

**HALIFAX TOWNSHIP
DAUPHIN COUNTY, PENNSYLVANIA**

**SUBDIVISION AND LAND
DEVELOPMENT ORDINANCE**

August 2, 2012

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ORDINANCE NO.

AN ORDINANCE REGULATING THE SUBDIVISION OF LAND AND LAND DEVELOPMENT WITHIN THE TOWNSHIP OF HALIFAX, DAUPHIN COUNTY, PENNSYLVANIA, PROVIDING FOR THE PREPARATION OF PRELIMINARY AND FINAL PLANS FOR SUCH PURPOSE; REQUIRING CERTAIN IMPROVEMENTS TO BE MADE OR GUARANTEED TO BE MADE BY THE SUBDIVIDER; REGULATING MOBILE / MANUFACTURED HOME PARKS, SALE OF LOTS, ERECTION OF BUILDINGS, LAYING OUT, CONSTRUCTION, OPENING AND DEDICATION OF STREETS, SEWERS, OTHER FACILITIES, AND PUBLIC IMPROVEMENTS IN CONNECTION WITH SUBDIVISION AND LAND DEVELOPMENT, AND PRESCRIBING PENALTIES FOR THE VIOLATION THEREOF.

THE BOARD OF SUPERVISORS OF THE TOWNSHIP OF HALIFAX, DAUPHIN COUNTY, PENNSYLVANIA, PURSUANT TO ACT 247, THE "PENNSYLVANIA MUNICIPALITIES PLANNING CODE," JULY 31, 1968, AS REENACTED AND AMENDED BY ACT 170, DECEMBER 1988, DOES ENACT AND ORDAIN:

ARTICLE I

SHORT TITLE

Section 101. Short Title.

These regulations shall be known and may be cited as "The Halifax Township Subdivision and Land Development Ordinance."

ARTICLE II

PURPOSE, AUTHORITY, APPLICATION AND INTERPRETATION

Section 201. Purpose of the Subdivision and Land Development Ordinance.

The purpose of this subdivision and land development ordinance is to provide for harmonious development of Halifax Township through:

1. The orderly and efficient integration of subdivisions into the development of Halifax Township;
2. Attempting to assure that proposed sites are suitable for building purposes and human habitation;
3. Assuring conformance of subdivision plans with public improvement plans;

4. Coordinating of inter- and intra-municipal public improvement plans and programs;
5. Attempting to assure the efficient movement of traffic;
6. Attempting to assure the protection of water resources and natural drainage systems;
7. The sound management of storm water run-off;
8. The equitable handling of all subdivision plans by providing uniform standards and procedures;
9. Attempting to assure the greater health, safety, and welfare of the citizens of the Township of Halifax;
10. The efficient and orderly extension of community services and facilities at minimum cost and maximum convenience;
11. Regulating the subdivision and development of land within any flood hazard area or flood plain district in order to attempt to promote the health, safety and welfare of the citizens of the municipality;
12. Requiring that each lot in flood prone areas includes a building site with adequate access, and that public facilities which serve such uses be designed and installed to minimize flood damage;
13. Attempting to assure that reservations by the developer of any area designated for use as public grounds shall be suitable in size and location for their designated uses;
14. Guiding the future growth and development of Halifax Township in accordance with an adopted Comprehensive Plan; and
15. Encouraging responsible development to creatively maximize open space.

Section 202. Authority.

1. The Halifax Township Board of Supervisors shall have the authority to approve or disapprove all preliminary and final subdivision or land development plan applications as required herein.
2. The Halifax Township Planning Commission is hereby designated as the agency which shall review and make recommendations on all subdivision and land development plan applications as required herein, prior to action on same by the Board of Supervisors.

Section 203. Dauphin County Review of Plans.

1. Applications for subdivision and land development located within the Township of Halifax shall be forwarded upon receipt, with the appropriate review fees, to the Dauphin County Planning Commission for review and report. The Township Board of Supervisors shall not approve such applications until the county review report is received or until the expiration of thirty (30) days from the date the application was forwarded to the County Planning Commission. As evidence of their review and report, officials of the County Planning Commission shall sign final plans which have been formally approved by the municipality before such plans are presented for recording.

Section 204. Application of Regulations.

1. No subdivision or land development of any lot, tract or parcel of land located in Halifax Township 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 plan has been approved by the Board of Supervisors and publicly recorded in the manner prescribed herein; except in strict accordance with the provisions of this ordinance.
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 plan has been approved by the Board of Supervisors and recorded.
3. Unit or condominium land development of real property is included within the meaning of 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 Plans, payment of established fees and charges, location of each structure and clear definition of each unit, public easements, common areas, improvement and all easements appurtenant to each unit.
4. No Regulated Activity shall be undertaken, regardless of whether the Regulated Activity is part of a Subdivision or Land Development, without compliance with and the application of the provisions of this Ordinance which govern Regulated Activities.

Section 205. Interpretation.

1. In interpreting and applying the provisions of this Ordinance, the provisions shall be held to be minimum requirements for the promotion of public health, safety, comfort, convenience, and greater welfare.

2. In any case where a provision of this Ordinance is found to differ with the provision of a zoning, building, fire, safety or health ordinance or code of this municipality or law, rule or regulation of the Commonwealth of Pennsylvania, the provisions of which establish the higher standard for the promotion and protection of the health and safety of the people shall prevail.
3. In any case where the Pennsylvania Municipalities Planning Code or other relevant statute may be amended to establish mandatory provisions which would be inconsistent herewith, those mandatory provisions shall be deemed to be incorporated herein by reference thereto without further amendment of this Ordinance.

ARTICLE III

DEFINITIONS

Section 301. Definitions.

Unless otherwise expressly stated, the following words shall, for the purpose 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" and "will" are mandatory; the words "should" and "may" are permissive. If a definition is not included herein, reference shall be made thereto to the Pennsylvania Municipalities Planning Code.

ABUTTING: To Border upon or be next to; end at; be touching.

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

ACCESSORY BUILDING: A subordinate building or a portion of the main building on a lot, the use of which is customarily incidental to that of the main or principal building.

AGRICULTURAL ACTIVITIES: Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops, tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

ALLEY: A public thoroughfare, other than a street or side street, which affords only secondary means of access to abutting properties and not intended for general traffic circulation.

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

APPLICANT: (See Developer and Subdivision) A landowner or developer, as hereinafter defined, who has filed an application for development including his heirs, successors and assigns.

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

AS BUILT DRAWINGS: Location of utilities and other improvements as installed.

ASCE: American Society of Civil Engineers.

BASE FLOOD ELEVATION: The elevation shown on the Flood Insurance Rate Map (FIRM) for Zones AE, AH, A1-30 that indicates the water surface elevation resulting from a flood that has a 1-percent or greater chance of being equaled or exceeded in any given year.

BASEMENT: Any area of the building having its floor below ground level on all sides.

BLOCK: An area bounded by streets.

BMP (BEST MANAGEMENT PRACTICE): Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "non-structural" or "structural". "Non-structural" BMPs are measures referred to as operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas "structural" BMPs are measures that consist of a physical device or practice that is installed to capture and treat stormwater runoff. "Structural" BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale wet ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. "Structural" stormwater BMPs are permanent appurtenances to the project site.

BMP MANUAL: The Pennsylvania Stormwater Best Management Practices Manual as published by the Department of Environmental Protection, Bureau of Watershed Management, document number: 363-0300-002, effective date: December 30, 2006, and as revised.

BOARD OF SUPERVISORS: The Halifax Township Board of Supervisors.

BUFFER PLANTING: Planting which is done within a Buffer Yard.

BUFFER YARD: A combination of setback and a visual buffer or barrier, and is a yard or area together with the planting required thereon.

BUILDING: A combination of materials to form a permanent structure having walls and a roof. Included shall be all manufactured homes and trailers to be used for human habitation.

BUILDING SETBACK LINE: The line within a property defining the required minimum distance between any principal or accessory building and the adjacent right-of-way (STREET LINE), and the distance between principal or accessory building and side or rear property line.

CAMPGROUND: See RECREATIONAL VEHICLE PARK OR CAMPGROUND

CARTWAY OR ROADWAY: That improved portion of a street or alley within which vehicles are permitted.

CISTERN: An underground reservoir or tank used for storing rainwater.

CLEAN STREAMS LAW: The Pennsylvania Statute, (35 P.S. 691.1 et. Seq.) which governs the protection of the Public Water Supply.

CLEAR SIGHT TRIANGLE: A triangular shaped portion of land established at street intersections in which nothing is erected, placed, planted or allowed to grow in such a manner as to limit or obstruct the sight distance of motorists entering or leaving the intersection (Refer to Exhibit VI).

COMMERCIAL: Relating to or connect with trade or commerce.

CONTOUR LINE: A line adjoining points of equal elevation on a surface.

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 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.

COMMISSION: The Halifax Township Planning Commission.

COMMON ELEMENTS: Land amenities, parts of buildings, central services and utilities, and any other elements and facilities owned and used by all unit owners and are designated as common elements. These elements include but are not limited to:

1. The land on which the building is located and portions of the building which are not included in a unit;
2. The foundation, structural parts, supports, main walls, roofs, basements, halls, corridors, lobbies, stairways, entrances and exits of the building;
3. The yards, parking area and driveways;
4. Portions of the land and building used exclusively for the management, operation or maintenance of the common elements;

5. Installations of all central services and utilities;
6. All other elements of the building necessary or convenient to its existence, management, operation, maintenance and safety or normally in common use; and
7. Such other facilities as are designated as common elements.

COMMON OPEN SPACE: A parcel or parcels of land or an area of water, or a combination of land and water within a development site and designated and intended for the use or enjoyment of residents of a residential development, not including streets, off-street parking areas, and areas set aside for public facilities (e.g. storm water management facilities).

- (*) Common open space shall be free of structures, but may contain such improvements as are in the development plan as finally approved and as are appropriate for the recreation of residents.

CONDOMINIUM: A building, or group of buildings, in which units are owned individually, and the structure, common areas and facilities are owned by all the owners on a proportional, undivided basis. Real estate is not a condominium unless the undivided interests in the common elements are vested in the unit owners.

