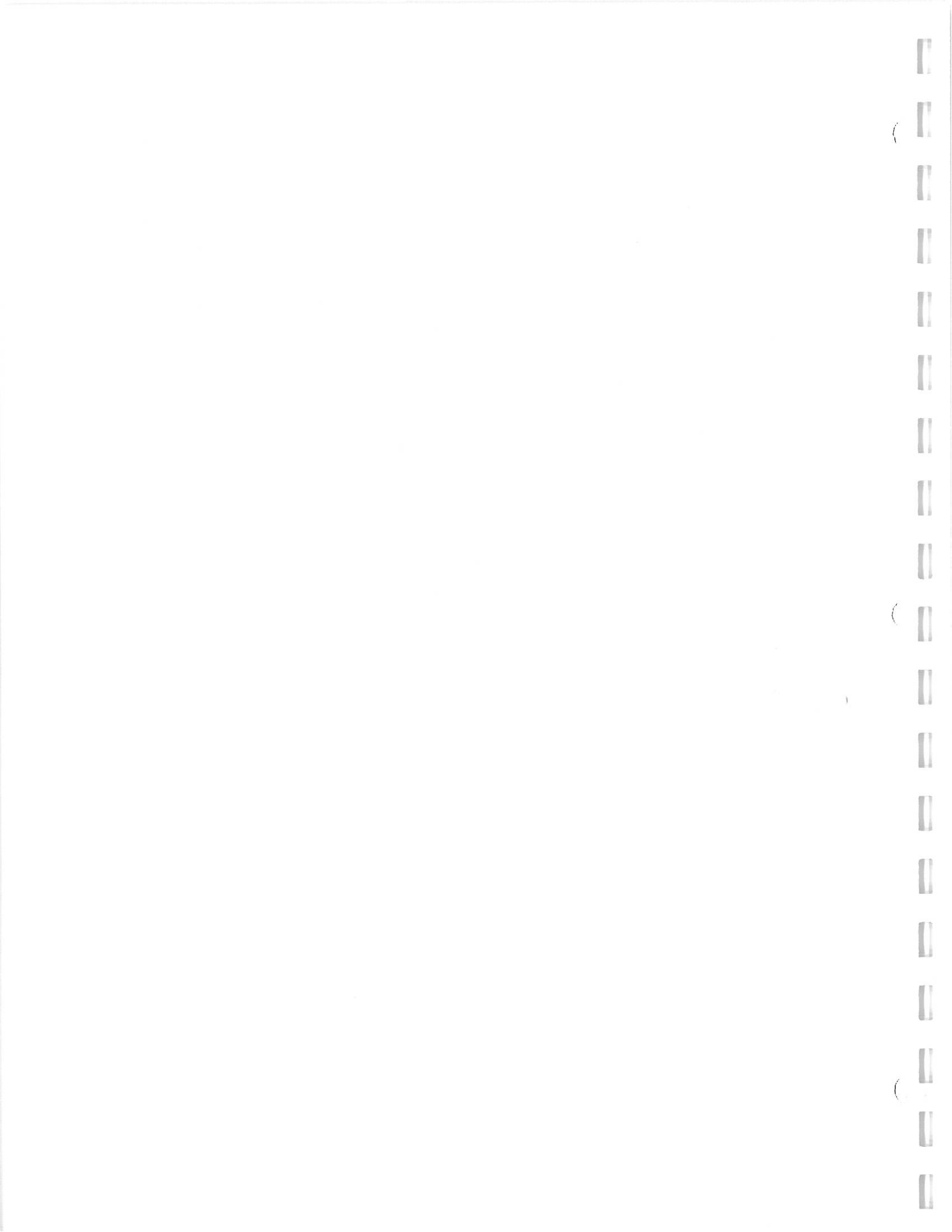
THE BOARD OF COMMISSIONERS OF DAUPHIN COUNTY, PENNSYLVANIA, PURSUANT TO THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247, ARTICLE V, AS AMENDED, DOES ENACT AND ORDAIN:

ARTICLE 1

SHORT TITLE

Section 101. SHORT TITLE

This Ordinance shall be known and may be cited as "The Subdivision and Land Development Ordinance"



ARTICLE 2

PURPOSE, AUTHORITY, APPLICATION AND INTERPRETATION

Section 201. PURPOSE

This Ordinance has been designed and adopted to provide uniform standards and procedures for the regulation of subdivision and land development within Dauphin County.

The purpose of such regulations is to provide for the harmonious development of Dauphin County by:

1. Assuring sites are suitable for building purposes and human habitation
2. Coordinating proposed streets and other proposed public improvements
3. Assuring that adequate easements and rights-of-way are provided for drainage facilities, public utilities, streets, and other public improvements
4. Assuring equitable and uniform handling of subdivision and land development plat applications
5. Assuring coordination of intra, and inter-municipal public improvement plans and programs;
6. Assuring the efficient and orderly extension of community facilities and services at minimum cost and maximum convenience
7. 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
8. Guiding the future growth and development of Dauphin County in accordance with the adopted Dauphin County Comprehensive Plan
9. Assuring that documents prepared as part of a land ownership transfer fully and accurately describe the parcel of land being subdivided and the new parcel(s) thus created
10. Assuring the greater health, safety, convenience and welfare to the citizens of Dauphin County
11. Ensuring the protection of water resources and drainageways
12. Ensuring the efficient movement of traffic
13. Ensuring the equitable handling of all subdivision and land development plans by providing uniform standards and procedures

Section 202. AUTHORITY AND JURISDICTION OF THE COUNTY COMMISSIONERS.

1. This Subdivision and Land Development Ordinance has been enacted by the Dauphin County Board of Commissioners in accordance with the provision of the Pennsylvania Municipalities Planning Code.
2. The Dauphin County Board of Commissioners hereby designates the Dauphin County Planning Commission as the agency to which all subdivision and land development plans must be submitted for either review or approval as required by this Ordinance.

Section 203. CITIES, BOROUGHES AND TOWNSHIPS WITH SUBDIVISION AND LAND DEVELOPMENT ORDINANCES

Cities, boroughs and townships which have adopted subdivision and land development ordinances are exempt from these regulations, except for the following requirements: applications for a subdivision and land development must be forwarded upon receipt by the municipality to the Dauphin County Planning Commission for review and report, together with a fee sufficient to cover the cost of the review and report. The fee shall be paid by the applicant, and the municipality shall not approve such application until the county report is received, or until the expiration of thirty (30) days from the date the application was forwarded to the County Planning Commission

1. The Planning Commission shall accept for review the Preliminary Plat and later the Final Plat, with separate fees for each application at each stage of processing the proposed subdivision or land development.
2. In the case where a minor subdivision is permitted by a municipality to be filed as a final plat, the Dauphin County Planning Commission shall also accept such a plat with its fee for review.
3. Appropriate officials of the Dauphin County Planning Commission shall sign final plats prepared for final recording indicating that the plat was reviewed.

Section 204. CITIES, BOROUGHES AND TOWNSHIPS WITHOUT SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.

In cities, boroughs and townships which have not adopted a subdivision and land development ordinance, the subdivision and land development plans must be approved by the Dauphin County Planning Commission as complying with all requirements of this Ordinance before recording. The Planning Commission approval is in addition to, and does not supersede, local approvals as may be required by any other ordinances, resolutions or regulations of a municipality.

Applications for a subdivision and land development must be submitted to the Dauphin County Planning Commission, together with a fee sufficient to cover the cost of the review. The fee shall be paid by the applicant.

1. The Dauphin County Planning Commission shall accept for review the Preliminary Plat and later the Final Plat, with separate fees for each application at each stage of processing the proposed subdivision or land development.
2. The Dauphin County Planning Commission shall have the authority to approve or disapprove all preliminary and final subdivision or land development plat applications as required herein.
3. Appropriate officials of the Dauphin County Planning Commission shall sign final plats prepared for final recording indicating that the plat was approved.

Section 205. APPLICATION OF REGULATIONS

1. No subdivision or land development of any lot, tract, or parcel of land located in Dauphin County shall be effected; no street, sanitary sewer, storm sewer, water main, or other facilities in connection therewith shall be laid out, constructed, opened or dedicated for public use or travel, or for the common use of occupants of buildings thereon unless and until a Final Subdivision or Land Development Plat has undergone review and report by the Dauphin County Planning Commission (where municipality has its own subdivision and land development ordinance) or been approved by the Dauphin County Planning Commission (where a municipality has no subdivision and land development ordinance) and publicly recorded in the manner prescribed herein.
2. No lot in a subdivision may be sold; no permit to erect or alter any building upon land in a subdivision or land development may be issued; and no building may be erected or altered in a subdivision or land development, unless and until a Final Subdivision or Land Development Plat has undergone review and report by the Dauphin County Planning Commission (where municipality has its own subdivision and land development ordinance) or been approved by the Dauphin County Planning Commission (where a municipality has no subdivision and land development ordinance) and recorded, and until the improvements required in connection therewith have been either constructed or guaranteed in a manner prescribed herein.
3. Unit or condominium subdivision of real property is included within the meaning of subdivision and land development as defined herein, and must comply with these regulations. Such compliance shall include, but not be limited to, the filing of Preliminary and Final Plats, payment of established fees and charges, location of each structure and clear definition of each unit, public easements, common areas, improvements, and all easements appurtenant to each unit.
 - A. Preliminary and final plat shall indicate the location of each structure and clearly define each unit, and shall indicate public easements, common areas, and

improvements, all easements appurtenant to each unit and improvements to public right-of-way.

4. All subdivision and land development plats are subject to all applicable zoning regulations.

Section 206. INTERPRETATION

When interpreting and applying this Ordinance, applicants shall be held to the minimum requirements for the promotion of public health, safety, comfort, convenience and greater welfare. Where the provisions of this Ordinance impose greater restrictions than those of any statute, other ordinance, or regulation (i.e. State enabling statutes, local zoning, or building codes, etc.), the provisions of this Ordinance shall prevail. Where the provisions of any statute, other ordinance, or regulation impose greater restrictions than those of this Ordinance, the provisions of such statute, ordinance, or regulation shall prevail.

ARTICLE 3

DEFINITIONS

Section 301. LANGUAGE INTERPRETATION

Unless otherwise expressly stated, the following words shall for the purposes of this Ordinance have the meaning herein indicated. Words expressed in the plural include their singular meanings; the present tense shall include the future; words used in the masculine gender shall include the feminine and the neuter; the words "shall", "must", and "will" are mandatory; the words "should" and "may" are permissive. For those words utilized in this Ordinance not defined herein the definitions found in the most recent edition of Webster's Unabridged Dictionary apply.

ABANDONMENT: The relinquishment of property, or a cessation of the use of the property, by the owner with the intention neither of transferring rights to the property to another owner nor of resuming the use of the property.

ABUT OR ABBUTTING: Buildings which physically touch; Areas of contiguous lots that share a common lot line, not including lots entirely separated by a street or public alley open to traffic or a perennial waterway.

ACCESS DRIVE: A way or means of approach to provide vehicular or pedestrian physical entrance to a property.

ACCESSORY BUILDING: A building subordinate to and detached from the main building on the same lot and used for purposes customarily incidental to the main building.

ACCESSORY USE: A use customarily incidental and subordinate to the principal use or the main building and located on the same lot with such principal use or main building.

ACCELERATED EROSION: The removal of the surface of the land through the combined action of human activity and the natural processes at a rate greater than would occur because of the natural process alone.

ACRE: A measure of land area containing 43,560 square feet.

ADDITION: Any construction which increases the size of a building, such as a porch, attached garage or carport, or a new room or wing.

ADJOINING LOT OR LAND: A lot or parcel of land which shares all or part of a common lot line with another lot or parcel of land. (See Abut)

AGENT: Any person other than the applicant who, acting on the landowner(s) authorized behalf, submits a subdivision or land development application.

AGRICULTURE: The use of land which shall include, but not be limited to, the tilling of the soil, the raising of crops, horticulture, apiculture, floriculture, vitaculture and gardening. The production, keeping or maintenance, for sale, lease or personal use, of plants and animals useful to man, including but not limited to: forages and sod crops; grains and seed crops; dairy animals and dairy products, poultry and poultry products: livestock, including beef cattle, sheep, swine, horses, ponies, mules, or goats, or any mutations or hybrids thereof, including the breeding and grazing of any or all of such animals; bees and apiary products; fur animals; trees and forest products: fruits of all kinds, including grapes, nuts and berries; vegetables; nursery, floral, ornamental and greenhouse products; or lands devoted to a soil conservation or forestry management program.

AGRICULTURAL OPERATION: An enterprise that is actively engaged in the commercial production and preparation for market of crops, livestock and livestock products and in the production, harvesting and preparation for market or use of agricultural, agronomic, horticultural, silvicultural and aquaculture crops and commodities. The term includes an enterprise that implements changes in production practices and procedures or types of crops, livestock, livestock products, or commodities produced consistent with practices and procedures that are normally engaged by farmers or are consistent with technological development within the agricultural industry.

ALLEY (or SERVICE DRIVE): A public or private right-of-way other than a side street which affords only a secondary means of access to abutting property and not intended for general traffic circulation.

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

ALTERATIONS, STRUCTURAL: Any change or rearrangement in the supporting members of an existing building, such as bearing walls, columns, beams, girders, or interior partitions, as well as any change in doors, windows, means of ingress or egress, or any enlargement to or diminution of a building or structure, whether horizontally or vertically, or the moving of a building or structure from one location to another.

AMENDMENT: An official change to this Ordinance in accordance with the PA MPC.

APPLICANT (Also see DEVELOPER and SUBDIVIDER): A landowner or developer, as hereinafter defined, who has filed an application for the subdivision or development of a tract of land, including his heirs, successors, and assigns.

APPLICATION FOR DEVELOPMENT: Every application, whether preliminary 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 for approval of a land development plan.

AREA, BUILDING: The total of area, in square feet, of all floors, excluding basement, of the principal building and all accessory buildings, exclusive of uncovered porches, terraces, and steps.

AREA, GROSS: The total lot area, including public right-of-way.

AREA, NET: The total lot area, less public right-of-way.

AUTHORITY: A body politic and corporate created pursuant to the Act of May 2, 1945 (P.L.382, No. 164), as amended, known as the, "Municipalities Authorities Act of 1945".

AZIMUTH: The horizontal angle of an observer's bearing in surveying, measured clockwise from a referenced direction.

BEST MANAGEMENT PRACTICES (BMPs): State-of-the-art technology as applied to a specific problem. The BMP presents physical, institutional, or strategic approaches to environmental problems, particularly with respect to nonpoint source pollution control.

BLOCK: An area bounded by streets, railroad rights-of-way, waterways and other definite barriers.

BOARD OF COMMISSIONERS: The Board of Commissioners of Dauphin County, Pennsylvania.

BOARD OF SUPERVISORS: Any Board of Supervisors in Dauphin County, Pennsylvania.

BOROUGH: Any Borough in Dauphin County, Pennsylvania.

BOROUGH COUNCIL: Any Borough Council in Dauphin County, Pennsylvania.

BUILDING: Any structure having a roof supported by columns or walls and intended for the shelter, housing or enclosure of any individual, animal, process, equipment, goods or materials of any kind.

BUILDING, ACCESSORY: A building incidental and subordinate to and detached from the main building on the same lot and used for purposes customarily incidental to the principal building.

BUILDING, ADDITION: A structure added to the original structure at some time.

BUILDING AREA: See AREA, BUILDING.

BUILDING COVERAGE: The ratio of the horizontal area measured from the exterior surface of the exterior walls of the ground floor of all principal and accessory buildings on a lot to the total gross lot area.

BUILDING INSPECTOR: An individual designated by the appointing authority to enforce the provisions of the building code. Includes code enforcement officer or zoning officer.

BUILDING LINE: A line parallel to the front, side or rear lot line touching that part of a building closest to a street or lot line.

BUILDING PERMIT: Written permission issued by the proper municipal authority for the construction, repair, alteration, or addition to a structure.

BUILDING, PRINCIPAL: A building in which is conducted the primary use of the lot on which it is located, and is not an accessory building.

BUILDING SETBACK LINE: The lines within a property defining the required minimum distance between any structure and the adjacent right-of-way or property line which defines the required minimum building distance from the front, side or rear property lines.

CALIPER: The diameter of a tree trunk measured in inches six inches above ground level for trees up to four inches in diameter and 12 inches above ground level for trees over four inches in diameter.

CAMP OR CAMPGROUND: A state-permitted facility, through the Pennsylvania Department of Health, in which a portion of land is used for the purpose of providing a space for trailers or tents for camping purposes, regardless of whether a fee has been charged for the leasing, renting or occupancy of the space, in accordance with the Pennsylvania Code. The campground may be an organized camp which includes a combination of programs and facilities established for the primary purpose of providing an outdoor group living experience for children, youth and adults with social, recreational, and educational objectives and operated and used for five or more consecutive days during one or more seasons a year.

CARTWAY: That portion of a street or alley which is improved, designed, or intended for vehicular use.

CENTERLINE: A line located exactly in the center width of a road or street cartway, right-of-way, easement, or access.

CLEAR-SIGHT TRIANGLE: A triangular-shaped portion of land established by a street or driveway intersection in which nothing is erected, placed, planted, or allowed to grow in such a manner as to limit or obstruct the site distance of motorists entering or leaving the intersection. It is defined by lines at a given distance from the intersection of the street center line.

COMMISSION: The Dauphin County Planning Commission.

COMMON AREA: The area in a subdivision or planned residential development, including common open space, owned or leased and maintained by an association or other combination of persons for the benefit of the residents of the residential development and, if owned under the

Pennsylvania Unit Property Act, including all common elements designated for the use of all dwelling unit owners.

COMMON OPEN SPACE: A parcel or parcels of land or an area of water, or a combination of land and water, within a development plan, designed and intended for the use or enjoyment of residents of the development plan and, where designed, the community at large. Common open space does not include rights-of-way, off-street parking areas, and areas set aside for public facilities. Common open space shall be substantially free of structures, but may contain such improvements as approved in the development plan that are appropriate to recreational and other open space areas to be included within the proposed development.

COMPREHENSIVE PLAN, DAUPHIN COUNTY: The official public document prepared in accordance with the Pennsylvania Municipalities Planning Code, as amended and reenacted, consisting of maps, charts and textual material, that constitutes decisions about the physical and social development in Dauphin County, as amended from time to time.

CONDOMINIUM: A building, or group of buildings, in which dwelling units, offices, or floor area are owned individually, and the structure, common areas, and facilities are owned by all the owners on a proportional, undivided basis. It is a legal form of ownership of real estate and not a building style. The purchaser has title to his or her interior space in the building and an undivided interest in parts of the interior, the exterior, and other common elements.

CONDOMINIUM ASSOCIATION: The community association that owns, administers, and maintains the common property and common elements of a condominium.

CONSERVATION DISTRICT, DAUPHIN COUNTY: The agency in which professionals provide advice to communities, agencies, and individuals within Dauphin County and review development proposals.

CONSISTENCY: An agreement or correspondence between matters being compared which denotes a reasonable rational, similar, connection or relationship.

CONSTRUCTION: The erection, reconstruction, renovation, repair, extension, expansion, alteration or relocation of a building or structure, including the placement of mobile homes.

CONTIGUOUS: Next to, abutting, or touching and having a boundary, or portion thereof, that is coterminous. To physically touch or border upon, or to share a common property line, but not overlap.

COOPERATIVE: Ownership in common with others of a parcel of land and of a building or buildings thereon which would normally be used by all the occupants, together with individual rights of occupancy of a particular unit or apartment in such building or buildings or on such parcel of land and may include dwellings, offices and other types of space in commercial buildings or on property and where the lease, sale or exchange of a unit is subject to the agreement of the group of persons having common ownership.

COUNTY: Dauphin County, Pennsylvania.

COVERAGE, BUILDING: That portion or percentage of the plot or lot area covered by the building area.

COVERAGE, LOT: That portion or percentage of the plot or lot area covered by a building and other impervious areas.

CROSS-WALK: A right-of-way, publicly or privately owned, intended to furnish access for pedestrians.

CUL-DE-SAC: See STREET, MINOR / CUL-DE-SAC.

CURB: A stone, concrete, or other improved boundary usually marking the edge of the roadway or paved area.

CURB CUT: The opening along the curb line at which point vehicles may enter or leave the roadway.

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.

DECIDUOUS: Plants that drop their leaves before becoming dormant in winter.

DEDICATION: The deliberate appropriation or donation of land or property by its owner for any general or public uses, reserving no other rights. Acceptance of any such dedication is at the discretion of the governing body.

DEED: A legal document conveying ownership of real property.

DEED COVENANT OR RESTRICTION: A restriction on the use of the land set forth in the deed or instrument of conveyance. Such restriction(s) usually runs with the title of the land and is binding upon subsequent owners of the property. The municipality is not responsible for enforcing such deed restrictions, unless the restriction(s) resulted from a condition or stipulation of the subdivision or land development approval process.

DENSITY: The number of families, individuals, dwelling units, or housing structures per gross acre of land.

DEP: Pennsylvania Department of Environmental Protection. (See also PADEP)

DETENTION BASIN: A structure designed to detain and release runoff in excess of volumes allowed at a controlled rate.

DETERMINATION: Final action by an officer, body, board, or agency charged with the administration of any land use ordinance or applications thereunder. Determinations shall be appealed only to the boards designated as having jurisdiction for such appeal.

DEVELOPER: Any landowner, agent 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 or submits a development plan under the terms of this Ordinance.

DEVELOPMENT PLAN: The provisions for development, including a plat of subdivision, all covenants 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.

DRAINAGE: (1) Surface water runoff; (2) The removal of surface water or ground water from lands by drains, grading or other means which include runoff controls to minimize erosion and sedimentation during and after construction of development, the means for preserving the water supply and the prevention or alleviation of flooding.

DRAINAGE EASEMENT: An easement required for the installation of storm water sewers or drainage ditches, and/or required for the preservation or maintenance of a natural stream or water course or other drainage facility.

DRAINAGE FACILITY: Any ditch, gutter, culvert, storm sewer, or other structure designed, intended, or constructed for the purpose of diverting surface waters from or carrying surface waters off streets, public rights-of-way, parks, recreation areas, or any part of any subdivision or contiguous land areas.

DRAINAGE PLAN: A plan showing all proposed and existing facilities to collect and convey surface drainage, described by grades, contours, and topography.

DRAINAGE SYSTEM: Pipes, swales, natural features and other improvements designed to hold or convey drainage.

DRIP LINE: From the trunk of the tree to the outermost tips of branches.

DRIVEWAY: A private access for vehicles to park in a parking space, garage, carport or other structure.

DUPLEX: See Dwelling, Single Family, Semi-Detached.

DWELLING, MOBILE HOME: (See Mobile Home).

DWELLING, MULTI-FAMILY (APARTMENTS): A building designed, occupied or used by three or more families living independently of each other, wherein each dwelling unit or apartment shall contain private bath and kitchen facilities; including apartment houses.

DWELLING, SINGLE FAMILY ATTACHED: A building used by one family and having two (2) party walls in common with other buildings (such as row house or town house), except that end units have only one party wall.

DWELLING, SINGLE FAMILY, DETACHED: A building used by one (1) family, having only one (1) dwelling unit and having two (2) side yards.

DWELLING, SINGLE FAMILY, SEMI-DETACHED: A building used by one (1) family, having one (1) side yard, and one (1) party wall in common with another building. (Duplex)

DWELLING, TWO FAMILY, DETACHED: A building used by two (2) families, with one dwelling unit arranged over the other and having two (2) side yards.

DWELLING UNIT: One or more rooms used for living and sleeping purposes and having a kitchen(s) with fixed cooking facilities, toilet and bathroom facilities and arranged for occupancy by not more than one family.

EARTHMOVING ACTIVITY: Activity resulting in movement of earth or stripping of vegetative cover from the earth.

EASEMENT: A grant of one or more of the property rights by the property owner to and/or for the use by the public, a corporation or another person or entity.

EASEMENT, DRAINAGE: See DRAINAGE EASEMENT.

EASEMENT, UTILITY: A right-of-way granted for the limited use of land for public or quasi-public purposes.

ENGINEER, MUNICIPAL: A registered professional engineer in Pennsylvania designated by a municipality to perform the duties of an engineer.

ENGINEER, PROFESSIONAL: An individual licensed and registered under the laws of Pennsylvania to engage in the practice of engineering. A professional engineer may not practice land surveying unless licensed as set forth in P.L. 534, No. 230; however, a professional engineer may perform engineering land surveys.

ENGINEERING LAND SURVEYS: Surveys for (1) the development of any tract of land including the incidental design of related improvements, such as line and grade extension of roads, sewers and grading but not requiring independent engineering judgment: provided, however, that tract perimeter surveys shall be the functions of the Professional Land Surveyor; (2) the determination of the configuration or contour of the earth's surface, or the position of fixed objects thereon or related thereto by means of measuring lines and angles and applying the principles of mathematics, photogrammetry or other measurement methods; (3) geodetic or cadastral survey, underground survey and hydrographic survey; (4) sedimentation and erosion control surveys; (5) the determination of the quantities of materials; (6) tests for water

percolation in soils; and (7) the preparation of plans and specifications and estimates of proposed work as described in this subsection.

ENGINEERING, PRACTICE OF: (1) Shall mean the application of the mathematical and physical sciences for the design of public or private buildings, structures, machines, equipment, processes, works or engineering systems, and the consultation, investigation, evaluation, engineering surveys, planning and inspection in connection therewith, the performance of the foregoing acts and services being prohibited to persons who are not licensed under the laws of the Commonwealth of Pennsylvania as professional engineers unless exempt under other provisions of the laws of the Commonwealth. (2) The term "Practice of Engineering" shall also mean and include related acts and services that may be performed by other qualified persons, including but not limited to, municipal planning, incidental landscape architecture, teaching, construction, maintenance and research but licensure under the laws of the Commonwealth to engage in or perform any such related acts and services shall not be required.

ENGINEERING SPECIFICATIONS: The Engineering Specifications regulating the installation of any required improvement or facility installed by any owner.

ENVIRONMENTAL CONSTRAINTS: Features, natural resources or land characteristics that are sensitive to improvements and may require conservation measures or the application of creative development techniques to prevent degradation of the environment, or may require limited development, or in certain instances may preclude development.

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. It shall include the conditions resulting there from.

EXISTING GRADE: The vertical location of the ground surface prior to excavation or filling.

FARM: An area of land used for agricultural purposes, as defined in "agricultural operation".

FENCE: Any freestanding and uninhabitable structure constructed of wood, glass, metal, plastic materials, wire, wire mesh, or masonry, singly or in combination, erected for the purpose of screening or dividing one property from another to assure privacy, or to protect the property so screened or divided, or to define and mark the property line. For the purpose of this ordinance a freestanding masonry wall when so located is considered to be a fence; also for the purpose of this ordinance when the term "lot line" is used in relation to fences it shall be synonymous with "rear yard lot lines", "side yard lot lines", or "front yard lot lines".

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. It shall include the conditions resulting there from. The difference in elevation between a point on the original ground and a designated point of higher elevation of the final grade. The material used to make fill.

FINISHED GRADE: The proposed elevation of the land surface of a site after completion of all site preparation work.

FLOODPLAIN: A floodplain may be either or a combination of: (a) a relatively flat or low land area which is subject to partial or complete inundation from an adjoining or nearby stream, river or watercourse or (b) any area subject to the unusual and rapid accumulation of runoff or surface waters from any source.

FUTURE RIGHT-OF-WAY: (1) right-of-way width required for the expansion of existing streets to accommodate anticipated future traffic loads; (2) a right-of-way established to provide future access to or through undeveloped land.

GOVERNING BODY: A borough council, a township board of supervisors, or a county board of commissioners.

GREENWAY: A greenway may be any one or combination of the following: (1) a linear open space established along either a natural corridor, such as a riverfront, stream valley or ridgeline, or over land along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route; (2) a natural or landscaped course for pedestrian or bicycle passage; (3) an open space connector linking parks, natural reserves, cultural features or historic sites with each other and with populated areas; and (4) strip or linear parks designated as a parkway or greenbelt.

GROSS BUILDING AREA: The total area of a building available for construction or use, as measured from the exterior walls of the building. The gross building area should be used in computing all square footage measurements for buildings as well as dimension requirements.

GUARANTEE, MAINTENANCE: Any financial security that may be required of a developer by a municipality, prior to approval of a plan, for maintenance of improvements installed by the developer. Such security may include, but not limited to, irrevocable letters of credit, bonds, restrictive accounts, or escrow accounts from approved Federal, State, or Commonwealth of Pennsylvania lending institutions.

GUARANTEE, PERFORMANCE: Any financial security, posted prior to municipal approval of a plan, that may be required of a developer by the municipality as a guarantee for the installment of certain improvements accordance with the final subdivision or land development plan. Such security may include, but is not limited to, those instruments cited above as acceptable as maintenance guarantees. The financial security will assure that the certain installments can be installed if not installed by a developer or owner.

HALF OR PARTIAL STREET: A street, generally parallel with and adjacent to a property line, having a lesser right-of-way width than required for improvement and used as a street in accordance with this Ordinance.

HOMEOWNERS ASSOCIATION: A community association, other than a condominium association which is organized in a development in which individual owners share common interests and responsibilities for cost and upkeep of open space or development facilities.

IMPERVIOUS MATERIAL (SURFACE): Any substance placed on a lot which covers the surface in such fashion as to prevent natural absorption of surface water by the earth so covered. The following items shall be deemed to consist of impervious material: buildings, sidewalks, swimming pools, and driveways and parking lots, except where pervious pavement surface is utilized.

IMPOUNDMENT: A body of water, such as a pond, confined by a dam, dike, floodgate, or other barrier.

IMPROVED PUBLIC STREET: Any street for which a municipality, or the Commonwealth of Pennsylvania, has maintenance responsibility which is paved with an approved hardtop surface.

IMPROVEMENTS: Those physical additions, installations, and changes required to render land suitable for the use intended, including but not limited to grading, paving, curbing, street lights and signs, fire hydrants, water mains, electric service, gas service, sanitary sewers, storm drains, sidewalks, crosswalks, driveways, culverts, and other public utilities, and street shade trees, and improvements to existing water courses.

INTERIOR WALK: A right-of-way for pedestrian use extending from a street into a block or across a block to another street.

LAND DEVELOPMENT (Also See SUBDIVISION):

- (1) The improvement of one or more contiguous lots, tracts, or parcels of land for any purpose involving:
 - (a) a group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single non-residential building on a lot or lots regardless of the number of occupants or tenure, or
 - (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, condominiums, building groups or other features.
- (2) The following are exempted from the definition of Land Development:
 - (a) The conversion of an existing single family detached dwelling or single family semi-detached dwelling into not more than three (3) residential units, unless such units are intended to be a condominium;

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

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 having a remaining term of not less than forty years, or other person having a proprietary interest in the land.

LANDSCAPE PLAN: A component of a development plan, if required, on which is shown proposed landscape species (such as number, spacing, size at time of planting, and planting details); proposals for protection of existing vegetation during and after construction; proposed treatment of hard and soft surfaces; proposed decorative features, grade changes, buffers and screening devices; and any other information that can reasonably be required in order that an informed decision can be made by the governing body.

LOADING SPACE: An off-street space on the same lot with a building or contiguous to a group of buildings, for the temporary parking of a commercial vehicle while loading or unloading merchandise or materials and which abuts in or has access to a street.

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.

LOT AREA: The area contained within the property lines of a lot as shown on a subdivision plan, excluding space within any public street right-of-way, but including the area of any easement.

LOT, CORNER: A lot at the junction of and abutting on two or more intersecting streets or private roads.

LOT, IMPERVIOUS COVERAGE: A lot which has a surface of any material that prevents the absorption of stormwater into the ground. The total of impervious area includes the building area inclusive of rooftop, parking lot, sidewalks, and access drive. The coverage is expressed in a percentage of lot coverage.

LOT, DEPTH: The horizontal distance measured between the street right-of-way line and the closest rear property line. On corner and reverse frontage lots, the depth shall be measured from the street right-of-way line of the street of address to the directly opposite property line.

DOUBLE FRONTAGE: See LOT, REVERSE FRONTAGE.

FLAG (PAN HANDLE): A lot not meeting minimum frontage requirements and where access to the public road is by a narrow private right-of-way or driveway.

I, INTERIOR: A lot other than a corner lot.

LOT LINES: The boundary lines of a lot as defined herein.

- (1) FRONT LOT LINE: The lot line separating a lot from a street right-of-way. In the case of a corner lot or a lot abutting a street right-of-way on more than one side, there shall be two front lot lines.
- (2) REAR LOT LINE: The lot line opposite and most distant from the front lot line. In the case of triangular or otherwise irregularly shaped lots, a line ten feet in length entirely within the lot, parallel to and at a maximum distance from the front lot line. A corner lot shall have 2 front lines, and two side lot lines.
- (3) SIDE LOT LINE: Any lot line other than a front or rear lot line. A corner lot shall have 2 front lines, and two side lot lines.

LOT, MINIMUM WIDTH: The horizontal distance between the side lines of a lot measured at the front lot line.

LOT, MOBILEHOME: A parcel of land in a mobilehome park, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobilehome.

LOT, NONCONFORMING: A lot, the area or dimension of which was lawful prior to the adoption or amendment of a zoning ordinance, but which fails to conform to the requirements of the zoning district in which it is located by reasons of such adoption or amendment.

LOT, REVERSE FRONTAGE: A lot that is not accessible from one of the parallel or nonintersecting streets upon which it fronts.

LOT, THROUGH OR DOUBLE: A lot having frontage on two parallel streets.

MOBILE HOME: A transportable, single family dwelling intended for permanent occupancy, contained in one unit, or in two units designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation.

MOBILE HOME LOT: See LOT, MOBILE HOME.

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MOBILE HOME PARK : A parcel or contiguous parcels of land wh and improved that it contains two or more mobile home for the place homes.

MODIFICATION / WAIVER: Relief from this Ordinance's provisions g. governing body, or the Dauphin County Planning Commission, for relief f. application of a specific requirement or provision of this Ordinance. All mo requests are required to be submitted in writing.

MONUMENT: A tapered, permanent survey reference point of stone or cemen top four inches (4") on each side with a length of twenty-four (24") inches..

MUNICIPALITY: A borough or township or county.

NATURAL FEATURE: A component of a landscape existing or maintained as part a natural environment and having ecologic value in contributing beneficially to air quali. control, groundwater recharge, noise abatement, visual amenities, growth of wildlife, hu recreation, reduction of climatic stress or energy costs. Such features include those, whic. disturbed, may cause hazards or stress to natural habitats, property or the natural environm.

NONCONFORMING LOT: (See LOT, NONCONFORMING).

NONCONFORMING STRUCTURE OR BUILDING: A legal structure or building the size, dimensions or location of which was lawful prior to the adoption, revision, or amendment to a municipal zoning ordinance, but that fails by reason of such adoption, revision or amendment, to conform to the present requirements of a zoning ordinance.

NPDES: The National Pollutant Discharge Elimination System.

OBSTRUCTION: Any wall, dam, wharf, embankment, levee, dike, projection, excavation, channel, rectification, culvert, building, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or flood-prone area, which may impede, retard, or change the direction of the flow of water either in itself or by catching or collecting debris carried by such water or is placed where the flow of water might carry the same down stream to the damage of life and property.

OFF-STREET PARKING: A temporary storage (surface or structure) for a motor vehicle that is directly accessible to an access aisle and that is not located on a dedicated right-of-way, and is located upon the same lot as a principal use or, in the case of joint parking, within close proximity.

ON-LOT SEPTIC SYSTEM: (See SEPTIC SYSTEM).

OPEN SPACE: Any parcel or area of land or water essentially unimproved and set aside, dedicated, designed, or reserved for public use or enjoyment or for the use and enjoyment of owners, occupants, and their guests.

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OPEN SPACE, COMMON: See COMMON OPEN SPACE.

OPEN SPACE, PRIVATE: Open space held in private ownership, the use of which is normally limited to the occupants of a single dwelling or building.

OPEN SPACE, PUBLIC: Open space owned by a public agency and maintained by it for the use and enjoyment of the general public.

OWNER: See LANDOWNER.

PADEP: The Pennsylvania Department of Environmental Protection.

PA MPC: (See PENNSYLVANIA MUNICIPALITIES PLANNING CODE).

PARCEL: Any lot, plot or tract of land designated by any legally recorded or approved means as a single unit. The term includes, but is not limited to, tax parcels, lots or deeded areas.

PARK: A tract of land, designated and used by the public for active and/or passive recreation.

PARKING AREA: (See PARKING LOT).

PARKING GARAGE: A building where passenger vehicles may be stored for short-term, daily or overnight off-street parking.

PARKING LOT: Any lot, municipally or privately owned, for off street parking facilities, providing for the transient storage of automobiles or motor-driven vehicles. Such parking services may be provided as a free service or may be provided for a fee.

PARKING SPACE: The space within a building, or on a lot or parking lot, for the parking or storage of one (1) automobile.

PEDESTRIAN WALKWAY: A specified easement, walkway, path, sidewalk or other reservation which is designed and used exclusively by pedestrians.

PENNDOT: The Pennsylvania Department of Transportation.

PENNSYLVANIA MUNICIPALITIES PLANNING CODE (PA MPC): Act 247 of 1968, as reenacted and amended.

PERSON: A corporation, company, association, society, firm, partnership, or joint stock company, as well as an individual, a state, and all political subdivisions of a state or any agency or instrumentality thereof, or any other legal entity whatsoever, which is recognized by law as the subject of rights and duties.

PERVIOUS SURFACE: Any material that permits full or partial absorption of stormwater.

PLAN: (See PLAT).

PLAN, CONSTRUCTION IMPROVEMENT: A plan prepared by a registered engineer or surveyor showing the construction details of streets drains, sewers, bridges, culverts, and other improvements as required by this Ordinance.

PLAN, COMPREHENSIVE: (See COMPREHENSIVE PLAN).

PLAN OR PLAT, FINAL: A complete and exact subdivision or land development plan, prepared for official recording as required by statute, to define property rights and proposed streets and other improvements.

PLAN OR PLAT, PRELIMINARY: A tentative subdivision or land development plan, in lesser detail than a final plan, showing proposed street and lot layout as a basis for consideration prior to preparation of a final plan. (For the purpose of this Ordinance, the terms “plat” and “plan” have the same meaning.)

PLANNING AGENCY: A planning commission, planning department, planning office, or a planning committee of a municipality.

PLAN, SKETCH: An informal plan, not necessarily to exact scale, indicating salient existing features of a tract and its surroundings and the general layout of a proposed subdivision or land development. The sketch plat or plan does not constitute a formal submission of a preliminary or final plat.

PLAT: The map or plan of a subdivision or land development whether preliminary or final. (For the purpose of this ordinance, the terms “plat” and “plan” have the same meaning.)

PLAT, FINAL: A complete subdivision plan prepared for official recording as required by statute. (For the purpose of this Ordinance, the terms “plat” and “plan” have the same meaning.)

PRE-APPLICATION CONFERENCE: An initial meeting between developers and the zoning office and/or codes enforcement officer and/or municipal Engineer which affords applicants and/or developers the opportunity to informally present their development proposal(s).

PRIME AGRICULTURAL LAND: Land consisting of those soils designated by the USDA Natural Resource Conservation Service as prime soils.

PRINCIPAL BUILDING: (See BUILDING, PRINCIPAL).

PRIVATE: Not publicly owned, operated, or controlled.

PRIVATE STREET: (SEE STREET, PRIVATE).

PROFILE LINE: The profile of the centerline of the finished surface of the street, which shall be midway between the sidelines of the street.

PUBLIC GROUNDS: Includes:

- (1) Parks, playgrounds, trails, paths and other recreational areas and other public areas;
- (2) Sites for schools, sewage treatment, refuse disposal and other publicly owned or operated facilities;
- (3) Publicly owned or operated scenic and historic sites.

PUBLIC HEARING: A formal meeting held pursuant to public notice by the governing body or planning agency, intended to inform and obtain public comment, prior to taking action in accordance with the Pennsylvania Municipalities Planning Code.

PUBLIC MEETING: A forum held pursuant to notice under 65 PA. C.S., CH 7 (Relating to open meetings).

PUBLIC NOTICE: A notice published once each week for two successive weeks in a newspaper of general circulation in the County. Such notice shall state the time and place of the hearing and the particular nature of the matter to be considered at a public meeting or public hearing. The first publication shall not be more than thirty (30) days and the second publication shall not be less than seven (7) days from the date of the hearing or meeting.

PUBLIC PARKS AND RECREATION AREAS: Locations for leisure-time activities, including but not limited to sports and entertainment that are open to anyone without restriction, except for the rules and standards of conduct and use.

PUBLIC STREET/ROAD: (See STREET, PUBLIC).

RECREATIONAL VEHICLE: A vehicular type unit, portable and without permanent foundation, which can be towed, hauled or driven and primarily designed as temporary living accommodation for recreational, camping and travel use and including but not limited to travel trailers, truck campers, camping trailers and self-propelled motor homes.

RECREATIONAL VEHICLE PARK OR CAMPGROUND: A parcel of land which has been planned and improved for the placement of recreational vehicles or camping equipment for temporary living quarters, for recreational, camping or travel use, on recreational vehicle or camp ground lots rented for such use.

RECREATIONAL VEHICLE PARK OR CAMPGROUND LOT: A parcel of land abutting a street or private road occupied by one recreational vehicle or camping equipment for temporary living quarters, for recreational camping, or travel use, having not less than the minimum area and width required by this Ordinance for a recreational vehicle park or campground lot.

REGIONAL PLANNING AGENCY: The Tri-County Regional Planning Commission.