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

CONSERVATION DISTRICT: The Dauphin County Conservation District (DCCD). The Dauphin County Conservation District has the authority under a delegation agreement executed with the Department of Environmental Protection to administer and enforce all or a portion of the regulations promulgated under 25 PA Code Chapter 102.

COUNTY: County of Dauphin, Pennsylvania.

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

CUL-DE-SAC: A minor street open at one end for vehicular and pedestrian access with the opposite end terminating in a vehicular turn around.

CULVERT: A drain or conduit not incorporated in a closed system that carries a stream and/or stormwater runoff under or through a driveway, roadway, railroad, pedestrian walk, public way, embankment, or fill.

CURB: A stone or concrete 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 designated point of lower elevation of the final grade. Also, the material removed in excavation.

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

DEDICATE: To appropriate and set apart one's private property for a public use.

DESIGN STORM: The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g. a 5-year storm) and duration (e.g. 24-hours), used in the design and evaluation of stormwater management systems. See also "Return Period."

DESIGNEE: The agent of Halifax Township and/or agent of the governing body involved with the administration, review or enforcement of any provisions of this Ordinance by contract or memorandum of understanding.

DETENTION BASIN: An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

DETENTION DISTRICT: Those sub-areas in which some type of detention is required to meet the plan requirements and the goals of Act 167.

DETENTION FACILITIES: Structures and other improvements designed to manage Stormwater runoff.

DETENTION VOLUME: The volume of runoff that is captured and released during or after a storm event into Waters of the Commonwealth at a controlled rate.

DEVELOPER: Any landowner, agent of such landowner or tenant with the permission of such landowner, who makes or causes to be made a subdivision of land or a land development.

DEVELOPMENT: Any man-made change to improved or unimproved real estate, including but not limited to the construction, reconstruction, renovation, repair, expansion, or alteration of buildings or other structures; the placement of manufactured homes; streets, and other paving; utilities; filling, grading and excavation; mining; dredging; drilling operations; storage of equipment or materials; and the subdivision of land.

DEVELOPMENT PLAN: The provisions for development, including a planned residential development, a plan 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 facility, common open space and public facilities. (*) The phrase "provisions of development plan" when used in this Ordinance shall mean the written and graphic materials referred to in this definition.

(*) Public facilities include utility easements for sewer collection, water, electric, telephone and gas distribution, transformer, pumping stations, tele-communications, etc.

DEVELOPMENT SITE - (SITE): The specific tract of land for which a Regulated Activity is proposed. Also see **PROJECT SITE**.

DISCHARGE: Release, pour out, emit.

DISTURBED AREA: An un-stabilized land area where an Earth Disturbance Activity is occurring or has occurred.

DOWNSLOPE PROPERTY LINE: That portion of the property line of the lot, tract, or parcels of land being developed located such that all overland or piped flow from the site would be directed toward it.

DRAINAGE: The removal of surface water or groundwater from land by drains, grading or other means.

DRAINAGE CONVEYANCE FACILITY: A stormwater management facility designed to convey stormwater runoff and shall include streams, channels, swales, pipes, conduits, culverts, storm sewers, etc.

DRAINAGE EASEMENT: A right granted by a landowner to a grantee, allowing the use of private land for stormwater management, drainage, or conveyance purposes.

DRAINAGE SYSTEM: Pipes, swales, natural features and man-made improvements designed to carry drainage.

DRAINAGEWAY: Any natural or artificial watercourse, trench, ditch, pipe, swale, channel, or similar depression into which surface water flows.

DRIVEWAY: A private roadway providing access for vehicles to a parking space, garage, dwelling or other structure.

DWELLING: A building or structure designed for living quarters for one or more families, including mobile / manufactured homes which are supported either by a foundation or by blocks or jacks or otherwise permanently attached to the land, but not

including hotels, rooming houses, or other accommodations used for transient occupancy.

DWELLING, MODULAR HOUSING: Any structure designed primarily for residential occupancy, except a mobile home, which is wholly or in substantial part made, fabricated, formed or assembled in manufacturing facilities for installation or assembly and installation on the building site in such a manner that all concealed parts or processes of manufacture cannot be inspected at the site without disassembly, damage or destruction.

DWELLING, MOBILE / MANUFACTURED HOME: A transportable, single-family dwelling intended for permanent occupancy, contained in one (1) unit, or in two (2) or more units designed to be joined into one (1) 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.

DWELLING, MULTI-FAMILY: A building used by two (2) or more families living independently of each other and doing their own cooking, including apartment houses.

DWELLING, SINGLE-FAMILY, ATTACHED (TOWNHOUSES): A building used by one (1) family and having two (2) party walls in common with other buildings.

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

DWELLING, SINGLE-FAMILY, SEMI-DETACHED: A dwelling used by one (1) family, having one (1) side yard or rear yards, and one (1) party wall common with another dwelling.

DWELLING, TWO FAMILY, DETACHED (DUPLEX): A building used by two (2) families, with one (1) dwelling unit arranged over the other, and having two (2) side yards.

DWELLING, TWO FAMILY, SEMI-DETACHED: A building used by two (2) families, with one dwelling unit arranged over the other, having one side yard, and having one party wall in common with another building.

EARTH DISTURBANCE ACTIVITY - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, timber harvesting activities, road maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

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

EFFLUENT: Outflow from a sewer or sewage system

ENGINEER, TOWNSHIP: A registered professional engineer in Pennsylvania designated by the Township to perform the duties of engineer as herein specified.

ENGINEER, PROFESSIONAL: An individual licensed and registered under the laws of the Commonwealth of Pennsylvania to engage in the practice of engineering.

ENGINEERING SPECIFICATIONS: The Engineering Specifications of the municipality regulating the installation of any required improvements or for any facility installed by any owner, subject to public use.

EROSION: The detachment and movement of soil or rock fragments, or the wearing away of the land surface by water, wind, ice and gravity or other natural forces.

EROSION AND SEDIMENT POLLUTION CONTROL PLAN: A plan which is designed to minimize accelerated erosion and sedimentation.

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.

EXCEPTIONAL VALUE WATERS: Surface waters of high quality, which satisfies PA Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards 93.4b(b) (relating to anti-degradation).

EXISTING CONDITIONS: In regards to stormwater management, the initial condition of a project site prior to the proposed construction. If the initial condition of the site is not forested or undeveloped land, the land use shall be considered as "meadow" unless the natural land cover is documented to generate lower Curve Numbers or Rational "C" Coefficients, such as forested lands.

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

FARM BUILDING(S): A building used for agricultural purposes.

FEMA: Federal Emergency Management Agency.

FILING OF THE PLAN: The act of submitting the Plan to the Municipality, along with all of the required fees and documentation.

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 and shall include conditions resulting there from. The difference

in elevation between a point on the original ground and a designated point of higher elevation on the final grade. The material used to make a fill.

FINAL ACTION: A determination of approval or denial of a Plan made by the Halifax Township Board of Supervisors.

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

FLOOD: A temporary inundation of normally dry land area.

FLOOD, BASE (ONE-HUNDRED YEAR FLOOD): A flood that, on the average, is likely to occur once every 100 years (i.e., that has a one (1%) percent chance of occurring each year, although the flood may occur in any year - also called the "100-year flood").

FLOOD HAZARD, AREAS OF SPECIAL: The land in the flood plain within a community subject to a one (1%) percent or greater change of flooding in any given year. It is shown on the FIRM as Zone A, AO, A1-A30, AE, A99, or, AH.

FLOOD INSURANCE RATE MAP (FIRM): The official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY (FIS): Flood Insurance Study (FIS) - the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Map, the Flood Boundary and Floodway Map, and the water surface elevation of the base flood.

FLOOD PLAIN: Any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary - mapped as being a special flood hazard area. Included are lands adjoining a river or stream that have been or may be inundated by a 100-year flood. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Protection (PADEP) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PADEP).

FLOOD PROOFING: Any combination of structural and non-structural additions, changes or adjustments to proposed and existing structures which reduce or eliminate flood damage to real estate or improved real property, water and sewer facilities, structures and their contents.

FLOODWAY: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

FOREST MANAGEMENT/TIMBER OPERATIONS: Planning and activities necessary for the management of forestland. These include timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

FREEBOARD: A vertical distance between the elevation of the design high water and the top of a dam, levee, tank, basin, or diversion ridge. The space is required as a safety margin in a pond or basin.

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: The Board of Supervisors of Halifax Township, Dauphin County, Pennsylvania.

GRADE: A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein.

(TO) GRADE: To finish the surface of a roadbed, top of embankment or bottom of excavation.

GROUNDWATER RECHARGE: Replenishment of existing natural underground water supplies.

HEC-HMS MODEL CALIBRATED: (Hydrologic Engineering Center Hydrologic Modeling System) A computer-based hydrologic modeling technique adapted to the watersheds in Dauphin County for the Act 167 Plan. The model has been calibrated by adjusting key model input parameters.

HIGH QUALITY WATERS: Surface water having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying Pennsylvania Code, Title 25, Environmental Protection, Chapter 93, Water Quality Standards, Section 93.4b(a).

HIGHEST ADJACENT GRADE: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

HISTORIC STRUCTURES: Any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the

Interior as meeting the requirements for individual listing on the National Register;

2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states which have been approved by the Secretary of the Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation that have been certified either:
 - a. By an approved state program as determined by the Secretary of the Interior or
 - b. Directly by the Secretary of the Interior in states without approved programs.

HOUSEHOLD PET:An animal kept by a person for companionship and enjoyment (excludes wild animals; livestock of any kind and laboratory animals). Includes service dogs and sport dogs.

HYDROLOGIC SOIL GROUP (HSG): Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into one of four HSG (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The Natural Resource Conservation Service (NRCS) of the US Department of Agriculture defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of interest may be identified from a soil survey report from the local NRCS office or the Dauphin County Conservation District.

IBC: International Building Code.

IMPERVIOUS SURFACE (IMPERVIOUS AREA): Any material which reduces and prevents absorption of storm water into previously undeveloped land. Impervious surfaces (or areas) shall include, but are not limited to: roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets and sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

IMPOUNDMENT: A retention or detention basin designed to retain stormwater runoff and release it at a controlled rate.

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, street shade trees, and improvements to existing water courses.

INDUSTRIAL: Pertaining to trade or manufacturing, systematic work or labor.

INFILTRATION STRUCTURES: A structure designed to direct runoff into the ground (e.g. french drains, seepage pits, seepage trench).

INLET: A surface connection to a closed drain. A structure at the diversion end of a conduit. The upstream end of any structure through which water may flow.

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

INTERSECT: To cut or divide by passing through or across.

IRC: International Residential Code.

KARST: A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, steep-sided hills, underground drainage and caves. Karst is formed on carbonate rocks, such as limestone or dolomites and sometimes gypsum.

LAND DEVELOPMENT (DEVELOPMENT): Any of the following activities:

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

- b. The addition of an accessory building on a lot or lots subordinate to an existing principal building not to exceed 6000 square feet of impervious coverage, so long as the total impervious coverage, after such addition, does not exceed the Max. Lot Coverage % as set forth in the Table located in Section 505.3.; or
- c. The erection of Farm Building(s) on a lot or lots not to exceed 6000 square feet of impervious coverage, so long as the total impervious coverage, after such erection, does not exceed the Max. Lot Coverage % as set forth in the Table located in Section 505.3.; or
- d. A second temporary Residential structure being placed upon a Lot, for a period not to exceed two (2) years and subject to the following conditions:
 1. That the impervious coverage be less than 1,000 square feet;
 2. That the Sewage Enforcement Officer must inspect the temporary Residential structure and any corrections required by the Sewage Enforcement Officer to comply with applicable ordinances, regulations or statutes must be made and evidence of the same provided to the Municipality;
 3. That to the extent that a Building Permit is required, it is obtained.
and
 4. That at the end of the two (2) year period, the temporary Residential Structure is removed and all utility lines capped and made safe, unless a one-time six (6) month extension is timely sought and granted by the Municipality, which may deny such extension in its sole discretion. If the temporary Residential Structure is not removed in accordance herewith, a Land Development Plan must be submitted.

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 condition), a lessee if he is authorized under the lease to exercise the rights of landowner, or other person having a proprietary interest in land, shall be deemed to be a landowner for the purpose of this Ordinance.

LANDSCAPING: To improve the appearance of an area of land, as by planting trees, shrubs, or grass, or altering the contours of the ground.

LIEN: A charge or security or encumbrance upon property.

LIMIT OF DISTURBANCE: A line provided on the SWM Site Plan that indicates the total area to be disturbed during a proposed earth disturbance activity.

LOT: A designated parcel, tract or area of land established by a plan or otherwise as permitted by law and to be used, sold, leased, 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 rights-of-way, but including the area of any easement.

LOT, DOUBLE FRONTAGE: (See THROUGH LOT) An interior lot having frontage on two (2) streets.

LOT LINE: A line of record bounding a lot which divides one lot from another lot or from a public or private road, or any other public space.

LOT, NONCONFORMING: A lot, the area, dimensions or location of which was lawful prior to the adoption, revision or amendment of the Subdivision and Land Development Ordinance, but which fails by reason of such adoption, revision or amendment to conform to the present requirements.

LOT, REVERSE FRONTAGE: A lot extending between, and having frontage on an arterial street and a minor street, and with vehicular access solely from the latter.

LOT, THROUGH: A lot which fronts upon two parallel streets, or which fronts upon two streets which do not intersect at the boundaries of the lot.

LOT WIDTH: The horizontal distance between the side lines of a lot measured parallel to the street R/W at the minimum required building setback line.

LOWEST FLOOR: The lowest floor of the lowest fully enclosed area (including basement). An unfinished, flood resistant partially enclosed area, used solely for parking of vehicles, building access, and incidental storage, in an area other than a basement area is not considered the lowest floor of a building, provided that such space is not designed and built so that the structure is in violation of the applicable non-elevation design requirements of this ordinance.

MANHOLE: A hole, usually with a cover, through which a person may enter to access a service facility.

MANNING EQUATION in (Manning formula): A method for calculation of velocity of flow (e.g. feet per second) and flow rate (e.g. cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. "Open channels" may include closed conduits so long as the flow is not under pressure.

MANUFACTURED HOME: A prefabricated house, assembled in modular sections.

MARKER: Something used to indicate, identify or distinguish an item or location.

MAXIMUM LOT COVERAGE: The maximum percentage of impervious cover on any lot.

METES AND BOUNDS: The boundary lines of land, with their terminal points and angles.

MINOR REPAIR: The replacement of existing work with equivalent materials for the purpose of its routine maintenance and upkeep, but not including the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the exit way requirements; nor shall minor repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, oil, waste, vent, or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

MOBILE / MANUFACTURED HOME: A structure, transportable in one or more sections, which is built on a permanent chassis, and is designed for use with or without a permanent foundation when attached to the required utilities. The term includes park trailers, travel trailers, recreational and other similar vehicles which are placed on a site for more than 180 consecutive days.

MOBILE / MANUFACTURED HOME LOT: A parcel of land in a Mobile / Manufactured Home Park, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobile / manufactured home.

MOBILE / MANUFACTURED HOME PARK: A parcel or contiguous parcels of land which has been so designed and improved that it contains two or more mobile / manufactured home lots for the placement thereon of mobile / manufactured homes.

MOBILE / MANUFACTURED HOME PARK OR SUBDIVISION (EXISTING): A **MOBILE / MANUFACTURED** home park or subdivision for which the construction of facilities for servicing the lots on which the **MOBILE / MANUFACTURED** homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

MOBILE / MANUFACTURED HOME PARK OR SUBDIVISION (EXPANSION TO AN EXISTING): The preparation of additional sites by the construction of facilities for servicing the lots on which the **MOBILE / MANUFACTURED** homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

MOBILE / MANUFACTURED HOME PARK OR SUBDIVISION (NEW): A **MOBILE / MANUFACTURED** home park or subdivision for which the construction of facilities for

servicing the lots on which the **MOBILE / MANUFACTURED** homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

MONUMENT: A structure erected to memorialize a specified event, location, time, individual or thing.

MUNICIPALITY: Halifax Township, Dauphin County, Pennsylvania.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES): The federal government's system for issuance of permits under the Clean Water Act, which is delegated to PADEP in Pennsylvania.

NATURAL WATERCOURSE: Any portion of a channel, bed, or bank, of the ordinary high water line of waters of the Municipality, and tributary waters with defined bed or banks. This includes watercourses which flow on an intermittent basis or which fluctuate in level during the year and applies to the entire bed of such watercourse whether or not the water is at peak level. This definition does not include irrigation ditches, canals, storm water run-off devices, or other entirely artificial watercourses, except where they exist in a natural watercourse which has been altered by humans.

NEW CONSTRUCTION: Structures for which the start of construction commenced on or after August 2, 2012 and includes any subsequent improvements thereto. Any construction started after November 3, 1982 and before August 2, 2012 is subject to the ordinance in effect at the time the permit was issued, provided the start of construction was within 180 days of permit issuance.

NOAA ATLAS 14: Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland (2004). NOAA's Atlas 14 can be accessed at Internet address: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.

NONPOINT SOURCE POLLUTION: Pollution that enters a watery body from diffuse origins in the watershed and does not result from discernible, confined, or discrete conveyances.

NPDES PERMIT: National Pollutant Discharge Elimination System Permit. An authorization, license or equivalent control document issued by the PA Department of Environmental Protection to implement the requirements of 40 CFR Parts 122-124 (relating to EPA administered permit programs: the National Pollutant Discharge Elimination System; state program requirements; and procedures for decision making) and the Federal Act.

NRCS - Natural Resource Conservation Service (previously Soil Conservation Service SCS).

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

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

OUTFALL: (1) Point where water flows from a conduit, stream, or drain; (2) "Point Source" as described in 40 CFR § 122.2 at the point where the Municipality's storm sewer system discharges to surface Waters of the Commonwealth.

OUTLET: Points of water disposal from a stream, river, lake, tidewater or artificial drain.

PADEP: The Pennsylvania Department of Environmental Protection, or any replacement agency.

PARKING AREA: Any public or private land area designed and used for parking motor vehicles including parking lots, garages, private driveways and legally designated areas of public streets.

PARKING LOT STORAGE: Involves the use of impervious parking areas as temporary impoundments with controlled release rates during rainstorms.

PEAK DISCHARGE: The maximum rate of stormwater runoff from a specific storm event.

PEAK FLOW RATES: The maximum runoff amount, measured in cubic feet per second, for any given storm event.

PENNDOT: The Pennsylvania Department of Transportation, or any replacement agency.

PENNSYLVANIA MUNICIPALITIES PLANNING CODE: The act of July 31, 1968 (P.L.805, No.247), as re-enacted and amended, 53 P.S. Sec. 10101, et. Seq.

PENN STATE RUNOFF MODEL (calibrated): The computer-based hydrologic modeling technique adapted to the Mid-Dauphin watersheds for the Act 167 Plan. The model has been "calibrated" to reflect actual recorded flow values by adjoining key model input parameters.

PERMIT: Privileges relating to real property granted by the Municipality.

PERSON: An individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever, which is recognized by law as the subject of rights and duties.

PERVIOUS AREA: Any area not defined as impervious.

PIPE: A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater and other types of liquids or semi-liquids, such as public or shared water supplies and public or shared sewage.

PLAN, COMPREHENSIVE: An official document adopted by the Township Board of Supervisors setting forth its policies regarding the long-term development of the Township; the preparation of which is based on careful studies of existing conditions and prospects for future growth of the municipality. The plan shall include, but need not be limited to, plans for the use of land, transportation of goods and people, community facilities and services, and a map and statement indicating the relationship of the municipality and its proposed development of adjacent municipalities.

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 for review by the Township Engineer, as required by this Subdivision and Land Development Ordinance.

PLAN, 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, PRELIMINARY: A tentative subdivision or land development plan showing approximate proposed street and lot layout as a basis for consideration prior to preparation of a final plan.

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 plan.

PLANNING COMMISSION: The Halifax Township Planning Commission.

POINT SOURCE: Any discernible, confined, or discrete conveyance, including, but not limited to: any pipe, ditch, channel, tunnel, or conduit from which stormwater is or may be discharged, as defined in State regulations at 25 Pennsylvania Code § 92.1.

POLLUTANT: Any introduced gas, liquid or solid that makes a resource unfit for a specific purpose.

POLLUTION: The presence of matter or energy whose nature, location or quantity produces undesired environmental effects.