REGULATORY FLOOD ELEVATION: The 100-year flood elevation plus a freeboard safety factor of one and one half (1½) feet.

REPORT: Any letter, review, memorandum, compilation or similar writing made by a body, board, officer or consultant, other than a solicitor, to any other body, board, officer or consultant for the purpose of assisting the recipient of such report in the rendering of any decision or determination. All reports shall be deemed recommendatory and advisory only and shall not be binding upon the recipient, board, officer, body or agency, nor shall any appeal lie therefrom. Any report used, received or considered by the body, board, officer or agency rendering a determination or decision shall be made available for inspection to the applicant and all other parties to any proceeding upon request, and copies thereof shall be provided at cost of reproduction.

RESERVE STRIP: A narrow parcel of ground separating a street from other adjacent properties.

RETENTION BASIN: A reservoir, formed from soil or other material, which is designed to detain temporarily, a certain amount of storm water from a catchment area and which may also be designed to permanently retain additional storm water runoff from the catchment area. Retention basins may also receive freshwater from year-round streams. Unlike detention basins, retention basins always contain water, and thus may be considered man-made lakes or ponds.

RIGHT-OF-WAY: A strip of land acquired by reservation, dedication, forced dedication, prescription or condemnation and intended to be occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer and other similar uses.

RIGHT-OF-WAY, STREET: A public thoroughfare for vehicular traffic and/or pedestrian traffic, whether designated as a street, highway, thoroughfare, parkway, road, avenue, boulevard, lane, alley, or however designated.

RIPARIAN BUFFER AREA: An area of land adjacent to a perennial or intermittent stream, subject to the regulations of a municipal zoning ordinance.

RIPARIAN LAND: Land that is traversed or bounded by a natural watercourse or adjoining tidal lands.

RIPARIAN RIGHTS: Rights of a landowner to the water on or bordering his or her property, including the right to make use of such waters and to prevent diversion or misuse of upstream water.

ROAD: (See STREET).

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.

SANITARY SEWAGE: Any liquid waste containing animal or vegetable matter in suspension or solution or the water-carried waste resulting from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers, or any other source of water-carried waste of human origin or containing putrescible material.

SANITARY SEWER: Pipes that carry domestic or commercial sanitary sewage and into which storm, surface, and ground waters are not intentionally admitted.

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".

SEPTIC SYSTEM: An underground system with a septic tank used for the decomposition of domestic wastes. Is also referred to as an on-lot system.

SETBACK LINE: (See BUILDING SETBACK LINE).

SEWAGE DISPOSAL SYSTEM (ON-LOT): Any system designed to eliminate sanitary sewage within the boundaries of the lot the system serves.

SEWAGE DISPOSAL SYSTEM (OFF-LOT): Any system designed to eliminate sanitary sewage outside the boundaries of the lot the system serves.

SEWAGE DISPOSAL AND TREATMENT SYSTEM (PUBLIC OR COMMUNITY): A sanitary sewage collection method in which sewage is carried from the site by a system of pipes to a central treatment and disposal plant.

SIDEWALK: A paved, surfaced, or leveled area, paralleling and usually separated from the street, used as a pedestrian walkway.

SIDEWALK AREA: That portion of the right-of-way that lies between the right-of-way line and curb line, regardless of whether the sidewalk exists.

SIGHT DISTANCE: The length of roadway visible to the driver of a passenger vehicle at any given point on the roadway when the view is unobstructed by traffic.

SIGHT TRIANGLE: (See CLEAR-SIGHT TRIANGLE).

SITE: A parcel of land located in a municipality, established by a plat or otherwise as permitted by law, which is the subject of an application for development. A site may include more than one lot.

SITE PLAN: An accurately scaled development plan that illustrates the existing conditions on a land parcel as well as depicting details of a proposed development.

SKETCH PLAN: (See PLAN OR PLAT, SKETCH).

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 STABILITATION: Chemical or structural treatment designed to increase or maintain the stability of a mass of soil or otherwise to improve its engineering properties.

SQUARE FOOTAGE: The unit of measure used to express the area of a lot, tract, or parcel involved in a subdivision or land development; the length of a lot in feet multiplied by the width of the lot in feet.

STAFF: The technical staff of the Dauphin County Planning Commission.

STORMWATER: Water that surfaces, flows or collects during and subsequent to rain or snowfall.

STORMWATER DETENTION: Any storm drainage technique that retards or detains runoff, such as detention or retention basin, parking lot storage, rooftop storage, porous pavement, dry wells or any combination thereof.

STORMWATER MANAGEMENT PLAN: A plan for managing the storm water runoff from a proposed subdivision or land development, including data and calculations, prepared by the developer in accordance with the standards of this ordinance, or any applicable municipal or watershed stormwater management ordinance.

STREAM: A watercourse having a source and terminus, banks and channel through which waters flow at least periodically.

STREET: A public or private right-of-way, including street, avenue, boulevard, road, highway, freeway, parkway, lane, alley, viaduct, and any other ways, used or intended to be used by vehicular traffic or pedestrians.

STREET CENTERLINE: (See CENTERLINE, STREET).

STREET GRADE: The officially established grade of the street upon which a lot fronts or in its absence the established grade of the other streets upon which the lot abuts, at the midpoint of the frontage of the lot thereon. If there is no officially established grade, the existing grade of the street at such midpoint shall be taken as the street grade.

STREET LINE: The dividing line between the street or road and the lot, also known as the right-of-way line.

STREET, MAJOR:

- (1) INTERSTATE HIGHWAY: Limited access highways designed for traffic between major regional areas or larger urban communities of 50,000 or more; these highways extend beyond state boundaries, with access limited to interchanges located by the U.S. Department of Transportation.
- (2) FREEWAY: Limited access roads designed for large volumes of traffic between communities of 50,000 or more to major regional traffic generators (such as central business districts, suburban shopping centers and industrial areas); freeways should be tied directly to arterial roads, with accessibility limited to specific interchanges to avoid the impediment of through traffic.
- (3) PRINCIPAL ARTERIAL HIGHWAY: A principal arterial provides land access while retaining a high degree of through traffic mobility and serves major centers of urban activity and traffic generation. These highways provide a high-speed, high-volume network for travel between major destinations in both rural and urban areas.
- (4) MINOR ARTERIAL HIGHWAY: A minor arterial gives greater emphasis to land access with a lower level of through traffic mobility than a principal arterial and serves larger schools, industries, hospitals and small commercial areas not incidentally served by principal arterials.
- (5) COLLECTOR HIGHWAY: A collector road serves dual functions, collecting traffic between local roads and arterial streets and providing access to abutting properties. It serves minor traffic generators, such as local elementary schools, small individual industrial plants, offices, commercial facilities and warehouses not served by principal and minor arterials.
- (6) STREET, ARTERIAL: A major street or highway with fast or heavy traffic of considerable continuity and used primarily as a traffic artery for intercommunications among large areas.
- (7) STREET, COLLECTOR: A major street or highway which carries traffic from minor streets to arterial streets including the principle entrance streets of a residential development and streets for circulation within such a development.
- (8) LIMITED ACCESS HIGHWAY: A major street or highway which carries large volumes of traffic at comparatively high speed with access at designated points and not from abutting properties.

STREET, MARGINAL ACCESS: A minor street which is parallel and adjacent to a limited access highway or arterial street, which provides access to abutting properties and protection from through traffic.

STREET, MINOR: A street used primarily for access to abutting properties. Minor streets include the following:

- (1) STREET, CUL-DE-SAC: A street intersecting another street at one end terminating at the other in a vehicular turn-around.
- (2) STREET, DEAD END: A street or portion of a street with only one vehicular outlet, but which has a temporary turnaround and which is designed to be continued when adjacent open land is subdivided.
- (3) STREET, LOCAL: Streets within subdivisions or developments, usually characterized by low operating speeds and dedicated or accepted for municipal ownership and maintenance.

STREET, PAPER: A street that has never been built shown on an approved plan, subdivision plat, tax maps, or official map.

STREET, PRIVATE: A legally established right-of-way other than a public street not offered for dedication or accepted for municipal ownership and maintenance.

STREET, PUBLIC: All streets open to the public and maintained by, or dedicated to and accepted by a municipality, a County, the Commonwealth of Pennsylvania or the Federal Government.

STREET, SHOULDERS: The portion of the street, contiguous to the cartway, for the accommodation of stopped vehicles or for emergency parking.

STREET, WIDTH: The shortest distance between street lines measured at right angles to the center line of the street.

STRUCTURE: Any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.

STRUCTURE, ACCESSORY: A structure detached from a principle structure, but located on the same lot, which is customarily incidental and subordinate to the principle building, structure or use.

STRUCTURE, PRINCIPLE: The main or primary structure on a given lot, tract or parcel.

STRUCTURE, TEMPORARY: A structure without any foundation or footings and which is removed when the designated time period, activity, or use for which the temporary structure was erected has ceased.

SUBDIVIDER: The owner or authorized agent of the owner of a lot, tract, or parcel of land to be subdivided for sale or land development under the terms of this Ordinance.

SUBDIVISION (Also See LAND DEVELOPMENT): The division or redivision of a lot, tract or parcel of land by any means into two (2) 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 ten (10) acres, not involving any new street or easement of access or residential dwellings, shall be exempted.

SUBSTANTIALLY COMPLETED: Where, in the judgment of a municipal engineer, at least 90% (based on the cost of the required improvements for which financial security was posted pursuant to the requirements of this Ordinance) of those improvements required as a condition for the final approval have been completed in accordance with the approved plan, so that the project will be able to be used and operated for its intended use.

SURFACE DRAINAGE PLAN: A plan showing all present and proposed grades and facilities for stormwater drainage.

SURVEYING, PRACTICE OF LAND: The practice of that branch of the profession of engineering which involves the location, relocation, establishment, reestablishment or retracement of any property line or boundary of any parcel of land or any road right-of-way, easement or alignment; the use of principles of land surveying, determination of the position of any monument or reference point which marks a property line boundary, or corner setting, resetting or replacing any such monument or individual point including the writing of deed descriptions; procuring or offering to procure land surveying work for himself or others; managing or conducting as managers, proprietors or agents any place of business from which land surveying work is solicited, performed, or practiced; the performance of the foregoing acts and services being prohibited to persons who are not granted certificates of registration under the laws of the Commonwealth of Pennsylvania as a professional land surveyor unless exempt under other provisions of the laws of the Commonwealth.

SURVEYOR, PROFESSIONAL LAND: An individual licensed and registered under the laws of the Commonwealth of Pennsylvania to engage in the practice of land surveying. A professional land surveyor may perform engineering land surveys but may not practice any other branch of engineering.

SWALE: A low-lying stretch of land characterized as a depression used to carry surface water runoff.

TOPOGRAPHIC MAP: A map showing the elevations of the ground by contours or elevations.

TOPOGRAPHY: The configuration of a surface area showing relative elevations.

TOPSOIL: Surface soils and subsurface soils, which presumably are fertile, soils and soil material, ordinarily rich in organic matter or humus debris. Topsoil is usually found in the uppermost soil layer called the A Horizon.

TREE PROTECTION ZONE: A 3-dimensional area with a drip line including the crown to the root system of each tree.

UNDEVELOPED LAND: Any lot, tract or parcel of land, which has not been graded or in any other manner prepared for the construction of a building.

UNIT: (See DWELLING UNIT).

USE: The specific purpose for which land or a building is designated, arranged, intended, or for which it is or may be occupied or maintained. The term "permitted use" or its equivalent shall not be deemed to include any nonconforming use.

USE, ACCESSARY: A use customarily incidental and subordinate to the principal use, building or structure located on the same lot with this principal building or structure.

USE, PRINCIPAL: The main or primary use of property, buildings or structures.

UTILITY, PUBLIC OR PRIVATE: (1) Any agency which under public franchise or ownership, or under certificate of convenience and necessity, provides the public with electricity, gas, heat, steam, communication, rail transportation, water, sewage collection or other similar service, (2) a closely regulated private enterprise with an exclusive franchise for providing a public service.

WAIVER: (See MODIFICATION / WAIVER).

WATER FACILITY: Any water works, water supply works, water distribution system, or part thereof designed, intended, or constructed to provide or distribute potable water.

WATERCOURSE: A permanent or intermittent stream of water, river, brook, creek, or a channel or ditch for water whether natural or man-made.

WATERSHED, STORM WATER MANAGEMENT PLAN: A plan for managing storm water runoff from and from within a particular watershed area.

WATER SYSTEM: A water facility providing potable water to individual lots or to the public for human consumption.

WATER SYSTEM, NONPUBLIC: All water systems which are not public water systems.

WATER SYSTEM, OFF-LOT: An approved water system in which potable water is supplied to a dwelling or other building from a central water source which is not located on the same lot as the dwelling or building.

WATER SYSTEM, ON-LOT: A well or other approved system designed to provide potable water to a dwelling or building located on the same lot as the source.

WATER SYSTEM, PUBLIC: A water system, as defined by the Pennsylvania Department of Environmental Protection, which has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least 60-days out of the year.

WATER SURVEY: An inventory of the source, quantity, yield, and use of groundwater, creek, channel, ditch, whether natural or man-made.

WETLANDS: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that are under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. For the purposes of this ordinance, the term includes but is not limited to, wetland areas listed in the State Water Plan, the US Forest Service Wetland Inventory of Pennsylvania, the US Fish and Wildlife National Wetlands Inventory, and wetlands designated by the Susquehanna River Basin Commission.

YARD, REQUIRED: An open space located on the same lot with a building unoccupied and unobstructed from the ground up, except for permitted accessory buildings or such projections as are expressly permitted. The minimum depth or width of a required yard shall consist of the horizontal distance between the lot line and the required building setback line.

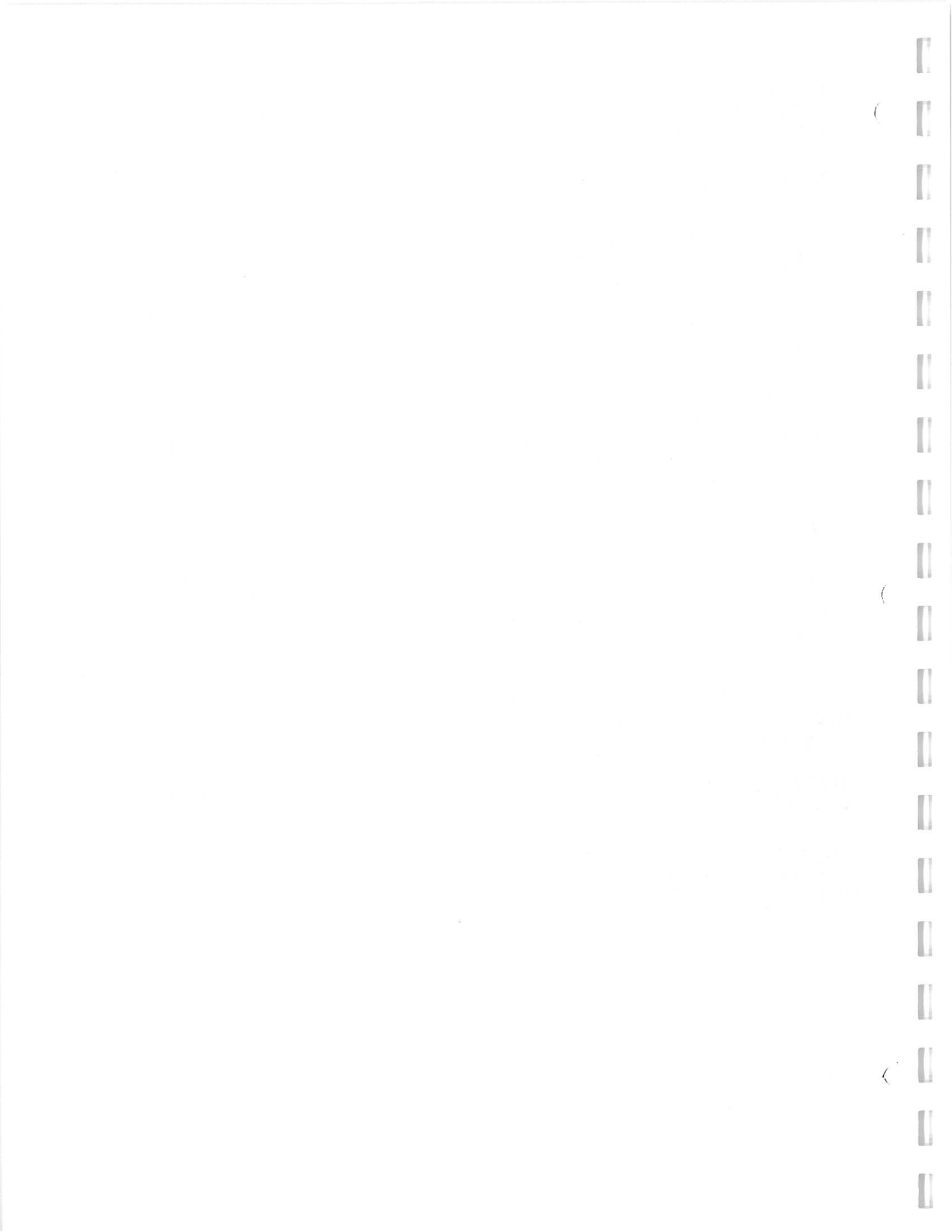
ZONE: (See ZONING DISTRICT).

ZONING: A police power measure, enacted primarily by general purpose units of local government, in which the community is divided into districts or zones within which permitted and special uses are established as well as regulations governing lot size, building bulk, placement and other development standards. (Also see the Pennsylvania Municipalities Planning Code)

ZONING DISTRICT: A specifically delineated area or district in a municipality within which uniform regulations and requirements govern the use, placement, spacing, and size of land or building. Zoning districts are indicated on an adopted municipal zoning map.

ZONING MAP: The map setting forth the boundaries of the Zoning Districts of a borough, township, or city which shall be part of the Zoning Ordinance.

ZONING OFFICER: The administrative officer appointed by the governing body to administer the Zoning Ordinance and issue zoning permits. (Also see Pennsylvania Municipalities Planning Code).



ARTICLE 4

PLAN PROCESSING PROCEDURES AND REQUIREMENTS

SECTION 401. PLAN PROCESSING PROCEDURES

General Procedure

1. Whenever a subdivision or land development is proposed, a plan of the layout of such subdivision or land development shall be prepared, filled and processed according to the requirements of this Ordinance. The governing body may hold a public hearing, properly advertised, prior to action on the plan. No lots shall be sold or structures erected prior to the final approval of the plans.
2. Innovative design including Traditional Neighborhood Development, Planned Residential Development, or Open Space Cluster Development is encouraged as may be provided in a municipal zoning ordinance.
3. The municipal engineer/or its representative shall have the right not to accept a plan, if the plan is administratively incomplete due to the omissions of any criteria required in this ordinance. Any such non-acceptance of a plan shall not be considered to have been filed.
4. Prior to the preparation of any plan, the applicant shall review the rights and restrictions associated with any prior recorded plan and is advised to consult with all appropriate agencies with respect to, but not limited to, the following:
 - A. Compliance to any municipal zoning ordinance
 - B. Sanitary and water services
 - C. On-lot sewage disposal
 - D. Public utilities
 - E. Stormwater control measures
 - F. Floodplain development measures
 - G. Erosion and sedimentation control measures
 - H. Historic Preservation
 - I. Important Natural Habitats
 - J. Archaeological Resources
5. A pre-application submission meeting is strongly suggested with the County Planning Commission staff. Due to the informal nature of the meeting, the applicant and the county shall not be bound by the determinations of the pre-application meeting.
6. Plan submission.
 - A. The application for submission of a subdivision and land development plan shall be submitted at least nine (9) working days prior to the regularly scheduled

County Planning Commission meeting date. Upon receipt of an application, the county staff shall affix to the application the date of submittal.

7. Approval of Plans.
 - A. Plans shall be approved in accordance with Section 508 of the Pennsylvania Municipalities Planning Code.

SECTION 402. PRE-APPLICATION SKETCH PLAN (OPTIONAL)

Prior to the filing of a subdivision or land development plan, the applicant is encouraged to hold a Pre-Application meeting or Pre-Application Sketch Plan review in order for the applicant to receive from the County Planning Commission staff advice and assistance on the requirements necessary to achieve conformity with the standards of this and other ordinances. The submission of a Pre-Application Sketch Plan does not constitute an official subdivision and land development application. The meeting between the applicant and the county staff shall be considered confidential.

1. The plan shall be labeled "PRE-APPLICATION SKETCH PLAN" and shall include sufficient data such as listed below.
 - A. The proposed name of the subdivision or land development
 - B. Name and address of the legal owner, the equitable owner, and/or applicant and the person responsible for preparing the sketch plan.
 - B. Title, scale, north arrow and date of preparation
 - C. Location map, tract boundary, bearings and distances, and ground contours
 - D. Existing and proposed streets and layout of lots and open space easements
 - E. Topographic features such as water courses, rock outcroppings, steep slopes, wetlands, tree masses, and floodplain areas
 - F. Proposed method of water supply, sewage disposal and stormwater management
 - G. The zoning district for the proposed plan area, if applicable
2. One (1) copy of the Pre-Application Sketch Plan shall be submitted for review. If the applicant would like to have a Pre-Application Sketch Plan reviewed by the County Planning Commission the Pre-Application Sketch Plan shall be submitted nine (9) working days prior to the Planning Commission's regularly scheduled meeting date.
3. Individuals are permitted to discuss proposals with the municipal staff and/or Planning Commission without the benefit of the plan, however, the comments may be limited.

SECTION 403. PRELIMINARY PLAN PROCEDURES

The preliminary plan and all related information shall be submitted to the County Planning Commission and processed as provided below:

1. Plans shall be submitted at least nine (9) working days prior to the Planning Commission meeting date. The applicant may request a waiver and submit a combined preliminary/final plan for non-phased projects.
2. The applicant shall submit a copy of the preliminary plan to the municipal governing body for review of the plan and data and to provide a written review report to the County Planning Commission within thirty (30) days of its receipt or forfeit the municipality's right to review. The County Planning Commission shall not approve the application until the plan-affected municipality's review report is received or until the expiration of thirty (30) days from the date the application was accepted by the County Planning Commission.
3. The County Planning Commission shall review the preliminary plan and data and act on the plan within ninety (90) days from the first Planning Commission meeting after receipt of the plan or after a final order of the court remanding an application, provided that in no instance shall the ninety (90) days begin more than 30 days after the receipt of the plan.
4. Failure of the Planning Commission to render a decision and communicate it to the applicant within the time and manner required in this Ordinance shall be deemed an approval of the application in terms 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, the failure to meet the extended time or change in manner of presentation of communication shall have like effect.

The County Planning Commission may request an Extension of Time from the maximum 90-day review period. If the applicant approves the Extension of Time, it shall do so in writing.
4. The County Planning Commission shall review the preliminary plan to determine if it meets the requirements and standards set forth in this Ordinance.
5. Before acting on the plan, the Planning Commission may hold a public hearing after proper public notice.
6. The County Planning Commission shall decide whether the preliminary plan should be approved, approved subject to conditions, tabled to make revisions to the plan, or disapproved.
 - A. When a plan is tabled by the Planning Commission to comply with the review comments generated by the Planning Commission, Planning Commission staff, Municipal Engineer, or other review entity(s), the applicant shall provide a written response to all the comments and revise the plan before the date to which the plan was tabled.

7. The Planning Commission shall notify the applicant of the decision in writing either personally or by mail to the applicant's last known address not later than 15 days following the decision. If the plan is approved with conditions or disapproved, the Planning Commission shall specify in their notice the conditions which must be met and/or the defects found in the plan and the requirements which have not been met, including specific reference to provisions of any statute or ordinance which have not been fulfilled.

If a plan is approved by the County Planning Commission, the applicant shall accept the conditions in writing within 45 days, or the approval shall be automatically be rescinded.

8. The approval of a preliminary plan binds the developer to the general scheme of the plan as approved. Approval of the preliminary plan does not authorize the recording, sale, or transfer of lots. Construction of improvements are allowed after the approval of a Preliminary Plan.

9. Changes in an ordinance shall affect plans as follows: (in accordance with PA Municipalities Planning Code Sec. 508(4).

- A. From the time an application for approval of a plat, whether preliminary or final, is duly filed as provided in the subdivision and land development ordinance, and while such application is pending approval or disapproval, no change or amendment of the zoning, subdivision or other governing ordinance or plan shall affect the decision on such application adversely to the applicant and the applicant shall be entitled to a decision in accordance with the provisions of the governing ordinances or plans as they stood' at the time the application was duly filed. In addition, when a preliminary application has been duly approved, the applicant shall be entitled to final approval in accordance with the terms of the approved preliminary application as hereinafter provided. However, if an application is properly and finally denied, any subsequent application shall be subject to the intervening change in governing regulations.

- B. When an application for approval of a plat, whether preliminary or final, has been approved without conditions or approved by the applicant's acceptance of conditions, no subsequent change or amendment in the zoning, subdivision or other governing ordinance or plan shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five years from such approval. The five-year period shall be extended for the duration of any litigation, including appeals, which prevent the commencement or completion of the development, and for the duration of any sewer or utility moratorium or prohibition which was imposed subsequent to the filing of an application for preliminary approval of a plat. In the event of an appeal filed by any party from the approval or disapproval of a plat, the five-year period shall be extended by the total time from the date the appeal was filed until a final order in such matter has been entered and all appeals have been concluded and any period for filing

appeals or requests for reconsideration have expired. Provide, however, no extension shall be based upon any water or sewer moratorium which was in effect as of the date of the filing of a preliminary application.

- C. Where final approval is preceded by preliminary approval, the aforesaid five-year period shall be counted from the date of the preliminary approval. In the case of any doubt as to the terms of a preliminary approval, the terms shall be construed in the light of the provisions of the governing ordinances or plans as they stood at the time when the application for such approval was duly filed.
- D. Where the landowner has substantially completed the required improvements as depicted upon the final plat within the aforesaid five-year limit, or any extension thereof as may be granted by the Planning Commission, no change of municipal ordinance or this ordinance or plan enacted subsequent to the date of filing of the preliminary plat shall modify or revoke any aspect of the approved final plat pertaining to zoning classification or density, lot, building, street or utility location.
- E. In the case of a preliminary plat calling for the installation of improvements beyond the five-year period, a schedule shall be filed by the landowner with the preliminary plat delineating all proposed sections as well as deadlines within which applications for final plat approval of each section are intended to be filed. Such schedule shall be updated annually by the applicant on or before the anniversary of the preliminary plat approval, until final plat approval of the final section has been granted and any modification in the aforesaid schedule shall be subject to approval of the Planning Commission in its discretion.
- F. Each section in any residential subdivision or land development, except for the last section, shall contain a minimum of 25% of the total number of dwelling units as depicted on the preliminary plan, unless a lesser percentage is approved by the Planning Commission in its discretion. Provided the landowner has not defaulted with regard to or violated any of the conditions of the preliminary plat approval, including compliance with landowner's aforesaid schedule of submission of final plats for the various sections, then the aforesaid protections afforded by substantially completing the improvements depicted upon the final plat within five years shall apply and for any section or sections, beyond the initial section, in which the required improvements have not been substantially completed within said five-year period the aforesaid protections shall apply for an additional term or terms of three years from the date of final plat approval for each section.
- G. Failure of landowner to adhere to the aforesaid schedule of submission of final plats for the various sections shall subject any such section to any and all changes in zoning, subdivision and other governing ordinance enacted by a municipality or this Ordinance subsequent to the date of the initial preliminary plan submission,

10. The approval of a Preliminary Plan does not constitute the approval of a Final Plan.

SECTION 404. PRELIMINARY PLAN SUBMITTAL REQUIREMENTS & SPECIFICATIONS

A Preliminary Plan shall be prepared for submission to the Dauphin County Planning Commission and comply with the following requirements

1. Preliminary Plans shall be prepared by land surveyor, an engineer or landscape architect registered in the Commonwealth of Pennsylvania.

A land surveyor shall prepare the bearings and distances for the tract and lots.

The Planning Commission shall have the right to require a survey of the entire tract, which may be in excess of the property proposed to be developed. Where the remaining balance of the property is two (2) acres or less in size, a survey of the entire tract shall be required.

2. One (1) copy of the Preliminary Plan shall be submitted on a minimum sheet size of a minimum sheet size of 18 inches by 24 inches and a maximum sheet size of 24 inches by 36 inches.
3. One (1) electronic media formatted copy of the Preliminary Plan shall be submitted. The digital files shall reside on a 3 1/2 inch compact disc. The digital file shall be Auto CAD or DXF compatible.
4. In the case where the numbers of plan sheets exceed three pages an index table shall be provided to identify each sheet. For plans with 2 or 3 plan sheets, sheet numbering shall apply.
5. The Preliminary Plan shall include a legend describing various symbols and shading displayed on the plan.
6. The Preliminary Plan shall include a list of requested modifications, waivers, variances, special exceptions, conditional uses. If approved, the dates of approval shall be added to the plan.
7. The Preliminary Plan shall include an inventory of all permits/approvals required by other agencies along with the dates submitted and approval dates.
8. The Preliminary Plan shall include a statement regarding the date and/or ordinance number of the Zoning and Subdivision & Land Development ordinance in effect at the time of submission of the Preliminary Plan.

9. When the subdivision or land development plan fronts on an existing street the required additional right-of-way shall be dedicated and a signed dedicatory statement shall be shown on the Final Plan.

10. The **Preliminary Plan** shall include the following information:

A. **Title Block** consisting of the following:

- 1). Name of proposed subdivision or land development, the municipality, and the county, Pennsylvania, and plan labeled "**PRELIMINARY PLAN**".
- 2). Name, address, and telephone number of the record owner of the tract, the equitable owner if one exists, and the subdivider/developer.
- 3). Date of plan preparation and revision date(s).
- 4). Name, address and telephone number of professional engineer, landscape architect and professional land surveyor.

B. **Location Map** consisting of the following:

- 1). A location map drawn to a scale of a minimum of one inch to two thousand feet (1"= 2000').
- 2). North arrow, graphic and written scale.
- 3). Street names.
- 4). Municipal boundaries.

C. **Original Tract Map** consisting of the following;

- 1). Reference to instrument number/deed book volume and page number, and tax parcel number.
- 2). A north arrow/point.
- 3). A graphic and written scale.
- 4). Tract/lot boundary with bearing and distances, existing lot area, and existing lot numbers. For undeveloped area in excess of ten (10) acres, deed plat information may be used.
- 5). Location of existing building or structure(s) on the tract.

- 6). Location of existing wells.
- 7). The location of existing on-lot sewage systems and/or soils test sites.
- 8). Name and instrument/deed reference of all adjoining landowners with abutting lot lines.
- 9). Primary control point, which shall be referenced to the PA plane (South) coordinate system.

D. **Preliminary Plat Area Map** for the area where new lots are proposed, or the portion of the property where subdivision and/or land development activity is proposed. The plan is required to be drawn to a minimum scale of one inch equaling one hundred feet (1" = 100') or less. Where a smaller scale is proposed, such scale shall be subject to the prior approval of the Commission. The map shall include:

- 1). Existing elevation contour lines at vertical intervals of five (5) feet or less, as required by the Commission, for the entire tract or parcel.
- 2). A north arrow/point.
- 3). A graphic and written scale.
- 4). Existing natural features such as wetlands delineated in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (January 1989), 100 years flood elevation, flood fringe and floodway, tree masses, watercourses, soil types, rock outcrops, and any other natural features.
- 5). The layout, names and widths of existing and proposed rights-of-way, cartway and paving of proposed streets, alleys and location and width of existing and proposed easements with bearings and distances.
- 6). When the proposed subdivision or land development fronts on an existing street, except for a state highway, the required additional right-of-way shall be dedicated for proposed lots or land development. The dedication shall not be required for the remaining portion of the property, except where the remaining portion of the property of less than one required lot width. Then the required right-of-way for all of the property fronting on the existing street shall be shown on the plan and a signed dedicatory statement shall be on the Final Plan.
- 7). Parcels of land intended to be dedicated or reserved for schools, parks, playgrounds, parking areas, common open space, or other public, semi-public or community purposes.

- 8). Minimum building setback lines for each lot.
- 9). Proposed buildings and their first floor elevations.
- 10). Existing and proposed concrete monuments and iron pin markers.
- 11). Areas of steep slope delineated and shaded.
- 12). Clear sight triangle and sight distance at proposed street intersections and driveways.
- 13). Name of existing and proposed public or private streets and driveways on or adjacent to the tract, right-of-way and cartway width, curb and sidewalks.
- 14). For on-lot sewerage facilities provide location of the percolation and probe soils testing for primary and secondary sites and distance to well.
- 15). For on-lot water supply provide location of a proposed well.
- 16). Location of existing sanitary sewer main water supply main, fire hydrant, gas line, power line, stormwater management facilities and other significant manmade features on or adjacent to the tract or developed/disturbed area within 200 feet.
- 17). A profile of the proposed sanitary and storm sewers and water lines, with invert elevations, and connections to existing systems.
- 18). Location of any proposed site improvements such as curbs, sidewalks, street trees, traffic regulatory signs, fire hydrants, snow dump areas, community mail box(s), trash dumpster(s) handicap ramps and parking facilities.
- 19). Zoning district boundary line(s), as applicable.
- 20). Name and deed reference of all adjoining landowners with abutting lot lines of all lots.
- 21). Proposed lot numbers.
- 22). Proposed gross and net lot area figures for all lot numbers.
- 23). Primary Control Point (Point of beginning) referenced to the PA State Plane Coordinate System.
- 24). Locations, dimensions and purpose of all easements.

E. **Signature Blocks** consisting of the following:

- 1). Signature block for approval of the plan by the Commission. Sufficient space is required for listing the date of the Commission's approval and applying the Chairman's and Secretary's signatures.
- 2). Signature block for review of the plan by the municipal governing body. Sufficient space is required for listing the date of the municipal governing body's review and applying each of the supervisors' or council members' signatures.
- 3). Signature block for the Municipal Engineer or County appointed engineer for the review of the engineering aspects of the plan.

F. A list of **Plan Certifications/Statements** consisting of the following:

- 1). Certification of ownership and statement of dedication of roads or streets and right-of-ways signed by owner and duly notarized.
- 2). Certification of professional land surveyor with seal and signature for the accuracy of the plan survey.
- 3). When applicable, certification of professional engineer or landscape architect with seal and signature that prepared the plan, that all information shown is correct.
- 4). When applicable, certification by a biologist or a person with training in wetland who has evaluated the site and determined by the 1987 Army Corp of Engineer's manual on wetland delineation and determination that there are/or there are no wetlands on the site.
- 5). A statement that the municipality shall be notified at least 48 hours prior to any blasting activities taking place.
- 6). Where applicable, a statement regarding the date and ordinance number of the municipal Zoning Ordinance in effect at the time of submission.
- 7). A statement listing any approved modifications of requirements, waivers, variances, special exceptions, conditional uses and/or any non-conforming structures.
- 8). Statement regarding the presence or absence of floodplains.
- 9). An inventory of all permits/approvals/ required by other agencies along with date submitted and approval dates.

- 10). A statement regarding presence or absence of archaeological resources, historical features and important natural habitat.
- 11). A certification that the stormwater management system as shown on the plan is adequate to meet the requirements of the applicable regulations.
- 12). Existing and proposed restrictive covenants running with the land.
- 13). Per Sec. 503.1 of the Pennsylvania Municipalities Planning Code, if water is to be provided by a means other than be private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Dauphin County Planning Commission that the subdivision or development 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 a certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.

G. A **Site Data Table** to include:

- 1). Total area of tract, proposed use, proposed number of lots/number of units, proposed floor area for non-residential uses, proposed lot and building coverage, proposed density, proposed building height, proposed number of floors, proposed floor area ratio, proposed open space area, proposed developable area, proposed area of public right-of-way, proposed public or private water supply and sanitary sewer, proposed total length of proposed and/or improved street(s) in feet and parking calculations including handicap parking, as well as above data for all existing development.

H. **Plan Notes** list consisting of, but not limited to the following:

- 1). Existing and proposed protective covenants associated with the land, if any or a note stating none exist.
- 2). A statement that a Highway Occupancy Permit (HOP) is required pursuant to Section 420 of the Act of June 1, 1945 (P.L. 1242, No. 428) known as the "State Highway Law," as amended by Act No. 1986-43 of May, 1986, before access to State Highway is permitted.
- 3). Where applicable, a statement regarding municipal highway occupancy permit: "No building permit will be issued until a Municipal Occupancy Permit has been issued".

- 4). The zoning classification of adjoining lots and land.
 - 5). A list of all utilities with addresses and telephone number.
 - 6). Statement regarding all parcel(s) of land and/or improvements to be dedicated.
- I. When applicable, a **Zoning Requirement Data Table** to include:
- 1). The Zoning district, minimum lot area, minimum building setbacks, and minimum lot width, maximum density, maximum building height, number of floors, maximum floor area ratio, maximum lot and building and impervious coverage, minimum number of parking spaces required, minimum open space, minimum landscape buffer and screening.
 - 2). Any variance decisions affecting the plan are required to be noted with the date of the decision and application number with the municipality.
- J. The following **Supplemental Plan** sheets as required:
- 1). A preliminary Grading and Earth Moving Plan.
 - 2). A preliminary Erosion and Sedimentation Control Plan shall be prepared as required by the "Pennsylvania Clean Streams Law", and the Pennsylvania Department of Environmental Resources "Erosion and Sediment Pollution Control Program Manual" (April 2000): (Title 25, Part I, Subpart C, Article II, Chapter 102-Erosion Control).
 - 3). A preliminary Facilities Design Plan.
 - a). The preliminary street centerline profile, including grades, for each proposed street.
 - b). The preliminary street cross-section for proposed streets.
 - c). The preliminary design of water, sanitary, and storm sewer mains.
 - d). The preliminary street signage and traffic regulatory signs and details.
 - 4). A preliminary Lighting Plan (Sec. 507) for outdoor and street lighting, as applicable.
 - 5). A preliminary Landscaping, Buffering, and Screening Plan (Sec. 513), if required, prepared by a landscape architect, arborist or other qualified professional.
 - 6). A preliminary Stormwater Management Plan.

- 7). A preliminary Phasing Plan will be required when the applicant intends to undertake a phased project. This plan sheet must also provide the number of lots and time schedule for development in a table form.

11. **Other Information** required to accompany the Preliminary Plan shall include:

- A. Traffic Impact Study, as required by this Ordinance.
- B. All supporting calculations for the mitigating stormwater management.
- C. A hydrogeologic/water supply study, as requested by the Pennsylvania Department of Environmental Protection.
- D. A completed Pennsylvania Department of Environmental Protection Sewage Facilities Planning Revision Module, Exemption, or Non-building Waiver Request form.
- E. Such other data as may be required by the Commission, and municipal engineer in the administration and enforcement of this Ordinance.
- F. A Phasing Schedule when the applicant intends to undertake a phased project.
- G. Where one hundred (100) or more dwelling units are proposed in a subdivision or land development, the applicant shall submit evidence in writing from the applicable school district containing the review and comments of the school district on the proposed development.

SECTION 405. FINAL PLAN PROCEDURES

The Final Plan and all related information shall be submitted to the Dauphin County Planning Commission as provided below:

1. A Final Plan shall be submitted nine (9) working days prior to the Planning Commission meeting date.
2. The applicant shall submit a copy of the Final Plan to the municipal governing body for review of the plan and data and to provide a written review report to the County Planning Commission within thirty (30) days of its receipt or forfeit the municipality's right to review. The County Planning Commission shall not approve the application until the plan-affected municipality's review report is received or until the expiration of thirty (30) days from the date the application was accepted by the County Planning Commission.
3. The County Planning Commission shall review the Final Plan and data and act on the plan within ninety (90) days from the first Planning Commission meeting after receipt of

the plan, or after a final order of the court remanding an application, provided that in no instance shall the ninety (90) days begin more than 30 days after the receipt of the plan.

Failure of the Planning Commission to render a decision and communicate it to the applicant within the time and manner required in this Ordinance shall be deemed an approval of the application in terms 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, the failure to meet the extended time or change in manner of presentation of communication shall have like effect.

The County Planning Commission may request an Extension of Time from the maximum 90-day review period. If the applicant approves the Extension of Time, it shall do so in writing.

4. The County Planning Commission shall review the Final Plan to determine if it meets the requirements and standards set forth in this Ordinance and compliance with the approved Preliminary Plan.
5. The Final Plan shall incorporate all the changes and modifications required by the Planning Commission for the Preliminary Plan and shall conform to the approved Preliminary Plan. The Final Plan may constitute only that portion of the approved Preliminary Plan which the applicant proposes to record and develop at the time, provided that such portion conforms with all the requirements of this Ordinance. The phasing of a Final Plan shall be mutually agreed to by the Planning Commission and the applicant and conform to the phasing requirements of the Pennsylvania Municipalities Planning Code.
6. Before approval of a Final Plan, the Planning Commission shall be assured by means of a proper completion guarantee in accordance with this Ordinance that all the improvement required in this Ordinance shall be installed by the applicant in strict accordance with the standards and specifications of the municipality and this Ordinance within a specified time after approval of the Final Plan.
7. Before acting on the plan, the Planning Commission may hold a public hearing after proper public notice.
8. The County Planning Commission shall decide whether the Final Plan should be approved, approved subject to conditions, tabled to make revisions to the plan, or disapproved.
 - a. When a plan is tabled by the Planning Commission to comply with the review comments generated by the Planning Commission, Planning Commission staff, Municipal Engineer, or other review entity(s), the applicant shall provide a written response to all the comments and revise the plan before the date to which the plan was tabled.

9. The Planning Commission shall not take official action on the Final Plan until the applicant and the Commission agree to the terms for completion of all public improvements or guarantee thereof. The agreements and improvement and/or maintenance guarantee shall be a prerequisite to Final Plan approval.
10. The Planning Commission shall notify the applicant of the decision in writing either personally or by mail to the applicant's last known address not later than 15 days following the decision. If the plan is approved with conditions or disapproved, the Planning Commission shall specify in their notice the conditions which must be met and/or the defects found in the plan and the requirements which have not been met, including specific reference to provisions of any statute or ordinance which have not been fulfilled.

If a plan is approved by the County Planning Commission, the applicant shall accept the conditions in writing within 45 days, or the approval shall be automatically be rescinded.

11. No changes, erasures, modification or revisions shall be made on any Final Plan after approval has been given by the County Planning Commission and endorsed in writing on the Final Plan, unless the plan is first resubmitted to the Planning Commission.
12. Upon approval of a Final Plan, the applicant shall within 90 days of such final signed approval on the plan, following completion of conditions imposed by such approval, whichever is later, record such plan in the Dauphin County office of the recorder of deed. The Recorder of Deeds shall not accept any plan for recording unless the plan officially noted the approval of the County Planning Commission.
13. Recording of the Final Plan shall be an irrevocable offer to dedicate all streets and other public ways to public use and to dedicate or reserve all park reservation and other public areas to public use unless reserved by the applicant as hereinafter provided. The approval of the Final Plan shall not impose any duty upon the municipality or the governing body concerning maintenance or improvements of any such dedicated street, or public use, until the governing body shall have accepted the same by the prevailing procedure of the municipality.
14. Changes in an ordinance shall affect plans as follows: (in accordance with PA Municipalities Planning Code Sec. 508(4)).
 - A. From the time an application for approval of a plat, whether preliminary or final, is duly filed as provided in the subdivision and land development ordinance, and while such application is pending approval or disapproval, no change or amendment of the zoning, subdivision or other governing ordinance or plan shall affect the decision on such application adversely to the applicant and the applicant shall be entitled to a decision in accordance with the provisions of the governing ordinances or plans as they stood' at the time the application was duly filed. In addition, when a preliminary application has been duly approved, the applicant shall be entitled to final approval in accordance with the terms of the approved

preliminary application as hereinafter provided. However, if an application is properly and finally denied, any subsequent application shall be subject to the intervening change in governing regulations.

- B. When an application for approval of a plat, whether preliminary or final, has been approved without conditions or approved by the applicant's acceptance of conditions, no subsequent change or amendment in the zoning, subdivision or other governing ordinance or plan shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five years from such approval. The five-year period shall be extended for the duration of any litigation, including appeals, which prevent the commencement or completion of the development, and for the duration of any sewer or utility moratorium or prohibition which was imposed subsequent to the filing of an application for preliminary approval of a plat. In the event of an appeal filed by any party from the approval or disapproval of a plat, the five-year period shall be extended by the total time from the date the appeal was filed until a final order in such matter has been entered and all appeals have been concluded and any period for filing appeals or requests for reconsideration have expired. Provide, however, no extension shall be based upon any water or sewer moratorium which was in effect as of the date of the filing of a preliminary application.
- C. Where final approval is preceded by preliminary approval, the aforesaid five-year period shall be counted from the date of the preliminary approval. In the case of any doubt as to the terms of a preliminary approval, the terms shall be construed in the light of the provisions of the governing ordinances or plans as they stood at the time when the application for such approval was duly filed.
- D. Where the landowner has substantially completed the required improvements as depicted upon the final plat within the aforesaid five-year limit, or any extension thereof as may be granted by the Planning Commission, no change of municipal ordinance or this ordinance or plan enacted subsequent to the date of filing of the preliminary plat shall modify or revoke any aspect of the approved final plat pertaining to zoning classification or density, lot, building, street or utility location.
- E. In the case of a preliminary plat calling for the installation of improvements beyond the five-year period, a schedule shall be filed by the landowner with the preliminary plat delineating all proposed sections as well as deadlines within which applications for final plat approval of each section are intended to be filed. Such schedule shall be updated annually by the applicant on or before the anniversary of the preliminary plat approval, until final plat approval of the final section has been granted and any modification in the aforesaid schedule shall be subject to approval of the Planning Commission in its discretion.

- F. Each section in any residential subdivision or land development, except for the last section, shall contain a minimum of 25% of the total number of dwelling units as depicted on the preliminary plan, unless a lesser percentage is approved by the Planning Commission in its discretion. Provided the landowner has not defaulted with regard to or violated any of the conditions of the preliminary plat approval, including compliance with landowner's aforesaid schedule of submission of final plats for the various sections, then the aforesaid protections afforded by substantially completing the improvements depicted upon the final plat within five years shall apply and for any section or sections, beyond the initial section, in which the required improvements have not been substantially completed within said five-year period the aforesaid protections shall apply for an additional term or terms of three years from the date of final plat approval for each section.
- G. Failure of landowner to adhere to the aforesaid schedule of submission of final plats for the various sections shall subject any such section to any and all changes in zoning, subdivision and other governing ordinance enacted by a municipality or this Ordinance subsequent to the date of the initial preliminary plan submission,

SECTION 406. FINAL PLAN SUBMITTAL REQUIREMENTS & SPECIFICATIONS

A Final Plan which meets all the specifications required for a Preliminary Plan shall be prepared for submission to the County Planning Commission and comply with the following requirements.

1. Final plans shall be prepared by land surveyor, an engineer or landscape architect registered in the Commonwealth of Pennsylvania.

A land surveyor shall prepare the bearings and distances for the tract and lots.

The Commission shall have the right to require a survey of the entire tract, which may be in excess of the property proposed to be developed. Where the remaining balance of the property is two (2) acres or less in size, a survey of the entire tract will be required.

2. One (1) copy of the Final Plan shall be submitted on a minimum sheet size of 18 inches by 24 inches and a maximum sheet size of 24 inches by 36 inches.
3. One (1) electronic media formatted copy of the final Plan shall be submitted. The digital files shall reside on a 3 ½ inch compact disc. The digital file shall be Auto CAD or DXF compatible.
4. In the case where the numbers of plan sheets exceed three pages an index table shall be provided to identify each sheet. For plans with 2 or 3 plan sheets, sheet numbering shall apply.

5. The Final Plan shall include a legend describing various symbols and shading displayed on the plan.
6. The Final Plan shall include a list of requested modifications, waivers, variances, special exceptions, conditional and/or conditional uses. If approved, the dates of approval shall be added to the plan.
7. When the subdivision or land development plan fronts on an existing street the required additional right-of-way shall be dedicated and a signed dedicatory statement shall be shown on the Final Plan.
8. The **Final Plan** shall include the following information:
 - A. **Title Block** consisting of the following:
 - 1). Name of proposed subdivision or land development, the municipality, and the county, Pennsylvania, and plan labeled "**FINAL PLAN**".
 - 2). Name, address, and telephone number of the record owner of the tract, the equitable owner if one exists, and the subdivider/developer.
 - 3). Date of plan preparation and revision date(s).
 - 4). Name, address and telephone number of professional engineer, landscape architect and professional land surveyor.
 - 5). A listing of all plan revision dates.
 - B. **Location Map** consisting of the following:
 - 1). A location map drawn to a scale of a minimum of one inch to two thousand feet (1"= 2000') and north arrow or point.
 - 2). North arrow, graphic and written scale.
 - 3). Street names.
 - 4). Municipal boundaries
 - C. **Original Tract Map** consisting of the following:
 - 1). Reference to instrument number/deed book volume and page number, and tax parcel number.
 - 2). A north arrow/point.

- 3). A graphic and written scale.
- 4). Tract/lot boundary with bearing and distances, existing lot area, and existing lot numbers. For undeveloped area in excess of ten (10) acres, deed plat information may be used.
- 5). Location of existing building or structure(s) on the tract.
- 6). Location of existing wells.
- 7). The location of existing on-lot sewage systems and/or soils test sites.
- 8). Name and instrument/deed reference of all adjoining landowners with abutting lot lines.
- 9). Primary Control Point, which shall be referenced to the PA State Plane Coordinate System.

D. **Final Plat Area Map** for the area where new lots are proposed, or the portion of the property where subdivision and/or land development activity is proposed. The plan is required to be drawn to a minimum scale of one inch equaling one hundred feet (1" = 100') or less. Where a smaller scale is proposed, such scale shall be subject to the prior approval of the Planning Commission.

- 1). Existing elevation contour lines at vertical intervals of five (5) feet or less, as required by the Commission, for the entire tract or parcel.
- 2). A north arrow/point.
- 3). A graphic and written scale.
- 4). Existing natural features such as wetlands delineated in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (January 1989), 100-years flood elevation, flood fringe and floodway, tree masses, watercourses, soil types, steep slopes, rock outcrops, contours and other features.
- 5). The layout, names and widths of right-of-way, cartway and paving of proposed streets, alleys and location and width of existing and proposed easements with bearings and distances.
- 6). Parcels of land intended to be dedicated or reserved for schools, parks, playgrounds, parking areas, common open space, or other public, semi-public or community purposes.
- 7). Minimum building setback lines for each lot.

- 8). Proposed buildings and their first floor elevations.
- 9). Existing and proposed concrete monuments and iron pin markers.
- 10). Areas of steep slope delineated and shaded.
- 11). Clear sight triangle and sight distance at proposed street intersections and driveways.
- 12). Name of existing and proposed public or private streets and driveways on or adjacent to the tract, right-of-way and cartway width, curb and sidewalks.
- 13). For on-lot sewerage facilities provide location of perc and probe for primary and secondary sites and distance to well.
- 14). For on-lot water supply provide location of a proposed well.
- 15). Location of existing sanitary sewer main water supply main, fire hydrant, gas line, power line, stormwater management facilities and other significant manmade features on or adjacent to the tract or developed/disturbed area within 200 feet.
- 16). Location of any proposed site improvements such as curbs, sidewalks, street trees, traffic regulatory signs, fire hydrants, snow dump areas, community mail box(s), trash dumpster(s) handicap ramps and parking facilities.
- 17). The approval date of State Highway Occupancy Permit and number where a proposed subdivision and land development proposes access to a state road.
- 18). When applicable, the approval date and number of the municipal road occupancy permit where a proposed subdivision and land development proposes access from a municipal street.
- 19). Description of all lot lines, with accurate bearings and distances, and lot areas for all parcels. Curve segments shall be comprised of arc, cord, bearing and distance. Along existing street right-of-way, the description shall be prepared to the right-of-way lines. The description shall not have an error of closure greater than one (1) foot in ten thousand (10,000) feet.
- 20). Description of the centerline and right-of-way for all new and existing streets, to include distances and bearings with curve segments comprised

of radius, tangent, arc, and cord. The description shall not have an error of closure and greater than one (1) foot in ten thousand (10,000) feet.

- 21). Zoning district boundary line(s), as applicable.
- 22). Name and deed reference of all adjoining landowners with abutting lot lines of all lots.
- 23). Proposed lot numbers.
- 24). Proposed gross and net lot area figures for all lot numbers.
- 25). Primary control point (Point of beginning) referenced to the PA State Plane coordinate system.

E. **Signature Blocks** consisting of the following:

- 1). Signature block for approval of the plan by the Planning Commission. Sufficient space is required for listing the date of the Planning Commission's approval and applying the Chairman's and Secretary's signatures.
- 2). Signature block for review of the plan by the municipal governing body. Sufficient space is required for listing the date of the municipal governing body's review and applying the Chairman's signature.
- 3). When applicable, signature block for the Municipal Engineer or County appointed engineer for the review of the engineering aspects of the plan.

F. A list of **Plan Certifications/Statements** consisting of the following:

- 1). Certification of ownership and statement of dedication of roads or streets and right-of-ways signed by owner and duly notarized.
- 2). Certification of professional land surveyor with seal and signature for the accuracy of the plan survey.
- 3). When applicable, certification of professional engineer or landscape architect with seal and signature that prepared the plan, that all information shown is correct.
- 4). When applicable, certification by a biologist or a person with training in wetland who has evaluated the site and determined by the 1987 Army Corp of Engineer's manual on wetland delineation and determination that there are/or there are no wetlands on the site.

- 5). A statement that the municipality shall be notified at least 48 hours prior to any blasting activities taking place.
- 6). Where applicable, a statement regarding the date and ordinance number of the municipal Zoning Ordinance in effect at the time of submission.
- 7). A statement listing any approved modifications of requirements, waivers, variances, special exceptions, conditional uses and/or any non-conforming structures.
- 8). Statement regarding the presence or absence of floodplain.
- 9). An inventory of all permits/approvals/ required by other agencies along with date submitted and approval dates.
- 10). A statement regarding presence or absence of archaeological resources, historical features and important natural habitat.
- 11). Existing and proposed restrictive covenants running with the land.
- 12). In the case of a subdivision or land development plan proposed for the sale of lots only, the subdivider shall include on the Final Plan a covenant with the land assuring the implementation by the lot owner of the Erosion and Sedimentation control Plan.
- 13). A copy of the sewage "Plan Revision Module for Land Development" or other equivalent documentation approved by the Pennsylvania Department of Environmental Protection.
- 14). Such other certificates, affidavits, endorsements or dedications as may be required by the Dauphin County Planning Commission for the enforcement of this Ordinance.
- 15). Per Sec. 503.1 of the Pennsylvania Municipalities Planning Code, if water is to be provided by a means other than be private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Dauphin County Planning Commission that the subdivision or development 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 a certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.

G. A **Site Data Table** to include:

- 1). Total area of tract, proposed use, proposed number of lots/number of units, proposed floor area for non-residential uses, proposed lot and building coverage, proposed density, proposed building height, proposed number of floors, proposed floor area ratio, proposed open space area, proposed developable area, proposed area of public right-of-way, total length of proposed and/or improved street(s) in feet and parking calculations including handicap parking, as well as above data for all existing development.

H. A **Plan Notes** list consisting of, but not limited to the following:

- 1). Existing and proposed protective covenants associated with the land, if any or a note stating none exist.
- 2). A statement that a Highway Occupancy Permit (HOP) is required pursuant to Section 420 of the Act of June 1, 1945 (P.L. 1242, No. 428) known as the "State Highway Law," as amended by Act No. 1986-43 of May, 1986, before access to State Highway is permitted.
- 3). Where applicable, a statement regarding municipal highway occupancy permit: "No building permit will be issued until a Municipal Occupancy Permit has been issued".
- 4). The zoning classification of adjoining lots and land.
- 5). A list of all utilities with addresses and telephone number.
- 6). Date of Preliminary Plan approval.
- 7). List of Modifications granted.
- 8). Statement regarding all parcel(s) of land and/or improvements to be dedicated.
- 9). Pennsylvania One Call System, Inc., with serial number(s).
- 10). Contribution of recreation land or fee for residential lots and land developments as required by the municipal governing body.

I. When applicable, a **Zoning Data Table** to include:

- 1). The Zoning District, minimum lot area, minimum building setbacks, and minimum lot width, maximum density, maximum building height, number of floors, maximum floor area ratio, maximum lot, building and

impervious coverage, the minimum number of parking spaces required, minimum open space, minimum landscape buffer and screening.

- 2). Any variance decisions affecting the plan are required to be noted with the date of the decision and application number with the municipality.

J. The following **Supplemental Plan sheets** as required:

- 1). Depending upon the amount of earth disturbance, a final Grading and Earth Moving Plan may be required.
- 2). The final Erosion and Sedimentation Control Plan shall be prepared as required by the "Pennsylvania Clean Streams Law", and the Pennsylvania Department of Environmental Resources "Erosion and Sediment Pollution Control Program Manual" (April 2000): (Title 25, part I, Subpart C, Article II, Chapter 102-Erosion Control).
 - a). Approval date of Erosion and Sedimentation Control Plan by the Dauphin County Conservation District.
- 3). A final Facilities Design Plan to include:
 - a). The final Street centerline profile for each proposed street.
 - b). The final Street cross-section for proposed streets.
 - c). The final design of water, sanitary, and storm sewer mains.
 - d). The final street signage and traffic regulatory signs and details.
- 4). A final Lighting Plan (Sec. 507) for outdoor and street lighting, as applicable.
- 5). A final Landscaping, Buffering, and Screening Plan (Sec. 513), if required, prepared by landscape architect, arborist or other qualified professional.
- 6). A final Stormwater Management Plan approved by the municipal or designated Dauphin County review engineer, with approval date.
 - a). Details of stormwater management facilities along with maintenance and inspection requirements.
 - b). Drainage and grading plan showing existing and proposed final contours, including swales and any stormwater facilities.

- 7). A final Erosion and Sedimentation control Plan showing the location and types of erosion and sediment control measures.
 - K. Statement for recordation of the plan with date, instrument number, deed book, volume and page number and tax parcel number.
9. **Other Information** required to accompany the Final Plan:
- A. Traffic Impact Study, as required by this Ordinance.
 - B. All supporting calculations for the mitigating stormwater management as required by this Ordinance.
 - C. A copy of the final hydrogeologic/water supply study, as requested by the Pennsylvania Department of Environmental Protection.
 - D. An approval letter from the Pennsylvania Department of Environmental Protection for the Sewage Facilities Planning Revision Module, Exemption, or Non-building Waiver Request form.
 - E. A Phasing Schedule when the applicant intends to undertake a phased project.
 - F. Financial security for all required improvements directed to be undertaken by this Ordinance. This includes both performance and maintenance guarantees.
 - G. Copy of all the permits/approvals from utilities and government agencies.
 - H. A copy of all final deed restrictions or protective covenants.
 - I. When applicable, copy of the condominium/homeowner's association package..
 - J. Signed municipal comment form.
 - K. Comment from the fire department, when applicable.
 - L. Comment from the School District, when applicable.
 - M. Such other data which may be required by the Dauphin County Commission for the administration and enforcement of this Ordinance.
 - P. Plans and profiles of proposed streets, sanitary and stormwater sewers with grade and pipe size indicated and a plan of proposed water distribution system showing pipe size and location of valves and fire hydrant and specification for construction and materials.

- Q. Parcels of land intended to be dedicated or reserved for parks, playgrounds, parking areas, common open space, or other public, semi-public, or community purpose.
- R. Wetland Study, as required.
- S. Traffic studies required by state laws to warrant traffic control devices such as stop signs, traffic signals, speed limits, turning lanes, etc.

SECTION 407. LOT ADD-ON PLAN PROCEDURE

- 1. A plan which proposes to alter the location of lot lines between existing lots can be submitted as a "Lot Add-On Final Plan" when meeting the following criteria:
 - A. No lot or tract of land is created which is neither smaller than the minimum nor larger than the maximum lot size permitted by any applicable ordinance. ✕
 - B. Drainage easements or rights-of-way are not altered.
 - C. Access to the affected parcel is not changed.
 - D. Street alignments are not changed.
 - E. No new building lots are created.
- 2. The Lot Add-On Plan shall be prepared in conformance with the provisions of this Ordinance and any other applicable requirement of the law.

SECTION 408. LOT ADD-ON PLAN SPECIFICATIONS

A subdivision plan which meets the criteria of a Lot Add-On Final Plan shall comply with the following requirements:

- 1. The Lot Add-On Final Plan shall be prepared by a land surveyor registered in Commonwealth of Pennsylvania.
- 2. One (1) copy of the plan will be submitted on a minimum sheet size of 18 inches by 24 inches and no larger than 24 inches by 36 inches.
- 3. Dimensions shall be in feet and degrees, minutes and seconds with an error of closure no greater than one foot in ten thousand feet.
- 4. When the subdivision or land development plan fronts on an existing street the required additional right-of-way shall be dedicated and a signed dedicatory statement shall be shown on the Lot Add-On Final Plan.

5. The Lot Add-On Final Plan shall contain the following information:

A. **Title Block** consisting of the following:

- 1). Name of proposed plan, municipality, county, Pennsylvania and plan labeled "LOT ADD-ON FINAL PLAN".
- 2). Name, address, and telephone number of the recorded owner and any equitable owner of the two effected lots.
- 3). Date of plan preparation and revision date(s).
- 4). Name, address and telephone number the professional land surveyor.

B. **Location Map** consisting of the following:

- 1). A location map drawn to a scale of a minimum of one inch to two thousand feet (1" = 2000') and north arrow.
- 2). North arrow, graphic and written scale.
- 3). Street names.
- 4). Municipal boundaries.

C. **Tract Map** consisting of the following:

- 1). Reference to Instrument Number/Deed Book, Volume and Page Number and tax parcel number.
- 2). The plan shall be drawn no smaller than 100 feet to an inch. All dimensions shall be in feet and hundredth of a foot.
- 3). Property plan showing the entire lot, tract or parcel to be effected by the Lot Add-On Plan.
- 4). Existing and proposed bearings and distances and lot numbers and lot areas. If the remaining acreage is in excess of ten (10) acres, its boundary and the boundary of the remaining tract shall be described by deed plotting drawn at a legible scale.
- 5). Name and deed reference of all adjoining landowners with abutting lot lines of both conveying and receiving lots.
- 6). Primary Control Points, which shall be referenced to the PA Plane Coordinate System.

- 7). Existing and proposed concrete monuments and iron pin markers.
 - 8). Name of existing public or private streets, and driveways on or adjacent to the lot, right-of-way and cartway width, curb and sidewalk.
 - 9). Location of easements with bearing and distances and utilities on and/or adjacent to both the conveying and receiving lot.
 10. Zoning district boundary line(s), as applicable.
- D. **Zoning Data Table**, as applicable, to list: zoning district, minimum lot area, minimum building setbacks, minimum lot width, maximum density, maximum floor area ratio, maximum lot and building coverage, minimum off-street parking, minimum open space, and minimum landscape buffer & screening.
- E. **Site Data Table**, to include: existing and proposed lot areas, proposed use, proposed lot and building coverage, proposed density, and proposed open space area.
- F. Existing and proposed protective covenants associated with the lands, if any, or a note stating that none exist.
- G. A statement listing any approved modification of requirements, waivers, variances, special exceptions, conditional uses and/or any non-conforming structures.
- H. Statement for recordation of the plan with date, instrument number/deed book, volume and page number and tax parcel numbers.
- I. Certification of Professional Land Surveyor with seal and signature for the accuracy of the plan survey.
- J. Certification regarding presence or absence of wetlands and floodplains.
- K. Signature block for review of plans by the municipal governing body or assigned official(s).
- L. Signature block for approval of plan by the Dauphin County Planning Commission.
- M. A statement is required to be placed upon all Lot Add-On Final Plans stating "Lot # ___ has been proposed as a lot addition to the adjoining lands of _____ to form a single lot consisting of _____ acres. Lot # ___ may not be sold or retained as a stand-alone lot."

- N. A statement indicating that a Non-Building Waiver Form B has been approved by the Pennsylvania Department of Environmental Protection.
- O. Pennsylvania One Call System, Inc., with serial number(s).



ARTICLE 5

DESIGN STANDARDS AND IMPROVEMENT AND CONSTRUCTION STANDARDS

SECTION 501. PURPOSE

The purpose of this Article is to provide reasonable design and improvement standards for public improvements related to subdivision and land development. This Article combines design and improvement specification which complies with sound engineering and design with suitable improvement standards.

SECTION 502. GENERAL

1. The applicant shall design and provide all improvements required by this Ordinance and any other applicable State or Federal regulation. The following design principles, standards, specifications and requirements will be applied by the Dauphin County Planning Commission and Municipal Engineer in their review and evaluation and Planning Commission approval of all subdivision and land development plan applications. The standards and requirements contained herein shall be considered the minimum for the promotion of the public health, safety, convenience, and general welfare.
2. The Dauphin County Planning Commission may modify the requirements in accordance with the process set forth in Article 9 of this Ordinance.
3. Subdivision and Land development plans shall give due consideration to the Municipal Comprehensive Plan and other "Official Plans" of the Municipality or to such parts thereof as may be approved.
4. Proposed land uses shall conform to standards and requirements of the Municipal Zoning Ordinance where applicable.

SECTION 503. SITE DESIGN

The purpose of good Subdivision and Land Development design is to assist in (1) creating functional and attractive developments, (2) minimizing adverse effects and impacts of development and (3) ensuring that the project will become an asset to the community. Subdivision and Land Development plans should conform to the following site design guidelines, which will result in a well-planned and constructed community. These guidelines and standards are intended to encourage improved site design without adding unnecessarily to development costs.

1. Land which is unsuitable for development due to hazards to life, safety, health or property shall not be subdivided or developed until such hazards have been eliminated or unless adequate safeguards against such hazards are provided for in the subdivision or land development plan. Unsuitable characteristics for subdivision and land development include, but may not be limited to:
 - A. Land subject to flooding;
 - B. Land, which if developed, will aggravate a flooding condition upon other land;
 - C. Land subject to subsidence;
 - D. Land containing significant slopes
 - E. Land subject to ground and water pollution; and,
 - F. Land containing wetlands

2. Before laying out lots and structures on a site, developers should make an analysis of the site that addresses issues such as site surrounding, geology and soil, topography, climate, existing vegetation, structures, road networks, visual features, and past and present use of the site.
 - A. The design of the development should take into consideration existing local, county and regional plans for the community.
 - B. Development of the site shall be based on the site analysis. To the maximum extent practicable, development shall be located to preserve natural features of the site; to avoid areas of environmental sensitivity; to minimize negative impacts and alteration of natural features; and to avoid areas unsuitable for development.
 - C. Development and improvements shall be designed to avoid adversely affecting ground water and water recharge; to reduce cut and fill; to avoid unnecessary impervious cover; to prevent flooding; and to provide adequate access to lots and sites.
 - D. Lot and block layout should be designed to permit the safe, efficient, and orderly movement of vehicular and pedestrian traffic into, out of, through and within the site.
 - E. During site preparation of an approved Subdivision and/or Land Development, stockpiles of stripped topsoil and/or excavated material

shall not be located closer than one hundred (100) feet from any residential zone, use or occupancy boundary. The maximum height of topsoil and excavated material stockpiles shall be not more than ten (10) feet when stockpiles are located between one hundred (100) and one hundred fifty (150) feet from any residential zone, use or occupancy boundary. The maximum height of topsoil and excavated material stockpiles shall be not more than fifteen (15) feet when stockpiles are located more than one hundred fifty (150) feet from any residential zone, use or occupancy boundary. The maximum height of any topsoil or excavated material stockpile shall not exceed fifteen (15) feet.

SECTION 504. BLOCKS

1. The length, width, shape, and design of blocks shall be based on the site analysis and the intended use proposed for the site.
2. Blocks shall not exceed one thousand six hundred (1600) feet in length and shall not be less than five hundred (500) feet in length.
3. Depth of a block shall equal the depth of two approved lots which share the same rear lot line. However, the block depth may vary from the requirement in cases where parallel roads are utilized or where topographic limitations exist.
4. Interior pedestrian walks shall be required in blocks exceeding six hundred (600) feet in length to provide for pedestrian circulation or access to community facilities and other portions of the development as required in this Ordinance.

SECTION 505. LOTS

A. GENERAL STANDARDS

- 1). The size, shape and orientation of lots shall be appropriate to the type of development, topography, natural features and land use contemplated.
- 2). Lot lines shall be at right angles to straight street lines or radial to curved street lines.
- 3). Where feasible, lot lines should follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
- 4). If small or substandard remnant parcels of land exist after subdivision, these parcels shall be incorporated into existing or proposed lots, or dedicated for public use, if acceptable to the

Municipality. Agreements for dedicating remnant parcels of land shall be approved by the Municipal Solicitor prior to acceptance.

- 5). All remnants of land (areas remaining after subdivision) shall conform to the lot area and configuration requirements.
- 6). All lots shall be designed to provide sufficient building area based upon building setbacks, easements, floodplains, etc.
- 7). Lot size and / or intensity shall conform to any applicable Municipal Zoning Ordinance.
- 8). Double or reverse frontage lots shall be avoided except where required to provide separation of residential development from major streets or industrial or commercial development; or to overcome specific disadvantages of topography or orientation.
- 9). No residential lots shall be created which front upon a limited access highway. Furthermore, no lots within a major subdivision shall be created which front upon an arterial street.

B. WATER & SEWER SELF SUFFICIENCY

- 1). Each new lot created in a municipality shall be designed in such a manner to be individually self-sufficient for both water supply and sewage disposal, or be connected to available public or private water and sewer facilities.

C. LOT FRONTAGE

- 1). All lots shall abut an existing or proposed public street except:
 - a). Private streets are permitted in developments where the ownership arrangements are set up as a condominium or homeowners association.
 - b). A Private access drive is permitted to provide an access to not more than three (3) residential dwellings. The width of the private access drive /easement/ right-of-way shall be not less than fifty (50) feet. Maintenance arrangement of the access drive shall be provided to the municipality. Any additional lot(s) created on the access drive shall require construction of a public street.

- c). Driveways to Single-family Dwellings, Duplex Dwellings, or Apartments Five Units or Fewer:
 - i). Joint driveways. Joint or common driveways serving no more than three (3) single-family dwellings are permitted and shall be designed in accordance with the standards of this section.
 - ii). Curb Cuts. The minimum curb cut or driveway width at the cartway edge shall be 10 ft. The maximum curb cut or driveway width at the cartway edge shall be 20 ft.
 - iii). Curb return entrance. A curb return entrance is illustrated in Figure 5.1. When curb return entrances are used, the curb shall have a minimum 3-foot radius. However, any driveway entering into PennDOT right-of way shall be designed in accordance with PA Code Title 67, Chapter 441.
 - iv). Driveways serving residential dwellings should generally be less than 15%, but in no case should exceed 20%.

D. DIMENSIONS AND AREAS OF LOTS.

- 1). The dimensions and areas of lots, unless regulated by a local zoning ordinance, shall conform to the following standards and requirements:
- 2). Lots not serviced by either public sewer or public water supply are required to be (150') one hundred and fifty feet wide at the front building setback line and a minimum of one (1) acre of net lot area.
- 3). Lots serviced by private sewer and public water supply are required to be one hundred (100) feet wide at the front building setback line and a minimum of one (1) acre of net lot area.
- 4). Lots serviced by public sewer and private water supply are required to be eighty five (85) feet wide at the front building setback line and a minimum of ten thousand (10,000) square feet of net lot area.

- 5). Lots serviced by both public sewer and public water supply shall conform to the following requirements:

Table 5.1 – Lot Requirements

	Minimum Lot Width Required at the Front Building Setback Line	Minimum Net Lot Area Required per Dwelling Unit.
Single Family Detached Dwelling	75 Feet	7,500 Square Feet
Single Family Semi-detached Dwelling	50 Feet	5,000 Square Feet
Single Family Attached Dwelling	18 Feet (Interior) 33 Feet (Each End)	2,400 Square Feet
Two Family Detached Dwelling	75 Feet	7,500 Square Feet
Two Family Semi-detached Dwelling	60 Feet	3,000 Square Feet
Multi-family Dwelling	100 Feet	2,400 Square Feet

- 6). Lots for other than residential uses.

The lot width and area requirements of properties reserved and laid out for uses other than residential shall provide adequate space for yards and off-street parking, loading and unloading facilities. They shall be provided on the subdivision and land development plans in adequate detail to assure needs are being satisfied.

- 7). Lot sizes and sewage facility requirements.

- a). The applicant shall arrange the required tests to be made on the tract prescribed by the PA Department of Environmental Protection PA DEP in order to provide the data necessary for the platting of lots for adequate size for on lot sewage disposal or to determine the need for other sewage disposal methods.
- b). The results of these tests shall be submitted to PA DEP in a form acceptable to the Department.
- c). From the results of these tests and reports, the lot size shall be established large enough to provide for specified minimum area required for the absorption field if on-lot sewage disposal is permitted, but in no case less than required in (D) above.
- d). Where on-lot water is to be used, the lot shall be large enough so that the water source shall be located no closer to the absorption field than required by PA DEP.

8). Lot sizes on slopes.

The minimum lot areas herein established shall be increased in accordance with the Commission's requirements, based on reports from the PA DEP and Conservation District indicating that, because of slope, surface runoff or subsurface drainage of septic tank effluent are likely to result in hazardous conditions.

9). Corner lots for residential uses.

Corner lots designed for residential uses shall have extra width of at least ten (10%) of the above required width to permit appropriate building setback from the orientation to both streets.

10). Existing non-conforming lots.

Existing legal non-conforming lots sizes shall be considered "grandfathered". The determination of whether they can be built upon depends upon compliance with meeting PA DEP requirements. For existing legal non-conforming lots, lot frontages shall be considered "grandfathered". Setbacks shall meet the requirements of this Ordinance, unless modifications are granted.

11). Flag Lots are prohibited.

E. SETBACK LINES

- 1). Building setback lines must conform to any applicable municipal zoning ordinance. Where no such ordinance exists, the minimum setback from the right-of-way line is as follows:

- a). Front Yard Building Setback Line

Table 5.2 - Front Yard Building Setback Requirements - For streets meeting the minimum required right-of-way widths of this ordinance

Street Type	Minimum setback distance from the required street right-of-way line
Arterial	Forty (40) feet
Collector	Thirty (30) feet
Minor (Local)	Twenty-five (25) feet

Table 5.3 - Front Yard Building Setback Requirements - For streets not meeting the minimum required right-of-way widths of this ordinance

Street Type	Minimum building setback distance from the required street centerline
Arterial Highway	As required by the Dauphin County Planning Commission
Collector Street	Sixty (60) feet
Minor Street	Fifty (50) feet

- b). Side and Rear Building Setback Lines

- i). Building setback lines shall not be less than fifteen (15) feet from the side lot lines and twenty-five (25) feet from the rear lot line.

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- c). Where an existing building line is established, on at least 50% of the properties in the block in which the proposed subdivision or land development is located or within 200' immediately adjacent to the proposed subdivision or land development, the required minimum may be increased or decreased to conform with the established building line.
- d). On a corner lot, the setback from each adjacent street shall be applicable.
- e). Space between buildings for land development.
 - i). The space between buildings where land development is proposed shall be provided in accordance with the following schedule:

(SEE NOTE)	SPACE BETWEEN BUILDINGS IN FEET
F to F	70'
F to S	50'
F to R	70'
S to R	30'
S to S	30'
R to R	50'
C to C	20'

Note: F=Front S= Side R= Rear C= Corner

1. The space between the buildings shall be increased one foot for each additional foot that the height of the building exceeds 35'.

- f). The land upon which two single family semi-detached houses are situated may be considered for subdivision to divide the land at the party wall without the alteration or requirement first being granted for substandard lot areas or lot widths, provided that the building was in existence prior to the date of this Ordinance.

g). Accessory buildings.

i). When the subdivision of lots is proposed, an accessory building may be erected within one of the side yards or rear yard provided such accessory building shall be located not less than 5' from the side or rear lot line or 10' from any building except when an accessory building is erected within the side or rear yard adjacent to a side street on a corner lot, the accessory building shall be not less than the required front yard depth from the exterior side lot line.

F. MONUMENTS AND MARKERS

1). Monuments and markers must be placed by a Registered Professional Engineer or Professional Land Surveyor so that the scored or marked point coincides exactly with the point of intersection of the lines being monumented. They must be set so that the top of the monument or marker is level with the finished grade of the surrounding ground. Monuments must be marked on top with a copper or brass plate or dowel set in the concrete.

G. LOCATION OF MONUMENTS

- 1). At least two (2) corners of the boundary of the original tract of the development or subdivision shall be monumented.
- 2). A minimum of two (2) monuments shall be set on the street right-of-way lines of each street. Monuments shall be set on the same street right-of-way line.
- 3). On the street right-of-way lines, monuments may be set at the following locations:
- 4). At the intersection of street right-of-way lines.
- 5). At the intersection of a street right-of-way line and the side line of an interior lot.
- 6). At either or both ends of curved street right-of-way lines.
- 7). At such other points along the street right-of-way lines as may be determined by the Municipal Engineer so that any street may be readily defined in the future.

- 8). A monument shall be set at the Primary Control Point determined for the development or subdivision.

H. CONSTRUCTION OF MONUMENTS AND MARKERS

- 1). Monuments and markers shall be the following sizes and materials. Monuments shall be six (6) inches square or four (4) inches in diameter and shall be thirty (30) inches long. Monuments shall be made of concrete, stone or by setting a four (4) inch cast iron or steel pipe filled with concrete. Markers shall be three quarters (3/4) of an inch square or three quarters (3/4) of an inch in diameter and twenty-four (24) inches long. Markers shall be made of iron pipes or iron or steel bars.

I. BONDING AND INSPECTION

- 1). Monuments required by this Ordinance to be set at locations shown on the approved Final Plan.
- 2). An acceptable surety amount will be determined by a certified Professional Engineer or Land Surveyor and approved by the Municipality for bonding purposes.
- 3). Monument placement shall be inspected by the Municipal Engineer prior to releasing the bond.

J. REPLACEMENT

- 1). Any monuments or markers that are discovered to have been removed must be replaced by a Professional Land Surveyor at the expense of the Developer and/ or Owner.

SECTION 506. STREET SYSTEM DESIGN AND CONSTRUCTION

A. GENERAL DESIGN GUIDELINES

- 1). The general arrangement, character, extent, and location of all streets proposed shall conform to any Municipality's Comprehensive Plan and shall be considered in their relation to existing or proposed streets, topographical conditions, the public convenience and safety, and the proposed uses of land to be served by such streets. The arrangement, width, grade and other design standards of streets shall conform to the provisions found herein. Further, proposed streets shall be properly related to County, Regional or State transportation plans as have been prepared and adopted.

- 2). Proposed street arrangements shall make provisions for the continuation of existing streets in adjoining areas; the proper projection of streets into adjoining undeveloped or unplanned areas; and the continuation of proposed streets to the boundaries of the tract being subdivided.
- 3). When a new subdivision adjoins un-subdivided land appropriate for subdivision, the new streets shall be carried to the boundaries of the tract to be subdivided.
- 4). Streets shall be laid out to facilitate the use for which they are intended. Local access streets shall be laid out to discourage their use by through traffic and, where possible, collector and arterial streets shall be designed for use by through traffic.
- 5). Streets shall be related to the topography so as to establish usable lots and satisfactory street grades.
- 6). The design and construction standards stipulated herein are intended primarily for residential development and use. Where industrial, commercial or other uses would generate significant truck traffic or high traffic volumes stricter standards may be required as determined by the Municipal Engineer.
- 7). When the development is in the Highway Access Management District, all street and access design shall be in accordance with Exhibit 5-1 of this Ordinance or Penn Dot Standards unless otherwise in a municipal zoning ordinance.
- 8). In a residential subdivision/land development of sixteen (16) or more dwelling units shall provide for at least two street connections to existing public streets.
- 9). In non-residential subdivision or land development, the municipality or the Dauphin County Planning Commission may require at least two street connections, or if the land is to be accessed by driveways, two driveway connections to existing public streets where necessary to ensure safe and efficient traffic flow.
- 10). Proposed private service access for purposes of providing a secondary means of access to a lot are permitted as deemed appropriate by the Municipality and Municipal Engineer.

B. ROAD/STREET CLASSIFICATIONS

1). Arterial Roads/Streets (Interstates, Principal Arterial)

- a). This classification includes highways which provide intra-county or inter-municipal traffic of substantial volumes. Generally, these highways should accommodate operating speeds of 55 miles per hour.

2). Collector Roads/Streets

This classification is intended to include those highways which connect minor streets to arterial highways and generally serve intra-county and intra-municipal traffic. They may serve as traffic corridors connecting residential areas with industrial, shopping and other services. They may penetrate residential uses. Generally, these highways should accommodate operating speeds of 35 to 55 miles per hour or less.

3). Local / Minor Roads/Streets

- a). This classification is intended to include streets and roads that provide direct access to abutting land and connections to higher classes of roadways. Traffic volumes will be low and travel distances generally short. These streets and roads should be designed for operating speeds of 25 to 35 miles per hour or less.

4). Cul-de-Sacs

- a). Dead end streets and roads shall be prohibited, except when the developer designs and constructs temporary cul-de-sac streets on the developer's own land in order to permit future street extensions into adjoining properties. Temporary cul-de-sacs, upon approval of the Municipal Engineer, may be constructed without asphalt base or wearing course. The developer may be exempt from providing curbing at the terminus of temporary cul-de-sacs, unless curbs are required for drainage control. A temporary cul-de-sac shall be removed by the developer and replaced with the permanent street upon extension of the existing street.
- b). Cul-de-sac shall not be approved wherever a through street or loop is practicable, except where the cul-de-sac is clearly the only practical design for the subdivision or land development.

- c). Permanent cul-de-sacs and self-looping single access streets are limited to an average daily traffic volume (ADT) of 150 trips a day which equals 15 Single Family Dwellings based on a trip generation rate of 10 trips per day cul-de-sac street, and 300 trips a day which equals 30 Single Family for self looping single access street. The turnaround at the end of a cul-de-sac shall be designed for proper movements of emergency and fire truck apparatus. In developments with more than fifteen dwellings only twenty percent (20%) of the dwelling units in a development shall be served by streets terminating in cul-de-sacs. In a self-looping single access street, the number of single family dwellings may be increased when the access from the street to the intersection to the loop is provided by a boulevard street with a median. An emergency access connected to the public street system should be considered which is usable by emergency vehicles and fire truck apparatus during all season.
- d). The length of cul-de-sac shall not exceed five hundred (500) feet in length.
- e). The minimum cul-de-sac length shall be two hundred fifty (250) feet.
- f). Where the turnaround right-of-way of a cul-de-sac street approaches or abuts the tract boundary, a fifty (50) foot right-of-way shall be extended to the adjacent property to permit future extension of the street at full width, unless future extension is not possible.
- g). The design of a cul-de-sac is required to incorporate a snow removal easement at the end of the bulb (180° from the location of the street that accesses the cul-de sac) with the minimum dimensional requirements of 10 feet deep x 20 foot wide dedicated snow removal easement in addition to the cul-de-sac required right-of-way.
- h). Snow dump area shall not encroach on driveways, trees, fire hydrant, water or gas shutoff valves, mail box, street light, utility pole or similar encroachments.