PRIMARY CONTROL POINTS: Reference monumentation that refers to actual physical points on the ground that define location of boundary lines that divide neighboring parcels as well as their respective corners. Also called survey control, they are most often 1/2" or 5/8" iron rebar rods or pipes placed at 18" minimum depth. Control Points are meant to be durable, stable, and permanent.

PRINCIPAL BUILDING OR PRINCIPAL USE: The basic purpose for which a building or land area is occupied or intended to be occupied as opposed to accessory or incidental uses; usually classifiable as residential, commercial, manufacturing or public in nature.

PRIVATE ROAD: A legally established right-of-way, other than a public street, which provides the primary pedestrian and vehicular access for two or more lots.

PROFILE LINE: Means the elevation of the center line of the finish surface of the street, which shall be midway between the sidelines of the street.

PROJECT SITE: The specific area of land where any Regulated Activities in the Municipality are planned, conducted, or maintained.

PUBLIC: Owned, operated or controlled by a government agency (Federal, state or local – including a corporation created by law for the performance of certain specialized governmental functions and the Board of Public Education).

PUBLIC GROUNDS: Includes (i) parks, playgrounds, trails and paths and other recreational and public areas; and (ii) sites for schools, sewage treatment, refuse disposal and other publicly owned or operated facilities; and (iii) publicly owned or operated scenic and historic sites.

PUBLIC HEARING: A formal meeting held pursuant to public notice by the Board of Supervisors or planning agency, intended to inform and obtain public comment, prior to taking action in accordance with this Ordinance.

PUBLIC MEETING: A forum held pursuant to notice under the Act of July 3, 1986 (P.L. 388, No. 84), known as the "Sunshine Act."

PUBLIC NOTICE: Notice published once each week for two (2) successive weeks in a newspaper of general circulation in the Township of Halifax, Dauphin County, Pennsylvania. Such notice shall state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first publication shall not be more than thirty (30) days and the second publication shall not be less than seven (7) days from the date of the hearing.

PUBLIC NUISANCE: An act (or series of acts) which interferes with or endangers the life, welfare, safety or health, property, of the Municipality or to obstruct the public in the exercise or enjoyment of rights common to all. This definition shall exclude any

agricultural operation conducted in accordance with normal agricultural operations so long as the agricultural operation does not have a direct adverse effect on the public health and safety of the Municipality.

PUBLIC RIGHT-OF-WAY: A right to pass upon, for any reason and in any manner, private land, at law, or by Agreement, granted to the Municipality.

QUALIFIED PROFESSIONAL: Professional engineers, landscape architects, geologists and land surveyors licensed to practice in this Commonwealth by the Pennsylvania Department of State.

RADIOACTIVE SUBSTANCES: Nuclear Fuels, or any substance which spontaneously emits ionizing rays, or are contaminated with such substances.

RATIONAL METHOD: A rainfall-runoff relation used to estimate peak flow.

REAL ESTATE: Any fee, leasehold or other estate or interest in, over or under land, including structures, fixtures and other improvements and interests which by custom, usage or law pass with a conveyance of land though not described in the contract of sale or instrument of conveyance. Real estate includes parcels with or without upper or lower boundaries, and spaces that may be filled with air or water.

RECREATIONAL VEHICLE: A vehicle which is:

1. Built on a single chassis;
2. Not more than 400 square feet, measured at the largest horizontal projections;
3. Designed to be self-propelled or permanently towable by a light duty truck;
4. Not designed for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

RECREATIONAL VEHICLE PARK OR CAMPGROUND: A parcel of land under single ownership 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 campground lots rented for such use, thereby constituting a "land development."

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, together with such open space as is required under the provisions of this Ordinance having not less than the minimum area and width required by this Ordinance for a recreational vehicle park or campground lot. (See Article V, Section 505).

REDEVELOPMENT: Earth disturbance activities on land, which has previously been developed.

REGISTERED SURVEYOR: A Professional Land Surveyor, licensed by the Pennsylvania State Registration Board for Professional Engineers, Land Surveyors and Geologists.

REGULATED ACTIVITY(IES): Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

REGULATED EARTH DISTURBANCE ACTIVITY: Activity involving Earth Disturbance subject to regulation under 25 PA Code Chapter 92, Chapter 102, or the Clean Streams Law.

REGULATORY FLOOD ELEVATION: The Base Flood Elevation (BFE) or estimated flood height as determined using simplified methods plus a freeboard safety factor of one and one-half (1-1/2) feet.

REINSTATE: To replace something to its former state or condition.

RELEASE RATE: The percentage of predevelopment peak rate of runoff from a site or sub-area to which the post development peak rate of runoff must be reduced to protect downstream areas.

RELEASE RATE DISTRICT: Those subwatershed areas in which post-development flows must be reduced to a certain percentage of pre-development flows as required to meet the plan requirements and the goals of Act 167.

REPEAL: To replace a law, statute or ordinance with a new law, statute or ordinance.

REPETITIVE LOSS: Flood related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on average, equals or exceeds 25 percent of the market value of the structure before the damages occurred.

RESERVE STRIP: A strip of land adjacent to a street intended to control access to the street from an adjacent property.

RESIDENT PROPERTY OWNER: Any individual maintaining a voting address in the township within one thousand (1,000) feet of the proposed subdivision, owning real estate in his own or joint names. A tenancy in common or any other means of joint ownership shall be considered as an individual; however, the signature of any single joint owner shall be considered as binding the others.

RESIDENTIAL: A use of Land or a structure designed for humans to live within.

RE-SUBDIVISION: Any subdivision or transfer of land laid out on a plan which has been approved by the Township Supervisors that changes, or proposes to change property line(s) and / or public right-of-way lines not in strict accordance, as determined by the Township Supervisors, with the previously approved plan.

RETENTION BASIN: A pond containing a permanent pool of water designed and, or constructed, to store water runoff for a given storm event and release it at a predetermined rate.

RETENTION VOLUME: The volume of runoff that is captured and not released directly into the surface Waters of this Commonwealth during or after a storm event.

RETURN PERIOD: The average interval, in years, within which a storm event of a given magnitude can be expected to recur. For example, the probability of a 25-year storm occurring in any one given year is 0.04 (i.e. a 4% chance).

REVIEW FEE: A fee authorized by the Pennsylvania Municipalities Planning Code which the Municipality may charge an Applicant for the municipality's professional consultants based upon a schedule established by ordinance or resolution. Fees charged to the Municipality relating to any appeal of a Decision shall not be considered Review Fees and may not be charged to an applicant.

REVERSE FRONTAGE LOT: A lot extending between and having frontage on a major street and a minor street with vehicular access solely from the latter.

REVOKE: Annul, void, cancel or rescind.

RIGHT-OF-WAY LINE: A line defining the edge of a street right-of-way and separating the street from abutting property or lots.

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: A vegetated area bordering perennial and intermittent streams and wetlands, that serves as a protective filter to help protect streams and wetlands from the impacts of adjacent land uses.

RISER: A vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

ROAD MAINTENANCE: Earth disturbance activities within the existing road right-of-way, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches, and other similar activities. Road maintenance activities that do not disturb the subbase of a paved road such as milling and pavement overlays are not considered earth disturbance activities.

ROADWAY: See **CARTWAY**.

ROOFTOP DETENTION: Temporary ponding and gradual release of stormwater falling directly onto flat roof surfaces by incorporating controlled-flow roof drains into building designs.

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.

RUNOFF CAPTURE VOLUME: The volume of runoff that is captured (retained) and not released into surface Waters of the Commonwealth during or after a storm event.

SANITARY FACILITIES: The pipes and fixtures for the disposal of sewage.

SCREENING: The placing of items that block the sight, usually by the use of landscaping and/or vegetation.

SEDIMENT: Soils or other materials transported by surface water as a product of erosion.

SEDIMENT BASIN: A barrier, dam, or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by stormwater runoff.

SEDIMENT POLLUTION: The placement, discharge, or any other introduction of sediment into Waters of the Commonwealth occurring from the failure to properly design, construct, implement or maintain control measures and control facilities in accordance with the requirements of this Ordinance.

SEDIMENTATION: The process by which mineral or organic matter is accumulated or deposited by wind, water, or gravity.

SEEPAGE BED: A covered pit with perforated pipe through which the septic tank effluent may seep or leach into the surrounding soil.

SEEPAGE PIT / SEEPAGE TRENCH: An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

SEPARATE STORM SEWER SYSTEM - A conveyance or system of conveyances (including roads with drainage systems, Municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) primarily used for collecting and conveying stormwater runoff.

SEPTIC SYSTEM: An underground system with a septic tank used for the decomposition of domestic wastes.

SEPTIC TANK: A watertight tank in which raw sewage is broken down into solid, liquid, and gaseous phases to facilitate further treatment and final disposal.

SERVICE DRIVE (PRIVATE): A service way providing a secondary means of private access to abutting property and not intended for general traffic circulation.

SEWAGE DISPOSAL SYSTEM (On-Lot): Any structures designated to dispose of sanitary sewage within the boundaries of a lot.

SEWAGE DISPOSAL SYSTEM (PUBLIC): 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.

SEWAGE ENFORCEMENT OFFICER: The official of the Municipality who issues and reviews permit applications and conducts such investigations and inspections as are necessary to implement the Pennsylvania Sewage Facilities Act and the rules and regulations thereunder.

SHEET FLOW: Runoff that flows over the ground surface as a thin, even layer, not concentrated in a channel.

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

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.

SINKHOLE: A hollow place or depression in which drainage collects.

SLOPE: The face of an embankment or cut section; any ground whose surface makes an angle with the plane of the horizon.

SOIL-COVER COMPLEX METHOD: A method of runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a runoff parameter called Curve Number (CN).

SOIL PERCOLATION TEST: A field test conducted to determine the absorption capacity of soil to a specified depth in a given location for the purpose of determining suitability of soil for on-lot sewage disposal.

SOIL PROBE: A field test conducted to determine the types and depths of soils located on a given lot and/or study area.

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

SPECIAL PERMIT: A special approval which is required for hospitals, nursing homes, jails, and new mobile / manufactured home parks and subdivisions and substantial improvements to such existing parks, when such development is located in all, or a designated portion of a floodplain.

SPECIAL FLOOD HAZARD AREA (SFHA): The land in the flood plain within a community subject to a one (1%) percent or greater change of flooding in any given year. It is shown on the FIRM as Zone A, AO, A1-A30, AE, A99, or, AH.

SPILLWAY (EMERGENCY): A depression in the embankment of a pond or basin that is used to pass peak discharge greater than the maximum design storm controlled by the pond.

STABILIZED: Made firm or steady.

START OF CONSTRUCTION: Includes substantial improvement and other proposed new development and means the date the Permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first, alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

STATE WATER QUALITY REQUIREMENTS: The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of that Pennsylvania Code and the Clean Streams Law – including, but not limited to:

1. Each stream segment in Pennsylvania has a “designated use,” such as “cold water fishery” or “potable water supply,” which is listed in Chapter 93. These uses must be protected and maintained, under state regulations.
2. “Existing uses” are those attained as of November 1975, regardless whether they have been designated in Chapter 93. Earth Disturbance activities must be designed to protect and maintain existing uses and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in special protection streams.

3. Water quality involves the chemical, biological, and physical characteristics of surface water bodies. After Earth Disturbance activities are complete, these characteristics can be impacted by addition of pollutants such as sediment, and changes in habitat through increased flow volumes and/or rates as a result of changes in land surface area from those activities. Therefore, permanent discharges to surface waters must be managed to protect the stream bank, streambed, and structural integrity of the waterway, to prevent these impacts.
4. Protection and maintenance of water quality in special protection streams pursuant to 25 PA Code Chapter 93.

STORAGE INDICATION METHOD: A reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

STORM DRAINAGE INLET: A structure designed to drain excess rain and/or ground water

STORM FREQUENCY: The number of times that a given storm "event" occurs or is exceeded on the average in a stated period of years. See "RETURN PERIOD".

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

STORMWATER: Drainage runoff from the surface of the land resulting from precipitation, snow, or ice melt.

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 HOTSPOT: A land use or activity that generates higher concentrations of hydrocarbons, trace metals, or toxicants than are found in typical stormwater runoff.

STORMWATER MANAGEMENT FACILITIES: Any structure, natural or man-made, that, due to its condition, design, or construction; conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to: detention basins, wet ponds, open channels, storm sewers, pipes and infiltration facilities.

STORMWATER MANAGEMENT PLAN: The Dauphin County Stormwater Management Plan for managing stormwater runoff in Dauphin County as required by the Act of October 4, 1978, P.L. 864, (Act 167) and known as the "Storm Water Management Act".

STORMWATER MANAGEMENT SITE PLAN (SWM SITE PLAN): The plan prepared by the Applicant or his representative indicating how stormwater runoff will be managed at the project site in accordance with this Ordinance.

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

STREAM ENCLOSURE: A bridge, culvert or other structure in excess of 100 feet in length upstream to downstream which encloses a regulated water of this commonwealth.

STREET: A public right-of-way which affords primary vehicular, pedestrian access to abutting properties, including street, highway, thoroughfare, parkway, road, avenue, boulevard, lane, or however designated.

STREET, CUL-DE-SAC: A street intersecting another street at one end terminating at the other in a vehicular turn-around.

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, MAJOR:

1. **ARTERIAL STREET:** 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.
2. **COLLECTOR STREET:** A major street or highway which carries traffic from minor streets to arterial streets including the principal entrance streets of a residential development and streets for circulation within such a development.
3. **LIMITED ACCESS:** 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.

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

STRUCTURE: A walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

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

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

1. **MINOR SUBDIVISION:** The subdivision of a single lot, tract or parcel of land into five (5) or fewer lots, tracts or parcels of land, for the purpose, whether immediate or future, of transfer of ownership or of building development, providing lots, tracts or parcels of land thereby created having frontage on an improved public street or streets and providing further that there is not created by the subdivision any new street, street easement, easements of access or need therefore.
2. **MAJOR SUBDIVISION:** Any subdivision involving more than five (5) lots, parcels of land or other divisions of land whether or not they involve new streets, additional utilities or other facilities immediate or in the future.

SUBSTANTIAL DAMAGE: Damage from any cause sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty (50) percent or more of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT: Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage or "repetitive loss" regardless of the actual repair work performed. The term does not, however include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or;

2. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

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

SUBWATERSHED AREA: The smallest drainage unit of a watershed for which stormwater management criteria has been established in the Stormwater Management Plan.

SUMMARY OFFENSE: A criminal violation of a Municipal Ordinance for which if a person is convicted thereof they may be sentenced to a term of imprisonment, the maximum of which is not more than 90 days.

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

SURVEYOR, PROFESSIONAL LAND: An individual licensed and registered under the laws of this Commonwealth to engage in the practice of land surveying.

SWALE: A natural or man-made low-lying stretch of vegetative land characterized as a depression and used to carry surface water runoff.

TIMBER OPERATIONS: See FOREST MANAGEMENT.

TIME OF CONCENTRATION (TC): The time for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

TOPOGRAPHY: Visible features of an area including elevations.

TOP SOIL: The surface or upper part of the soil ordinarily rich in organic matter.

TOWNSHIP: Halifax Township, Dauphin County, Pennsylvania.

TREE CANOPIES: The aboveground portions of a plant community or crop,

TRIP: A single or one-way vehicle movement either to or from a subject property or study area.

TRIP ENDS: The total of trips entering and leaving a specific and use or site over a designated period of time.

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

UNIFORM CONSTRUCTION CODE (UCC): The statewide building code adopted by The Pennsylvania General Assembly in 1999 applicable to new construction in all municipalities whether administered by the municipality, a third party or the Department of Labor and Industry. Applicable to residential and commercial buildings, The Code adopted The International Residential Code (IRC) and the International Building Code (IBC), by reference, as the construction standard applicable with the State floodplain construction. For coordination purposes, references to the above are made specifically to various sections of the IRC and the IBC.

UNIT: That part of the property, structure or building designated or intended for any type of independent use, which has direct exit to a public street or way or to an easement or right-of-way leading to a public street or way, and includes a proportionate undivided interest in the common elements, which is assigned to the property, structure or building.

USDA: The United States Department of Agriculture.

UTILITY COMPANIES: Organizations that maintain the infrastructure for a public service.

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.

VIOLATION: Means the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 44 CFR (Code of Federal Regulations) §60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

WAIVER: The intentional or voluntary relinquishment of a right or requirement.

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

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

WATER POLLUTION: The addition of pollutants to water in concentrations or in sufficient quantities to result in measurable degradation of water quality.

WATERS OF THE COMMONWEALTH: Rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth of Pennsylvania.

WATERSHED: Region or area drained by a river, watercourse, or other surface water, whether natural or artificial.

WATER TABLE: The upper surface of groundwater, or that level below which the soil is essentially saturated with water.

WETLANDS: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas. (The term includes but is not limited to wetland areas listed in the State Water Plan, the United States Forest Service Wetlands Inventory of Pennsylvania, the Pennsylvania Coastal Zone Management Plan and a wetland area designated by a river basin commission. This definition is used by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.)

WIND ENERGY FACILITY: Any energy facility that consists of one or more wind turbines or other such devices and their related or support facilities that produces electrical power from the wind and are (a) connected to a common switching station or (b) constructed, maintained or operated as a contiguous group of devices.

WIND POWERED GENERATING FACILITIES: Facilities at which wind is converted to another form of energy and distributed to a customer or customers.

ARTICLE IV

PLAN SPECIFICATIONS AND PROCESSING PROCEDURES

Section 401. General Requirements.

Whenever a subdivision of land or land development is desired to be effected in the Township of Halifax, Dauphin County, Pennsylvania, a plan of the layout of such subdivision or land development shall be prepared, filed and processed according to the requirements of this Subdivision and Land Development Ordinance.

Section 402. Sketch Plans.

1. Prior to the filing of a subdivision or land development plan for review and approval, the Applicant is strongly encouraged to submit a Sketch Plan to the Planning Commission for advice on the requirements necessary to achieve conformity with the standards of this and other applicable municipal ordinances, as well as to alert the Applicant to other factors which must be considered in the design of the subdivision or land development.
2. The plan shall be clearly labeled "SKETCH PLAN" and shall include sufficient information to clearly indicate the character and extent of the proposed subdivision or land development and its relationship to existing conditions and facilities within the area in which it is to be located. It is recommended that Sketch Plan submissions include a map covering sufficient area to establish the location of the site and an informal plan of any existing or proposed streets, buildings, lot arrangement, utilities, significant natural features and other elements within the subdivision or land development.
3. Submission of data or other discussions pursuant to this article shall not constitute official submission of a plan to the township requiring it to render a decision thereon pursuant to the Municipalities Planning Code.

Section 403. Minor Subdivision and Land Development Applications.

1. Where five (5) or fewer lots are proposed to be subdivided from a tract of land or where land is being transferred to be combined with an existing lot, the Board of Supervisors, being advised by the Planning Commission, in response to a written request by the Applicant, may waive the requirements of Preliminary Plan requirements, provided such proposal is on an existing street and no new streets are involved. In such cases the applicant shall submit a Final Plan as follows utilizing criteria described in Sections 406 and 407.

Section 404. Preliminary Plan: Procedure.

1. The Applicant shall, not less than fourteen (14) calendar days prior to the regular meeting of the Commission at which consideration is desired, file with the Township Secretary the appropriate filing fees and fourteen (14) copies of a preliminary plan of the proposed subdivision or land development and other required data and maps. The applicant shall submit concurrently, with the Preliminary Plan, three (3) copies of the sewage "Plan Revision Module for Land Development," if applicable. Incomplete applications will be rejected by the Township Secretary or Township Engineer.
2. Upon filing the plan submitted by the Applicant, the Township Secretary shall within three (3) working days forward a copy of the plan with the appropriate review fee paid by the applicant to the Dauphin County Planning Commission and the Dauphin County Conservation District. The Township Secretary will forward copies of the plan to the Township Engineer and may, as appropriate, forward copies to affected public utilities, school district, fire department, and other public agencies for review and report to the Township.

The Board of Supervisors, upon the recommendation of the Commission, shall act on any Preliminary Plan within ninety (90) days following the filing of the plan by the Applicant. The date of official filing shall be the date of the regular meeting of the Planning Commission following acceptance of the plan by the Township Secretary and/or Township Engineer.