- i). Drainage of cul-de-sac streets shall preferably be towards the open end. If drainage is toward the closed end it shall be conducted away in an underground storm sewer.
- j). Refer to the Right of Way, Shoulder and Cartway Widths Table for dimensional requirements for Cul-de-Sac Design.

5). Extensions

- a). Temporary and Potential Future Road Extensions should reflect the design standards and required right-of-way widths of the anticipated future roadway designation. (i.e. if the future roadway extension were anticipated to be a collector road designation the minimum right-of-way width would be 60 feet wide with a 24 foot cartway).

6). Partial and Half Streets

- a). New half or partial streets shall not be permitted, except where the Applicant justifies to the Municipality and Planning Commission that it is essential to the reasonable subdivision of a tract in conformance with the other requirements and standards of these regulations, and where, in addition, satisfactory assurance for dedication of the remaining part of the street can be obtained.
- b). Whenever there is an existing half street adjacent to a parcel to be developed, then the other half of the street shall be platted and dedicated within such parcel, unless otherwise determined by the Municipality.

7). Hammerheads

- a). Streets less than 250 feet and serving six (6) lots or fewer may be designed as symmetrical "hammerheads," in accordance with standards contained in Residential Streets (latest edition), coauthored by the American Society of Civil Engineers, as amended. Such hammerheads shall be designed to facilitate three-point turns. The minimum dimensions of hammerheads shall be 30 feet by 85 feet with curbing of 30 feet by 85 feet which includes four-foot shoulders. The right-of-way diameter

for the hammerhead shall be 10 feet greater than the edge of curb or shoulder.

C. DRIVEWAYS AND SERVICE DRIVES

The following standards shall apply to driveway construction within the public right-of-way in any subdivision and land development:

- 1). Private driveways on corner lots shall be located at least forty (40) feet from the point of intersection of the nearest street right-of-way lines. Private driveways shall be setback a minimum of five (5) feet from side property lines unless a joint use driveway is proposed.
- 2). In order to provide a safe and convenient means of access, grades on private driveways shall be so designed to allow for the unimpeded flow of storm water runoff. In addition, driveways must be stabilized to their full width to prevent erosion. Entrances shall be rounded at a minimum radius of ten (10) feet, or shall have a flare construction that is equivalent to the radius at the point of intersection with the cartway edge (curb line). The maximum width of a residential driveway shall not be more than twenty-five (25) feet measured at the cartway edge or curb line. (Refer to Pennsylvania Department of Transportation, Guidelines for Design of Local Roads and Streets - Publication No. 70M, as revised.).
- 3). All driveways shall be located, designed and constructed in such a manner as not to interfere or be inconsistent with the design and maintenance and drainage of streets or the safe and convenient passage of traffic.
- 4). All driveways on a State Highway must have a valid highway occupancy permit from the PA Department of Transportation.
- 5). Direct access from residential lots to an arterial or minor arterial shall be avoided. Where such direct access cannot be avoided, adequate maneuvering and turnaround space shall be provided behind the right-of-way line.
- 6). The grades on service drives or driveways shall not be less than 0.5% and shall not exceed the following:
 - a). Eight (8) percent when access is to a Collector Street;
 - b). Ten (10) percent when access is to a Local Street.

7). Driveway Entrances

- a). Driveway entrances or aprons within the street right-of-way shall be surfaced to their full width. In no case shall the driveway entrance be more than ten (10) feet wider than the driveway. The type of surface may be either concrete or asphalt, constructed following the specifications in PennDOT Publication RC-25M Type 6 Shoulder (asphalt) or Type 2 Shoulder (concrete). Where sidewalks are installed, the required driveway surfacing shall end at the street side of the sidewalk.
- b). Driveway entrances along streets where curbs are not required should be constructed to provide proper drainage along the streets and from the streets by the continuation of gutters, swales or ditches. Such continuation may be provided by having an approved pipe of not less than eighteen (18) inches in diameter across such driveway entrances.
- c). Driveway entrances along streets, where curbs are not required, shall be constructed so that the driveway meets the edge of the cartway as a continuation of at least the slope from the crown of the street for not less than five (5) feet.
- d). Sidewalks across driveway entrances, where required, shall be constructed in accordance with the requirements in Section 507 herein.
- e). Driveways serving single family residences shall intersect streets at angles of no less than seventy-five (75) degrees. All other driveways or service drives shall intersect streets at right angles.

8). Sight Distance

- a). The clear sight distance for driveways shall be in accordance with this Ordinance.

D. ROAD RIGHT-OF-WAY WIDTHS

Table 5.4 – Minimum Street Right-Of-Way and Cartway Widths

RIGHT-OF-WAY, SHOULDER AND CARTWAY WIDTHS

Street Type	Right-of-Way Width	Shoulder (Each Side)	Cartway
Arterial	As determined by the Municipality and Planning Commission after consultation with the Township/Borough Traffic Engineer and Pennsylvania Department of Transportation.		
Collector	60'	8' Min. (10' Desirable)	24'
Total Roadway Section with Curb Including Shoulders:			40'
Total Roadway Section without Curb:			44'
Total Roadway Section with Curb Including Shoulders:			36'
Total Roadway Section without Curb Including Shoulders:			44'
Cul-de-Sac Area	50' R		40' R Paved
Cul-de-Sac with center island	55' R		Min. 24' Drive Lane
Maximum Internal Island Radius:			20' R
Minimum Exterior Radius:			44' R
Joint Use Driveways	50'	2' Min.	16'
Total Driveway Width (two-way movements)			20'
Total Driveway Width (one-way movements)			12'
Alley or Service Drive	20'	N/A	20'

Notes:

A curbed island within a cul-de-sac if proposed should be constructed of slant or depressed curb, to allow for unimpeded vehicular circulation of plow trucks, fire apparatuses and large vehicle movements.

1. Rights-of-way shall be set aside to provide adequate space for the construction and maintenance of streets, shoulders, curbs, street gutters, and cross-drainage pipes and culverts. They may also accommodate sidewalks, snow storage, sight triangles, slope maintenance areas, and utilities such as water, sewer, storm drainage, and electrical service, cable TV, and gas lines where appropriate.
2. In the case of a subdivision or land development plan fronting on an existing or proposed street, the applicant/developer shall improve the portion of the roadway on which the proposed development fronts to meet the minimum standard as specified in this Ordinance. Road improvements shall include pavement, shoulders, embankments, gutters, berms, sidewalks and/or curbing and turning lane(s).
3. Provision for increased street width (right-of-way width) may be required when determined to be necessary by the Municipality in specific cases for:
 - a). Public safety and convenience;
 - b). Parking and/or travel in commercial and industrial areas and in areas of high density development;
 - c). Widening of existing streets (right-of-way) where the width does not meet with the requirements of the preceding paragraphs;
 - d). Installation of utilities;
 - e). Ponding of stormwater runoff;
 - f). Storage of plowed snow;
 - g). Emergency parking;
 - h). Temporary roadway adjustments during maintenance or traffic accident situations;
 - i). Future improvements.
4. When a subdivision and land development is proposed which fronts on an existing Municipal street, any required additional right-of-way shall be dedicated for only the lots and land development proposed. Right-of-way width dedication shall not be required for the remaining portion of the property, except (1) where the remaining road frontage is less than the required lot width

of a lot, and (2) where a traffic impact study warrants additional right-of-way width due to the impacts of the development to that portion of the road system.

5. Residential Access Street

a). Traffic Volume

- 1). Limiting traffic volumes for each residential access street class are tabulated in Table 5.5. Volumes shall be computed using trip generation rates provided in most recent data published by the Institute of Traffic Engineers for proposed use or housing type.

Table 5.5 Residential Access Street Limiting Traffic Volumes

Street Class	Limiting Traffic Volume (ADT)
RA-A	
Single Access	300
Multiple Access	800
RA-B	1600

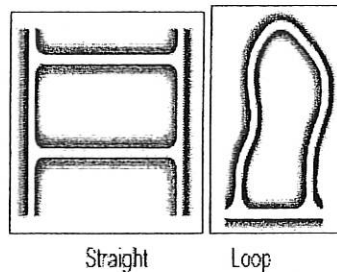


Figure 5.1 Through Streets - Streets Connected at Both Ends Are “Through Streets”

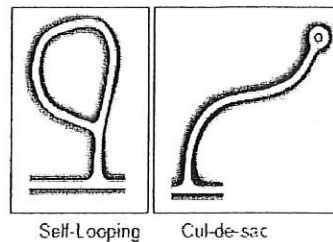


Figure 5.2 Single Access Streets – Self-Looping Streets and Cul-de-Sacs that have Only One Access Point are “Single Access Streets”

A. Design Standards

Residential access streets (RA) are classified as Type A (RA-A), and Type B (RA-B Design standards for each class follow.

1. Design Speed

Type A - 20 mph

Type B - 25 mph

2. Street Width

The following Tables provide design matrices for use in establishing street width.

The source is the Pennsylvania Standards for Residential Site Development, 2007 and reflects the Figure and Table numbers in that publication.

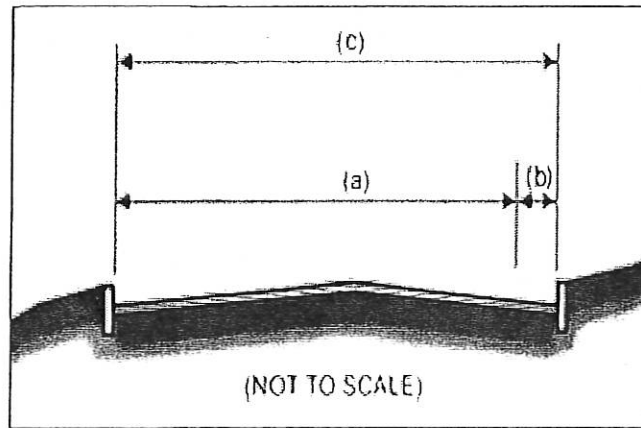


Figure 2.28. Cross-Section Profile -- Curbed Residential Access Street

Table 2-9. Residential Access Type A -- Curbed

Traffic Pattern	Parking Type	(a) Travelway Width* (ft.)	(b) Parking Lane Width (ft.)	(c) Street Width (curb to curb)
Yield **	One Side or Alternating Sides	10	8	18
Slow	Alternating Sides	18	8	26
Free	No Parking	18	n/a	18
Free	One Side	18	8	26

* All travelway widths are for two-way streets; for one-way use ½ of travelway width except for "yield" traffic pattern.

** Use only when ADT less than or equal to 300.

Table 2-10. Residential Access Type B -- Curbed

Traffic Pattern	Parking Type	(a) Travelway Width* (ft.)	(b) Parking Lane Width (ft.)	(c) Street Width (curb to curb)
Slow	Alternating Sides	20	8	28
Free	No Parking	20	n/a	20
Free	One Side	20	8	28
Free	Two Sides	20	8 each side	36

* All travelway widths are for two-way streets; for one-way use ½ of travelway width

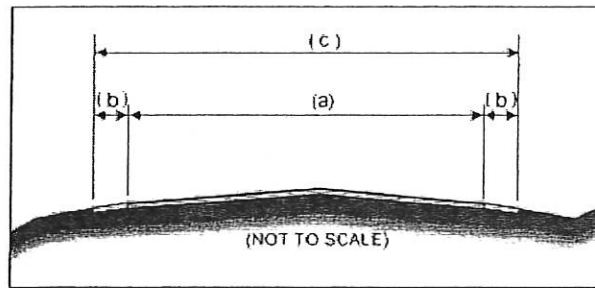


Figure 2.29. Cross-Section Profile -- Residential Access Street with Reinforced Shoulder

The first 2-feet of a "reinforced shoulder" shall be gravel in accordance with PennDOT standards for gravel shoulders. The remaining width of reinforced shoulder may be either a continuation of a gravel shoulder, stabilized grass, or a combination of both. Stabilized grass shoulders shall be constructed using a soil stabilizing geo-fabric or grid under a grass surface which will support occasional parking.

Table 2-11. Residential Access Type A -- Reinforced Shoulder

Traffic Pattern	Parking Type	(a) Travelway Width* (ft.)	(b) Shoulder Width (each side) (ft.)	(c) Street Width (shoulder to shoulder)
Free	No Parking	18	2 each	22
Free	One Side	18	2 on one side, 8 on parking side	28
Free	No Parking	18	8 each	34

* All travelway widths are for two-way streets; for one-way use 1/2 of travelway width

Table 2-12. Residential Access Type B -- Reinforced Shoulder

Traffic Pattern	Parking Type	(a) Travelway width* (ft.)	(b) Shoulder width (each side) (ft.)	(c) Street width (shoulder to shoulder)
Free	No Parking	20	2 each	24
Free	One Side	20	2 on one side, 8 on parking side	30
Free	Two Sides	20	8 each side	36

* All travelway widths are for two-way streets; for one-way use 1/2 of travelway width

E. STREET DESIGN

1). Horizontal Curves and Vertical Curves

- a). In order to provide adequate sight distance, facilitate traffic mobility and ensure proper alignment of streets, horizontal and vertical curve design shall be in accordance with the Pennsylvania Department of Transportation, Guidelines for Design of Local Roads and Streets -Publication No. 70M, as revised.
- b). Vertical Curves shall be used at all changes of grade and shall be designed for maximum visibility. All intersections and streets shall be designed to provide adequate sight distance

with regard to both horizontal and vertical alignment in accordance with A Policy on Geometric Design of Highways and Streets, AASHTO, current edition.

- c). Where tangent street lines deflect from each other at any one point, lines must be connected with a true, circular curve. The minimum radius of the center line for the curve must be as follows:

TABLE 5.6 – MINIMUM STREET RADII

Type of Street	Minimum Radius
Arterial	500 feet
Collector	300 feet
Local Road, Private Streets, R/W	150 feet

- d). Straight portions of the street must be tangent to the beginning or end of curves. Except for Local Roads, there must be a tangent of at least one hundred (100) feet between curves.

2. Intersection Design

- a). Intersection Angle.
 - 1). Intersections must be nearly right angles wherever possible. However, no street shall intersect another at an angle of less than seventy-five (75) degrees.
- b). Intersection Leveling Area and Grades.
 - 1). Intersections shall be approached on all sides by a straight leveling area. Such leveling area shall have a minimum of 50 feet (measured from the intersection of the *right-of-way*) within which no grade shall exceed a maximum of 5%.
- c). Intersection Separation Distance

- 1). Any street terminating at an existing or proposed street will do so in one of the two following ways: (1) directly across from the pre-existing or other newly proposed street as to create a four-way intersection, or (2) at least one hundred fifty (150) feet from any other intersection, existing or proposed. Offset intersections shall not be created by new streets.
 - 2). Intersections with an Arterial street shall be located not less than six hundred (600) feet apart, measured from centerline to centerline, along the centerline of the street.
- d). Multiple Intersections.
- 1). Intersections involving the junction of more than two (2) streets/driveways are prohibited.
- e). Intersection Curb Radii.
- 1). At intersection of streets the curbs or edge of pavement radii shall not be less than the following:

MINIMUM SIMPLE CURVE RADII

Intersection	Curb or Edge of Paving
Arterial with Collector	35'
Collector with Local Road, Private Street	25'
Local Road with Local Road	15'
Radius corners or diagonal cutoffs must be provided on the property lines substantially concentric with, or parallel to, the chord of the curb radius corners.	

Proper sight lines must be maintained at all street intersections. Adequate sight distances shall be provided at all intersections of streets, and for driveways intersecting a street. Sight distance must be provided with respect to both horizontal and vertical alignment. Sight distance shall be measured along the center line three and one-half (3.5) feet above grade, and ten (10) feet back from the edge of the pavement for driveways in accordance with the following:

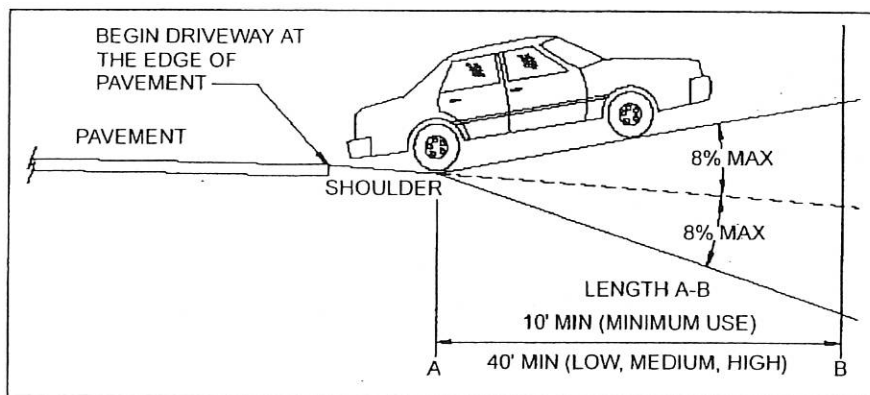
MINIMUM CLEAR SIGHT TRIANGLES

Street Type Triangle	Clear Sight
Arterial	150'
Collector, Local, Private Street	75'
Alley	25'
Driveway	10'

Notes:

1. No building or obstruction higher than thirty (30) inches above the centerline grade of the street shall be permitted in the site triangle. No signs other than traffic control signs and devices shall be permitted in the clear sight triangle.
2. The Municipal Engineer reserves the right to use posted speed limits or actual speed, determined by traffic study, and road grades to modify the calculation of the required sight triangles.

Figure 5.3 – Typical Driveway Profile



3. Street Construction

a). General Requirements

1). All street materials, construction procedures and testing requirements shall conform to the current editions of PennDOT Publication 408/2003; Publication 213; Publication 72M, Standards for Roadway Construction, Series RC-1M to 100M Publication 111M, Standards for Traffic Control Signing, Series 7700 and 7800, current edition, including all supplemental specifications, circular letters and amendments. All streets and related features shall be constructed to the line, grade and dimension shown on the plans, profiles and cross sections and typical sections as approved on the final land development plan.

b). Permits

Prior to the commencement of any construction activity within a public right of way or road, the developer, contractor or utility company shall obtain roadway construction /restoration approvals from the municipality, municipal engineer or public works department for opening, excavating and curb cuts within an existing public road, street or alley.

c). Surety

Any disturbance including but not limited to the excavation, restoration and resurfacing of public roads shall be bonded to 110% of the total cost of completion for the work. A probable construction cost estimate for the work will be submitted to the Municipal Engineer for review.

d). Stake Out

Prior to rough cut, all streets shall be laid out in accordance with the approved design plans using hubs and stakes to provide both horizontal and vertical control.

e). Excavation

- 1). This work shall include excavation for roadways, shoulders, ditches, drainage structures and stream channels.
- 2). All earthmoving activity and excavation shall be executed in strict compliance with approved Erosion & Sedimentation Plan, County Conservation District, Stormwater Ordinances and any applicable permits or

requirements of the local, state or federal jurisdictional agencies. (i.e. DEP, Army Corp, FEMA)

- 3). All suitable excavated materials, as determined by the Municipal Engineer, may be used for the construction and preparation of roadway embankments, sub-grades, shoulders, driveway approaches, ditches, structures, stream channels and required backfilling.
- 4). During construction, excavation shall be graded to drain in accordance with the approved Erosion and Sediment Pollution Control Plan and/or stormwater management ordinance.
- 5). During site preparation of an approved Subdivision or Land Development, stockpiles of stripped topsoil and/or excavated material shall be located within the required building setback lines.
- 6). The maximum height of the temporary topsoil stockpile areas shall be 30 feet high during the construction phase of the project. Stockpile areas may exceed the maximum 30 foot height at the discretion and inspection of the Dauphin County Conservation District and Municipal Engineer or staff. Temporary topsoil stockpiles shall be redistributed throughout the site within the limit of disturbance towards the completion of the project.
- 7). All earth disturbance and temporary and permanent stockpile areas shall be stabilized immediately and in compliance with the approved Erosion & Sedimentation Plan and the jurisdictional requirements of the Dauphin County Conservation District.

F. Grades

The grades of streets shall not be less than the minimum or more than the maximum requirements listed below:

TABLE 5.7 MINIMUM & MAXIMUM STREET GRADES

Type of Street	Minimum Grade	Maximum Grade
Arterial	As determined by the Municipality and after consultation	

with the Township/Borough Traffic Engineer and Pennsylvania Department of Transportation.		
Collector	1 %	8%
Local Road	1 %	10%
Alley	1 %	12%
Other	1%	10%

Note: Road designations for public use should not exceed grades of 10% or greater for more than 400 feet in length.

G. Embankments and Slopes Adjacent to Streets

- 1). Material for the construction of embankment shall consist of all excavation on the project except such materials as may be determined to be unsuitable under Penn DOT Publication 408/2003, current edition, and when required will include borrowed excavation.
- 2). Placement of embankment shall be in layers not to exceed 8 inches prior to compaction.
- 3). Slope of embankment(s) along streets measured perpendicular to the street center line shall be no steeper than one (1) foot of vertical measurement for three (3) feet of horizontal measurement for fills or one (1) foot of vertical measurement for two (2) feet of horizontal measurement for cuts.

H. Street Cartway / Pavement Construction Standards

- 1). Local streets shall be designed in accordance with this Article and shall be surfaced to the grades and dimensions drawn on the plans, profiles, and cross-sections submitted by the Applicant and approved by the municipality, municipal engineer or public works department. Before paving the street surface, the Applicant shall install the required utilities and provide adequate underdrains and stormwater drainage for the streets, as deemed acceptable to the municipality, municipal engineer or public works department. The pavement base and wearing surface must be constructed according to the following specifications.

- 2). Streets must be constructed to the grades and dimensions depicted on the plans, profiles, and cross sections submitted by the applicant and approved by the Municipal Engineer.
- 3). Before any street construction can begin, the applicant must install the required utilities and provide, where necessary, adequate stormwater drainage from the street.
- 4). Pipe under drain and pavement base drain shall be installed according to the specifications set forth in Section 610 of the current edition of the Pennsylvania Department of Transportation Specifications, Publication 408, at such locations and in such quantities as determined necessary by the Municipal Engineer. Field conditions may cause underdrain and pavement base drain to be installed at locations not depicted on approved drawings.

I. Inspections

- 1). All street construction shall be subject to inspection at anytime by the Municipality or its agent; including but not limited to road section construction/resurfacing and the installation or replacement of utility & drainage structures.
- 2). A preconstruction meeting shall be held at the start of a project with a representative of the Municipality to determine what inspections will be required.
- 3). At a minimum, the following inspections and approval shall be made:
 - Inspection and approval of the sub-grade immediately prior to the installation of the sub-base.
 - Inspection and approval of the subbase immediately prior to the installation of the base course.
 - Inspection and approval of the base course immediately prior to the installation of the wearing course.
 - Final inspection of the completed street and related improvements in conformance with Article V, Section 510 of the Pennsylvania Municipalities Planning Code, Article 247 of 1968, as amended.

- 4). The developer shall notify the Municipality or it's agent a minimum of 24 hours in advance of each required inspection.
- 5). Copies of all stone and material delivery slips shall be kept on file and be made available for inspection until final approval by the Municipality is received.

J. Specifications

The sub grade, sub base, base course, binder course, and wearing course of new, reconstructed, or resurfaced streets shall be designed strict compliance with PennDOT Publication 242 & PennDOT Publication 408, as amended.

1). Arterial Roads

The developer shall consult with the Municipality in the matter of a Municipal-owned arterial street, and shall consult with the Pennsylvania Department of Transportation in the matter of Pennsylvania-owned arterial streets. The street specification shall be governed by whichever entity owns or will own the street. Unless special conditions exist, it shall be the Township policy to follow the construction standards of the Pennsylvania Department of Transportation.

2). Collector Roads:

- Sub-Grade: Prior to the installation of the stone sub-base, the existing sub-grade shall be prepared according to the specifications set forth in PennDOT Specifications, Publication 408, current edition or as amended.
- Stone Sub-Base: The stone sub-base shall consist of 6 inches of compacted No. 2A crushed aggregate.
- Base Course: The base course shall consist of SAMD HMA Base Course, PG 64-22, 0.3 < 3 million ESALs, 25.0 mm with a 3 inch depth.
- Binder Course: The binder course shall consist of SAMD HMA Binder Course, PG 64-22, 0.3 < 3 million ESALs, 19.0 mm with a 2 ½ inch depth.
- Wearing Course: The wearing course shall consist of SAMD HMA Wearing Course, PG 64-22, 0.3 < 3 million ESALs, 9.5 mm with a 1 ½ inch depth.

3). Local/Minor Roads

- Sub-Grade: Prior to the installation of the stone sub-base, the existing sub-grade shall be prepared according to the specifications set forth in PennDOT Specifications, Publication 408.
- Stone Sub-Base: The stone sub-base shall consist of 6 inches of compacted No. 2A crushed aggregate.
- Base Course: The base course shall consist of SAMD HMA Base Course, PG 64-22, 0 < 0.3 million ESALs, 25.0 mm with a 4 inch depth.
- Wearing Course: The wearing course shall consist of SAMD HMA Wearing Course, PG 64-22, 0 < 0.3 million ESALs, 9.5 mm with a 1½ inch depth.

4). Cul-de-Sacs

- Use Local/Minor Road Base and Paving Materials

5). Alleys & Service Roads

- Sub-Grade: Prior to the installation of the stone sub-base, the existing sub-grade shall be prepared according to the specifications set forth in PennDOT Specifications, Publication 408.
- Stone Sub-Base: The stone sub-base shall consist of 6 inches of compacted No. 2A crushed aggregate.
- Binder Course: The binder course shall consist of SAMD HMA Base Course, PG 64-22, 0 < 0.3 million ESALs, 19.0 mm with a 2½ inch depth.
- Wearing Course: The wearing course shall consist of SAMD HMA Wearing Course, PG 64-22, 0 < 0.3 million ESALs, 9.5 mm with a 1½ inch depth.

K. Additional paving items that may be required for each street classification

Mixture Design, HMA Binder Course. This course shall conform to Section 409 of the current edition of the Pennsylvania Department of Transportation Specifications, Publication 408.

- 1). Binder Leveling Course. Superpave Asphalt Mixture Design, HMA Wearing Course (Scratch). This course shall conform to Section 409 of the current edition of the Pennsylvania Department of Transportation Specifications, Publication 408.
- 2). Scratch Course. Superpave Asphalt Mixture Design, HMA Wearing Course (Scratch). This course shall conform to Section 409 of the current edition of the Pennsylvania Department of Transportation Specifications, Publication 408.
- 3). Bituminous Tack Coat. This tack coat shall conform to Section 460 of the current edition of the Pennsylvania Department of Transportation Specifications, Publication 408.
- 4). Skid Resistance Level (SRL): All new construction, overlays, and resurfacing work shall use the following guidelines to determine the appropriate SRL for the coarse aggregate used in the bituminous wearing course:

Initial or Current Two-Way ADT*	SRL Designation
Above 20,000	E
5,001 - 20,000	E, H, Blend E/M Blend E/G
3,001 - 5,000	E, H, G Blend of H/L, Blend E/L
1,001 - 3,000	Blend of H/Lm Blend of G/L, Blend of E/L.
1- 1,000	Any

Note: When all traffic for the street travels in one direction, divide the ADT (Average Daily Traffic) values shown above by 2 to determine the require SRL.

L. Street Crown and Curbs

- 1). A public street must be designed to provide for the discharge of surface water from its cartway and right-of-way.
- 2). The slope of the crown on a street shall be not less than 1/8 of an inch per foot and not more than 3/8 of an inch per foot measured perpendicularly from the centerline of the street, unless special

designs, such as super elevation, required alternate slope designs which shall be reviewed on an individual basis by the Municipality.

- 3). Superpave Asphalt Mixture Design, HMA Binder Course or Superpave Asphalt Mixture Design, HMA Wearing Course (Scratch) shall be used to provide proper crown on resurfaced sections of streets when directed by the Municipality.
- 4). Paving of bituminous pavement courses will not be allowed between the dates of October 15 and April 15 without the expressed written permission of the Municipal Engineer.

M. Shoulders

- 1). Shoulders shall be provided where curbing is not required and shall conform to Penn DOT Type 6 Shoulders as shown on Penn DOT RC-25M.
- 2). The developer, contractor or applicant may incorporate the use of open swales in lieu of typical design standards at the discretion of the municipality, municipal engineer or public works department.

N. Curbs

- 1). Curbs shall be installed in all subdivision and land developments in order to control stormwater runoff, prevent erosion, prevent the deterioration of public streets and provide a contained area for vehicular movements. The Planning Commission, upon recommendation of the Municipality, may waive the requirements of curbs through the modification of requirements procedures in Article 9 of this Ordinance. In cases where curbs are not provided, stabilized/reinforced shoulders of six (6) to eight (8) feet width shall be provided.
- 2). Curbs shall be constructed on both sides of the interior streets and on the side of any street that bounds the development.
- 3). Curbs shall be constructed of concrete and designed as vertical or slant type. The height of vertical curbs shall be eighteen (18) inches. The width of vertical curbs shall be eight (8) inches. The height of slant curbs shall be twelve (12) inches at the face and sixteen (16) inches at the back of the curb. The width of slant curbs shall not be less than fourteen (14) inches.

- 4). Curbs shall be inspected by the Municipal Engineer after the forms or grade pins and string lines for slip forming have been placed, and after completion of all work.
- 5). Terminal concrete curb ends shall have an exposed face of two inches (2) and be tapered two feet.
- 6). Backfill shall be installed within forty-eight (48) hours after slip forming or removal of curb forms and the backfill shall be compacted in place along the rear face of the curb within a minimum of four inches (4") below the top of the curb.
- 7). All new curbing installed to meet existing curbing shall be pinned in place to existing curbing.
- 8). When curbing is to be removed to construct a driveway or access drive, the length of curbing to be removed shall be carried to the nearest expansion joint or saw cut if the joint is located less than five feet (5) from the end of the curb removal.
- 9). Vertical curb height at driveway entrances may be reduced to a minimum of one and one half (1 1/2) inches for driveway entrances along streets where curbs are required.
- 10). No partial breakout of the curb shall be permitted. No cutting of the curb shall be permitted without approval by the municipality or municipal engineer.
- 11). Curb ramps must be installed in accordance with ADA requirements, as amended.

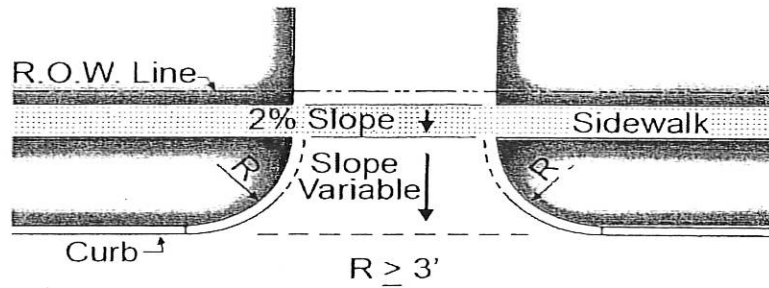
O. Curb Cuts

- 1). The minimum curb cut or driveway width at the cart way edge shall be 10 ft. The maximum curb cut or driveway width at the cart way edge shall be 20 ft.
- 2). The applicant shall be required to formally request permission and approval from the municipality to execute work within the public right of way and allow the municipalities Engineer/Public Works Department to inspect and confirm that the proposed work is in strict compliance with Penn Dot Publication 408, as amended and current constructability practices and specifications.

- 3). All existing curbing and sidewalks shall be removed in sections extending from the nearest expansion joint to expansion joint. All new curb sections and curb returns shall be pinned to the existing curbing and constructed in compliance with Penn Dot Publication 408, as amended.

P. Curb Return Entrance

A curb return entrance is illustrated below. When curb return entrances are used, the curb shall have a minimum 3-foot radius. However, any driveway PennDOT right-of way shall be designed in accordance with PA Code Title 67, Chapter 441.

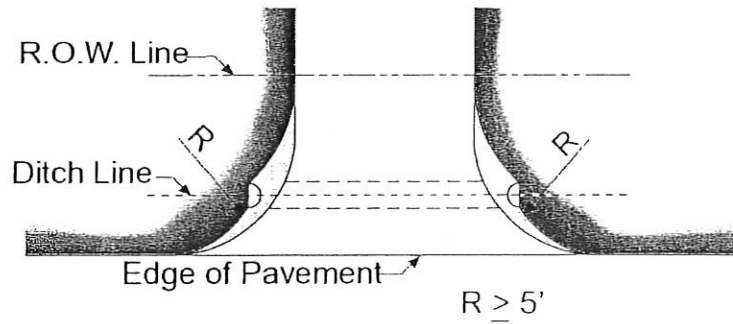


Typical Curb Return Entrance

Note: for driveways entering into Penn DOT ROW, design shall be in accordance with standards in PA Code Title 67, Chapter 441. Modified from Source: AASHTO (Source: Pennsylvania Standards for Residential Site Development, 2007)

Q. Non-Curbed Entrances

Non-curbed driveway entrances shall have a minimum edge-of-pavement radius of five (5) feet as illustrated below.

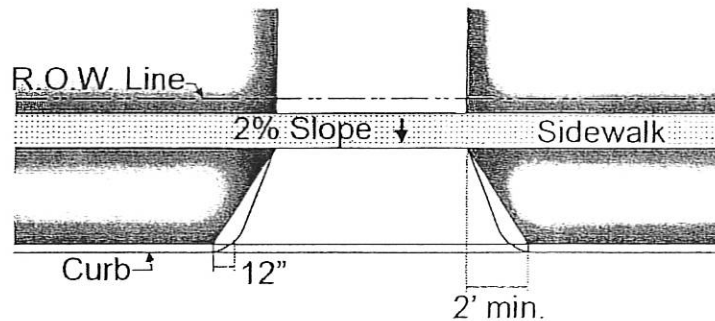


Typical Non-curbed Driveway Entrance

Modified from Source: AASHTO (Source: Pennsylvania Standards for Residential Site Development, 2007)

R. Flared Entrances

When flared driveway entrances are used, a minimum of a 2-foot flair shall be provided. A typical flared entrance is illustrated below.



Typical Flared Driveway Entrance

Modified from Source: AASHTO (Source: Pennsylvania Standards for Residential Site Development, 2007)

Proposed Commercial and Industrial development shall provide a minimum 24' wide access drive with a minimum 35' radius to allow for anticipated Truck Turning Movements and larger vehicles.

S. Underdrains

- 1). Under drains shall be required in low points on the street at a distance equal to the length of the vertical curve, and as necessary to address springs, spring like conditions or spongy areas under the road. Under drains required shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408/2003, as amended, and as detailed on the Roadway Construction Standard Drawings (RC-30).
- 2). Combination storm sewer, clear water and underdrains shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408/2003, as amended, and as detailed on the Roadway Construction Standard Drawings (RC-30).
- 3). Where required, underdrains shall be constructed prior to base course construction.
- 4). Underdrain shall be inspected by the Municipal Engineer or his designated agent after completion of all work, just prior to the base course application.

T. Street Trees

- 1). Trees shall be permitted within the public right-of-way of streets.
- 2). All new trees shall be certified nursery stock, symmetrical in growth, and free of pests, disease, or injury. Tree trunks shall have a minimum 2 ½ inch caliper, measured a minimum of six inches above the soil line when planted, with height-diameter relations and root ball sizes conforming to the American Standard for Nursery Stock (American landscape and Nursery Association, 2004). Trees shall be spaced at the intervals no greater than 40 feet along both sides of each street or determined from the anticipated crown width of the tree at maturity. The planting strip area between the curb and sidewalk shall be seeded. Street trees shall be required along with all existing and new streets within a subdivision land development. Where provided, such trees shall be planted between the sidewalk and the building setback line at least five feet from the sidewalk, provided the planting strip is a minimum of six feet wide.
- 3). Reasonable effort shall be made by the applicant to preserve healthy existing shade trees. Shade trees shall be required along with all existing and new streets within a subdivision land development.

Where provided, such trees shall be planted between the sidewalk and the building setback line at least five feet from the sidewalk, provided the planting strip is a minimum of six feet wide.

- 4). Location. Street trees may be installed along the street frontage on both sides of the street, where applicable. Street trees shall be planted along the street frontage within five feet of the right-of-way line. Where trees are planted along streets, spacing shall depend on the tree spread at maturity as follows:

Tree Spread at Maturity	Planting Interval
Large -- more than 50 feet	40 to 80 on center
Medium 31 to 50 foot	25 to 55 feet-on center
Small -- less than 30 feet	15 to 35 feet-on center

- 5). When the spacing interval exceeds 40 feet, small ornamental trees may be placed between the large trees. If a street canopy effect is desired, trees may be planted closer together, following the recommendations of a landscape architect.
- 6). Street trees shall be planted as not to interfere with utilities, roadways, sidewalks, streetlights, clear sight triangles, and safe sight distance.
- 7). All trees with branches overhanging sidewalks and/or streets shall be kept trimmed to a minimum height of 8 feet over sidewalks and to a height of 16 feet over streets from curb to curb or between edges of pavement.
- 8). Species shall be selected according to the following criteria:
 - Street tree species shall be selected that are appropriate and adaptable for use and existing conditions along existing or proposed roads. The applicant shall select species based on trees mature size and spread, limiting excessive vegetative litter and root systems that will not jeopardize existing and

proposed sidewalks, curbing and utility structures and lines (i.e. Storm, sanitary sewer, water cable, electric etc.)

- Long-lived (over 60 years).
 - Be tolerant of pollution and direct or reflected heat.
 - Be able to survive two years with no irrigation after establishment.
 - All plant material should be of native origin. Species invasive to native Pennsylvania flora and ecosystems as established by the Pennsylvania Department of Conservation and Natural Resources are not permitted.
 - Cultured in nursery for use as street trees.
 - Appropriate for local climate extremes.
 - Appropriate for site and soil conditions.
 - Relatively maintenance free (no excessive pruning, messy fruit or flowers).
 - Mechanically strong (not brittle) and resistant to storm damage.
 - Resistant to insect and disease damage.
 - Where overhead utility lines are present within the right-of-way, tree species shall be those which do not exceed 30 feet at maturity.
- 9). The applicant shall refer to the Penn State Street Facts Sheets – 1993, Pennsylvania State University. This is a reputable reference manual for the specifications of Street Trees with additional background and care information.
- 10). Under specific circumstances, Non-native species may be acceptable at the discretion of the Dauphin County Planning Commission, Municipality and Municipal Engineer.
- 11). Plans for new street trees and/or replacement of existing street trees shall be submitted to any Municipal Environmental Advisory Council/Parks and Recreation Board or Street Tree/Shade Tree Commissions, if any for review, and recommendations to the

municipality and County Planning Commission. Viable alternative plans not meeting these standards for street trees may be considered.

- 12). All approved landscaping & street trees within the public right-of-way shall be bonded at the rate determined by the Municipal Engineer.
- 13). Trees shall be planted and protected in accordance with nursery and landscape Best Management Practices (BMPs).
- 14). Trees shall not be planted until final construction and grading within the right-of-way are completed.

U. Sidewalks

- 1). Sidewalks shall be required in all subdivision or land developments.
- 2). In residential developments sidewalks shall be provided where lot sizes is less than or equal to 22,000 square feet (1/2 acre). Sidewalks shall be located on both sides of the street having average lot frontages (width at the front setback line) equals to or less than 100 feet. Where average lot frontages are greater than 100 feet but less than 125 feet, sidewalks shall be located along at least one side of the street.
- 3). Sidewalks must be at least 4 feet wide. In the vicinity of shopping centers, schools, recreation areas, high pedestrian traffic areas and within public rights-of-way, sidewalks must be at least 5 feet wide.
- 4). Sidewalks shall also be provided along both sides of all collector roadways. In addition, sidewalks or accessible pathways should be considered along all residential collector roadways to enhance pedestrian connectivity among neighborhoods, commercial centers, and other pedestrian destinations.
- 5). At the discretion of the Municipal Engineer, the Municipality may consider allowing the installation of sidewalk on only one side of the street under certain circumstances and conditions. The required sidewalk along one side of the road will also reduce the impervious cover and allow for additional road side infiltration and the installation of road side open swales.

- 6). Sidewalks shall be located within the right-of-way of the street and extend in width from the right-of-way line toward the curb line.
- 7). All new and replacement sidewalk shall have a minimum 4 inches of 2b crushed aggregate placed under the sidewalk and shall have a minimum 4 inch thickness of 3,000 psi concrete.
- 8). In order to provide for the drainage of surface water, sidewalks shall slope from the right-of-way line toward the curb. Such slope shall be one fourth (1/4) inch per foot.
- 9). Sidewalks shall be boxed out around light standards, fire hydrants, signs, etc., with a pre-molded expansion joint, one quarter (1/4) inch in thickness.
- 10). Where a sidewalk abuts a curb, wall, building or any other structure, a pre-molded expansion joint of one-quarter (1/4) inch of thickness, shall be placed between the sidewalk and said structure for the full length of said structure.
- 11). All sidewalks within the public right-of-way shall be located 6 inches from the right-of-way line to allow for the monumentation of the right-of-way or property corners and future maintenance within the right-of-way.
- 12). The Municipal Engineer or designated agent shall conduct a pre-pour inspection of sidewalk location; inspect the sub-base and concrete forms prior to the installation and pouring of concrete. The Municipal Engineer will also inspect the sidewalk after completion.
- 13). Any stabilized pedestrian walks proposed in addition to required sidewalks shall be approved by the Municipal Engineer. Interior pedestrian walks within blocks shall be located in easements not less than ten (10) feet in width.

V. Pedestrian Paths, Bike & Trail Systems

- 1). The development and design of bikeway facilities should incorporate and reflect the criteria presented in the AASHTO publication "Guide for Development of Bicycle Facilities" and the PennDOT Design Manual, Part 12, Chapter 16.
- 2). Trails are paved multi-purpose facilities whose primary function is to provide pedestrian interconnectivity between neighborhoods and other destinations. They are used primarily for walking and biking.

These trails have the heaviest use. These trails can also be used for emergency access.

- 3). A trail system should be located to provide pedestrian circulation through and between neighborhoods, and to other recreational and commercial destinations. Trails can also be used as a substitution for sidewalks to provide circulation routes parallel to residential collector streets. Trails shall be located within public rights-of-way or easements to which access is not restricted.
- 4). Any trail identified on the official map of the municipality that crosses over or adjacent to the land included within the development proposal shall be designed and installed as a part of the infrastructure improvement for the development. The municipal governing body may waive this requirement at their discretion.
- 5). A separate bicycle path shall be required when such paths are required as part of an adopted municipal plan or recommended by the planning commission/recreation board.
- 6). The bicycle path should have a minimum right-of-way / easement width of ten (10) feet within the development to insure public use.
- 7). The surface material shall be either bituminous mixes, concrete, limestone dust or an equivalent stabilized material depending on the intensity of development and shall be approved by the Planning Commission.
- 8). The grade of bicycle paths shall not exceed five percent (5%), except for short distance the grade shall not exceed fifteen percent (15%).
- 9). The radius of curvature shall be based on the grade of the path entering the curve. The radius shall be determined as below.

Percent Grade	Minimum Radius
0-5%	70 feet

5-15%	125 feet
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- 10). Design consideration shall consider the intersection of bicycle path and a street to provide maximum safety.
- 11). Design consideration should be made for connection to adjacent bicycle paths.

W. Streets Signs, Names, and Numbering

- 1). Where signs are required in conjunction with a subdivision and or land development plan, it shall be the responsibility of the applicant/developer to provide street name signs and traffic control signs for the development in accordance with the approved signage plan and the Municipal specifications if provided or meet the following standards.
- 2). The design and placement of traffic control and other street signs placed in a public right-of-way shall follow the requirements specified in the most current edition of the FHWA Manual of Uniform Traffic Control Devices for Streets and Highways.
- 3). On non-public streets, all traffic control signs must be designed in accordance with the most recent version of the Manual of Uniform Traffic Control Devices for Streets and Highways. Non-traffic control signs on non-public streets do not have to meet these standards.
- 4). At least one street-name sign pole shall be placed at each intersection identifying all crossing street names. Signs shall be placed so that they do not obstruct sight distances, and shall be under light standards if present. The design of street-name signs shall be consistent, of a style appropriate to the community, of a uniform size and color, and erected in accordance with any municipal standards.
- 5). At signalized intersections, street signs shall be located on the overhead arm supporting the traffic signal, otherwise suitably suspended over the intersection. Street clearance shall be a minimum of 16 feet and 6 inches from the bottom of any sign or supporting equipment and the top of the paved surface.
- 6). Names of new streets shall not duplicate or display similarities in sound or spelling with respect to existing or planned street names, or

approximate such names by the use of suffixes such as "lane", "way", "drive", "court", "avenue". In approving the names of streets, cognizance should be given to existing or planned street names within the postal delivery district served by the local post office and emergency service providers. New streets shall bear the same name or number of any continuation of alignment with an existing or planned street.

- 7). In order to ensure efficient identification and location of homes and residences by emergency response units, a systematic approach to residence numbering is desired. Building Numbers for residential and commercial subdivisions on existing and future Municipal streets shall be coordinated with existing residence address ranges where possible.

SECTION 507. LIGHTING

1. Lighting may be provided for all proposed subdivisions and land developments.
2. Streetlights may be provided with the construction of all new streets. A plan for streetlights, approved by the local utility company, shall be provided by the applicant upon submission of final Subdivision or land development plans.
3. Streetlights may be provided at locations designated by the local utility company, consistent with current policy, at all street intersections and all other locations considered necessary for safety reasons as approved by the Governing Body.
4. Requirements. Exterior lighting may be provided in parking areas, pedestrian sidewalks and walkways, and nonresidential driveway intersections in accordance with the following standards. Lighting used for security purposes shall also conform to the following standards. These regulations permit an option of providing a lower light post for luminaries with a no cutoff design or a higher pole, up to 60 feet, for luminaries that totally cut off light spillover at a cutoff angle smaller than 90 degrees. The maximum height light post permitted shall be dependent upon the amount of cutoff provided. Exterior lighting shall meet one of the following standards
5. When the light source or luminaire has no cutoff:

Maximum Permitted	Maximum Permitted
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Illumination (foot candles)	Height of Luminaire (feet)
Residential equals 0.2	10
Nonresidential equals 0.3	20

6. When a luminaire has a total cutoff angle greater than 90 degrees, the maximum illumination and the maximum permitted luminaire height shall be:

Zoning District	Maximum Permitted Illumination (foot candles)	Maximum Permitted Height at Illumination (feet)
Residential	0.75	25
Residential Multifamily	1.0	30
Commercial	1.5	35
Manufacturing /Industrial	2.0	40

7. When a luminaire has a total cutoff of light at an angle less than 90 degrees and is located so that the bare light bulb, lamp, or light source is completely shielded from the direct view of an observer five feet above the ground at the point where the cutoff angle intersects the ground, then the maximum permitted illumination and maximum permitted height at the luminaire shall be:

Zoning District	Maximum Permitted Illumination (foot candles)	Maximum Permitted Height at Illumination (feet)
Residential	1.5 to 2.0	25
Residential Multifamily	2.0	35
Commercial	3.0	40
Manufacturing /Industrial	5.0	60

8. Because of their unique requirements for nighttime visibility and their limited hours of operation, public and private recreational uses such as ball diamonds, playing fields, tennis courts, and volleyball courts are exempt from the above requirements.
9. Outdoor public and private recreational uses specified above shall not exceed a maximum permitted post height of 80 feet.
10. Outdoor public and private recreational uses may exceed a total cutoff angle of 90 degrees, provided that the luminaire is shielded to prevent light and glare spill over to adjacent residential uses. The maximum permitted illumination at the interior buffer yard line shall not exceed two foot candles.
11. Low level pedestrian lighting for sidewalks should be provided as necessary for safety. Low level sidewalk illumination for nonresidential uses shall be between 0.5 to 0.1 foot candle. Low level sidewalk illumination for residential uses shall be between 0.2 to 0.13 foot candle.
12. Additional Requirements
 - A. Flickering or flashing lights shall not be permitted.
 - B. Light sources or luminaries shall not be located within buffer yard areas except for pedestrian walkways.

- C. The location and type of lighting required by this chapter shall be shown on the site plan submitted for development.
- D. Low level pedestrian lighting for sidewalks should be provided as necessary for safety. Low level sidewalk illumination for nonresidential uses shall be between 0.5 to 1.0 foot candle. Low level sidewalk illumination for residential uses shall be between 0.2 and 0.3 foot candle.

SECTION 508. UTILITIES

- 1. Telephone, electric, gas, TV cable and such other utilities shall be installed and provided with easements to be dedicated for such utilities and in accordance with plans approved by the Municipality and the applicable utility company.
- 2. Costs of any relocation of public utilities shall be the responsibility of the developer.
- 3. Any underground installation of the utility distribution and service lines shall meet the prevailing standards and practices of the company providing the service and shall be completed prior to street paving and gutter, curbing and sidewalk installation.
- 4. In accordance with the provisions of PA Act 38, as amended, the applicant shall contact all applicable utilities and accurately determine and show the location and depths of all underground utilities within the boundaries of the tract proposed for development and in the vicinity of any proposed off-site improvement, prior to excavation.
- 5. Prior to final approval, the developer shall provide documentation from all applicable utility providers that adequate or upgraded utility service can be maintained and provided to existing and proposed uses, prior to the issuance of the municipalities approval of the Final Land Development Plan and the issuance of building permits.

SECTION 509. EASEMENTS

A. GENERAL

- 1. All easements shall be established to provide access from a public right-of-way.

2. Proposed buildings, landscaping and plant material are not permitted to be installed with a utility easement.
3. The minimum required easements may be increased at the discretion of the Municipal Engineer for unique circumstances or conditions.

B. UTILITIES

Easements shall be provided for poles, wires, conduits, storm and sanitary sewer lines, gas, water and heat mains, and other utilities intended to serve the abutting lots and for access to facilities. The minimum width of utility easements shall be thirty (30) feet. Wherever possible such easements shall be centered on the side or rear lot lines, or along the front lot lines.

C. STORM WATER, SANITARY SEWAGE AND CLEAR WATER COLLECTION SYSTEMS

Where a subdivision and/or land development is traversed by storm water, sanitary sewage or clear water collection system facilities, a utility easement shall be provided. In no case shall the easement be less than thirty (30) feet in width. Additional width may be required by a Municipality, depending on the purpose and use of the easements. All storm water easements are to be dedicated to private property owners unless the easement is designed to carry storm water away from storm water infrastructure already owned by the Municipality.

D. STREAM, WATERCOURSE, DRAINAGE CHANNEL, POND OR LAKE

- 1). Where a subdivision and/or land development is traversed by a watercourse, drainage way, channel or stream, there shall be provided a drainage easement conforming substantially with its location for the purpose of widening, deepening, relocating, improving or protecting such watercourses, provide proper maintenance, or for the purpose of installing a storm water or clear water system. The following standards shall apply:
- 2). Perennial Stream easements should be a minimum 50 feet from the top of the stream bank.
- 3). Intermittent stream, drainage way, channel or swale - Fifty (50) feet from the edge of the watercourse.

- 4). An access easement shall be provided to the drainage easement. The width of such access points shall not be less than thirty (30) feet.
- 5). In no case shall any drainage easement be less than thirty (30) feet in width or determined based on 100 year flood plain whichever is greater. Any such easement shall be dedicated, if deemed appropriate by the Municipality, to private property owners or other third parties.

E. CONSERVATION

- 1). Where environmental protection and flood plain overlay zones exist, a conservation easement shall be depicted on the plan within the overlay area.
- 2). Conservation easements should be provided a minimum 50 feet for the perimeter of all jurisdictional and delineated wetlands.

F. PEDESTRIAN

Where necessary for access to private, public or common lands, a pedestrian easement shall be provided with a width of not less than ten (10) feet. Additional width, fencing and/or planting may be required by the Municipality, depending on the purpose and use of the easement.

SECTION 510. WATER SUPPLY

Each new use created in a municipality shall be individually self-sufficient for water supply and the water supply system. The Applicant shall provide an adequate and potable water supply and distribution system to service the proposed subdivision or land development which shall be:

- individual,
- public, or
- private community and maintained and operated in accordance with the PA Department of Environmental Protection (DEP).

The purpose of these provisions are to ensure that each dwelling unit and each commercial and industrial building in all subdivisions hereafter granted approval shall have an adequate supply of potable water for domestic use and for fire protection.

A. HYDROGEOLOGIC/WATER SUPPLY STUDY

- 1). Hydrogeologic/Water Supply Study for ground water supply shall be required for greater than twenty-five (25) residential dwellings (single or cumulative), or commercial industrial or recreational uses which propose the single or cumulative groundwater system greater than seven thousand five hundred (7500) gallons per day
- 2). The Hydrogeologic/Water Supply Study shall be prepared by a Professional Engineer or Hydrogeologist experienced in the field and procedures involved. Two (2) copies of the report shall be submitted in conjunction with Preliminary and Final Plans for review by the Municipal Engineer.
- 3). The Hydrogeologic/ Water Supply Study shall be prepared as a written report and shall include the following basic data in textual and tabular form:
- 4). A project narrative describing the overall project.
- 5). Study Area - The Study shall focus on the development site and an area of 1/4 mile buffer surrounding the site.
- 6). Study shall consist of an examination of the possible use of on-site water supply systems and the impact of such systems on ground water supply, connection to an existing water supply system or the construction of a central community system.
- 7). The Study shall include a complete geologic profile and plan and a discussion of the effect of the proposed development and construction activity on the ground water supply.
- 8). The study shall also include a statement and justifiable analysis by the professional firm as to the sufficiency of the subsurface aquifers to support on-lot water systems for the proposed development, verified by well testing and other appropriate means, as well as analyzing the impact on existing sources.
- 9). The Study shall describe the distance from the nearest public water supply system and the capacity of the system to accommodate the proposed subdivision and/or land development.
- 10). Where a central community water system is proposed, the report shall provide evidence that the system will have an adequate supply of potable water for domestic or other proposed use and

that each unit or building will have adequate supply for the purpose of fire protection.

B. ON-LOT WATER SUPPLY

- 1). Where there is no existing public water supply and the Hydrogeologic/Water Facilities Study indicates that connection to a public water supply system or central community system is not feasible, each lot in the development must be provided with an individual on-lot water supply system in accordance with the standards required by the Pennsylvania Department of Environmental Protection (DEP). The (Name of Governing Body) shall approve the use of individual on-lot water supply systems (wells) when:
- 2). The Hydrogeologic/ Water Feasibility Study indicate that justification of the project necessitates the use of this type of water supply;
- 3). The anticipated water supply yield is adequate for the type of development proposed;
- 4). The installation of an on-lot system(s) will not endanger or decrease the groundwater supplies to adjacent properties.
- 5). Construction of wells for individual small water supplies shall conform to DEP's Construction Standards for Individual Water Supplies, as revised.

C. PUBLIC WATER SUPPLY

- 1). Where there is an existing public water supply system within one-thousand (1,000) feet from a proposed subdivision and development and such system has adequate planned capacity and is willing to serve that subdivision or land development, a complete water supply system connected to the existing water supply system must be provided and fire hydrants shall be installed in accordance with this Ordinance.
- 2). Where plans approved by a public water supplier provide for the installation of such public water supply system within 4 years, the developer shall provide a complete dry water system for connection to the planned water main supply system.

- 3). Where connection to a public water supply is possible or feasible, the plan for the installation of such water supply system must be prepared for the development with cooperation of the appropriate water utility company and reviewed by the Municipal Engineer.
- 4). Where a public water supply system is not feasible for the proposed development as evidenced in the Hydrogeology/Water Facilities Study, developer shall provide information related to the construction and installation of a central community water supply system.

D. CENTRAL COMMUNITY WATER SUPPLY SYSTEM

- 1). The design and installation of a central community water supply system shall be subject to the approval of the Municipality and the PA Department of Environmental Protection (DEP).
- 2). Standards and materials for the construction of any central community water supply system shall meet or exceed those requirements described in the Public Water Supply Manual of the Pennsylvania Department of Environmental Protection (DEP) and shall be subject to approval by the Township/Borough Engineer. Where a permit is required by DEP, it shall be presented as evidence of such review and approval before construction of the system will commence.
- 3). Where the central community water supply system is proposed under the jurisdiction of the Pennsylvania Public Utilities Commission (P.U.C.), the water supply study shall also incorporate those items of information required by the P.U.C.
- 4). The central community water system shall be designed to furnish an adequate supply of water to each lot, with adequate water main sizes and fire hydrant locations to meet the specifications of the Middle States Department Association of Fire Underwriters. A technical study shall be submitted to the Township/Borough for review by the Township/Borough Engineer and Fire Marshal. Fire hydrants shall be placed and constructed in accordance with Section (E) below of this Ordinance.
- 5). All suitable agreements, including financial guarantees shall be established for the ownership and maintenance of the system. Ownership and maintenance of the central community water

system shall be the responsibility of an organization formed and operated in accordance with Section 518 of this Ordinance. Such a system shall be designed and constructed in a manner that would permit adequate connection to a public water supply system in the future.

- 6). All water systems located in flood-prone areas, whether public or private, shall be flood proofed to a point one and one-half (1-1/2) feet above the one hundred (100) year flood elevation.
- 7). Ground Water for Central Community Water Systems
- 8). Ground water for community water systems must conform to the Pennsylvania Department of Environmental Protection requirements and standards. A minimum of two (2) sources of ground water must be provided for each community water system. Each ground water source shall be capable of supplying the average daily demand of the proposed uses.

E. FIRE HYDRANTS

- 1). Where public and central community water systems are provided for subdivision and land development, fire hydrants suitable for coupling with fire equipment serving the Municipality shall be installed as specified by the Insurance Services Offices of Pennsylvania. The fire protection system shall be designed by a Registered Professional Engineer and approved by the Municipal Engineer. The construction of the system shall be at the developer's own expense.
- 2). The location performance standards for fire hydrants shall meet the following standards and shall be approved by the Municipality, upon review and recommendation by the Municipal Engineer and Municipal Fire Marshal: All fire hydrants will be located on an eight (8) inch line or a looped six (6) inch line. Where a dead end line is required to contain a fire hydrant, the portion of the line between the main loop and the hydrant shall have a minimum diameter of eight (8) inches.
- 3). Fire hydrants shall be spaced in a development so that all proposed buildings will be no more than six hundred (600) feet from the hydrant measured along traveled ways. All central

community water systems must provide a minimum of 500 GPM at a residual pressure of 20 psi for a two (2) hour period.

SECTION 511. SEWAGE SERVICE FACILITIES

1. Each new use created in a Municipality shall be self-sufficient for sewage disposal and the sewage disposal system shall be public, community or individually owned, maintained and operated.
2. As specified in the submission standards, all plan submissions must be accompanied by the appropriate Sewage Facilities Planning Module for subdivision land development provided by the PA Department of Environmental Protection (DEP). All planning module reviews shall conform to the Pennsylvania Sewage Facilities Act of 1965, P.L. 1535, No. 537, as amended; DEP's Chapter 71 regulations, Administration of Sewage Facilities; the Municipality's Act 537 Plan; and this and any other Municipal Ordinances.

A. INDIVIDUAL (ON-LOT) SEWAGE DISPOSAL

- 1). Where public sanitary sewers are not feasible, the use of on-lot sewage disposal systems shall be permitted. The use of such on-lot systems is governed by regulations of the PA Department of Environmental Protection (DEP) and enforced by the Municipal Sewage Enforcement Officer (SEO).
- 2). Prior to approval of any plan depicting on-lot sewage disposal systems, the developer shall have had soils testing performed on each lot to determine the suitability for such systems, and shall have secured the approval of the Municipal SEO and/or DEP through the use of a Planning Module for Land Development. Each on-lot sewage disposal system must be approved by the Municipal SEO and/or DEP.
- 3). An individual sewage disposal system shall be located on the lot which it serves, or within adjacent open space that is designated for that purpose.

B. PUBLIC SEWAGE SYSTEMS

- 1). Where a public sanitary sewage system exists within one thousand (1,000) feet of the development site, the Applicant must install a complete sanitary sewerage system within the development as

required to connect the site to the available sanitary sewage system.

- 2). Where a public sanitary sewage system does not currently exist within one thousand feet (1,000) of the development site, but is identified in the municipal 537 plan and in the opinion of the Municipality will become available within five (5) years, the Applicant shall install a complete sanitary sewage collection system in accordance with the following requirements:
- 3). A collector main shall be installed in the street or approved right-of-way;
- 4). Lateral installations shall be to the right-of-way lines of streets, lot or parcel property lines or sewer easement right-of-way lines, whichever pertains to the individual situation;
- 5). All termini shall be capped in a manner that will insure that all collector mains, laterals, and house connections shall be watertight pending connections with the public sanitary sewage system.

C. DESIGN AND CONSTRUCTION

- 1). The construction of the system, including all service connections, pumping stations and interceptors shall be constructed at the developer's expense and shall not commence until written authorization to proceed with construction has been obtained from the Municipality and DEP.
- 2). The system shall be designed by a Registered Professional Engineer and approved by the Municipal Engineer.
- 3). When a public sanitary sewage system is installed and capped by the Applicant, the Applicant may also install temporary on-site sewage disposal facilities provided that the system is designed to provide connection to the public sewer when it becomes operable. At that time the temporary on-site system shall be disconnected.
- 4). Sanitary sewers and sewage disposal systems shall not be combined with storm water sewers, and shall not be constructed to receive effluent from any storm water collection system.

- 5). Pipe sizes for sanitary sewer mains and sewer laterals and locations for manholes shall meet the Municipal "Standard Material and Construction Specifications for Public Improvements" if established otherwise with PennDOT Publications 408 and 72 Standards. The Municipal Engineer shall inspect the sewer line before it is backfilled. Central Community Sanitary Sewage Facilities.
- 6). A central community sanitary sewage facility shall be permitted if it can be shown that such an approach would provide more reliable and effective treatment of waste than individual on-lot systems or if a central community system is required as part of cluster or open space development.
- 7). The design and installation of a central community sanitary sewage facility shall be subject to the approval of the Governing Body and the DEP.
- 8). The construction of the system in its entirety, including all pumping stations, interceptors, drainage fields and treatment plants, shall be at the developer's own expense.
- 9). All suitable agreements, including financial guarantees, shall be established for the ownership and maintenance of the system. Ownership and maintenance of the central community sanitary sewage system shall be the responsibility of an organization formed and operated in accordance with Section 517 of this Ordinance.
- 10). Central community sanitary sewage facilities shall be located on a separate lot under the ownership of an organization approved by the Municipality. The lot shall be used solely for the central community sanitary sewage facility. The area of the lot shall be of sufficient size to accommodate the system, the required area for a complete alternate or replacement system, and all required setbacks.
- 11). The Municipality shall have the right to inspect and test community service systems at any time. The Municipality may require the owner to provide the results of regular professional testing of the system when the Municipality deems necessary. The

cost of inspections and testing shall be the responsibility of the owner.

D. COMMON FACILITIES

- 1). Facilities to be held in common, such as central community water supply, storm water management facilities or community sewage service systems shall be held using one of the following methods of ownership, subject to the approval of the Municipality.

- 2). Homeowners Association

The facilities may be held in common ownership by a Homeowners Association which is formed and operated in accordance with the laws of Pennsylvania.

- 3). Condominium

The facilities may be held as common element under a condominium agreement. Such agreement shall be in conformance with the Pennsylvania Uniform Condominium Act as amended.

- 4). Maintenance Standards

The common facility (i.e. Sanitary and storm sewage system, detention pond, community water systems, swimming pools, ponds, common ground, playgrounds, etc.) shall be operated and maintained by a professional organization specializing in the required services. The agreement between the Association or Condominium and the professional organization shall be subject to review by the Municipal Solicitor and approved by the Municipality.

The Municipality shall, upon request, be given access to all records of the Association or Condominium and all records of the professional organization relating to the common facility or facilities.

- 5). Delinquency

In the event that the Association or Condominium established to own and maintain the common facility, or any successor organization, shall at any time after the establishment of the common facility, fail to maintain said facility or facilities in

reasonable working order and condition in accordance with established standards, guidelines and agreements, the (*Name of Governing Body*) may serve written notice upon the Association or Condominium and/or the residents served by the common facility stating:

- The manner in which the Association or Condominium has failed to maintain the common facility in reasonable condition.
- A demand that such deficiencies of maintenance be corrected within thirty (30) days.
- The date and place of a public hearing which shall be held within forty-five (45) days of public notice.

6). Public Hearing

- a). At the said public hearing scheduled in accordance with this Ordinance, the Municipality may amend the terms of the original notice concerning the deficiencies and may give an extension of time within which they shall be corrected. If the deficiencies or any modifications thereof were not corrected within thirty (30) days of the notice of deficiencies or within any extension, the Municipality may enter upon the common facility and maintain the same for a period of one (1) year. The said maintenance by the Municipality shall not constitute a taking of said common facility, nor vest the public any rights to use the same. Maintenance of common facilities shall include all activities related to the operation of the facility, including, but not limited to, administration, assessing and collecting of fees, testing, and necessary improvements.
- b). Before the expiration of said year, the Municipality shall, upon its initiative or upon request of the Homeowners Association or Condominium call a public hearing upon notice to the Association or Condominium and to the residents served by the facility. At the hearing, the Association or Condominium or the residents shall show cause as to why such maintenance by the Municipality shall not, at the option of the Municipality, continue for a succeeding year. If the Municipality shall determine the Association or Condominium

is prepared, willing and able to maintain such common facility in reasonable working order and condition, the Municipality shall cease to maintain said common facility at the end of said year. If the Governing Body shall determine that the Association or Condominium is not prepared, willing or able to maintain said common facility in a reasonable and working order and condition, the Municipality may, at its discretion, continue to maintain said common facility during the next succeeding year and, subject to a similar hearing and determination, in each year thereafter.

7). Cost Reimbursement

Any and all costs the Municipality incurred as a result of maintenance of common facility and any additional penalties or fees set by the Municipality shall be paid by the Association or Condominium and the residents served by the facility. Any invoices from the Township/Borough for such costs which remain unpaid following a period of forty-five (45) days shall be subject to an increase of 1.5% a month (18% annually) and a lien which shall be filed against the premises of the owner or resident in the same manner as other municipal claims.

SECTION 512. NATURAL & CULTURAL FEATURES PROTECTION

A. GENERAL STANDARDS

The design and development of all subdivision and land development plans shall preserve, whenever possible, natural features which will aid in providing open space for recreation and conditions generally favorable to the health, safety and welfare of the residents of the Municipality. These natural features include the natural terrain of the site, woodland areas, large trees, natural watercourses and bodies of water, wetlands, rock outcrops and scenic views. All applications for lands that possess an important natural habitat or feature, as defined herein, shall plot the location of the natural resources. Important natural habitat is defined as follows;

1). Stream Frontage and Wetland Preservation

Stream frontage and designated wetland areas shall be preserved as open space whenever possible.

2). Topography

The existing natural terrain of the proposed subdivision and land development tract shall be retained whenever possible. Cut and fill operations shall be kept to a minimum. Development within a property is prohibited on slopes in excess of 25%.

3). Topsoil Preservation

Topsoil removal shall be minimized and, if at all possible, restricted to only the building, driveway and public improvement areas of the lot. All of the topsoil from areas where cuts and fills have been made should be stockpiled and redistributed uniformly after grading. All of the topsoil from areas where cuts and fills have been made should be stockpiled, stabilized and redistributed uniformly in maximum 8 inch lifts after grading.

4). Landscaping

- a). That portion of a lot not covered with impervious material and not required to be otherwise developed as part of the storm water management facilities required by this Ordinance shall be maintained with vegetation and native acceptable ground covers. Existing vegetation may remain.
- b). For all multi-family dwelling, office, commercial and industrial land developments, a landscaping plan shall be provided and shall propose plantings in the open space areas, which include; planting strips, perimeter screenings, formal gardens, shade trees natural barriers and landscape berms.

5). Steep Slopes

- a). Boundary Interpretation – An initial determination as to whether the steep slope conservation standards apply to a subdivision or land development plan shall be based upon the presence of twenty-five percent (25%) or greater slope, as documented in one of the following:

- i). The County Soil Survey, the U.S. Soil Conservation Service; or,
 - ii). The topographic survey prepared by the United States Geodetic Survey.
 - iii). Should a dispute arise final boundary interpretation shall be made by the municipality.
- b). Average Slope. On property which contains slopes of twenty-five percent (25%) or greater, the average slope of the lot shall be determined by the following formula and identified on the plan.

$$S = \frac{0.0023 \times I \times L}{A}$$

A

0.0023 = conversion factor of square feet to acres

I = contour interval in feet

L = combined length in feet of all contour lines on parcel

A = lot area in acres

S = average slope of ground in percent (%)

- c). General Design Requirements. The following requirements are based upon the average slope of a lot. Whenever other ordinances or regulations impose more restrictive standards than those contained herein, the more restrictive shall apply.

Average Slope of Lot	Minimum Percent of Undisturbed Area (1)	Maximum Impervious Surface
25 – 30%	85%	10%

Over 30%	90%	10%
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d). Undisturbed area shall be defined as land in its natural state before development.

e). Setback

No change in existing topography, which results in a slope greater than the pre-development condition, may be located within twenty-five (25') feet of the neighboring property.

f). A Steep Slope Report shall be submitted for all applications involving construction on slopes exceeding twenty-five percent (25%). The Steep Slope Report shall include the following:

- i). A topographic map of the site which highlights those areas that possess slopes exceeding twenty-five percent (25%). Also reflected on this map shall be all existing and proposed site alterations and improvements (e.g., buildings, streets, access drives, driveways, parking compounds, utilities, etc.) that are located within the steep slope area.
- ii). Protection and stabilization of areas that have a high potential for soil erosion;
- iii). Accommodations for storm water runoff
- iv). Assure structural safety and minimize harm to the environment associated with construction on steep slopes;
- v). Protection and preservation of on-site and off-site valuable natural wildlife, plant habitats, and water quality;
- vi). Assure adequate foundations for buildings and/or structures;

- vii). The nature, types, distribution and stability of the surface and subsurface soils for load bearing, stability and compaction;
- viii). Extent, description and location of exposed rock and bedrock;
- ix). Erodability of surface soil; and, Depth to seasonal high water table.

6). Wetlands

- a). All subdivision and land development plans shall identify the location of existing wetland as determined by the standards of either the U.S Army Corps of Engineers, U.S. Environmental Protection Agency, Pennsylvania Department of Environmental Resources, or the U.S. Soil Conservation Service. Wetland areas are not limited to those areas delineated on wetland maps prepared by the U.S. Fish and Wildlife Service. Any proposed encroachment into the wetland shall include a copy of the permit or approval from the applicable State and Federal agencies. No action by the municipality shall be relied upon in lieu of a permit issued by the appropriate agency.
- b). The applicant must determine if wetlands exist on the property in the proposed subdivision or land development. The applicant must also determine if any wetlands will be impacted off-site from the property. This determination shall be made in accordance with the current requirements of the Department of Environmental Protection (DEP) and the United States Army Corps of Engineers (USACOE).
- c). If there are no wetlands on the property and no wetlands will be impacted off-site, then the following certification note must be placed on the plan:

“I, (signature of consultant and date), hereby certify that there are no wetlands on the subject property, the proposed project will not impact off-site wetlands, and wetland permits are not required from the state or federal government.”

- d). If there are wetlands on the property and/or wetlands will be impacted off-site, then a wetland study with narrative and map must be submitted to the Municipality prepared in accordance with the current requirements of the DEP and USACOE including the following:

“I, (signature of consultant and date), hereby certify that a wetlands study was conducted in accordance with Municipal, state and federal wetlands.”

“I, (signature of applicant and date), hereby certify that I am in receipt and aware of the results of the wetlands’ study.” Any approval by the Municipality shall be contingent on full compliance with any requirements of any regulatory agency, and no action by the Municipality shall be relied on in lieu of a permit issued by the appropriate agency.

7). Important Natural Habitats

All applications for lands that possess an important natural habitat, as defined herein, shall plot the location of the natural resources. Important natural habitat is defined as follows:

- a. Wetlands, as defined by criteria of the U.S. Department of Interior, Fish and Wildlife Service; or
- b. Pennsylvania Natural Diversity Inventory (PNDI) confirmed extant plant and animal species and communities that are listed as Pennsylvania Threatened or Pennsylvania Endangered; or,
- c. PNDI-confirmed extant plant and animal species and communities with a State Rank of S1, S2 or S2.

8). Historic Preservation & Archeological Resources

- a). Measures to mitigate the impact of the proposed development upon archeological and historic resources, agreed to with the Pennsylvania Historic and Museum Commission, shall be reviewed by the Municipality during the planning process, shall meet the requirements of any Municipal Ordinance and

shall be subject to review and approval by Municipality.

- b). All applications involving structures or land that are listed on the National Register of Historic Places or receive a determination of eligibility from the National Register from the National Park Service or are listed on the County Historical Society Register shall be designed to preserve, adaptively reuse, or otherwise provide for the historic features. Modifications and exterior alterations to historic features or sites, or new construction adjacent to historic features, shall be consistent with the Secretary of the Interior's Standards for Rehabilitation of Historic Properties, as published by the National Park Services.
- c). Subdivisions and land developments shall also be designed so that the new structures do not block historic views, or obstruct the view of the historic properties, and new construction shall be consistent with the Secretary of Interior's Guidelines. If, because of size, construction material, or type of use a purposed subdivision or land development would jeopardize the historic value of a site or structure, such new construction shall be screened or otherwise visually buffered.
- d). All applications involving lands identified by the Pennsylvania Historical and Museum Commission (PHMC) as containing potential or known site of archeological significance shall plot the location of the archeological resource on the subdivision and land development plan.

SECTION 513. LANDSCAPING

A. LANDSCAPING

- 1). It is the intent of this section to provide a set of minimum standards for landscaping to improve and maintain community

appearance, the environment, rural character and value of properties within the Municipality.

B. MINIMUM LANDSCAPING REQUIREMENTS (UNLESS OTHERWISE REQUIRED BY ANY ZONING REQUIREMENTS)

1). Nonresidential and multifamily residential land development in the residential districts shall have a minimum of 20% landscaping of the total gross lot area excluding building floor area, impervious surface.

2). At least 75% or all trees, shrubs, and groundcover required by this section shall be native plants in accordance with the Pennsylvania Department of conservation and Natural Resources native plant lists, which can be found at:

<http://www.dcnr.state.pa.us/forestry/wildplant/native.aspx>. The website plant list is categorized from large shade trees down to flowers and grasses. The companion to this is:

<http://www.dcnr.state.pa.us/forestry/wildplant/invasive.aspx>. It has a list of invasive plants to avoid.

The use of native species benefits land developers by reducing landscape maintenance costs and will benefit a community and the environment by reestablishing a native plant community.

Vegetation Acceptable for Erosion Control Plants chosen shall be appropriate for their intended function and location based on plant characteristics.

3). The preservation of existing health trees and shrubs may be counted toward fulfillment of the requirements specified above, provided that the location requirements are not violated

4). Street trees and any proposed landscape material shall not be planted or installed within any proposed & existing utility & drainage easements or right-of-ways and shall be planted a minimum 10 feet offset from any proposed or existing underground utility line or storm drain pipe, inlet or structure.

5). The remaining area required to be landscaped shall be ground cover or existing vegetation may remain.

- 6). The applicant shall provide a probable cost estimate for all landscaping material to be installed, which will be reviewed by the Municipal Engineer for bonding purposes.
- 7). Deciduous trees shall have a minimum caliper measurement of 2 1/2 inches, measured a minimum of six inches above the soil line.
- 8). Evergreen trees shall have a minimum height of six feet.
- 9). Evergreen shrubs, except for those used as low ground cover, shall have a minimum height of 30 inches at the time of planting.
- 10). Deciduous shrubs shall have a minimum height of 24 inches at the time of planting.
- 11). All proposed trees should be properly planted, guyed and staked following nursery and landscape Best Management Practices and be properly protected for 1 year from date of planting.
- 12). Any nylon rope or nylon burlap used in balling the tree must be cut and removed from the root ball.
- 13). Proposed shrubs to be used on slopes steeper than 3:1 shall be native plant material that is adaptable and acceptable for erosion control.
- 14). Proposed groundcovers to be used on slopes steeper than 3:1 shall be native plant material that is adaptable and acceptable for erosion control. No more than 50% of berm area may be composed of ornamental grass or legume mixtures.
- 15). All disturbed areas not landscaped, paved or built upon shall be top-soiled with a minimum 4 inch depth, which shall be immediately stabilized, fertilized and mulched in accordance with Penn DOT Publication 408.
- 16). Mulch for grass seed mix must be straw mulched or an approved equivalent as specified in Penn DOT Publication 408.
- 17). Mulch shall be placed around trees, shrubs, and groundcover. Mulch shall be shredded bark or other organic mulch, if approved by municipal officials, in continuous beds surrounding vegetation.

- 18). Mulch shall not be the sole cover but shall be used in conjunction with vegetation groundcover which shall cover 95% of the area within two years of planting. A system of temporary staking, matting and/or netting shall be installed on slope/mound areas steeper than 3:1 to be mulched, but that will not inhibit vegetative growth and that will not be visible two years after planting.
- 19). Trees and shrubs shall be selected according to the following criteria:
 - Appropriate for local climate extremes
 - Appropriate for site and soil conditions
 - Relatively maintenance free (no excessive pruning, messy fruit or flowers)
 - Mechanically strong (not brittle) and resistant to storm damage
 - Resistant to insect and disease damage
 - Where overhead utility lines are present, tree species shall be those which do not exceed 30 feet at maturity
- 20). All landscape plant material and installation shall be performed in conformance with good nursery and landscape practices. (Refer to American Association of nurserymen Inc. American Standards Nursery Stock, ANSI 60.11-1986, as amended.
- 21). During construction, to protect existing trees from compaction and damage, a staked construction fence at least 4 feet high (or alternative as approved by arborist) shall be installed around all portions of the tree protection zone. No activity is permitted within a tree protection zone, except for in the case of an accessory building.
- 22). Additional Screening Requirements
 - a). Dumpsters shall be screened with a wall, fence or permanent enclosure.
- 23). Maintenance Plan

Landscaping required in this section shall be maintained in a healthy, growing condition at all times. It shall be the responsibility of the property owner of record or his delegated representative.

- a). One-year contractor's warranty of all lawn and plant materials shall be required.

C. LANDSCAPING PLAN

A landscaping shall be drawn to scale on a site development plan and submitted to the Municipality with the land development plan application. The landscape plan shall be prepared and certified by a landscape architect licensed by the Commonwealth of Pennsylvania. The landscape plan shall contain the following data as a minimum:

- 1). An on-site inventory identifying tree and plant masses and trees of 6" caliper.
- 2). A plant schedule describing plant materials, including names (common and botanical), location, qualities, caliper sizes, heights, spread, and spacing at installation.
- 3). Location, height, and type of plant material proposed for buffer yards, screening and fencing.
- 4). The manner in which trees and shrubs are to be planted shall be indicated on a tree and shrub planting detail.
- 5). The manner in which lawn areas and ground cover are to be planted shall be indicated on a ground cover detail.
- 6). A description of how existing healthy trees are proposed to be retained and protected from damage during construction should be described in the construction detail.
- 7). Size, height, location and material of proposed seating, lighting, planters, sculptures, and water features.
- 8). Location and dimension of clear sight triangles.

D. BUFFER YARDS

- 1). A 10-foot deep buffer yard shall be required where commercial or industrial uses are adjacent to residential uses or residentially zoned property.

The buffer yard is intended to separate different land uses from each other and are intended to eliminate and/or minimize nuisances such as dirt, litter, noise, glare, unsightly buildings or parking areas, and to provide spacing to reduce adverse impacts of noise, light, odor, or danger from fire and explosion.

- 2). The landscaped buffer shall extend the entire length of the property line adjacent to the residential use or residentially zoned property.

- 3). The landscaped buffer shall consist of the following:

- a). One evergreen tree per 10 linear feet of buffer area.
- b). One evergreen shrub per 10 linear feet of buffer area.
- c). Lawn or other living ground cover.

- 4). All buffer areas shall meet the following requirements:

- a). No buffer yard or part thereof shall be used for parking, storage, loading and unloading.
- b). Buffer areas may be crossed by access roads, service drives or easements with a maximum width of thirty-five (35') feet. However, no turning or maneuvering of vehicles shall be permitted in the buffer area.
- c). All screening materials and landscaping shall not encroach upon the adjoining property line at full maturity.
- d). The buffer area shall be free of structures, dumpsters, commercial or industrial storage or display, manufacturing or processing activity or materials.
- e). Buffer areas shall primarily include evergreen plants.
- f). Shrubs shall have a minimum height when planted of 3 feet.

- g). Evergreens may be clustered or spaced unevenly.
- h). Trees shall have a minimum height of 6 feet and a minimum caliper of 2 inches at planting.
- i). Plants are intended to form a visual screen and shall be of such species, spacing and size as can reasonably be expected to produce within 5 years a mostly solid year-round visual screen at least 6 feet in height.
- j). The plant visual screen shall be interrupted only at: (a) approved points of approximately perpendicular vehicle or pedestrian ingress and egress to the lot (b) locations necessary to comply with safe sight distance requirements, and (c) locations needed to meet other specific State, Municipal and utility requirements.
- k). If more than 20 plants are proposed, no more than 50 percent shall be of one species.
- l). Where space allows, trees should be planted at diagonal off-sets so that there is room for future growth of the trees.
- m). The plant screen shall be maintained in a healthy condition. Any landscaping that dies or is severely damaged shall be replaced by the current property owner as soon as is practical considering growing seasons, within a maximum of 150 days.
- n). Any fence in a buffer area shall be placed on the inside of any required plant screening.

SECTION 514. PARK AND RECREATION

A. CONTRIBUTION FOR RECREATION PURPOSES

- 1). A municipality may require the dedication of land suitable for the use intended, and, upon agreement with the applicant or developer, the construction of recreational facilities, the payment of fees in lieu thereof, the private reservation of land, or a combination, for park and recreation purposes as a condition precedent to final plan approval, provided that:

- a). These provisions shall not apply to any plan application, whether preliminary or final, pending at the enactment of these provisions.
- b). The municipality adopt definite standards for determining the proportion of a development to be dedicated and the amount of any fee to be paid in lieu of.
- c). The land or fees, or combination thereof, are to be used only for the purpose of providing park or recreation facilities accessible to the development.
- d). The Municipality has a formally adopted recreation plan, and the park and recreation facilities are in accordance with definite principles and standards contained in this subdivision and land development ordinance.
- e). The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreational facilities by future inhabitants of the development or subdivision.
- f). A fee, shall, upon receipt by the Municipality, be deposited in an interest-bearing account, clearly identifying the specific recreational facilities for which the fee was received. Interest on such accounts shall become funds of that account. Funds from such accounts shall be expended only in properly allocable portions of the cost incurred to construct specific recreation facilities for which the funds were collected.
- g). Upon request of any person who paid any fee under this section, the Municipality shall refund such fee, plus interest accumulated thereon from the date of payment, if the Municipality had failed to utilize the fee paid for the purposes in this section within three years from the date such fee was paid.
- h). No municipality shall have the power to require the construction of recreational facilities or the dedication of land, or fees in lieu of, or private reservation, except as may be provided by statute.