In the event that any waiver or modification of requirements from this Ordinance is requested by the Applicant or is deemed necessary for approval, the waiver or modification and the reasons for its necessity shall be in writing and entered in the records of the Commission.

3. The Dauphin County Planning Commission shall review the Preliminary Plan and Data and shall return a copy of a written report indicating their recommendations to the Township Board of Supervisors within thirty (30) days of their receipt of same or forfeit their right to review.
4. Before taking final action on any submitted plan, the Commission will review the report of the Township Engineer, the Dauphin County Planning Commission and any appropriate public agencies.
5. Before acting on any subdivision plan, the Board of Supervisors may hold a public hearing thereon after public notice.
6. The Board of Supervisors shall determine whether the Plan shall be approved, approved with conditions acceptable to the Applicant, or disapproved. The decision of the Board of Supervisors shall be in writing and shall be communicated to the Applicant personally. A letter setting forth the Board's

decision shall be mailed to the applicant at the address shown on the plans, not later than fifteen (15) days following their decision.

If the plan is approved with conditions, the Applicant shall respond to the Board of Supervisors indicating acceptance or rejection of such conditions. Such response shall be in writing, signed by the Applicant, and be received by the Township Secretary within ten (10) calendar days of receipt by the Applicant of the Board of Supervisors decision to approve the plan with conditions or within the time required for Board action on the Plan, whichever is shorter. Approval of the plan shall be rescinded automatically and the Board's action shall constitute a denial of the Plan upon the Applicant's failure to accept or reject such conditions in the manner and within the time frame noted above.

7. When the application is not approved in terms as filed, the decision shall specify the defects found in the application and shall, in each case, cite the applicable provisions of the Ordinance.
8. Failure of the Board of Supervisors to render a decision and communicate it to the Applicant within the time and in the manner required herein shall be deemed an approval of the 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, failure to meet the extended time or change in manner of presentation of communication shall have like effect. (A sample "Agreement to Extend the Time for Rendering and Communicating a Decision on Certain Preliminary and/or Final Subdivision Plan" is contained in Exhibit III herein.)
9. Approval of the Preliminary Plan constitutes approval of the proposed subdivision or land development with respect to the general design, the approximate dimensions and other planned features. Preliminary approval binds the developer to the general scheme of the Plan as approved. Preliminary approval does not authorize the recording, sale or transfer of lots.
10. Preliminary approval shall expire within five (5) years after being granted or within such minimum time as may be provided by statute. An extension of time may be requested by the Applicant and approved by the Board of Supervisors in accordance with Section 508(4) of the Pennsylvania Municipalities Planning Code, Act 247, as amended. Requests for extension shall be submitted to the Board of Supervisors thirty (30) days prior to any prevailing expiration date.

Section 405. Preliminary Plan: Specifications.

1. The following shall be submitted in every application for review and approval of a Preliminary Plan.

- a. Fourteen (14) copies and one (1) reproducible mylar of a map or series of maps or sheets not smaller than 17.5" x 24" and/nor larger than 24" x 36" drawn to scale not smaller than fifty (50') feet to the inch, unless otherwise specified herein, clearly labeled **"PRELIMINARY PLAN,"** and showing the following:
- i. Name or identifying title of the proposed subdivision or land development including the tax map parcel number.
 - ii. The date the Plan was prepared, the dates of any subsequent revisions thereto after the Plan has been submitted, and a description of such revisions, if any.
 - iii. North point and scale.
 - iv. A location map, at a scale not less than one thousand (1,000') feet to the inch, covering sufficient area to establish the location of the site within the municipality.
 - v. Name, address and phone number of the owner or Applicant.
 - vi. The names of owners of all abutting land, the names of all abutting subdivisions and respective recording information.
 - vii. Name, address, telephone number, and seal of the professional engineer certifying engineering aspects and professional land surveyor certifying accuracy of plat survey (as defined herein).
 - viii. Tract boundaries by bearings and distances and all existing and proposed monuments and markers in accordance with Section 602.
 - ix. All existing and/or proposed property lines, easements and rights-of-way and the purpose for which the easement or rights-of-way will be or have been established.
 - x. All existing and/or proposed streets on or adjacent to the tract, including name, right-of-way width and pavement width. Clear sight triangles and safe stopping sight distances for all proposed streets, alleys, private roads, service drives, and driveways that intersect with public rights-of-way.
 - xi. All existing buildings, sanitary and storm sewers, water mains, culverts, fire hydrants and other significant man-made features on or adjacent to the tract.

- xii. Water courses, marshes, rock outcrops and wooded areas and other features of note.
- xiii. Existing and proposed contours at vertical intervals of two (2) feet or, in the case of land having a slope of 2% or less, at such lesser intervals as may be necessary for review by the Engineer. Datum to which contour elevations refer shall be U.S. Coast and Geologic Survey datum or such other source approved by the Township Engineer.
- xiv. Total acreage, number of lots, minimum lot areas, density, use of land, and setback lines.
- xv. 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.
- xvi. The Applicant is required to delineate the various phased sections (if applicable) and the sequence of Final Plan submissions. If phased, each phase must contain at least 25% of the total number of lots.
- xvii. The limits of wetlands must be delineated by a metes and bounds description and staked in the field.
- xviii. When on-lot sewage disposal is proposed, show the location of the proposed system and an approved alternative site.
- xix. Where an on-lot water facility is proposed, show the location of the proposed well and label the distance to all sewage disposal systems on each lot and adjacent lots.
- xx. Certification of title showing that the Applicant is the owner of land, agent of the landowner or tenant with permission of the landowner. (Example contained in Exhibit I herein.)

2. The **PRELIMINARY PLAN** shall be accompanied by the following data and plans.

- a. Location, width and approximate grade of all proposed streets, alleys, rights-of-way and easements; lot numbers, proposed lot lines with approximate dimensions and lot areas.
- b. Location of any proposed site improvements such as curbs, sidewalks, drives, street trees, fire hydrants, and, when the proposed development

includes other than individual residences, the type of land use and the location of structures and parking facilities.

- c. An indication of the general location of proposed water mains, sanitary sewers and storm water catch basins and lines. The preliminary size of each line shall be shown as well as the locations of or distances to any existing line to be connected to, with the size of such existing lines indicated.
- d. A profile of the proposed sanitary and storm sewers and water lines, with invert elevations, and connections to existing systems.
- e. Plans for the collection, detention, or retention of storm water run-off and its discharge points together with design analyses and other supporting data.
- f. A preliminary soil erosion and sedimentation control plan together with a report from the County Conservation District indicating whether a permit for earth moving activity is required from the Department of Environmental Protection under the Rules and Regulations of Chapter 102, "EROSION CONTROL," authorized under P.L. 1987, June 22, 1937, as amended. (See Section 507).
- g. Where the subdivision and/or land development lies partially or completely within any identified floodplain area or district or where such activities border on any identified floodplain area or district, the preliminary plat shall include the following information:
 - i. The location and elevation of proposed roads, utilities, and building sites, fills, flood or erosion protection facilities;
 - ii. The one-hundred (100) year flood elevations;
 - iii. Identify the boundaries of the floodplain areas or districts;
 - iv. Contours at intervals of one (1') foot.
- h. Evidence in writing, where twenty-five (25) or more dwelling units are proposed in a subdivision or land development, from the school district in which the subdivision or land development is located containing the review and comments of the proposed development.
- i. A copy of a traffic report where twenty-five (25) or more dwelling units are proposed or a land development which will generate more than 250 trip ends per day. The report shall indicate the estimated volume of vehicular traffic and the adequacy of the existing and proposed streets within the

study area to handle the additional traffic. The limits of the study area will be determined by the Township Engineer.

When less than twenty-five (25) dwelling units or less than 250 trip ends are generated by the proposed development, such report shall be prepared by the Applicant at the discretion of the Township Engineer.

- j. A stormwater management report in accordance with Section 508 of this ordinance.
- k. A report from the Sewage Enforcement Officer when on-lot sewage disposal is proposed. Such report shall indicate the suitability/unsuitability of the soils for sewage disposal.
- l. Subject to the applicable provisions of Section 604.2 of this Ordinance, the Applicant shall submit a report indicating the location, source, type and capacity of the proposed water facility to serve the proposed development. The report shall include justifiable analysis that there are sufficient aquifers to support on-site water systems to service the needs of the proposed development. The report shall be sealed by a registered engineer.

Section 406. Final Plan: Procedure.

1. The Applicant shall, not later than six (6) months after the date of approval of the Preliminary Plan, for that portion intended to be developed, file with the Township Secretary a Final Plan. Such filing shall include, as part of the formal submission, all the material and other data required under the Final Plan specifications as listed in Section 407.1.a(1) through 407.1.a(12) of this Ordinance. Failure to comply with the time limitation herein provided shall make the approval of the Preliminary Plan null and void unless an extension of time is granted in accordance with Section 404.8 herein.
2. The Final Plan shall incorporate all the changes and modifications required to the Preliminary Plan by the Board of Supervisors; otherwise it shall conform to the approved Preliminary Plan, and it 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 of the requirements of this Ordinance.
3. Two (2) reproducible mylar copies of the Final Plan and fourteen (14) prints shall be filed by the Applicant with the Township Secretary fourteen (14) days prior to the meeting of the Planning Commission at which meeting consideration is desired. Upon filing the plan with the Township Secretary, the Applicant, following the Township Secretary receiving and officially releasing the application material, shall within three (3) working days forward a copy with the appropriate

review fee to the Dauphin County Planning Commission and the Dauphin County Conservation District. The Township Secretary shall likewise forward copies to the Township Engineer and may, as appropriate, forward copies to affected public utilities, school districts, fire departments, emergency response agencies, and other public agencies for review and report to the Township.

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

- a. No Plan shall be finally approved unless the streets shown on such Plan have been improved to a mud-free or otherwise permanently passable condition, or improved as may be required by this 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 this 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 Plan, including improvements or fees required pursuant to the Municipalities Planning Code Section 509(l), this Subdivision and Land Development Ordinance provides for the deposit with the Township 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".
- b. When requested by the Applicant in order to facilitate financing, the Board of Supervisors shall furnish the Applicant with a signed copy of a resolution indicating approval of the final plan contingent upon the Applicant obtaining 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 ninety (90) days unless a written extension is granted by the Board of Supervisors; such extension shall not be unreasonably withheld and shall be placed in writing at the request of the developer.
- c. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institution

irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security for the purposes of this Section.