- 2). Not more than 25% of any dedicated land shall be located within a floodplain.
- 3). For Active Recreation areas At least 50% of the grade of the dedicated land shall have a slope less than 6%.
- 4). Only when land is to be dedicated, a Park and Recreation Report for residential development of fifty (50) or more units shall be prepared. The report shall include the following minimum requirements:
 - a). Description of the total projected number of residents and their respective age group.
 - b). Description of existing public recreation facilities located within a one –half mile radius of the site.
 - c). Description of the adequacy of existing recreation facilities to serve the residents, taking into consideration current usage.
 - d). Discussion of potential for any recreation facilities to be provided by the developer to accommodate new residents and/or compensate for any anticipated deficiencies of the municipal recreation facilities.
 - e). Description of any recreation facilities to be provided by the developer.
 - f). Discussion on the relationship of the proposal to the prevailing Municipal Park and Recreation Study.
 - g). Description of responsibility for maintenance of any recreational facilities to be provided by the developer.
 - h). Description of accessibility of the proposed facilities to the general Municipal residents.
 - i). Description of any contributions in accordance with this ordinance that the developer plans to make for Municipal recreation to compensate for expected impact.
 - j). Source of standards used in the data presented.
 - k). The Park and Recreation Report shall be provided to the Planning Commission, if any, and Municipal Recreation Advisory Board/Parks and Recreation Board, if any.

SECTION 515. NOTIFICATION TO SCHOOL DISTRICT

When Twenty-five (25) or more dwelling units are proposed, written evidence that the school district in which the project is located has been informed of the proposal shall be submitted with the proposed development plan.

SECTION 516. TRAFFIC IMPACT STUDY

1. A Traffic Impact Study shall be performed for all developments that generate, individually or cumulatively, total traffic volumes of 600 or greater trips per day or 50 trips per hour as determined by the trip generation rates published by the Institute of Traffic Engineers (ITE). (On state highways, PennDOT criteria is 3000 ADT (1500 vehicles) or 100 directional peak hour trips.)
2. The developer may chose to select or defer to the municipality to select a qualified traffic engineer to perform a TIS and submit the study to the municipal engineer for review.
3. In addition to the above, the Municipality may require a Traffic Impact Study when, in their opinion, the following conditions exist:
 - a). Current traffic problems exist in the local area (e.g., high accident location, confusing intersection, congested intersection), or
 - b). The capability of the existing road system to handle increased traffic is questionable.
4. Traffic Impact Study shall conform to the following:
 - A. Area of Traffic Impact Study
 - 1). The Traffic Impact Study area shall be based on the characteristics of the surrounding area. The intersections to be included in the Study shall be adjacent to the site or have direct impact upon the access to the site, including corridor considerations. The intersections shall be mutually agreed upon by the Municipal Engineer and the traffic engineer preparing the Study. The (Name of Governing Body) shall resolve any dispute between the Municipal Engineer and the traffic engineer.
 - B. Preparation by Transportation Engineer Required.

Traffic impact studies shall be prepared under the supervision of qualified and experienced transportation engineers with specific

training in traffic and transportation engineering, and at least two (2) years experience related to preparing traffic studies for existing or proposed developments.

C. Horizon Year

The traffic forecasts shall be prepared for the anticipated opening year of the development, assuming full build-out and occupancy. This year shall be referred to as the horizon year in the ordinance.

D. Non-Site Traffic Estimates

Estimates of non-site traffic shall be made, and will consist of through traffic and traffic generated by all other developments within the study area for which preliminary or final plans have been approved. Non-site traffic may be estimated using any one of the following three methods: "Build-up" technique, area transportation plan data or modeled volumes, and trends or growth rates.

E. Trip Generation Rates Required

The Traffic Impact Study report shall include a table showing the categories and quantities of land uses, with the corresponding trip generation rates or equations (with justification for selection of one or the other), and resulting number of trips. The trip generation rate used must be either from the latest edition of Trip Generation by ITE, or from a local study of corresponding land uses and quantities. All sources must be referenced in the Study.

F. Consideration of Pass-By Trips

If pass-by trips, including goods movement, or shared trips are a major consideration for the land use in question, studies and interviews at similar land uses must be conducted or referenced.

G. Rate Sums

Any significant difference between the sums of single-use rates and proposed mixed-use estimates must be justified in the Study report.

H. Explanations Required

The reasoning and data used in developing a trip generation rate for special/unusual generators must be justified and explained in the report.

I. Definition of Influence Area

- 1). Prior to trip distribution of site-generated trips, an influence area must be defined which contains eighty percent (80%) or more of the trip ends that will be attracted to the development. A market study can be used to establish the limits of an Influence area, if available. If no market study is available, an influence area should be estimated based on a reasonable documented estimate. The influence area can also be based on a reasonable convenient travel time to the site, or delineating area boundaries based on locations of competing developments and industrial or commercial operations.
- 2). Other methods, such as using trip data from an existing development with similar characteristics or using an existing origin-destination survey of trips within the area can be used in place of the influence area to delineate the boundaries of the impact.

J. Estimates of Trip Distribution Required

Trip distribution can be estimated using any one of the following three methods:

- Analogy
- Trip distribution model
- Surrogate data

Whichever method is used, trip distribution must be estimated and analyzed for the horizon year. When existing trips are counted, the counts should be conducted on a weekday in a week not including a holiday and at a time when public schools are in session. A multi-use development may require more than one distribution and coinciding assignment for each phase (for example, residential and retail phases on the same site). Consideration must also be given to whether inbound and outbound trips will have similar distribution.

K. Trip Assignments

- 1). Assignments must be made considering logical routings, available roadway capacities, left turns at critical intersections and projected (and perceived) minimum travel times. In addition, multiple paths should often be assigned between origins and destinations to achieve realistic estimates, rather than assigning all of the trips to the route with the shortest travel time. The assignments must be carried through the external site access points and in large projects (those producing

five hundred (500) or more additional peak direction trips to or from the site during the development's peak hour) through the internal roadways. When the site has more than one access driveway, logical routing and possibly multiple paths should be used to obtain realistic driveway volumes. The assignment should reflect conditions at the time of the analysis. Assignments can be accomplished either manually or with applicable computer models.

- 2). If a thorough analysis is required to account for pass-by trips, the following procedures should be used:
 - Determine the percentage of pass-by trips in the total trips generated.
 - Estimate a trip distribution for the pass-by trips.
 - Perform two separate trip assignments, based on the new and pass-by trip distributions.
 - Combine the pass-by and new trip assignment.
- 3). Upon completion of the initial site traffic assignment, the results should be reviewed to see if the volumes appear logical given characteristics of the road system and trip distribution. Adjustments should be made if the initial results do not appear to be logical or reasonable.

L. Total Traffic Impacts

Traffic estimates for any site with current traffic activity must reflect not only new traffic associated with the site's development, but also the trips subtracted from the traffic stream because of the removal of a land use. The Traffic Impact Study should clearly depict the total traffic estimate and its components.

M. Capacity Analysis

- 1). Capacity analysis must be performed at each of the major street and project site access intersection locations (signalized and unsignalized) within the Study area. In addition, analyses must be completed for roadway segments deemed sensitive to site traffic within the Study area. These may include such segments as weaving sections, ramps, internal site roadways, parking facility access points, and reservoirs

for vehicles queuing off site and on site. Other locations may be deemed appropriate depending on the situation.

- 2). The recommended level of service analysis procedures detailed in the most recent edition of the Highway Capacity Manual must be followed. The Municipality considers the overall level of service ratings A, B, and C to be acceptable for signalized intersection; level of service D, E or F are considered to be unacceptable. (On state highway, PennDot criteria is D or above as acceptable in Urban areas, and C or above in Rural areas).
- 3). The operational analyses in the Highway Capacity Manual should be used for analyzing existing traffic impacts, access requirements or other future conditions for which traffic, geometric, and control parameters can be established.

N. Required Levels of Service

The Traffic Impact Study shall identify the improvements necessary to meet the goals of the Study. The applicant shall be responsible for the improvements required to meet goals of the Traffic Impact Study. The off-site improvements are required if the Municipality has a traffic impact ordinance. The goals of the Traffic impact Study are to:

- Provide safe and efficient movement of traffic within the site and on surrounding roads,
- Minimize the impact of the project upon non-site trips,
- Not allow the levels of service at intersections currently rated A or B to be worse than C.
- Not reduce the current levels of service at intersections with ratings of C or lower.

O. Documentation Required

A Traffic Impact Study report shall be prepared to document the purpose, procedures, findings, conclusions and recommendations of the Study.

The documentation for a Traffic Impact Study shall include, at a minimum:

- 1). Study purpose and objectives.

- 2). Description of the site and study area.
- 3). Existing conditions in the area of the development.
- 4). Recorded or approved nearby development.
- 5). Trip generation, trip distribution and modal split (passenger and goods movement)
- 6). Projected future traffic volumes.
- 7). An assessment of the change in roadway operating conditions resulting from the development traffic.
- 8). Recommendation for site access and transportation improvement needed to maintain traffic flow to, from, within, and past the site at an acceptable and safe level of service and indication of developer's responsibility to mitigate impacts.
- 9). The analysis shall be presented in a straightforward and logical sequence. It shall lead the reader step-by-step through the various stages of the process and resulting conclusions and recommendations.
- 10). The recommendations shall specify the time period within which the improvements should be made (particularly if the improvements are associated with various phases of the development construction), and any monitoring of operating conditions and improvements that may be required.
- 11). Data shall be presented in tables, graphs, maps, and diagrams wherever possible for clarity and ease of review.
- 12). To facilitate examination by the Planning Commission and the Municipality, an executive summary of one or two pages shall be provided, concisely summarizing the purpose, conclusions and recommendations.
- 13). The report documentation outlined above provides a framework for site traffic access/impact study reports. Some studies will be easily documented using this outline. However, the specific issues to be addressed, local study requirements, and the Study results may warrant additional sections.

EXHIBIT 5-1

HIGHWAY ACCESS MANAGEMENT OVERLAY STANDARDS

Tier I - Access Management Techniques for

Individual Parcels

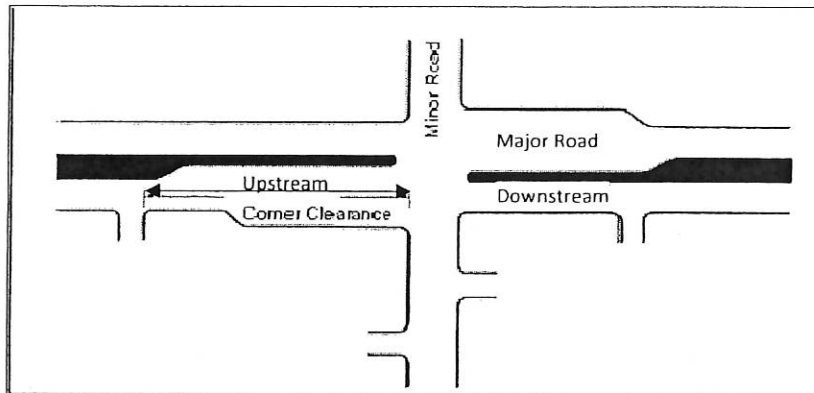
1. Driveways

- a. Number of Driveways
- b. Only one access shall be permitted for a property.
- c. On state highway, PennDOT criteria are: 1 driveway for residential and 2 driveways for commercial. If the property has over 600 linear feet of frontage, an additional driveway may be considered).
- d. An additional access or accesses shall be permitted if the applicant demonstrates that an additional access or additional accesses are necessary to accommodate traffic to and from the site and it can be achieved in a safe and efficient manner.
- e. Access shall be restricted to right turn only ingress and egress or to another state maintained road or local road if safe and efficient movements cannot be accommodated.
- f. For a property that abuts two or more roadways, access shall be restricted to only that roadway which can more safely and efficiently accommodate traffic.
- g. If a property is proposed to be subdivided and that subdivision may result in an unacceptable number or arrangement of driveways, or both, the property owner shall be required to enter into an access covenant to restrict future access.

2. Corner Clearance

- a. Corner clearance shall meet the following driveway spacing standards for arterial and major collector roads:
 - Principal arterial: 600 feet
 - Minor arterial: 400 feet
 - Major Collector: 200 feet
- b. Access shall be provided to the roadway where corner clearance requirements can be achieved.

- c. If the minimum driveway spacing standards cannot be achieved due to constraints, the following shall apply in all cases:
- d. There shall be a minimum ten foot tangent distance between the end of the intersecting roadway radius and the beginning radius of a permitted driveway.
- e. The distance from the nearest edge of cartway of an intersecting roadway to the beginning radius of a permitted driveway shall be a minimum of 30 feet.
- f. If no other reasonable access to the property is available, and no reasonable alternative is identified, the driveway shall be located the farthest possible distance from the intersecting roadway. In such cases, directional connections (i.e., right in/right out only, right in only or right out only) may be required.
- g. Restrictions at the driveway shall be required if the municipal engineer determines that the location of the driveway and particular ingress or egress movements will create safety or operational problems.

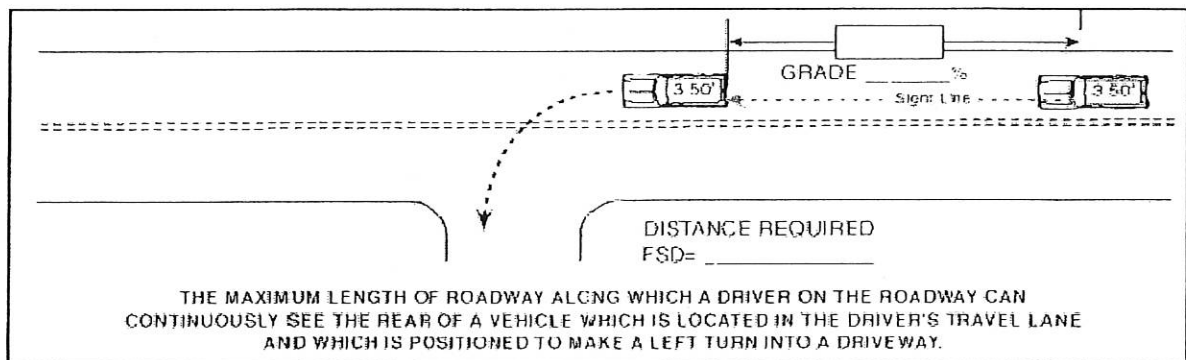
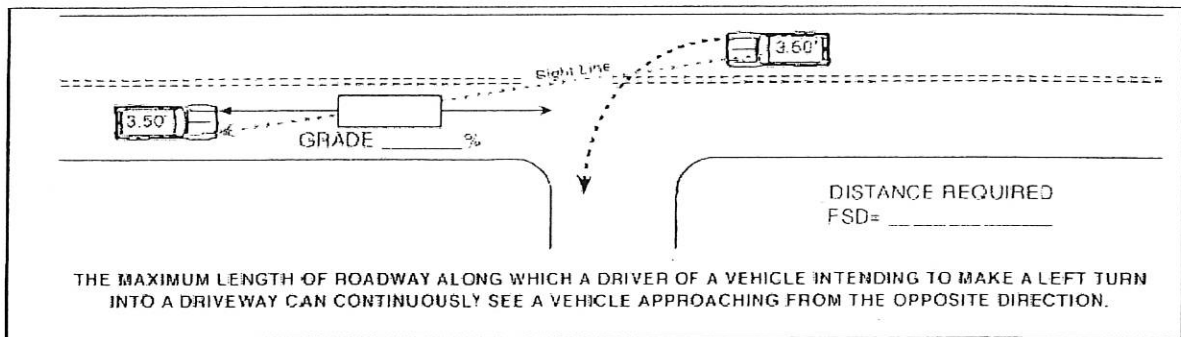
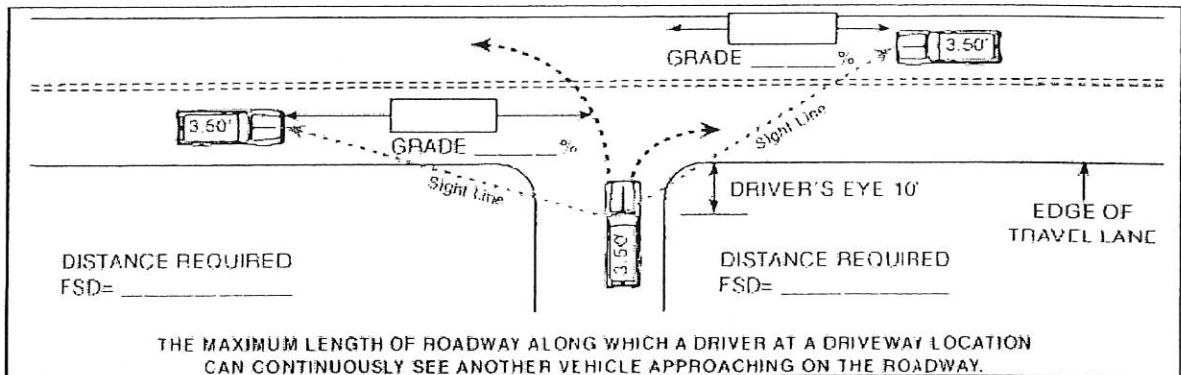


Upstream Corner Clearance

1. Safe Sight Distance

- a. Safe sight distance shall be available for all permitted turning movements at all driveway intersections.
- b. PennDOT's Pub. 441 and Pub. 282 for driveways or Pub. 70 for local roads shall be referenced to determine minimum driveway and roadway intersection safe sight distance requirements.
- c. All driveways and intersecting roadways shall be designed and located so

that the sight distance is optimized to the degree possible without jeopardizing other requirements such as intersection spacing, including turning radii, and at least minimum sight distance requirements are met.



2. Driveway Channelization

- a. For high and medium volume driveways, channelization islands and medians shall be used to separate conflicting traffic movements into specified lanes to facilitate orderly movements for vehicles and pedestrians.
- b. Where it is found to be necessary to restrict particular turning movements at a driveway, due to the potential disruption to the orderly flow of traffic or a

result of sight distance constraints, a raised channelization island may be required.

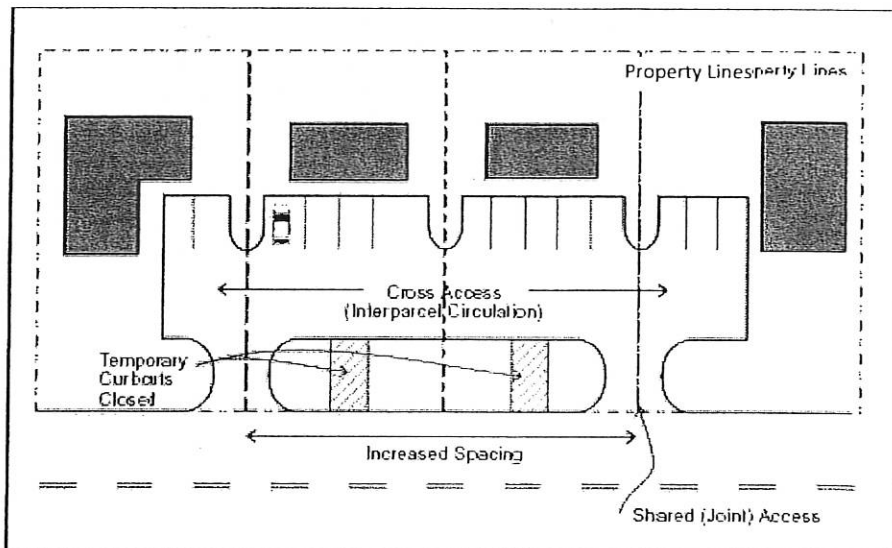
- c. Raised channelization islands shall be designed to prevent unwanted movements using criteria consistent with the latest AASHTO publication entitled *A Policy on Geometric Design of Highways and Streets*.
- d. Unwanted movements should be defined so as not to prohibit or inhibit industrial and commercial vehicle movements and operations.

3. Joint and Cross Access

A joint driveway may be required in order to achieve the following driveway spacing standards that are desirable for arterial and major collector roads:

- a. Principal arterial: 600 feet
 - b. Minor arterial: 400 feet
 - c. Major Collector: 200 feet
- I. Adjacent non-residential properties shall provide a joint or cross access driveway to allow circulation between sites wherever feasible along roadways classified as major collectors or arterials in accord with the functional classification contained in the Comprehensive Plan. The following shall apply to joint and cross access driveways:
 - II. The driveway shall have a design speed of 10 mph and have sufficient width to accommodate two-way traffic including the largest vehicle expected to access the properties.
 - III. A circulation plan that may include coordinated or shared parking shall be required.
 - IV. Features shall be included in the design to make it visually obvious that abutting properties are tied in to provide cross access.
 - V. The property owners along a joint or cross access driveway shall:
 - VI. Record an easement with the deed allowing cross access to and from other properties served by the driveway.
 - VII. Record an agreement with the Municipality guaranteeing that future access rights along the driveway will be granted at the direction of the Municipality with the design approved by the Municipal engineer.

- VIII. Record a joint agreement with the deed defining the maintenance responsibilities of each of the property owners located along the driveway.

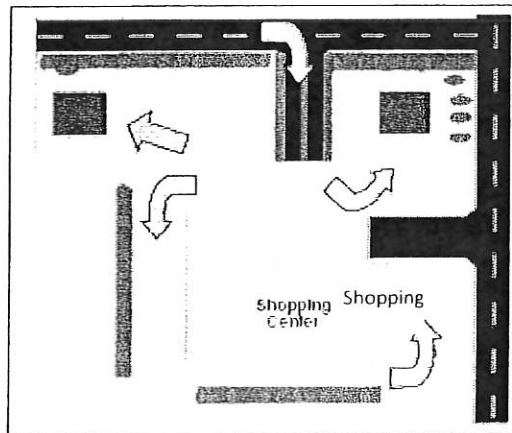


Joint Driveways and Cross Access

4. Access to Out Parcels

- a. For industrial, commercial and office developments under the same ownership and consolidated for the purposes of development or phased developments comprised of more than one building site, the municipality shall require that the development be served by an internal road that is separated from the main roadway.
- b. All access to outparcels shall be internalized using the internal roadway.
- c. The driveways for outparcels shall be designed to allow safe and efficient ingress and egress movements from the internal road.
- d. The internal circulation roads shall be designed to avoid excessive queuing across parking aisles.
- e. The design of the internal road shall be in accordance with the Subdivision and Land Development Ordinance.
- f. All necessary easements and agreements required under Section 1.F.3) shall be met.

- g. The Municipality may require an access covenant to restrict an outparcel to internal access only.



Internal Access to Out Parcels

Driveway Design Elements

5. Driveway Throat Length

- a. For minimum use driveways, the throat length shall be a minimum of 25 feet.
- b. For low volume driveways, the throat length shall be a minimum of 50 feet or as determined by queuing analysis.
- c. For medium volume driveways, the throat length shall be a minimum of 120 feet or as determined by a queuing analysis.
- d. For high volume driveways, the throat length shall be a minimum of 150 feet or as determined by a queuing analysis provided by the applicant and reviewed by the Municipality.

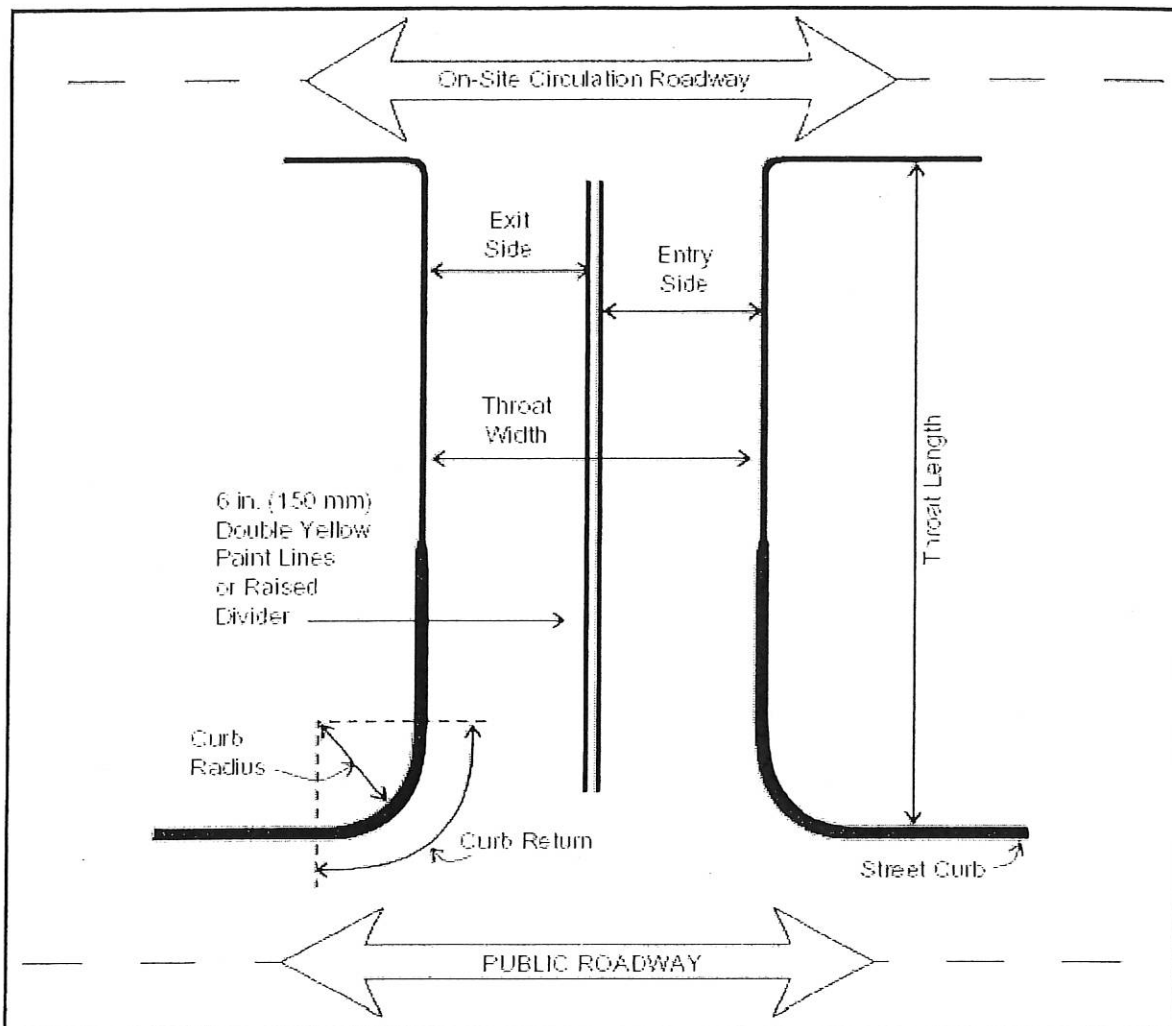


Diagram Displaying Driveway Throat

Length, Width and Radius

1. Driveway Throat Width

- a. For driveways without curb:
- b. A residential minimum use driveway shall have a minimum width of ten (12) feet.
- c. Low and medium volume driveways and commercial driveways shall have a minimum width of ten feet for one-way operation and a minimum width of twenty (24) feet for two-way operation.

- d. The design of high volume driveways shall be based on analyses to determine the number of required lanes.
- e. In addition to volume, the vehicle size should also be considered
- f. For driveways with curb, two (2) feet should be added to the widths contained in Section B.1).a) and B.1).b) above.
- g. The Municipality may require additional driveway width to provide turning lanes for adequate traffic flow and safety.
- h. The Municipality may require that the driveway design include a median to control turning movements. Where medians are required or permitted, the minimum width of the median shall be four feet to provide adequate clearance for signs.

6. Driveway Radius

- The following criteria shall apply to driveway radii:
 - For minimum use driveways, the radii shall be a minimum of 15 feet.
 - For low volume driveways, the radii shall be a minimum of 25 feet curbed.
 - For medium volume driveways, the radii shall be a minimum of 35 feet curbed.
 - A. For high volume driveways, the design should be reviewed by the Municipal engineer on Township roadways and Penn DOT on state maintained roadways.
 - B. For all driveways, the radii shall be designed to accommodate the largest vehicle expected to frequently use the driveway.
 - C. Except for joint driveways, no portion of a driveway radius may be located on or along the frontage of an adjacent property.

7. Driveway Profile

- A. Driveway grade requirements where curb is not present on the intersecting street:
- B. Shoulder slopes vary from four percent to six percent. When shoulders are present, the existing shoulder slope shall be maintained across the full shoulder width.

- C. The change in grade between the cross slope of the connecting roadway or shoulder and the driveway shall not exceed eight percent.
- D. The driveway grade shall not exceed five percent (5%) within 20' of the edge of travel lane for minimum use driveways and within 40 feet for low, medium and high volume driveways.
- E. A 40-foot minimum vertical curve should be used for a high volume driveway.
- F. Driveway grade requirements where curbs and sidewalks are present:
- G. The difference between the cross slope of the roadway and the grade of the driveway apron may not exceed eight percent.
- H. The driveway grade shall not exceed five percent (5%) within 20' of the edge of travel lane for minimum use driveways and within 40 feet for low, medium and high volume driveways.
- I. If a planted area exists between the sidewalk and curb, the following shall apply:
- J. The grade of the planted area shall not exceed eight percent.
- K. If the driveway grade would exceed eight percent (8%) in the area between the curb and the sidewalk, the outer edge (street side) of the sidewalk may be depressed to enable the driveway grade to stay within eight percent (8%). However, a maximum sidewalk cross slope of 2% must be maintained to be in compliance with ADA requirements.
- L. If the sidewalk cross slope exceeds two percent, the entire sidewalk may be depressed. The longitudinal grade of the sidewalk may not exceed six percent.
- M. Although site conditions may not allow strict adherence to these guidelines in this ordinance, every effort should be made to design and construct the safest and most efficient access onto the township or state roadway.

Tier II - Access Management Techniques for

Roadways

1. Auxiliary Lanes

- a. Auxiliary lanes separate turning vehicles from through traffic, thus they increase capacity and improve operations at intersections. They reduce the potential for rear-end crashes and interference or disruption of the flow of through traffic.

2. Right Turn Lane/Deceleration Lane

3. Unsignalized Intersections

- a. A right turn lane shall be considered on the major road (not stop controlled) at an unsignalized intersection when any one or a combination of the following conditions exists: Forty or more right turns in the peak hour.
- b. 3% or more downgrade with 20 or more right turns in the peak hour.
- c. 85th percentile speed in excess of 40 mph.
- d. High average daily traffic on the through road (5000 vpd or more).
- e. A right turn lane shall be required on the minor road or driveway (stop controlled) approach if a capacity analysis shows an unacceptable LOS for the approach, and the installation of a right turn lane will improve operations to desired LOS.

4. Signalized Intersections

- a. A right turn lane shall be required when a capacity analysis shows unacceptable LOS, and the operation of the intersection can be improved by the installation of one or more right turn lanes. Level of Service F shall be considered unacceptable.

5. Design Criteria

- a. The desirable width for a right turn lane is 14 feet with curb and 12 feet without curb. The minimum width of right turn lanes shall be 13 feet with curb and 11 feet without curb. If not curbed, shoulders shall be designed in accordance with PennDOT 3R criteria found in the current edition, Penn DOT Publication 13M: Design Manual Part II.

6. Storage Bay Length

- a. Shall accommodate the 95th percentile queue length for signalized intersections.
- b. The stop controlled approach of an unsignalized intersection, shall accommodate the number of turning vehicles likely to arrive in an average two minute period during the peak hour.
- c. Deceleration distance in accordance with AASHTO publication A Policy on Geometric Design of Highways and Streets.
- d. Taper length in accordance with AASHTO publication A Policy on Geometric Design of Highways and Streets.
- e. The right turn or deceleration lane shall be designed based on an analysis that projects traffic volumes for a five year period from the anticipated opening of the proposed development.
- f. The 85th percentile speed shall be used for the retrofit of existing deceleration or right turn lanes. The design speed of the roadway shall be used for the design of auxiliary lanes for new roads.

7. Left Turn Lane

8. Unsignalized Intersections

- a. For the major street, Highway Research Record 211 (HRR 211) provides warrants for requiring a left turn lane.
- b. A left turn lane shall be required when the appropriate HRR 211 nomograph indicates that the warrant for a 100 foot long left turn lane is met for the anticipated completion date of the development.
- c. A left turn lane shall be required if the visibility of the rear of a vehicle stopped to turn left into the proposed access does not meet minimum stopping sight distance requirements and no alternative is available.

9. Signalized Intersections

- a. A left turn lane shall be required when a capacity analysis indicates that the operation of an intersection, approach, or movement will operate at unacceptable levels of service and the operation of the intersection, approach, or movement can be improved to the desired LOS with the installation of one or more left turn

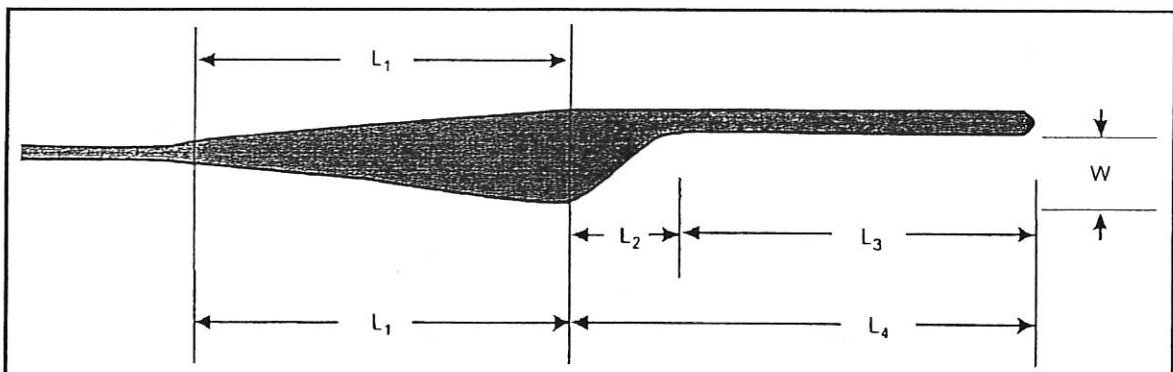
lanes. Level of Service F shall be considered unacceptable.

Design Criteria

The desirable width for left turn lanes is 12 feet. The minimum width shall be 10 feet, unless the percent of trucks using the lane will exceed 5%, then 11 feet shall be the minimum width.

The length of a left turn lane shall consider the following components as may be applicable:

- a. Storage bay length.
- b. Shall accommodate the 95th percentile queue length for signalized intersections.
- c. Shall be determined from the appropriate nomograph in HRR 211 for the uncontrolled approach of an unsignalized intersection.
- d. Deceleration length in accordance with AASHTO publication A Policy on Geometric Design of Highways and Streets.
- e. Taper length in accordance with AASHTO publication A Policy on Geometric Design of Highways and Streets.



L_1 = lane shift taper length,

L_2 = taper length,

L_3 = full-width segment length, and

L_4 = turn bay length ($L_2 + L_3$).

10. Isolated Left-turn Lane Length

11. Acceleration Lane

- a. May be required on arterial highways where operating speeds are in excess of 40 mph and where access points are located a sufficient distance apart to permit the installation of acceleration lanes.
- b. The design length and width shall follow criteria found in the latest edition of A Policy on Geometric Design of Highways and Streets and shall conform to PennDOT requirements on State maintained highways.

12. Signalized Intersection Spacing

- a. Uncoordinated traffic signals shall be located a distance from adjacent signalized intersections as established by PennDOT.
- b. The progression speed shall be determined by the municipal engineer and PennDOT.
- c. Warrants for the signalization of an intersection must be met and may be found in the Manual on Uniform Traffic Control Devices (MUTCD).
- d. If a driveway or local road requires signalization and will be located within an existing coordinated traffic signal system, the traffic signal must be incorporated in the system.
- e. Driveway Clearance from Interchange Ramps
- f. A driveway shall not be permitted on or within an interchange ramp.
- g. A driveway shall not be permitted within 300 feet from either the end of a ramp radius or the intersecting edge of the pavement of the ramp speed change lane to the beginning of the access radius.

SECTION 517. EROSION AND SEDIMENTATION AND STORMWATER MANAGEMENT

Special precautions must be made with regards to erosion/sedimentation control and stormwater management which are related to subdivision and land development and construction activities. This Section outlines reasonable standards for erosion and sedimentation control and stormwater management in order to: (1) promote the general health, welfare and safety of residents in Municipality ; (2) regulate the modification of

the natural terrain and alteration of existing drainage from new subdivision and land developments in order to control erosion and sedimentation from soils, minimize the effect of pollution, and preserve stream channels; (3) provide design, construction and maintenance criteria for permanent on-site stormwater management facilities for the purpose of controlling stormwater, erosion and sedimentation pollution; (4) encourage recharge of groundwater and the preservation and restoration of the flood carrying capacity of streams; (5) and provide for the proper installation and maintenance of stormwater management facilities. This article does not imply that areas within or outside any identified flood-prone areas shall be free from flooding or flood damage.

A. EROSION AND SEDIMENTATION CONTROL PLAN

1. General Requirements and Standards.

- a. In conjunction with the submission of a subdivision or land development plan and for any activities involving earth disturbance of more than 5,000 square feet, an Erosion and Sedimentation Control (E&S) Plan must be submitted to the County Conservation District for their approval in accordance with the requirements of the "Rules and Regulations", Chapter 102, EROSION CONTROL authorized under P. L. 1987, June 22, 1987. A copy of the E&S Plan must be provided to the Municipality.
- b. Subsequently, an approved Erosion and Sedimentation Control Plan, together with a letter from the County Conservation District indicating whether a National Pollutant Discharge Elimination System (NPDES) Permit from the Department of Environmental Protection for earthmoving activity is required, must be provided to the Municipality.
- c. The applicant shall be responsible to prepare and forward all applicable erosion and sedimentation control plan information and other data to the appropriate County and State Agencies.
- d. The Municipality shall not issue a building permit to those engaged in earth moving activities requiring a Department of Environmental Protection permit or other NPDES Permits, until the Department has reviewed and issued any applicable permit.
- e. Maintenance of Erosion and Sediment Control Measures is required by the applicant/developer. The County Conservation District and the Municipality, as authorized by the Municipalities Planning Code, reserve the right to inspect these measures at any time before the Building Occupancy permit is issued and may issue a Notice of Violation if the installed measures are found to be in significant non-compliance. Said

Notice will list the specific type, location and scope of each Violation, and a period of time during which the person(s) responsible for the earth-moving activity must correct the violations. Failure to comply with the Notice or multiple Violations may result in a Cease and Desist order issued by the Municipality to prevent or restrain building, construction or conduct of business, and to correct or abate accelerated erosion and sediment pollution to Waters of the Commonwealth.

- f. Earth disturbance activities other than those necessary for preparation of sites for building foundations, stormwater and sediment control devices and on-site sewage disposal systems, should be minimized between October 15 and February 15 of the succeeding year.
- g. In the preparation of Erosion and Sedimentation Control Plans the person preparing such plans shall consult with the County Conservation District to determine the measures needed to control erosion and sedimentation pollution. The "Erosion and Sediment Pollution Control Program Manual," prepared by the Pennsylvania Department of Environmental Protection in accordance with Chapter 102 shall be used in the preparation of such plans. Copies are available in the County Conservation District office.

B. STORMWATER MANAGEMENT PLAN

- 1. A Stormwater Management Plan shall be submitted when any person, partnership, business or corporation shall undertake any of the following activities and in no case will these activities be undertaken without written approval from Township/Borough:
 - a. Subdivision and Land Development;
 - b. Earth disturbing activity involving 5,000 square feet or more, except agricultural activity, provided such activity conforms to USDA Natural Resource Conservation Service guidelines.
 - c. Diversion or piping of any natural or manmade stream channel;
 - d. Installation of stormwater systems or appurtenances thereto;
 - e. Movement or alteration to an existing stormwater management system, included but not limited to, pipes, swales, basins, infiltration trenches, etc;

- f. Placement of fill, structures or pipes in the floodplain as designated on the official flood plain map, and as may be documented by other pertinent sources of flood plain information used by the Municipality;
 - g. Installation of impervious cover totaling 5,000 square feet or more on a single lot, or two or more lots when proposed as part of an overall plan.
 - h. In accordance with Modifications of Requirements, the Township/Borough may waive the requirements of this Section in favor of the following:
2. Whenever any activity set forth in this Section is determined by the Municipal Engineer not to require retention or detention of stormwater runoff and direct discharge of stormwater runoff is approved by the Governing Body, the owner/developer shall be required to determine the impact of said direct discharge on all downstream drainage facilities and property as identified by the Municipal Engineer and shall submit, with the Preliminary and Final Plans, a report of the study of the impacts on downstream facilities and property.
3. Content of the Stormwater Management Plan

The stormwater management plan shall be submitted in mapped, narrative, tabular and digital form in accordance with the standards contained in Exhibits 5-2 through 5-8 and shall identify all proposed stormwater management facilities and supportive information outlined in this Section. In addition Act 167 Stormwater Management Plans governing in watershed that are enacted by a municipality provide standards in these plans. Stormwater management data shall be prepared by a professional engineer or landscape architect registered in the Commonwealth of Pennsylvania to perform such duties. A certificate of accuracy must accompany stormwater management plans, and a signature and seal of the engineer or landscape architect responsible must appear on the plan. For subdivision and land development activities, the Stormwater Management Plan shall be included as part of the subdivision and land development plan submission(s) to the Municipality and shall include the following items:

- a. A general statement describing the project, the date the project is expected to begin and end, a description of existing and proposed conditions; ownership and maintenance of facilities, and conclusions. Conclusions shall include a comparison of existing and proposed peak rates of runoff at all points where runoff leaves the applicant's property;
- b. A 7 1/2 minute USGS topographic map, or equivalent, illustrating the project location and its total watershed(s), and additional maps as necessary, to clearly indicate the delineation of all drainage areas, both on site and off site, used in all computations for all drainage and stormwater management facilities;
- c. Existing and finished contours, two (2) foot intervals, except in areas where slope is greater than twenty (20) percent, in which case the contour interval shall be five (5) feet;
- d. Aerial extent of the project soils from Perry/Cumberland Soil Survey with annotations for erodeable soils, hydric soils, and soils with hydric inclusions;
- e. Boundary lines of the project area;
- f. Existing drainage on project and adjoining properties such as floodplain, wetlands, streams, lakes, ponds and easements;
- g. All calculations, assumptions, criteria, and references used in the design of the stormwater management facilities, the establishment of existing facilities capacities, and the pre- and post-development discharges;
- h. All plans and profiles of the proposed stormwater management facilities, including horizontal and vertical location, size and type of material;
- i. For all basins, a plotting or tabulation of the storage volumes and discharge curves with corresponding water surface elevations, inflow hydrographs, and outflow hydrographs, including all assumptions and calculation methodologies;
- j. The guidelines for lot grading within the subdivision. This information shall identify the direction of stormwater runoff flow within each lot and the areas where stormwater runoff flows will be concentrated. This information shall be shown by topographical data including contours and spot elevations. Plans which assume future transfer of lot ownership shall show individual lot grading which maintains the proposed stormwater

management plan, or a phasing plan shall be submitted with separate calculations which address interim stormwater management.

- k. When stormwater management plans are for a portion of a larger project or include offsite flows through the subject property, a generalized stormwater management plan for the entire project shall be included in the Plan. This generalized plan shall demonstrate how the stormwater for the proposed section will relate to the entire development. If temporary facilities are required for construction of a section, such facilities shall be included in the submitted plans. In the event temporary measures cannot adequately handle the stormwater runoff, the main outfall shall be included as part of the construction of the proposed sections and detailed information regarding these facilities shall be included with the plan.

4. General Design Guidelines for Stormwater Management Facilities

- a. The following design guidelines are presented as the minimum acceptable standards available at the time this Ordinance was adopted. New and innovative procedures are encouraged and shall be permitted on a case by case basis as approved by the Municipal Engineer or as outlined in local stormwater ordinance. Future stormwater ordinances, whether stand-alone or amended to the SALDO, shall be consistent with the applicable county, state and/or federal watershed management plan(s).
 - i). In the interest of (1) reducing the total area of impervious surface; (2) preserving existing features which are critical to stormwater management; and (3) reducing the concentration of stormwater flow, the designer should consider the best utilization of land for the least disturbance of natural features, resources and terrain.
 - ii). Existing on-site natural and manmade stormwater management facilities shall be utilized when and where possible.
 - iii). Stormwater shall not be transferred from one watershed to another, unless (1) the watersheds are sub-watersheds of a common watershed which join together within the perimeter of the property; (2) the effect of the transfer does not alter the peak discharge onto adjacent lands; or (3) easements from the affected landowner are provided.
 - iv). Consideration shall be given to the relationship of the subject property to the drainage pattern of the watershed. A concentrated discharge of stormwater to an adjacent property shall be within an

existing watercourse or enclosed in an easement or returned to a pre-development condition.

- v). Innovative stormwater best management practices (BMPs) and recharge facilities may be proposed (e.g., rooftop storage, drywells, cisterns, recreation area ponding, diversion structures, porous pavements, holding tanks, infiltration systems, stream channel storage, in-line storage in storm sewers, and grading patterns). They shall be located, designed, and constructed in accordance with the latest technical guidance published by the Pennsylvania Department of Environmental Protection provided they are accompanied by detailed engineering plans and performance capabilities and supporting site specific soils, geology, runoff and groundwater and infiltration rate data to verify proposed designs. Additional guidance from other sources may be accepted at the discretion of the Municipal Engineer (a pre-application meeting is suggested).

5. Infiltration Guidelines and Criteria:

- a. Land development in which impervious cover of natural ground is increased shall provide facilities to minimize the total increase in stormwater runoff to that which would have occurred from the land prior to development. A Post-Construction Stormwater Management Plan (PCSM) shall be designed to control stormwater resulting from the 2-year – 24-hour frequency storm through activities that retain site soil permeability, maintain or restore the site’s vegetative cover, maintain or replicate the original contours, and do not result in direct stormwater discharges to surface waters and allow sites to maintain their natural ability to control runoff volume and velocity, infiltrate stormwater, filter sediments and pollutants, and recycle nutrients.
- b. Stormwater Best Management Practice (BMP) Facilities which provide for percolation and/or storage of water, including: cisterns, French drains, seepage pits, and seepage terraces shall be provided to limit site runoff increases in those areas where soils and water table conditions permit, as determined by soils analysis.
- c. On wooded lots, future runoff increases shall be limited through notes or graphics on approved land development plans prescribing “minimum disturbance/minimum maintenance” areas where special care is taken to preserve existing site vegetation through careful control of the envelope of disturbance during proposed new construction.

- d. Vegetated berms or other approved runoff trapping devices such as cisterns may be used in lieu of or in conjunction with infiltration facilities where site conditions limit the use of infiltration techniques.
- e. Measures may be imposed to protect against ground or surface water pollution where the type of business or the nature of the soils underlying a runoff structure would constitute a substantial risk of contamination. These measures shall be outlined in a Pollution Prevention Contingency (PPC) plan prepared under the NPDES permit requirements for Post-Construction Stormwater Management (PCSM) plan.

6. Drainage Design and Construction Standards

a. Peak Flow

- i). Stormwater management facilities shall be designed so that the peak discharge of calculated post-development runoff to an adjacent property does not exceed the peak discharge of the calculated pre-development runoff for the required storm frequencies at any point on the perimeter of the land being develop. The design plan and construction schedule must incorporate measures to minimize soil erosion and sedimentation pollution. Because it is not economically sound to provide facilities that can manage the greatest storm on record unless danger to life may be involved, property may be destroyed, or traffic flow on main highways may be interrupted, the runoff calculations for the post-development and pre-development comparison shall use two and one third (2.33), five (5), ten (10), twenty-five (25), fifty (50) and one hundred (100) year frequency storm events unless, as stated above, danger to life, property, or traffic may be involved.
- ii). In these cases, the Municipality may require the comparison, design, and storage of a greater storm event and/or the comparison of a greater post development storm event with a smaller pre-development storm event. In all cases undeveloped land within the project shall be considered good sod surface or natural forest, whichever best describes the pre-development condition.
- iii). Runoff coefficient for post development condition shall be based on the land uses listed in Exhibit 5-2. In cases where impervious cover exists, the Municipal Engineer, at the request of the Governing

Body, will determine the characteristics of the pre-developed site for appraising stormwater management requirements.

b. System Design

- i). The design of stormwater management facilities (i.e. grass waterways, open channels, swales, ditches, etc.) and all other water carrying facilities shall be based upon a post ten (10) year frequency storm event.
- ii). The design of pipes and inlets and their appurtenances shall be based on a post twenty-five (25) year storm event.
- iii). Stormwater management facilities that convey off-site stormwater through the site shall be designed to convey a post development fifty (50) year frequency storm event.
- iv). Stormwater management designs must include provisions that allow for the over land conveyance of the post development one-hundred (100) year frequency storm event to flow through the site without damage to any public or private property.

c. Rain Fall

- i). Runoff calculations for the purposes of developing hydrographs shall be based on the Natural Resources Conservation Service Soil-Cover-Complex Method. The Rational Formula of $Q=CIA$ shall be used for all conveyance calculations.
- ii). When the Soil-Cover-Complex Method is used stormwater runoff calculations shall be based on the following 24-hour events:

Storm Event	Inches of Rainfall
2 years	.69
5 years	3.58
10 years	4.27
25 years	5.33

0 years	6.28
00 years	7.38

SOURCE: National Oceanic Atmosphere Administration (NOAA), Atlas 14, Volume 2, (NOAA June 2004), Station 36-3704 (Harrisburg North).

When the Rational Method is used, appropriate values of rainfall intensity shall be from the latest edition of the Commonwealth of Pennsylvania, Department of Transportation Design Manual, Part 2, Highway Design, and Chapter 10 (Exhibit 5-4).

d. Time of Concentration

Times of concentration shall be based on NRCS Segmental Methodology utilizing the following design parameters:

i). Overland Flow

The maximum length for each reach of overland flow before concentrated swale flow develops is three hundred (300) feet, one hundred (100) feet for sheet flow and two hundred (200) feet for shallow concentrated flow. The appropriate value of Manning's "n" factor for the given conditions shall be used for determining the times of concentration.

ii). Concentrated Flows

a). At points where overland flows concentrate in field depressions, swales, gutters, curbs, or pipe collection systems, the time of concentration between these design points shall be based on the Manning Equation and/or acceptable engineering design standards as approved by the Municipal Engineer.

b). Any proposed direct stormwater discharge at the perimeter of the site shall not be beyond the capacity of any existing, immediately contiguous, storm water management facility into which the discharge flows, regardless of pre-existing conditions.

c). Natural drainage ways shall be utilized to the maximum extent possible in carrying storm water runoff provided such use remains consistent with the purpose of this Article.

e. Detention and Retention Basins

- i). Basins shall be designed to safely pass the peak discharge of a post-development one-hundred (100) year frequency storm event through an emergency spillway with one foot of freeboard between the maximum pool elevation and the top of the facility assuming that the outlet structure is 100% clogged. The spillway shall be no more than fifty (50) feet wide and shall be located in undisturbed or an engineered berm material and clearly located on the plan. All outlets shall be combined in a manner which will not damage the integrity of the basin or the downstream drainage area.
- ii). Retention basins and/or detention basins, and water carrying facilities shall be stabilized promptly in accordance with current Soil Conservation Service practices.
- iii). Retention basins and/or detention basins shall be designed and maintained to insure the design capacity after sedimentation has taken place.
- iv). Basins which are not designed to release all stormwater shall be specifically identified as retention basins or permanent pond basins. Such basins should not be mown, but rather encouraged to generate ecosystems to maximize recharge, including infrequent planting of native species.
- v). All other basins shall have provisions for de-watering, including the bottom of the basin, and shall not create swampy conditions which are difficult to maintain. Low flow channels and tile fields may be used to de-water the bottom of a basin.
- vi). Retention basins and/or detention basins which are designed with earth fill dams shall incorporate the following minimum standards:
 - 1). The maximum water depth shall not exceed six (6) feet in depth unless otherwise approved by the Governing Body:
 - 2). The minimum top width of a dam breast shall be five (5) feet unless otherwise approved by the Governing Body after consultation with the Municipal Engineer.
 - 3). The height of the dam shall not exceed eight (8) feet from the inside toe of slope, unless otherwise approved by the Governing Body after consultation with the Municipal Engineer.

- 4). The side slopes of the compacted earth fill shall not be steeper than three (3) horizontal to one (1) vertical (3:1).
- 5). Basins without restricted access shall have impoundment areas with side slopes no steeper than five (5) horizontal to one (1) vertical. Basins with steeper side slopes shall be protected by fencing that will restrict access. Fencing at an adequate height to protect the public from entering any retention or detention basin shall be provided.
- 6). A cutoff trench of impervious material shall be provided under all dams, with side slopes of three (3) horizontal to one (1) vertical or flatter. A dam with steeper sides shall be provided with a key trench.
- 7). All pipes and culverts through dams shall be fitted with watertight joints and shall have properly spaced concrete cutoff collars or factory welded anti-seep collars.
- 8). Minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the 100 year stormwater surface, if basement or underground facilities are proposed, detailed calculations addressing the effects of stormwater ponding on the structure and water-proofing and/or flood-proofing design information shall be submitted for approval.
- 9). Trash racks are to be placed on detention basin structures and/or pipe inlets/outlets.
- 10). Fencing around the stormwater management facility is required unless the basin's maximum depth of water is 18" or less.

f. Emergency Spillways

An emergency spillway shall be provided to safely pass the proposed peak 100-year storm with one foot of freeboard between the maximum pool elevation and the top of the facility assuming that the spillway is 100% clogged and there is no storage available.

- g. Seasonal High Groundwater Table
- h. The invert of all stormwater ponds and underground infiltration/ storage facilities shall be located a minimum of two (2) feet above the seasonal high groundwater table. The invert of stormwater ponds can be lowered if adequate subdrainage is provided.
- i. Piping
 - 1). The capacities of pipes shall be calculated by the Manning Equation or any other method of equal caliber which is acceptable to the Municipal Engineer.
 - 2). Curved pipes, tee joints, elbows, and wyes are prohibited except for pipes with at least a 36-inch diameter or height. Minor horizontal deviations for smaller pipe shall be reviewed on a case by case basis.
 - 3). All piping used in the storm drainage system shall be in accordance with PennDOT 408 specifications. A minimum pipe size of eighteen (18) inches in diameter shall be used in all roadway systems (public or private) proposed for construction in the Municipality. A minimum pipe size of fifteen (15) inches in diameter for on-site surface drainage requirements is permitted on private facilities which receive no off-site drainage. Pipes shall be designed so as to provide a minimum velocity of two and one-half (2 1/2) feet per second when flowing full. Arch pipe of equivalent cross-section area may be used in lieu of round pipe where cover or utility conflict conditions exist.
 - 4). All storm drainage piping discharging to the ground surface shall be provided with either reinforced concrete headwalls and end sections or plastic and metal pipe end sections compatible with the pipe size involved in accordance with PADOT 408 and RC standards. A stabilized apron of adequate length shall be provided at all surface discharge points in order to minimize erosion. The apron shall extend to the crown of the pipe.

The following chart shall be used to determine the “n” factors for corrugated pipe:

"n" Factors				
Pipe Diameter (Inches)	Helical		Annular	
	Capacity	Velocity	Capacity	Velocity
15 and 18	.017	.014	.026	.024
21 through 30	.021	.017	.026	.021
larger than 30	.026	.019	.026	.019

The "n" factor for concrete or any other smooth pipe shall be .010 for velocity and .013 for capacity.

j. Swales and Channel

- 1). For grass swales and roadside gutters, the channel velocity and stability of the swale or gutter shall be based upon a low degree of retardance ("n" of 0.03) and the channel capacity shall be based on a high degree of retardance. (0.050).
- 2). The "n" factor to be used for paved or rip-rap swales or gutters shall be in accordance with the "Erosion and Sediment Pollution Control Program Manual," prepared by the Pennsylvania Department of Environmental Protection.
- 3). Grass lined or planted channels shall have a minimum slope of 1% percent.
- 4). The maximum velocity of stormwater runoff shall be maintained at levels which result in a stable channel both during and after channel construction.
- 5). Where channel or swale bends occur, the computed velocities shall be multiplied by the following factor for the purpose of designing channel erosion protection:
 - i). When swale bend is 0 to 30 degrees;
 - ii). When swale bend is 30 to 60 degrees
 - iii). When swale bend is 60 to 90 degrees

- iv). When swale bend is 90 degrees or greater
- 6). Where the velocity of stormwater runoff exceeds the allowable velocity for soils, erosion protection must be provided. The methods of erosion protection proposed must be supported by the appropriate design information and references.
- 7). Grass lined or planted channels shall be considered stable if the calculated velocity does not exceed the allowable velocities shown below:
 - i). Three (3) feet per second where only sparse vegetation can be established and maintained because of shade or soil conditions, and for all roadside swales.
 - ii). Four (4) feet per second where normal growing conditions exist and vegetation is to be established by seeding. Five (5) feet per second where a dense, vigorous sod can be quickly established or where water can be temporarily diverted during establishment of vegetation. Netting and mulch or other equivalent methods for establishing vegetation shall be used.
 - iii). Six (6) feet per second where there exists a well established sod or vegetation of good quality. These calculated grass lined or planted channel flows may be exceeded if the designer can provide supportive design criteria as proof of erosion prevention.
- k. Calculated grass lined or planted channel flows may be exceeded if the designer can provide acceptable supportive design criteria as proof of erosion prevention. Where the velocity of stormwater runoff exceeds the allowable velocity, erosion protection must be provided. The method of erosion protection proposed must be supported by the appropriate design information and/or references.
- l. Compliance with Department of Environmental Protection (DEP) Chapter 105 Regulations
 - 1). A DEP permit in accordance with Chapter 105 shall be required for any obstruction or encroachment in the regulated waters and wetlands of the Commonwealth, prior to the approval of the final plan. All areas of the Municipality shall be classified as suburban or urban (see DEP Section 105.141) for bridge and culvert designs. In the event any question or conflict arises between this article and the DEP Chapter 105

Regulations, the design criteria contained in the DEP regulations shall govern.

- m. Compliance with Pennsylvania Department of Transportation Section 408 Specifications
- n. All materials, workmanship and methods of work shall comply with the Pennsylvania Department of Transportation Form 408 specifications and/or the Municipal Standard Materials and Construction Specifications for Public Improvements, as accepted and commonly used by the Municipality. Requests for modification of requirements for relief of the requirements of this Article and/or from the Form 408 Specifications may be approved by the Governing Body after consultation with the Municipal Engineer in accordance with the procedures set forth in Article 9 of this Ordinance.
- o. Inlets and Culverts
 - i). Inlets and culverts shall be constructed in accordance with specifications set forth in the PA DOT, Publication 408, as amended, or other detail approved by the Municipal Engineer.
 - ii). All inlets shall have weep holes covered with geotextile fabric placed at the appropriate elevations to completely drain the subgrade prior to placing the base course and surface course.
 - iii). The maximum allowable spread of water on streets in a 25 year storm event is one-half (1/2) of a travel lane.
 - iv). Stormwater management calculations shall include an inlet capacity analysis in order to verify spacing and to compute by-pass flow.
 - v). All inlets in paved areas shall have heavy duty bicycle safe grating. A note to this effect shall be added to the subdivision and land development plan.
 - vi). All pipes entering or exiting inlets shall be cut flush with the inlet wall.
 - vii). Inlets deeper than five (5) feet shall be provided with man hole type steps for access. A note to this effect shall be added to the subdivision and land development plan.

viii). At the bottom of any inlet, additional concrete shall be added and adequately formed to provide for a smooth and efficient flow of water within the inlet.

p. Manholes

1). Manholes, when proposed, shall be spaced not more than four hundred (400) feet apart. Additionally, manholes shall be placed at points of abrupt changes in the horizontal or vertical direction of storm sewers. Inlets may be substituted for manholes where they will serve a useful purpose. Manholes shall be constructed in accordance with specifications set forth in the PennDOT, Publication 408, and as detailed in the Roadway Construction Standard Drawings (RC-34).

q. Clear Water Systems

1). In order to provide for the efficient and effective disposal of concentrated rainfall runoff from roof drains and area drains, and the collected ground water from floor drains, footer drains and sump pump pits, clear water collection systems shall be designed and installed in all subdivision and land developments.

2). Pipe Specifications

i). Clear Water Systems shall be either smooth lined corrugated plastic pipe (S.L.C.P.P.) or polyvinyl chloride pipe (P.V.C.P.) Schedule 40 or equal approved by the Municipal Engineer

ii). Minimum pipe diameter for Clear Water System piping shall be six (6) inches.

iii). All pipe fittings shall be the type and size adequate to make all necessary connections.

3). Connections

i). Proposed Clear Water Systems shall be connected to an existing or proposed stormwater system, or, if a storm sewer is not available for connection, the system may daylight and discharge to an on-site open vegetated pervious area or to an

existing watercourse within an appropriate drainage easement and the outfall shall be provided with proper outlet protection.

- ii). Lateral connections shall be made to parallel storm sewer systems by means of proper fittings.
- iii). Where parallel storm sewers do not exist or are not planned, then the Clear Water System shall be connected to any available stormwater inlet. Inlets proposed to have a Clear Water System connection shall be fabricated with the appropriate size opening to accept such connection.

4). Location

- i). Clear Water System main lines shall be located within a thirty (30) foot wide drainage easement when not constructed within a public right-of-way. All drainage easements containing Clear Water Systems shall be dedicated to Municipality on the Final subdivision and land development plan.
- ii). Laterals in the clear water system shall be privately owned and maintained and do not require a utility easement.
- iii). When Clear Water Systems are constructed within a public street right-of-way, the pipe shall be beneath the pavement, six (6) inches from the face of curb.
- iv). Details for Clear Water System trenches, lateral connections and locations contained in Municipal Standard Materials and Construction Specifications for Public Improvements.

5). Computations

- i). The size of the main pipe and lateral connections for a Clear Water System shall be computed hydraulically for the maximum number of potential connections.
- ii). Hydraulic computations for sizing the main pipe and lateral connections of the Clear Water System shall be included in the Stormwater Management Plan computations.

6). Clear Water Systems Plan

i). The type, size and location of the Clear Water System piping shall be shown on the Preliminary and/or Final Construction drawings including sufficient details for construction of the system as designed.

7). Other Approvals

Compliance with Article 5 does not preclude the need to obtain other permits and approvals as required by Municipality, the County Conservation District, the Commonwealth of Pennsylvania, the US Government and other agencies. Other permits and approvals may include zoning and building permits from the Municipality, and Erosion and Sedimentation Control Plan, National Pollutant Discharge Elimination System Permit (NPDES), Water Obstruction and Encroachment Permit, Dam Safety Permit, Submerged Lands License Agreement, Sections 401 and 404 of the Clean Water Act, and others. The most stringent of all pertinent requirements shall apply.

C. OWNERSHIP AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL AND STORMWATER MANAGEMENT FACILITIES

Before the Municipality grants approval of the Erosion and Sedimentation Control Plan and/or Stormwater Management Plan and Final Plan applications, the applicant shall provide information to the Municipality in writing describing the ownership and maintenance responsibilities for such facilities. A note to this effect shall be placed on any Preliminary and/or Final Plan.

In cases where permanent erosion and/or stormwater management facilities are held as common facilities and/or owned by a home owners association, land owner, corporation, partnership, etc., it shall be the responsibility of that entity to maintain the facilities. In such cases, a legally binding agreement between the owner and the Municipality shall be prepared by the applicant describing the ownership arrangement and the provisions for maintaining all permanent stormwater management facilities. The agreement shall include provisions providing for the inspection of all facilities by the Municipality on a regular basis and after each major flood event, where facilities are critical to the public welfare. In addition, the applicant shall present to the Municipality a copy of restrictions and agreements with an affidavit stating that such restrictions and agreements

shall be added to the deed of conveyance to each grantee to whom property of the development is to be conveyed. Agreements shall conform to the BMP Maintenance and Monitoring Agreement contained in Exhibit 5-10.

1). Delinquency

- a). In the event that the owner of stormwater management facilities shall, at any time after the construction or establishment of the facility, fail to adhere to the ownership and maintenance agreement and keep any said facility or facilities in reasonable working order and condition in accordance with established standards, guidelines and agreements, the Governing Body may serve written notice upon the owner, Association, Condominium, Corporation, Partnership, etc. in accordance with the procedures set forth in Article 5, Section 517 of this Ordinance.
- b). In cases where permanent erosion and stormwater management facilities, rights-of-way, and access easements to these facilities are dedicated to the Municipality and accepted by the Governing Body, it shall be the Municipality's responsibility to maintain these facilities.

2). Municipal Liability

- a). The degree of stormwater management sought by the provisions of this Section is considered reasonable for regulatory purposes. This Section shall not create liability on the part of the Municipality, any appointed or elected official of the Municipality, the County Conservation District, or any officer, engineer or employee thereof for any erosion, sedimentation pollution or flood damages that may result from reliance on this article or any administrative decision lawfully made there under.

EXHIBIT 5 -2

RAINFALL COEFFICIENT "C" FOR RATIONAL FORMULA AND "CN" RANGE

TABLE 4.2 Runoff Coefficients for Rational Equation				
Land Use	C		Approx.	Percent Impervious
	Min.	Max.	CN Range	
<u>Construction Sites <30% slope</u>				
Bare packed soil, smooth	.30	.60	60-90	0
Bare packed soil, rough	.20	.50	66-77	0
<u>Wooded Areas</u>				
Heavy Ground Litter	.10	.20	55-70	0
Light Ground Litter	.15	.30	60-73	0
Steep Rocky Slopes	.20	.50	66-77	0
<u>Reverting Farmland/Meadow</u>				
100% Vegetative Cover	.10	.20	48-65	0
80% Vegetative Cover	.15	.30	56-70	0
50% Vegetative Cover	.25	.60	60-80	0
<u>Open Grass-Covered Areas</u>				
80%+ Covering	.10	.20	61-74	1
50-80% Covering	.20	.50	69-79	1
<u>Rural Areas</u>				
1 home per 10 acres	.15	.30	74-82	5
<u>Residential</u>				

1 Acre Lots	.15	.40	68-79	20
½ Acre Lots	.25	.50	70-80	25
¼ Acre Lots	.40	.60	75-83	36
Multiunits (attached)	.60	.75	85-90	65
<i>City Business Area</i>				
75% Area Covered	.50	.70	88-91	72
Dense Development	.70	.95	92-94	85
<i>Industrial Area</i>				
Light to Medium Density	.50	.80	88-91	70
High Density	.60	.95	92-94	70
<i>Streets and Parking Lots</i>				
Asphalt	.70	.95	98	95
Concrete	.80	.95	98	95

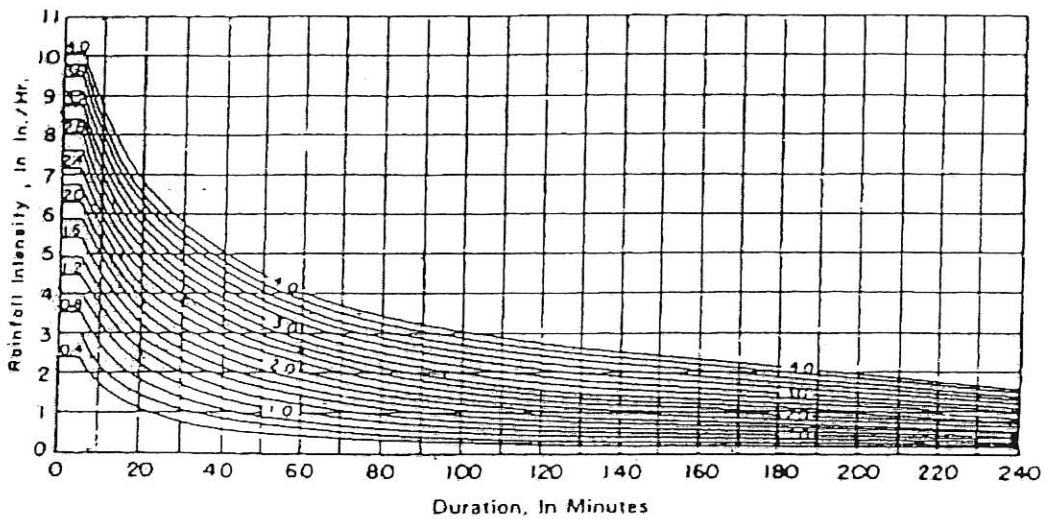
NOTE: The C values provided in Table 4.2 have been equated to approximate CN values (Hydrologic soil groups B & C) and percent imperviousness through use of the Rossmiller C factor nomograph. If required, a specific C value may be developed by use of Figure 4.1 – Rossmiller’s nomograph. In most cases, however, use of Table 4.2 will provide a sufficiently accurate “C” value. This table should not be used to determine CN numbers for the TR – 55 Method.

EXHIBIT 5-3

RAINFALL INTENSITY COMPUTATION

The following figure contains generalized rainfall intensity-duration curves to be used especially for storm durations less than 60 minutes. A one-hour storm must be supplied from the previously described rainfall estimating procedure, and entered at duration 60 minutes in the following Figure. From the intersection of the 1 -hour storm intensity and the 60-minute ordinate the user follows the path of the nearest curve to the duration of the design storm, then moves horizontally to the y-axis to read the corresponding storm intensity in inches/hour.

Example: Given a 1 -hour storm of 2.5 in./hr., find the 30-minute intensity for the same storm recurrence frequency. Start at 60-minute duration and 2.5 in./hr. intensity, move along curves to 30 minutes, and read the 30-minute intensity as 3.9 in./hr.



Standard Rainfall Intensity-Duration Curves or Standard Curves

NOTES: Curve numbers correspond to 1 -h (values of rainfall or supply indicated by respective curves; all points on the same curve are assumed to have the same average frequency of occurrence. From *Engineering Manual* by Corps of Engineers. U.S. Army.

Reference: Research report "Recommended Hydrologic Procedures for Computing Urban Runoff from Small Watersheds in Pennsylvania". Penn State University. January 1982.

EXHIBIT 5-4

Time of Concentration Nomograph (Rational Method)

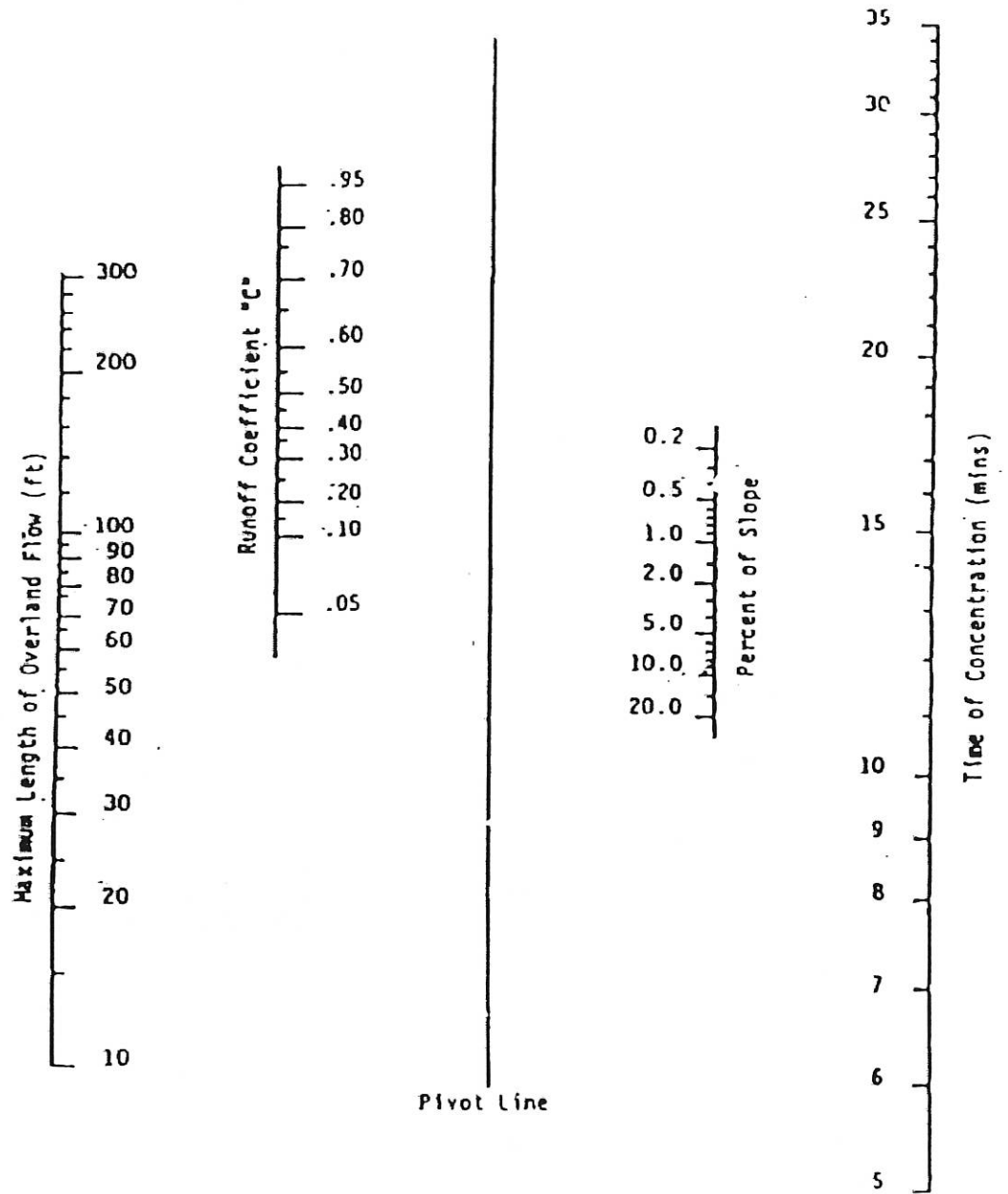


EXHIBIT 5-5

Runoff Coefficients for the Rational Formula versus Hydrologic Soil Group

(A, B, C, D) and Slope Range

Land Use	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
a Cultivated land	0.08	0.13	0.16	0.11	0.15	0.21	0.14	0.19	0.26	0.18	0.23	0.31
b	0.15	0.18	0.22	0.16	0.21	0.28	0.20	0.25	0.34	0.24	0.29	0.41
Pasture	0.12	0.20	0.30	0.18	0.28	0.37	0.24	0.34	0.44	0.30	0.40	0.50
	0.15	0.25	0.37	0.23	0.34	0.45	0.30	0.42	0.52	0.37	0.50	0.62
Meadow	0.10	0.16	0.25	0.14	0.22	0.30	0.20	0.28	0.36	0.24	0.30	0.40
	0.14	0.22	0.30	0.20	0.28	0.37	0.26	0.35	0.44	0.30	0.40	0.50
Forest	0.05	0.08	0.11	0.08	0.11	0.14	0.10	0.13	0.16	0.12	0.16	0.20
	0.08	0.11	0.14	0.10	0.14	0.18	0.12	0.16	0.20	0.15	0.20	0.25
Residential lot	0.25	0.28	0.31	0.27	0.30	0.35	0.30	0.33	0.38	0.33	0.36	0.42
- 1/8 acre	0.33	0.37	0.40	0.35	0.39	0.44	0.38	0.42	0.49	0.41	0.45	0.54
Residential lot	0.22	0.26	0.29	0.24	0.29	0.33	0.27	0.31	0.36	0.30	0.34	0.40
- 1/4 acre	0.30	0.34	0.37	0.33	0.37	0.42	0.36	0.40	0.47	0.38	0.42	0.52
Residential lot	0.19	0.23	0.26	0.22	0.26	0.30	0.25	0.29	0.34	0.28	0.32	0.39
- 1/3 acre	0.28	0.32	0.35	0.30	0.35	0.39	0.33	0.38	0.45	0.36	0.40	0.50
Residential lot	0.16	0.20	0.24	0.19	0.23	0.28	0.22	0.27	0.32	0.26	0.30	0.37
- 1/2 acre	0.25	0.29	0.32	0.28	0.32	0.36	0.31	0.35	0.42	0.34	0.38	0.48

Residential lot - 1 acre	0.14	0.19	0.22	0.17	0.21	0.26	0.20	0.25	0.31	0.24	0.29	0.35
	0.22	0.26	0.29	0.24	0.28	0.34	0.28	0.32	0.40	0.31	0.35	0.46
Industrial	0.67	0.68	0.68	0.68	0.68	0.69	0.68	0.69	0.69	0.69	0.69	0.70
	0.85	0.85	0.86	0.85	0.86	0.86	0.86	0.86	0.87	0.86	0.86	0.88
Commercial	0.71	0.71	0.72	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.90	0.89	0.89	0.90
Streets	0.70	0.71	0.72	0.71	0.72	0.74	0.72	0.73	0.76	0.73	0.75	0.78
	0.76	0.77	0.79	0.80	0.82	0.84	0.84	0.85	0.89	0.89	0.91	0.95
Open space	0.05	0.10	0.14	0.08	0.13	0.19	0.12	0.17	0.24	0.16	0.21	0.28
	0.11	0.16	0.20	0.14	0.19	0.26	0.18	0.23	0.32	0.22	0.27	0.39
Parking	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97

EXHIBIT 5-6

PA Region 4 IDF Values (Source: PennDOT)

Dauphin County Subdivision and Land Development Ordinance

Duration (min)	Rainfall Intensity (in/hr)						
	1-Yr	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
1	5.21	5.80	6.39	6.90	7.60	8.20	9.00
2	4.66	5.27	5.92	6.43	7.10	7.81	8.61
3	4.24	4.83	5.52	6.04	6.68	7.37	8.15
4	3.91	4.48	5.18	5.70	6.31	6.97	7.71
5	3.65	4.19	4.89	5.41	5.99	6.61	7.32
6	3.42	3.94	4.63	5.15	5.71	6.29	6.97
7	3.23	3.73	4.40	4.92	5.46	6.00	6.66
8	3.06	3.55	4.19	4.72	5.23	5.75	6.38
9	2.92	3.38	4.01	4.53	5.02	5.52	6.13
10	2.79	3.24	3.84	4.36	4.84	5.31	5.90
11	2.67	3.11	3.69	4.21	4.67	5.12	5.69
12	2.56	2.99	3.56	4.07	4.51	4.95	5.50
13	2.47	2.89	3.43	3.94	4.36	4.79	5.33
14	2.38	2.79	3.32	3.81	4.23	4.64	5.16
15	2.30	2.70	3.21	3.70	4.10	4.51	5.01
16	2.23	2.62	3.11	3.60	3.99	4.38	4.87
17	2.16	2.54	3.02	3.50	3.88	4.26	4.74
18	2.09	2.47	2.94	3.41	3.77	4.15	4.62
19	2.03	2.40	2.86	3.32	3.68	4.05	4.50
20	1.98	2.34	2.78	3.24	3.59	3.95	4.39
21	1.93	2.28	2.71	3.16	3.50	3.86	4.29
22	1.88	2.22	2.65	3.08	3.42	3.77	4.19
23	1.83	2.17	2.59	3.01	3.34	3.69	4.10
24	1.79	2.12	2.53	2.95	3.27	3.61	4.02
25	1.74	2.08	2.47	2.89	3.20	3.53	3.93
26	1.71	2.03	2.42	2.83	3.13	3.46	3.85
27	1.67	1.99	2.37	2.77	3.07	3.40	3.78
28	1.63	1.95	2.32	2.71	3.01	3.33	3.71
29	1.60	1.91	2.28	2.66	2.95	3.27	3.64
30	1.57	1.87	2.24	2.61	2.90	3.21	3.58
31	1.54	1.84	2.20	2.56	2.85	3.16	3.51
32	1.51	1.80	2.16	2.52	2.80	3.10	3.45
33	1.48	1.77	2.12	2.47	2.75	3.05	3.40
34	1.45	1.74	2.08	2.43	2.70	3.00	3.34
35	1.43	1.71	2.05	2.39	2.66	2.95	3.29
36	1.40	1.68	2.02	2.35	2.61	2.91	3.24
37	1.38	1.66	1.98	2.31	2.57	2.86	3.19
38	1.36	1.63	1.95	2.27	2.53	2.82	3.14
39	1.33	1.60	1.92	2.24	2.49	2.78	3.10
40	1.31	1.58	1.90	2.20	2.45	2.74	3.05
41	1.29	1.56	1.87	2.17	2.42	2.70	3.01
42	1.27	1.53	1.84	2.14	2.38	2.66	2.97
43	1.25	1.51	1.82	2.11	2.35	2.63	2.93
44	1.23	1.49	1.79	2.08	2.32	2.59	2.89
45	1.22	1.47	1.77	2.05	2.29	2.56	2.85
46	1.20	1.45	1.74	2.02	2.25	2.53	2.82
47	1.18	1.43	1.72	1.99	2.23	2.50	2.78
48	1.17	1.41	1.70	1.96	2.20	2.46	2.75
49	1.15	1.39	1.68	1.94	2.17	2.44	2.72
50	1.14	1.37	1.66	1.91	2.14	2.41	2.69
51	1.12	1.36	1.64	1.89	2.12	2.38	2.65
52	1.11	1.34	1.62	1.86	2.09	2.35	2.62
53	1.09	1.32	1.60	1.84	2.06	2.32	2.60
54	1.08	1.31	1.58	1.82	2.04	2.30	2.57
55	1.07	1.29	1.56	1.80	2.02	2.27	2.54
56	1.05	1.28	1.55	1.78	1.99	2.25	2.51
57	1.04	1.26	1.53	1.75	1.97	2.23	2.49
58	1.03	1.25	1.51	1.73	1.95	2.20	2.46
59	1.02	1.23	1.50	1.72	1.93	2.18	2.44
60	1.01	1.22	1.48	1.70	1.91	2.16	2.41
75	0.86	1.05	1.28	1.46	1.65	1.88	2.11
90	0.76	0.92	1.12	1.30	1.48	1.68	1.89
120	0.62	0.75	0.92	1.07	1.23	1.40	1.59
180	0.46	0.57	0.70	0.81	0.94	1.08	1.23
240	0.38	0.46	0.57	0.67	0.78	0.90	1.03
360	0.28	0.34	0.42	0.51	0.60	0.69	0.79
480	0.23	0.28	0.34	0.42	0.50	0.57	0.65
720	0.17	0.21	0.25	0.31	0.38	0.43	0.50
1080	0.12	0.15	0.19	0.24	0.29	0.33	0.38
1440	0.10	0.12	0.15	0.19	0.24	0.27	0.31

EXHIBIT 5-7

Stormwater Management Report

Example Format

- 1. Table of Contents**
- 2. Stormwater Management Summary**
- 3. Project Narrative**
- 4. Pre-Development Hydrograph Calculations**
 - A. Weighted CN Calculations
 - B. Tc Calculations
 - C. Hydrographs – 2, 10, 25, 50 and 100 Year Frequencies
- 5. Post-Development Hydrograph Calculations (for each Drainage Area)**
 - A. Design Point 1 (Drainage Area 1)
 - 1). Weighted CN Calculations
 - 2). Tc Calculations
 - 3). Hydrographs – 1, 2, 10, 25, 50 and 100 Year Frequencies
 - B. Design Point 2 (Drainage Area 2)
 - 1). Weighted CN Calculations
 - 2). Tc Calculations
 - 3). Hydrographs – 1, 2, 10, 25, 50 and 100 Year Frequencies
- 6. Post-Development Hydrograph Combinations – Drainage Area 1 and 2**
- 7. Detention Basin Calculations**
 - A. Basin Characteristics

- 1). Basin Stage Storage – Elevation Data
- 2). Outlet Structure Configuration
 - a). Schematic Details: Orifice, Elevation, Cross-Section, Trash Rack, Anti-Seep Collar, Clay Core
- 3). Basin Routing Table
- B. Outflow Hydrographs – 1, 2, 10, 25, 50 and 100 year Frequencies
- C. Outfall Protection/Level Spreader Design Calculations
- D. Emergency Spillway Calculations
 - 1). Orifice Blocked Outflow Hydrograph – 100 Year Frequency
 - 2). Spillway Sizing – Weir Equation
- E. Anti-Seep Collar Calculations
- 8. Extended Detention of 1 Year Frequency Hydrograph Calculations**
- 9. Basin Empty Time Analysis – 100 Year Storm**
- 10. Best Management Practices (BMP) Calculations and Details**
 - A. Water Quality
 - 1). Volume Calculations
 - 2). BMP Design and Application
 - B. Groundwater Recharge
 - 1). Geologic Analysis
 - 2). Volume Calculations – 2-Year 24 Hour Rainfall
 - 3). BMP Design and Application
- 11. Conveyance Calculations**
 - A. Pipe Design Calculations
 - 1). Weighted CN Calculations

- 2). Tc Calculations
- 3). Peak Flow or Hydrographs, 10, 25 and 100 Year Frequencies
- 4). Hydraulic Grade Line Calculations, using 10, 25 and 100 Year Frequency Peak Flows
- 5). Pipe Outlet Lining Calculations – rip-rap or matting

B. Culvert Design Calculations

C. Swale Design Calculations

- 1). Weighted CN Calculations
- 2). Tc Calculations
- 3). Peak Flow or Hydrographs, using 10, 25 and 100 Year Frequencies
- 4). Capacity Calculations – permanent/lined condition
- 5). Stability Calculations – temporary and permanent conditions

Appendix A: Pre-Development Drainage Area Map, including Tc information

Appendix B: Post-Development Drainage Area Map, including Tc information

Appendix C: Off Site Drainage Area Map, including Tc information

Appendix D: Inlet Drainage Area Map

Appendix E: SCS Runoff Curve Numbers

Appendix F: Regional Rainfall Curve Chart

Appendix G: C Values for Rational Method

Appendix H: Hydrologic Soil Group Listing

Assumptions:

1. If off-site runoff drains to design point, include calculations under Pre-Development Hydrograph Calculations.
2. If an existing detention facility discharges to the site, the hydrograph analysis to document discharge rate will be added to Pre-Development Hydrograph Calculations using the same format as Post-Development.
3. Hydraulic Grade Line Calculations use a program that considers inlet efficiency and bypass, and ponding over inlets (depth at curb line).