- d. Such financial security shall be posted with a bonding company acceptable to the Township or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth.
- e. Such bond, or other security, shall provide for and secure to the public the completion of any improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of improvements.
- f. 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 costs of completion estimated as of ninety (90) days following the date scheduled for completion by the Applicant. Annually, the Township may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for completion of the remaining improvements as of the expiration of the ninetieth (90th) day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the Township may require the Applicant to post additional security in order to assure that the financial security equals said one hundred and ten (110%) percent. Any additional security shall be posted by the Applicant in accordance with this subsection.
- g. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements submitted by the Applicant, prepared by a professional engineer licensed as such in this Commonwealth and certified by such engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept such estimate for good cause shown. If the Applicant and the Township are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the Applicant. 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 Township and the Applicant.

- h. 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 required improvements as reestablished on or about the expiration of the preceding one (1) year period by using the above bidding procedure.
- i. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of final plats by 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.
- j. As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Supervisors to release or authorize the release, from time to time, of such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Board of Supervisors and the Board of Supervisors shall have forty-five (45) days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Board of Supervisors that such portion of the work upon the improvements has been completed in accordance with the approved plat. Upon such certification the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the improvements completed or, if the Board of Supervisors fails to act, within said forty-five (45) day period, the Board of Supervisors shall be deemed to have approved the release of funds as requested. The Board of Supervisors may, prior to final release at the time of completion and certification by the Township Engineer, require retention of ten (10%) percent of the estimated cost of the aforesaid improvements.
- k. Where the Board of Supervisors accepts dedication of all or some of the required improvements following completion, the Board of Supervisors may require the posting of financial security to the secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plat for a term not to exceed 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.

- l.** If water mains or sanitary sewer lines, or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the rules and regulations of a public utility or municipal authority separate and distinct from the Township, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling public utility or municipal authority and shall not be included within the financial security as otherwise required by this Section.
- m.** If financial security has been provided in lieu of the completion of improvements required as a condition for the final approval of a plan as set forth in this Section, the Township shall not condition the issuance of building, grading or other permits relating to the erection or placement of improvements, including buildings, as depicted upon the final plat upon actual completion of the improvements depicted upon the approved final plat. Moreover, if said financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following: the improvement of the streets providing access to and from existing public roads to such building or buildings to a mud-free or otherwise permanently passable condition as well as the completion of all other improvements as depicted upon the approved plat, either upon the lot or lots or beyond the lot or lots in question if such improvements are necessary for the reasonable use of or occupancy of the building or buildings.

5. Release from Improvement Bond.

- a.** When the Applicant has completed all of the necessary and appropriate improvements, the Applicant shall notify the Board of Supervisors, in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the Township Engineer.

 - i.** The Board of Supervisors shall, within ten (10) days after receipt of such notice, direct and authorize the Township Engineer to inspect all of the aforesaid improvements.
 - ii.** The Township Engineer shall, thereupon, file a report in writing with the Board of Supervisors, and shall promptly mail a copy of the same to the Applicant by certified or registered mail. The report shall be made and mailed within thirty (30) days after receipt by the Township Engineer of the aforesaid authorization from the Board of Supervisors.

- iii. The Board of Supervisors shall notify the Applicant, within fifteen (15) days of receipt of the Township Engineer's report, in writing by certified or registered mail of the action of said Board of Supervisors with relation thereto.
 - iv. The said report shall be detailed and shall indicate approval or rejection of said improvements, either in whole or in part, and if said improvements, or any portion thereof, shall not be approved or shall be rejected by the Township Engineer, said report shall contain a statement of reasons for such nonapproval or rejection.
 - v. If the Board of Supervisors or the Township Engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the Applicant shall be released from all liability, pursuant to this performance guaranty bond or other security agreement.
 - vi. If any portion of the said improvements shall not be approved or shall be rejected by the Board of Supervisors, the Applicant shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.
- b. Nothing herein, however, shall be construed in limitation of the Applicant's right to contest or question by legal proceedings or otherwise, any determination of the Board of Supervisors or the Township Engineer.
 - c. Where reference herein is made to the Township Engineer, he shall serve as a consultant to the Township.
 - d. The Applicant shall reimburse the Township for the reasonable and necessary expense incurred for the inspection of improvements. The Applicant shall not be required to reimburse the governing body 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 Applicant. Reimbursement shall be based upon schedule of fees adopted by resolution of the Board of Supervisors and as from time to time amended. Such expense shall be reasonable and in accordance with the ordinary and customary fees charged by the Township's professional consultants for work performed for similar services in the Township, but in no event shall the fees exceed the rate or cost charge by the professional consultants to the Township for comparable services when fees are not reimbursed or otherwise imposed on the Applicant. The Township 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.

- i. In the event the Applicant disputes the amount of any such expense in connection with the inspection of improvements, the Applicant shall, no later than thirty (30) days of the date of the transmittal of a bill for inspection services, notify the Township and the Township's professional consultant that such expenses are disputed as unreasonable or unnecessary and shall explain the basis for their objections to the fees charged, in which case the Township 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 over disputed professional consultant inspection expenses. Failure of the Applicant to dispute a bill within thirty (30) days shall be a waiver of the Applicant's right to arbitration of that bill under this Ordinance. Subsequent to the final release of financial security for completion of improvements for a subdivision or land development, or any phase thereof, the professional consultant shall submit to the governing body a bill for inspection services, specifically designed as a final bill. The final bill shall include inspection fees incurred through the release of financial security.
- ii. If the professional consultant and the Applicant cannot agree on the amount of 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 professional consultant 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 professional consultant whose fees are being challenged.
- iii. The arbitrator so appointed shall hear such evidence and review such documentation as the arbitrator in his or her sole opinion deems necessary and shall render a decision no later than fifty (50) days after the date of appointment. Based on the decision of the arbitrator, the Applicant or the professional consultant whose fees were challenged shall be required to pay any amounts necessary to implement the decision within sixty (60) days. In the event the municipality has paid the professional consultant an amount in excess of the amount determined to be reasonable and necessary,

the professional consultant shall within sixty (60) days reimburse the excess payment.

- iv. In the event that the Township's professional consultant 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 Dauphin County (or if at the time there is no President Judge, then the Senior active Judge then sitting) shall appoint such arbitrator, who, in that case, shall be neither the Township's professional consultant nor any professional consultant who has been retained by, or performed services for, the municipality or the Applicant within the preceding five (5) years.
 - v. 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 amount of payment required in the decision is less than the original bill by one thousand dollars (\$1,000) or more, the Township shall pay the fee of the professional consultant, but otherwise the Township and the Applicant shall each pay one-half (1/2) of the fee of the appointed arbitrator. If the disputed fees are found to be excessive by more than five thousand dollars (\$5,000.00), the arbitrator shall have the discretion to assess the arbitration fee in whole or in part against either the Applicant or the professional consultant. The Township and the consultant whose fees are the subject of the dispute shall be parties to the proceeding.
6. The Board of Supervisors, upon receipt of the recommendation of the Planning Commission, shall act on the Final Subdivision or Land Development Plan within ninety (90) days as prescribed in Section 404, Paragraphs 2, 4, 6, and 7, and within the time required by statute, whichever is less.
 7. No changes, erasures, modifications, or revisions shall be made on any Final Plan of a subdivision or land development after approval has been given by the Board of Supervisors and endorsed in writing on the plan, unless the plan is first resubmitted to the Board of Supervisors.
 8. Within ninety (90) days after the date of approval of a Final Plan by the Board of Supervisors, and upon all conditions being met, an approved duplicate copy thereof shall be filed in the office of the Recorder of Deeds of Dauphin County by such means as the Board of Supervisors shall direct. The signed mylar shall be retained for the Township records and the remaining recorded copies shall be returned to the Applicant with the Plan Book and page numbers indicated on the plan.

9. Whenever plan approval by the Board of Supervisors is required, the Dauphin County Recorder of Deeds shall not accept any plan for recording unless such plan officially notes the approval of the Board of Supervisors and review by the Dauphin County Planning Commission.
10. Recording of Approved SWM Site Plan and Related Agreements
 - a. The owner of any land upon which permanent BMPs will be placed, constructed, or implemented, as described in the SWM Site Plan, shall record the following documents in the office of the Recorder of Deeds of Dauphin County within 90 days of approval of the SWM Site Plan by the Municipality:
 - i. The SWM Site Plan.
 - ii. Operations and Maintenance (O&M) Agreement (Exhibit VIII).
 - iii. Stormwater easements under Section 503.2.
 - b. The Municipality may suspend or revoke any approvals granted for the project site upon discovery of the failure of the owner to comply with this Section.

Section 407. Final Plan: Specifications.

1. The following shall be submitted in application for review and approval of a Final Plan:
 - a. Fourteen (14) copies and one (1) mylar of the Final Plan in the form of a map or series of maps on sheets at a minimum size of 17.5" x 24", and no larger than 24" x 36", drawn to scale not smaller than fifty (50') feet to the inch and clearly labeled "FINAL PLAN." When more than one sheet is required, an index sheet of the entire subdivision or land development shall be shown on a sheet of the same size. The Final Plan shall be drawn in ink and shall show the following in addition to the items required in Section 405:
 - i. Primary control points, or description and "ties" to such control points, to which all dimensions, angles, bearings, and similar data on the subdivision or land development plan shall be referred.
 - ii. Tract boundary lines, right-of-way lines of streets, easements, and other right-of-way, and property lines of residential lots or parcels in unit, cooperative or condominium subdivisions and other sites with

accurate dimensions, bearing, or deflection angles, and radii, arcs, and central angles of all curves.