**EXHIBIT 5-8
STORMWATER MANAGEMENT SUMMARY**

Project: _____ *Date:* _____

Drainage Area: _____ **ID Number** _____ **Acres** _____
Release Rate: _____

Note: Use a separate sheet for each Drainage Area.

Design Year Storm Event

Discharge Rates: cubic feet per second (cfs)	2	5	10	25	50	100
Pre-development discharge						
Allowable post-development discharge (per release rate)						
Post-development discharge to SWM facility						
Post-development bypass						
Post-development discharge from SWM facility						
Post-development combined routed discharge						

WATER QUALITY REQUIREMENTS

Computed Water Quality Volume: _____ cubic feet

Proposed BMP(s) to meet the WQ requirements: _____

GROUNDWATER RECHARGE REQUIREMENTS

Computed Groundwater Recharge Volume: _____ cubic feet

Proposed BMP(s) to meet GR requirements: _____

GENERAL PROTECTION REQUIREMENTS

Dewatering Time: 1-year storm event: _____ hours

SWM Facility Maximum Capacity: _____ hours

EXHIBIT 5-9

OPERATION AND MAINTENANCE PLAN FOR STORMWATER BMPs

A. INSPECTIONS

1. Stormwater facilities and permanent BMPs must be inspected, at a minimum on an annual basis, or as requested by the Township, in accordance with this O & M Plan. The property owner has two options:
 - i. Employing a qualified registered professional to conduct the inspections and prepare reports; or
 - ii. Entering into an agreement with the Municipality for the Municipality to conduct the inspections and prepare reports. This can be included in the Stormwater Facilities and Best Management Practices (BMP) Maintenance and Monitoring Agreement (M & M Agreement).
2. If Option i. is chosen, the entity conducting the inspection shall be required to submit a report to the Municipality within thirty days following completion of the inspection. The report shall document the condition of the facilities and recommend needed repairs. Recommended repairs and other corrective actions shall be implemented by the property owner within thirty days of the report date.
3. If Option ii. is chosen, the property owner shall be responsible for reimbursing the Municipality for the costs involved in accordance with the M & M Agreement.
4. Inspections of open basins shall include but not be limited to:
 - i. Structural integrity and operation of outlet structures and appurtenances.
 - ii. Stability of embankments and other soil areas.
 - iii. Integrity, condition and recharge capacity of vegetation.

- iv. Collection, storage and release of stormwater in accordance with the facility design.
 - v. Sediment accumulation.
 - vi. Safety.
5. Inspections of subsurface storage facilities shall include but not be limited to:
- i. Structural integrity and operation of outlet structures and appurtenances
 - ii. Stability of soil over and adjacent to the facility
 - iii. Collection, storage and release of stormwater in accordance with the facility design
 - iv. Sediment accumulation
 - v. Safety

B. MAINTENANCE

1. Vegetation in and adjacent to basins shall be maintained in accordance with the approved plan, applicable watershed management plans and in accordance with Municipal Ordinances.
2. Debris shall be removed from basins on a quarterly basis. Floatable debris that may impact operation of the outlet structure shall be removed immediately.
3. Groundwater Recharge and Water Quality BMPs shall be observed quarterly during runoff events to insure operation as designed. BMPs shall be cleaned as required to insure continued operation as designed.
4. Maintenance and observation activities shall be documented in the Inspection Report.



ARTICLE 6

IMPROVEMENT AND MAINTENANCE GUARANTEES

SECTION 601. GENERAL STATEMENT

1. No final plat shall be approved unless the streets shown on such plat have been improved to a mud-free or otherwise permanently passable condition, or improved as may be required by the subdivision and land development ordinance 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 the subdivision and land development ordinance have been installed in accordance with such ordinance. In lieu of the completion of any improvements required as a condition for the final approval of a plat, including improvements or fees required pursuant to this Ordinance the applicant shall provide for the deposit with the municipality of financial security in an amount sufficient to cover the costs of such improvements or common amenities including, but not limited to, roads, storm water detention and/or retention basins and other related drainage facilities, recreational facilities, open space improvements, or buffer or screen plantings which may be required. The applicant shall not be required to provide financial security for the costs of any improvements for which financial security is required by and provided to the Department of Transportation in connection with the issuance of a highway occupancy permit pursuant to Section 420 of the act of June 1, 1945 (P.L. 1242, No. 428) known as the "State Highway Law."
2. If water mains and/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 municipality, 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.
3. No Final Plan shall be signed by the Municipality or Dauphin County Planning Commission for recording in the Office of the County Recorder of Deeds unless:
 - A. Financial security in accordance with the requirements of this Ordinance is accepted by the Municipality, and/or;
 - B. The improvements required by this Ordinance have been properly guaranteed or completed in accordance with this Ordinance.

SECTION 602. FINANCIAL SECURITY FOR IMPROVEMENT GUARANTEE

1. General

- A. The administration of the financial security shall comply with the provisions of Article V, Section 509 of the PA Municipalities Planning Code, Act 247, as amended, and other applicable laws of the Commonwealth of Pennsylvania.
- B. Such financial 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 in the Developer's Agreement for completion of the improvements.

2. Submission of Improvements Guarantee

Final plan applications that include public improvements that have not been installed shall include an improvement guarantee in the form of financial security.

A. Type of Financial Security

Without limitation as to other types of financial security which the municipality 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.

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.

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.

B. Amount of Financial Security

- (1). The amount of financial security to be posted for the completion of the required improvements shall be equal to one hundred and ten (110) percent of the cost of completion estimated as of 90 days following the date scheduled for completion by the developer. Annually, the municipality 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 which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the 90th day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the municipality 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.

- (2). 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 prepared by a professional engineer licensed as such in Pennsylvania and certified by such engineer to be a fair and reasonable estimate of such cost. The estimate submitted to the Municipality shall be organized and itemized to provide a detailed line by line estimate of costs of all public improvements required. The Municipality, upon the recommendation of the Municipal Engineer, may refuse to accept such estimate for good cause shown. If the Applicant and the Municipality are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another professional engineer licensed as such in Pennsylvania and chosen mutually by the Municipality and the Applicant. The estimate certified by the third (3rd) engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third (3rd) engineer is so chosen, fees for the services of said engineer shall be paid equally by the Municipality and the Applicant.
- (3). If the party posting the financial security requires more than one (1) 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 ten (10) percent for each one (1) year period beyond the first anniversary date from posting of financial security, or to an amount not exceeding one hundred and ten (110) percent of the cost of completing the remaining required improvements as reestablished on or about the expiration of the preceding one-year period.
- (4). In the case where development is projected over a period of years, the Governing Body may authorize submission of final plans by section or stages of development subject to such requirements or guarantees as to improvements in future section or stages of development as it finds essential for the protection of any finally approved section of the development.

C. Developer's Agreement

The applicant shall declare the intent to provide an improvement guarantee by executing a Developer's Agreement approved by the municipal solicitor.. The Developer's Agreement shall be executed prior to the recordation of the final plan.

3. Plan Approval Conditioned Upon Financial Security

When requested by the developer, in order to facilitate financing, the governing body or the planning agency, if designated, shall furnish the developer with a signed copy of a resolution indicating approval of the final plan contingent upon the developer obtaining a satisfactory financial security. The final plan 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 governing body; such extension shall not be unreasonably withheld and shall be placed in writing at the request of the developer.

4. Release of Financial Security

A. As the work of installing the required improvements proceeds, the party posting the financial security may request the Governing Body 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 Governing Body, and the Governing Body shall have forty-five (45) day from receipt of such request within which to allow the Municipal Engineer to certify, in writing, to the Governing Body that such portion of the work upon the improvements has been completed in accordance with the approved plan. Upon such certification the Governing Body shall authorize release by the bonding company or lending institution of an amount as estimated by the Municipal Engineer fairly representing the value of the improvements completed or, if the Governing Body fails to act within said forty-five (45) days period, the Governing Body shall be deemed to have approved the release of funds as requested. The Governing Body may, prior to final release at the time of completion and certification by the Municipal Engineer, require retention of a minimum of ten (10) percent of the estimated cost of the aforesaid improvements. Such funds will be released only after certification by the Municipal Engineer that all required public improvements so guaranteed have been completed satisfactorily.

B. When the developer has completed all of the necessary and appropriate improvements, the developer shall notify the municipal Governing Body, in writing, by certified or registered mail, of the completion of the aforesaid

improvements and shall send a copy thereof to the municipal engineer. The municipal Governing Body shall, within ten days after receipt of such notice, direct and authorize the municipal engineer to inspect all of the aforesaid improvements. The municipal engineer shall, thereupon, file a report, in writing, with the municipal Governing Body, 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 municipal engineer of the aforesaid authorization from the Governing Body; 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 municipal engineer, said report shall contain a statement of reasons for such nonapproval or rejection.

- (1). The Governing Body shall notify the Applicant, within fifteen (15) days of receipt of the Municipal Engineer's report, in writing by certified or registered mail of the action of said Governing Body with relation thereto.
- (2). If the Governing Body or the Municipal Engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the Applicant shall be released from all liability, pursuant to this performance guaranty bond or other security agreement.
- (3). If any portions of the said improvements are not approved or are rejected by the Governing Body, the Applicant shall proceed to complete the same with the required corrections and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

Upon satisfactory completion of all required improvements, after consultation with the Municipal Manager and the Municipal Engineer, the Governing Body may release to the applicant any remaining financial security, including by not limited to, the withheld ten (10) percent minimum.

- C. Nothing herein shall be construed as a limitation of the Applicant's right to contest or question by legal proceedings or otherwise, any determination of the Governing Body or the Municipal Engineer.

5. Remedies to Effect Completion of Improvements

In the event that any improvements which may be required have not been installed as provided in this Ordinance or in accordance with the approved final plan, the Governing Body is hereby granted the power to enforce any financial security by

appropriate legal and equitable remedies. If proceeds of the financial security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said security, the Governing Body may, at its option, install all or part of such improvements and may institute appropriate legal or equitable action to recover the funds 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 applicant, or both, shall be used solely for the installation of the improvements covered by such security, and not for any other municipal purpose.

6. Other Effects of Financial Security

If financial security has been provided in lieu of the completion of improvements required as a condition for the final approval of a plan as set forth in this Section, the Municipality 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 plan upon actual completion of the improvements depicted upon the approved final plan. Moreover, if said financial security has been provided, occupancy permits for any building or buildings shall not be withheld following: (1) the application of the asphalt binder course the streets providing access to and from existing public roads to such building or buildings as well as (2) the completion of all other improvements as depicted upon the approved plan, 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.

SECTION 603. INSPECTION OF IMPROVEMENTS DURING CONSTRUCTION

1. Prior to the initiation of construction, the developer shall notify the Municipality in order to coordinate an inspection schedule with the construction schedule. Additionally, the Municipal Engineer shall be notified four (4) working days in advance of any intended date of construction. The provisions stated herein shall be construed as mandating periodic inspections and the undertaking of periodic inspections shall not be construed as an acceptance of the work during construction or as a final inspection of the construction.

2. Reimbursement for Inspections

The Applicant shall reimburse the Municipality for the reasonable and necessary expense incurred for the inspection in connection with the inspection of improvements. The applicant shall not be required to reimburse the Municipality for any inspection which is duplicative of inspections conducted by other governmental agencies or public utilities. The burden of proving that any inspection is duplicative shall be upon the objecting party. Such reimbursement shall be based upon a schedule established by ordinance or resolution. Such expense shall be reasonable and in

accordance with ordinary and customary fees charged by the Municipality's Engineer for work performed for similar services in the community, but in no event shall the fees exceed the rate or cost charged by the Municipal Engineer to the Municipality for comparable services when fees are not reimbursed or otherwise imposed on applicants.

- A. The Municipality shall submit to the applicant an itemized bill showing the work performed in connection with the inspection of improvements performed, identifying the person performing the services and the time and date spent for each task. In the event the Applicant disputes the amount of any such expense in connection with the inspection of improvements, the Applicant shall, within 30 days after the transmittal of a bill for inspection, notify the Municipality and the Municipal Engineer, that such inspection expenses are disputed as unreasonable or unnecessary and shall explain the basis of their objection to the fees charged, in which case the Municipality shall not delay or disapprove a request for release of financial security, a subdivision or land development application or any approval or permit related to development due to the applicant's dispute of inspection expenses. Failure of the applicant to dispute a bill within 30 days shall be a waiver of the applicant's right to arbitration of that bill under this section. Subsequent to the final release of financial security for completion of improvements for a subdivision or land development, or any phrase thereof, the Municipal Engineer shall submit to the Municipal governing body a bill for inspection services, specifically designated as final bill. The final bill shall include inspection fees incurred through release of financial security.
- B. If the Municipal Engineer and the applicant cannot agree on the amount of the expenses which are reasonable and necessary, then the applicant shall have the right, within forty-five (45) days of the transmittal of the final bill or supplement to the final bill to the applicant, to request the appointment of another professional consultant to serve as an arbitrator. The applicant and the Municipal Engineer whose fees are being challenged shall by mutual agreement, appoint another professional consultant to review any bills the applicant has disputed and which remain unresolved and make a determination as to the amount thereof which is reasonable and necessary. The arbitrator shall be of the same profession as the Municipal Engineer whose fees are being challenged.
- C. The arbitrator so appointed shall hear such evidence and review such documentation as the arbitrator in his or her sole opinion deems necessary and render a decision within fifty (50) days of the date of appointment. Based on the decision of the arbitrator, the applicant and the Municipal Engineer whose fees are challenged shall be required to pay any amounts necessary to implement the decision within 60 days. In the event the Municipality has paid the Municipal Engineer an amount in excess of the amount determined to be

reasonable and necessary, the Municipal Engineer shall within 60 days reimburse the excess payment.

- D. In the event that the Municipality and Applicant cannot agree upon the arbitrator to be appointed within twenty (20) days of the request for appointment of an arbitrator, then, upon application of either party, the President Judge of the Court of Common Pleas of the judicial district in which the Municipality is located (or if at the time there be no President Judge, then the senior active judge then sitting) shall appoint such arbitrator, who, in that case, shall be neither the Municipal Engineer nor any professional consultant who has been retained by, or performed services for, the Municipality or the applicant within the preceding five (5) years.
- E. The fee of the arbitrator shall be paid by the Applicant if the review fee charged is sustained by the arbitrator, otherwise it shall be divided equally between the parties. If the disputed fees are found to be excessive by more than \$5,000, the arbitrator shall have the discretion to assess the arbitration fee in whole or in part against either the applicant or the Municipal Engineer. The governing body and the Municipal Engineer whose fees are the subject of the dispute shall be parties to the proceeding.

SECTION 604. REMEDIES TO EFFECT COMPLETION OF IMPROVEMENTS

In the event that any improvements which may be required have not been installed as provided in the subdivision and land development ordinance or in accord with an approved final plan, it is hereby granted the power to enforce any corporate bond, or other security by appropriate legal and equitable remedies. If 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 governing body of the Municipality may, at its option, install part of such improvements in all or part of the subdivision of 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 municipal purpose.

SECTION 605. DEDICATION OF IMPROVEMENTS

All improvements shall be deemed to be private improvements and only for the specific project until such time as the same have been offered for dedication and formally accepted by the Governing Body. No responsibility of any kind with respect to improvements of the Final Plan shall be transferred until the improvements have been formally accepted. No improvements shall be accepted for dedication except upon submission of as-built drawings by the developer and inspection of the final construction by the Municipality in accordance with the provisions of this Ordinance.

SECTION 606. MAINTENANCE GUARANTEE

1. Where the Governing Body accepts dedication of all or some of the required improvements following completion, the Governing Body may require the posting of financial security to secure the 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 plan for a term not to exceed eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this Section with regard to installation of such improvements, and the amount of the financial security shall not exceed fifteen (15%) percent of the actual cost of installation of said improvements.

2. If water mains or sanitary sewer lines, or both, along with appurtenances 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 Municipality, 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 Article.

SECTION 607. AS BUILT PLANS

Within ninety (90) days of construction completion of all required improvements including facilities proposed for dedication to the municipality and prior to final inspection by the Municipality of all improvements and site grading for which an improvement guarantee has been posted, the developer shall submit a plan labeled "As- Built Plan," which shall depict the actual location, dimensions and elevations of all existing improvements and site grading. In addition, the plan shall indicate that the existing grading, drainage structures and/or drainage systems and erosion and sediment control practices, including vegetative measures, are in substantial conformance with the previously approved drawings and required specifications. The plan shall note all deviations from the previously approved drawings. The applicant's engineer shall certify that the construction of the storm water management facility was completed in accordance with the plans and specifications as originally submitted and approved by the Municipality. Three copies of the As- Built Plan (two paper and one transparency) shall be submitted to the Municipality, which shall distribute a paper copy to the Municipal engineer and retain two (2) copies for Municipal files for future reference.



ARTICLE 7

MOBILE HOME AND RECREATIONAL VEHICLE PARKS AND CAMPGROUNDS

Section 701. APPLICABILITY

Where a municipality has no subdivision or land development ordinance the provisions of this article shall apply. Where a municipality has zoning or other municipal regulations that govern the development of a mobile home or recreational vehicle park or campground, those regulations shall supersede the provisions of this Article.

Section 702. PLAT REQUIREMENTS AND PROCESSING PROCEDURE

The plat requirements and processing procedure for subdivision and/or land development of a mobile home or recreational vehicle park or campground shall be in accordance with the requirements contained in Article 4 of this Ordinance.

Section 703. DESIGN STANDARDS

The arrangement and other design standards of streets, easements, blocks, lots, stormwater management and erosion and sedimentation control shall be in accordance with the requirements contained in Article 5 of this Ordinance except as specified below:

1. Street Widths

- A. The minimum street right-of-way and cartway widths of public or private streets shall be as follows:

Collector Streets	Width
Right-of Way	60 feet
Cartway	24 feet

Minor Streets	Width
Right-of-way	50 feet
Cartway	20 feet

- B. Where a subdivision or land development fronts on an existing public or private street, the provision for additional street width (right-of-way, cartway, or both) may be required when determined necessary by the Dauphin County Planning Commission in specific areas to address:

- (1) Public safety and convenience;

- (2) Where the number of mobile homes or recreational vehicle or camp site spaces proposed in the mobile home or recreational park or camp ground exceeds 100 units; and/or
- (3) The width of the existing street does not meet the requirements of the preceding paragraphs.

2. Lots

- A. Lots in a mobile home or recreational vehicle park shall be served by both public or community water supply and sanitary sewerage collection systems.
- B. Mobile home or recreational lots shall be not less than sixty (60) feet wide measured at the minimum front property line nor less than seventy-two hundred (7,200) square feet in area, per mobile home or recreational vehicle unit exclusive of streets and other public areas.
- C. Tent camping sites shall be at least 30-feet wide and at least 2,400 square feet.
- D. Campgrounds must meet all DEP specifications in regard to toilet facilities, sewage dumping facilities, water facilities, and other requirements not covered in this Ordinance.

3. Front Yard Building Setback Lines

The minimum front yard building setback line from the right-of-way of a public or private street shall be as follows:

Street Type	Minimum Setback Distance
Arterial	40 feet
Collector	30 feet
Other Street	20 feet

4. Side and Rear Yard Building Setback Lines

- A. The minimum building setback lines of a mobile home or recreational vehicle lot and the mobile home or recreational vehicle park or campground shall be:
 - 1). Fifteen feet measured from the side and rear lot lines of mobile home or recreational vehicle lot.
 - 2). Twenty-five (25) feet from the mobile home park or recreational vehicle park or campground property lines on the sides and rear not adjacent to a street right-of-way.

5. Off-street Parking Requirements

- A. Off-street parking areas shall be provided at the rate of at least two (2) vehicular parking spaces for each mobile home lot.
- B. Each such off-street parking space shall contain at least two-hundred (200) square feet of area and shall be located on the lot it is intended to serve.

6. Open Space Requirements

- A. Not less than ten (10) percent of the total land area of the mobile home park shall be provided for usable open space. Such space shall be so located as to be free of traffic hazards and should, where the topography permits, be centrally located and easily accessible to all park residents.
- B. Such open space shall be maintained with a durable native vegetative cover that is capable of preventing soil erosion and the emanation of dust during dry weather.

7. Park Areas for Non-Residential Uses

- A. No part of the mobile home or recreational vehicle park or campground shall be used for a non-residential purpose, except such uses that are specifically required for the direct servicing and well being of park residents, for management and maintenance of the park, or those uses permitted by applicable provisions of the municipal zoning or other municipal ordinance, where one exists.

8. Buffer Strips

A suitably screened or landscaped buffer strip at least ten (10) feet wide, shall be provided by the developer along all of the property lines separating the mobile home or recreational vehicle park or campground from adjacent land uses.

9. Signs and Lighting

- A. Signs may be permitted subject to applicable provisions of a municipal zoning or other municipal ordinance.
- B. In the absence of municipal regulations, signs may be permitted subject to the approval of the Dauphin County Planning Commission.
- C. All means of ingress, egress, walkways, streets, and parking lots shall be adequately lighted. Lighting shall not spill onto adjacent properties outside the mobile home park.

10. Other Site Improvements and Requirements

- A. Each mobile home or travel recreational vehicle shall be provided a concrete slab, constructed to current municipal building code standards, so as to provide a structurally stable pad for mobile home or recreational vehicle placement.
- B. An enclosure of compatible design and material shall be erected around the entire base of each mobile home. Such enclosure shall provide sufficient ventilation to inhibit decay and deterioration of the structure.
- C. Each mobile home or recreational vehicle lot shall be provided with a four (4) inch concrete slab on a stable surface at least ten (10) feet by eighteen (18) feet in size for use as a terrace and so located so as to be adjoining and parallel to the mobile home or recreational vehicle and not extend into the front, side, or rear yard. Such slab shall contain an electrical outlet to which the electrical system of the mobile home or recreationl shall be connected, and shall be constructed in compliance with the municipal building and electrical codes.
- D. Individual tenants of the mobile home park may construct attached enclosures or covered patios to individual mobile homes, provided that such enclosure does not encroach into the front, side or rear yard areas.
- E. Tie downs shall be installed at strategic locations so as to prevent movement of the mobile home by natural causes.
- F. Provision shall be made by the mobile home park o recreational park or campground operator to have garbage and waste collected at least once every week. The garbage and waste shall be deposited at an approved disposal site.

Section 704. IMPROVEMENT AND CONSTRUCTION REQUIREMENTS

In a mobile home or travel trailer park all improvements, construction requirements, and engineering specifications for the improvements required, shall be provided in accordance with this Ordinance.

Section 705. FEES AND PERMITS

1. Fees

At the time of filing the Preliminary Plat and/or the Final Plat for the development of a tract of land for a mobile home or travel trailer park, the Applicant shall be required to pay to the Dauphin County Planning Commission fees in accordance with the requirements of Article 8 of this Ordinance and secure a permit.

2. Mobile Home & Travel Trailer Park Permits

Any person intending to develop a tract of land as a mobile home or travel trailer park shall have a permit from the municipality for each such park, issued in accordance with the following requirements:

- A. Such permit shall be issued by the Municipal Code Enforcement Officer upon proper application and submission of evidence of compliance with the provisions of this Ordinance and all other applicable legal requirements.
- B. Each permit shall be valid for one (1) year, from the date of issue.
- C. The first application for a permit for a mobile home park or travel trailer park proposed for development, following the effective date of this Ordinance, shall be made to the Municipal Code Enforcement Officer on a form provided and shall be submitted together with copies of the following:
 - 1) A copy of the approved final plat signed by the Dauphin County Planning Commission.
 - 2) A receipt signed by the recorder of deeds, showing that the mobile home park plat has been publicly recorded.
 - 3) A permit issued by the Department of Environmental Protection as required by the Chapter 179, Title 25, Rules and Regulations, Mobile Home Park.
- D. Application for the annual renewal of a permit shall be made by the holder of the permit, to the Municipal Code Enforcement Officer on a form provided, within fourteen (14) days preceding expiration of the preceding permit period, and shall be accompanied by any required municipal fee and any changes since the preceding permit was issued.

The Municipal Code Enforcement Officer shall inspect each mobile home or travel trailer park prior to the issuance of a permit for conformance with the provisions of this Ordinance and all other applicable legal requirements.
- E. It shall be incumbent upon the proprietor of a mobile home park to keep a register and to report therein the name of the person of head of family occupying each mobile home; the date of entry on said land; license number of automobile; serial number, make and size of trailer; and the names of all persons living in the mobile home park.
- F. The registration of the mobile home or travel trailer park shall be subject to inspection by the Municipal Code Enforcement Officer annually, or upon the request of the Dauphin County Planning Commission.



ARTICLE 8

FEES & REVIEWS/APPROVALS

Section 801. FILING FEE

At the time of filing, all subdivision and land development plans, including mobile home and travel trailer parks, shall be accompanied by a check payable to the **Dauphin County Planning Commission**, in the amount specified herein, to defray the cost of reviewing the proposed plans and required data.

Section 802. FEE SCHEDULE

1. The fee schedule is established and may be amended periodically by the Dauphin County Board of Commissioners.
2. The fee schedule is posted in the Dauphin County Planning Commission's Office and on its webpage (tcrpc-pa.org; under Dauphin County).

Section 803. PLANNING COMMISSION REVIEW AND REPORT

Where a municipality has its own adopted subdivision and land development ordinance, the Dauphin County Planning Commission shall only review a subdivision and land development plan and report its findings to a municipality. The municipality shall promptly forward a copy of such plan and all attached or related documents to the Dauphin County Planning Commission for review and report. Each such plan shall be accompanied by a signed request by the municipality for review and report, indicating the name and address to which the review report shall be submitted, together with the name and telephone number of the municipal official or representative who could provide or obtain additional information, if necessary.

Section 804. PLANNING COMMISSION APPROVAL

Where a municipality does not have its own adopted subdivision and land development ordinance, the Dauphin County Planning Commission shall review a subdivision and land development plan and approve or disapprove in accordance with the provisions of this Ordinance. A municipality shall promptly forward a copy of a proposed subdivision and land development plan and all attached or related documents to the Dauphin County Planning Commission for approval. Each such plan shall be accompanied by the name and address and telephone number of the municipal official or representative who could provide or obtain additional information, if necessary.

Section 805. MUNICIPAL ENGINEERING REVIEW

At the discretion of a municipality, prior to review or approval of a plan by the Dauphin County Planning Commission, the municipality may require the municipal engineer to review the plan and the applicant to pay to the municipality an amount determined by the municipal engineer sufficient to cover the costs of:

1. Reviewing the plan's engineering details.
2. Inspecting the layout of the site for conformance to the survey and the plan.
3. Reviewing the results of the percolation tests.
4. Preparing the cost estimates of required improvements.
5. Inspecting required improvements during installation.
6. Final inspection on completion of installation of the required improvements.

A municipality may require the applicant to reimburse the municipality for any additional municipal engineer expenses. If a plan is withdrawn, a municipality may charge the applicant for the expenses incurred up until the withdrawal.

ARTICLE 9

MODIFICATION OF REQUIREMENTS

Section 901. APPLICATION OF MODIFICATION PROVISIONS

The Planning Commission, may make such reasonable modifications to the requirements of this Ordinance, provided such modifications will not be contrary to the public interest and so that the purpose and intent of this Ordinance is observed.

Section 902. REQUESTS FOR MODIFICATION

Applications for a modification of requirements shall be submitted in writing by the Applicant at the time the Preliminary Plat or Final Plat is filed with the Planning Commission.

The written modification request shall include the following:

1. The section number(s) for which the modification(s) is/are being requested.
2. The written request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based. The request is required to cite the particular conditions associated with the land in question.
3. An explanation of how this constitutes the minimum modification necessary and how the modification is not contrary to the public interest.

Section 903. GRANTING OF MODIFICATION

In granting any modification, the Planning Commission shall record its action in its meeting minutes and the grounds for granting any modification to the Applicant.

Section 904. DENIAL OF MODIFICATION

Whenever a request for a modification of requirements is denied, the Planning Commission shall record its action and the grounds for such denial in its minutes. The Planning Commission shall transmit a copy of its action and the grounds for such denial of any modification to the applicant.

Section 905. DISPLAYING ON PLANS

All subdivision or land development plans must display all granted modifications prior to their approval.



ARTICLE 10

ENFORCEMENT, AMENDMENTS, VIOLATIONS, APPEALS, PREVENTIVE REMEDIES, PENALTIES, SEVERABILITY, AND REPEALER

Section 1001. ADMINISTRATION AND ENFORCEMENT

1. The Dauphin County Board of Commissioners and the Planning Commission shall have the duty and authority for the administration and general enforcement of the provisions of this Ordinance, as specified or implied herein. Officials of Dauphin County having regulatory duties and authorities connected with or appurtenant to the subdivision, use, or development of land shall have the duty and authority for the controlling enforcement of the provisions of this Ordinance, as specified or implied herein or in other Ordinances of Dauphin County.
2. The approval of a subdivision and/or land development plat or of any improvement installed, shall not constitute a representation, guarantee or warranty of any kind or nature by Dauphin County or any official, employee, or appointee thereof, of the safety of any land, improvement, property or use from any cause whatsoever, and shall create no liability upon, or a cause of action against Dauphin County or such official, employee or appointee for any damage that may result pursuant thereto.

Section 1002. AMENDMENTS

1. Amendments to this Ordinance shall become effective only after a public hearing held pursuant to public notice as defined, and in accordance with the Pennsylvania Municipalities Code, Act 247, Article V, §505(a), as reenacted and amended.
2. All amendments to this Ordinance after its enactment shall be affixed to the Dauphin County Subdivision and Land Development Ordinance and all Ordinance copies offered to the public and all municipalities.

Section 1003. VIOLATIONS

1. If any person being the owner or agent of the owner of any lot, tract or parcel of land lays out, constructs, opens or dedicates any street, sanitary sewer, storm sewer, water main or other improvements for public use, travel or other purposes, they shall be held in violation of this ordinance. Moreover the common use of occupants of buildings abutting thereon, or who sells, transfers or agrees or enters into an agreement to sell any land in a subdivision or land development whether by reference to or by other use of a plat of such subdivision or land development or erect any building thereon shall also be held in violation. All this unless and

until a final plat has been prepared in full compliance with the provisions of this Ordinance and of the regulations adopted hereunder and has been recorded as provided herein.

Section 1004. APPEALS

1. Any Applicant aggrieved by a finding, decision or recommendation of the Planning Commission, may within thirty (30) days, request and receive opportunity to appear before the Planning Commission, present additional relevant information and request reconsideration of the original finding, decision or recommendation, provided an appropriate extension of time is granted by the Applicant to the Planning Commission to insure adequate time is available for the Planning Commission to act on the application.
2. Any individual aggrieved by a finding, decision or recommendation of the Planning Commission, may appeal to the Court of Common Pleas. All appeals shall be filed not later than thirty (30) days after the issuance of notice of the decision or report of the Dauphin County Planning Commission.

Section 1005. PREVENTIVE REMEDIES

1. In addition to other remedies, Dauphin County 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 transferred from such penalties or from the remedies herein provided.
2. Dauphin County 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 Ordinance. 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 the violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation. 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, Dauphin County 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.

Section 1006. PENALTIES

1. Any person, partnership, or corporation who or which has violated the provisions of this Ordinance, upon being found liable therefore in a civil enforcement proceeding commenced by Dauphin County, shall pay a judgment of not more than five hundred dollars (\$500.00) plus all court costs, including reasonable attorneys fees incurred by Dauphin County as a result thereof.
2. 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, Dauphin County 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 the Ordinance 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 (5th) day following the date of the determination of the violation by the District Justice and thereafter each day that a violation continues shall constitute a separate violation.
3. The Court of Common Pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgement pending any final adjudication of the violation and judgement.
4. Nothing contained in this Article shall be construed or interpreted to grant any person or entity other than Dauphin County the right to commence any action for enforcement pursuant to this Ordinance.

Section 1007. SEVERABILITY

1. If any section, clause, provision, or portion of this Ordinance shall be held to be invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect any other section, clause, provision, or portion of this Ordinance. It is hereby declared to be the intent of the Dauphin County Board of Commissioners that this Ordinance would have been adopted if such invalid or

unconstitutional section, clause, provision or portion had not been included herein.

Section 1008. REPEALER

1. Any Ordinance or part thereof inconsistent herewith is hereby repealed to the extent of such inconsistency.
2. The Dauphin County Subdivision and Land Development Ordinance adopted in 1990 is hereby repealed.
3. Nothing in this Ordinance hereby adopted shall be construed to affect any suit or legal proceeding now pending in any court, or any rights accrued or liability incurred, or any cause of action accrued or existing under any Ordinance hereby repealed; nor shall any right or remedy of any character be lost, impaired or affected.

ARTICLE 11

EFFECTIVE DATE AND ENACTMENT

Section 1101. EFFECTIVE DATE


This Ordinance shall take effect on the 27 day of June 20 11.


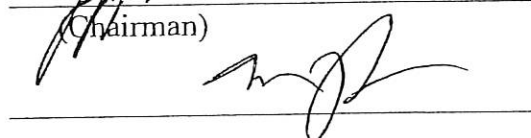
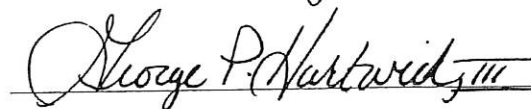
Section 1102. ENACTMENT

ENACTED AND ORDAINED INTO AN ORDINANCE THIS 27 DAY OF April, 20 11.

DAUPHIN COUNTY

ATTEST:


(Secretary)
CHIEF CLERK


(Chairman)



(Municipal Seal)



APPENDIX

**The Tri-County Regional Planning Commission (TCRPC)
Model Subdivision & Land Development Ordinance
Contains Additional Appendices. Those appendices include additional sample
forms, agreements, etc. The Model Ordinance can be viewed on the
TCRPC web site at www.terpc-pa.org**

APPENDIX 1

SAMPLE PLAN NOTES & STATEMENTS

APPROVAL STATEMENT (DCPC):

On this the ____ day of _____, 2____ the Dauphin County Planning Commission approves this plan.

Chairman Secretary

MUNICIPAL REVIEW STATEMENT (BOROUGH)

On this the ____ day of _____, 2____ the _____ Borough Council reviewed this plan.

Chairman Secretary

MUNICIPAL REVIEW STATEMENT (TOWNSHIP)

On this the ____ day of _____, 2____ the _____ Township Supervisors reviewed this plan.

Chairman Secretary

LOT ADDITION NOTE:

“Lot # __ has been proposed as a lot addition to the adjoining lands of _____ to form a single lot consisting of _____ acres. Lot # __ may not be sold or retained as a stand-alone lot.”

PA ONE CALL NOTE



PENNSYLVANIA ACT 38 (1991) AS AMENDED REQUIRES NOTIFICATION OF EXCAVATORS,
DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S
SURFACE ANYWHERE IN THE COMMONWEALTH.
SERIAL NUMBER: _____ DATE _____

PENNDOT HIGHWAY OCCUPANCY NOTE:

“A Highway Occupancy Permit is required pursuant to Section 420 of the Act of June 1, 1945 (P.L. 1242, NO. 428), known as the State Highway Law, before driveway access to a state highway is permitted.”

NATURAL FEATURES PROTECTION NOTE

“According to the Pennsylvania Natural Diversity Index (Project ID# _____), there are no threatened or endangered species indentified in the project area.”

WETLANDS NOTE:

If there are no wetlands on the property and no wetlands will be impacted off-site, then the following certification note may be placed on the plan:

“By certification of this plan there are no wetlands on the subject property, the proposed project will not impact off-site wetlands, and wetland permits are not required from the state or federal government.”

FLOODPLAIN NOTE:

If there are no floodplains on the property, the following certification note may be placed on the plan:

By certification of this plan there are no floodplains on the subject property.

APPENDIX 2

SAMPLE AGREEMENT TO EXTEND THE TIME FOR RENDERING AND COMMUNICATING A DECISION ON A PRELIMINARY AND/OR FINAL SUBDIVISION/LAND DEVELOPMENT PLAN

This Agreement is made the ____ day of _____, 20____, by and between the Dauphin County Planning Commission, Dauphin County, Pennsylvania, (hereinafter called "Planning Commission") and _____ (hereinafter called "Applicant").

WHEREAS, the Applicant submitted a ____ preliminary or ____ final subdivision and/or land development plan for a development known as _____ to the Planning Commission on the ____ day of _____, 20____; and

WHEREAS, there are certain deficiencies, matters of incompleteness or other similar items by reason of which the Planning Commission cannot approve said plan of subdivision/land development as more fully detailed in a letter delivered to Applicant by the Planning Commission dated the ____ day of _____, 20____, receipt of which is acknowledged by Applicant or as detailed in the Planning Commission minutes of _____, 20____.

WHEREAS, the term within which the Planning Commission must render a decision approving or disapproving said plan of subdivision/land development pursuant to the provisions of Section 508 of the Pennsylvania Municipalities Planning Code, as amended, expires the ____ day of _____, 20____; and

WHEREAS, the Applicant or the Planning Commission wishes to have an additional period of time within which to attempt to bring said plan of subdivision/land development into compliance with all applicable ordinances and regulations or consider the plan, respectively;

NOW THEREFORE, in consideration of the above recitals and the covenants hereinafter contained, the parties hereto agree as follows:

1. Applicant hereby agrees to an extension of the time within which the Planning Commission must render a decision and communicate its decision relative to the above-mentioned plan of subdivision/land development to the Developer which extended time period shall expire the ____ day of _____ 20____.
2. In consideration of the extension of time granted by Applicant, the Planning Commission agrees that it will not disapprove the plan of subdivision/land development submitted as aforesaid at this time as it would otherwise be bound to do. Instead, the Planning Commission agrees to consider the plan of subdivision/land development with such changes and corrections as the Applicant shall make and to render a decision within the time as extended by this Agreement.

IN WITNESS WHEREOF, the parties intending to be legally bound have hereunto set their hands and seals the day and year first above written.

WITNESS: _____
Date: _____

Applicant: _____
Date: _____

Accepted by the Dauphin County Planning Commission _____
Title: _____
Date: _____