- iii. Statement by the owner dedicating streets, rights-of-way and any sites for public uses which are to be dedicated. (Example contained in Exhibit I herein.)
- iv. Street lighting facilities, as applicable.
- v. Lot areas and numbers to identify each lot or parcel in unit, cooperative or condominium subdivisions and/or site.
- vi. Purpose for which sites other than residential lots or parcels in unit, cooperative or condominium subdivisions are dedicated or reserved.
- vii. Proposed contours at vertical intervals of two feet (2') or less as determined in the Preliminary Plan Stage.
- viii. Reference to recorded subdivision plans of adjoining land by recording information.
- ix. A Final Erosion and Sedimentation Control Plan pursuant to the rules and regulations of the Pennsylvania Department of Environmental Protection (Title 25, Part 1, Sub-Part C, Article II, Chapter 102 of the Pennsylvania Code) and evidence that any required Erosion and Sedimentation Control Permit has been issued. If an Erosion and Sedimentation Control Permit is not required, the Applicant shall provide evidence that the Erosion and Sedimentation Control Plan has been reviewed by the County Conservation District Office, however, if the District Office does not desire to review the Plan, the Board of Supervisors may, at its discretion, have the Plan reviewed by the Township Engineer. The cost of the review shall be paid by the Applicant.
- x.
 - (1) Prior to final approval of plan, where the proposed subdivision or land development abuts a State Highway (Pennsylvania Route or United States Route), a note shall appear on the plan which shall read: "No building permit will be issued for any lot or parcel which will require access to a State Highway until authorized by a Pennsylvania Department of Transportation Highway Occupancy Permit."
 - (2) Where the proposed subdivision or land development abuts a Township street, evidence in writing indicating proposed driveway and street intersections comply with clear sight

distance standards contained in this Ordinance, and a note added to the plat as follows: "No building permit will be issued until a Township Highway Occupancy Permit has been issued."

- xi. Approval blocks to be signed by the appropriate officers of the Planning Commission, Board of Supervisors and Township Engineer. (Example contained in Exhibit II herein.)
- xii. Other Data: The Final Plan shall be accompanied by the following data and plans as prescribed by the Planning Commission, Board of Supervisors or as required by the laws of the Commonwealth:
 - (1) Profiles of streets and alleys showing grades.
 - (2) Typical Cross Sections of each type of street, minor streets, collector, etc., showing the width of right-of-way, width of cartway, location and width of sidewalks, if required, and location and size of utility mains.
 - (3) Plans and profiles of proposed sanitary and storm water sewers, with grades and pipe size indicated, and a plan of any proposed water distribution system showing pipe sizes and location of valves and fire hydrants.
 - (4) Certificates of agreement to provide service from applicable utility companies.
 - (5) A copy of an application for a permit for earth moving activity or a permit issued and signed by the Department of Environmental Protection as required by the Rules and Regulations, Chapter 102, "EROSION CONTROL", under P.L. 1987, 1937, as amended.
 - (6) In the case of subdivision and land development plans 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 owners of the Erosion and Sedimentation Control Plan, and Storm Water Management Plan.
 - (7) A copy of the sewage "Plan Revisions Module for Land Development" approved by the Department of Environmental Protection in compliance with the requirements of the Pennsylvania Sewage Facilities Act and Section 71.16 of Chapter 71 of Title 25 of the Pennsylvania Code.

- (8) If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Board of Supervisors that the subdivision is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certificate, or cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable.
- (9) Where the subdivision and/or land development lies partially or completely within any identified floodplain area or district or where such activities border on any identified floodplain area or district, the final plat shall include the following information:
- (a) the location and elevation of proposed roads, utilities, and building sites, fills, flood or erosion protection facilities;
 - (b) the one-hundred (100) year flood elevations;
 - (c) identify the boundaries of the floodplain areas or districts;
 - (d) contours at intervals of one (1') foot.
- (10) A copy of the final storm water management plan and runoff computations, for review by the Township Supervisors and approval by the Township Engineer. (See Section 508).
- (11) A detailed drawing of any proposed storm drainage inlets.
- (12) Such other certificates, affidavits, endorsements, or dedications as may be required by the Board of Supervisors or Planning Commission in the enforcement of this Ordinance.
- (13) NPDES permit.

ARTICLE V

DESIGN STANDARDS

Section 501. Application.

1. The following principles, standards, and requirements will be applied by the Board of Supervisors and Planning Commission in their review and evaluation of all subdivision and land development plan applications.
2. The standards and requirements contained herein shall be considered the minimum for the promotion of the public health, safety, convenience, and general welfare.
3. Where literal compliance with the standards and requirements contained herein is clearly impractical, the Board of Supervisors may modify and waive such through the modification of requirements process set forth in ARTICLE IX of this Ordinance.
4. Subdivision and land development plans shall give due consideration to "Official Plans" of the Township or to such parts thereof as may be approved.
5. Upon implementation of the Township Zoning Ordinance, proposed land uses shall conform to standards and requirements of the Halifax Township Zoning Ordinance, as amended.
6. Land subject to hazards to life, health, or property, such as may arise from fire, flood, disease, or other causes, shall not be planned for development purposes unless such hazards have been eliminated or unless the plan shall show adequate safeguards against them, which shall be approved by the appropriate regulatory agencies.

Section 502. Streets, Driveways, and Service Drives.

1. General Design Standards.
 - a. The arrangement, character, extent, width, grade, and location of all streets proposed shall conform to the Township's Official Map and Comprehensive Plan, if adopted, and shall be considered in their relation to existing or proposed streets, topographical conditions, the public convenience and safety, and in the appropriate relation to the proposed uses of land to be served by such streets. Where not shown on the adopted Official Map or Comprehensive Plan, the arrangement 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.

- b. Proposed street arrangements shall make provisions for the continuation of existing streets in adjoining areas; the proper projection of streets into adjoining undeveloped areas; and the continuation of proposed streets to boundaries of the tract being subdivided.
- c. When a new subdivision adjoins unsubdivided land appropriate for subdivision, then the new streets shall be carried to the boundaries of the tract to be subdivided and terminated in a temporary (paved) cul-de-sac.
- d. Streets shall be laid out to preserve the integrity of their design. 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.
- e. Streets shall be related to the topography so as to establish usable lots and satisfactory street grades.
- f. Proposed private roads (streets not offered for dedication) are prohibited.
- g. Proposed private service access for purposes of providing a means of secondary access to a lot, are permitted as deemed appropriate by the Board of Supervisors and Township Engineer.
- h. All horizontal and vertical alignments shall be based on actual field surveys.
- i. Minimum depths of pavement courses are shown in Exhibit VII.
- j. Designs shall be in accordance with the Pennsylvania Department of Transportation, Guidelines for Design of Local Roads and Streets – Publication No. 70, as revised.

2. Street Classification.

Three (3) functional classifications of streets and roads, as classified by the Township Planning Commission in consultation with the Board of Supervisors and the Pennsylvania Department of Transportation, or as determined in the Halifax Township Comprehensive Plan, are established as follows:

- a. **ARTERIAL:** 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.
- b. **COLLECTOR:** This classification is intended to include those highways which connect minor streets to arterial highways and generally serve intra-

county and inter-municipal traffic. They may serve as traffic corridors connecting residential areas with industrial, shopping and other services. They may penetrate residential areas. Generally, these highways should accommodate operating speeds of 35 to 55 miles per hour.

- c. **MINOR:** 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.

3. Street Widths.

- a. Minimum street, right-of-way, and cartway widths shall be required as follows:

STREET, RIGHT-OF-WAY AND CARTWAY WIDTHS

| Street Type | Right-of-Way Width | Shoulders* | Cartway |
|--------------------------|---|---------------------------|---------|
| Arterial Streets | As determined by the Governing Body and Planning Commission | | |
| Collector Streets | 60 feet | 10 feet (5' each side) | 22 feet |
| Minor Streets | 50 feet | 10 feet (5' each side) | 18 feet |
| Cul-de-sac (diameter) | 100 feet | ----- | 80 feet |
| Alley | 33 feet | ----- | 18 feet |

* Shoulder area to be constructed with full depth pavement the same as the cartway.

- b. Increase width of cartway by five (5') feet on each side, where curbing is used. Provision for additional street width (right-of-way) may be required when determined to be necessary by the Board of Supervisors in specific cases for:
 1. Public safety and convenience.
 2. Parking in commercial and industrial areas and in areas of high density development.

3. Widening of existing streets (right-of-way) where the width does not meet with the requirements of the preceding paragraphs.
- c. The width of parking lanes shall be eight (8') feet on any side of the street where parallel parking is permitted.
- d. Parallel parking spaces shall be twenty-four (24') in length.

4. Street Grades.

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

| Type of Street | Minimum Grade | Maximum Grade |
|-------------------|---------------|---|
| All Streets | .5% | |
| Arterial Streets | | As determined by the Commission with the Board of Supervisors and the Pennsylvania Department of Transportation |
| Collector Streets | .5% | eight (8%)percent |
| Minor Streets | .5% | ten (10%)percent |
| Alleys | .5% | twelve (12%)percent |

- b. On minor streets and alleys, grades greater than ten (10%) percent shall be not more than four hundred (400') feet in length.

5. Slopes of Banks Along Streets.

The slope of banks along streets measured perpendicular to the street centerline shall be no steeper than the following:

- a. One (1') foot of vertical measurement for three (3') feet of horizontal measurement for fills.
- b. One (1') foot of vertical measurement for two (2') feet of horizontal measurement for cuts.

6. Partial and Half Streets.

New half or partial streets shall be prohibited except where the Applicant justifies to the Township that it is essential to 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; a cul-de-sac shall be constructed at the end of such half street which shall be of a permanent nature, unless a temporary cul-de-sac

is approved, in which case a right-of-way shall be provided for the temporary turn-around area to be located within.

7. Cul-de-sac or Dead End Streets:

- a. Dead-end streets are prohibited unless designed for future access to adjoining properties in accordance with Section 502.1.c of this Section.
- b. Any dead-end street, for access to an adjoining property or because of authorized phased development, shall be provided with a temporary, all-weather turn-around within the subdivision and/or land development; and the use of such turn-around shall be guaranteed to the public until such time as the street is extended.
- c. Cul-de-sac streets are prohibited unless justified to the Board of Supervisors based upon unique physical circumstances or conditions, including irregularity, narrowness or shallowness of the site and, when permitted, the following provisions shall apply:
 - i. Cul-de-sac streets serving residential uses, permanently designed as such, shall not exceed five hundred (500') feet in length and shall not furnish access to more than fifteen (15) dwelling units.
 - ii. Cul-de-sac streets serving commercial and/or industrial uses shall be adequate for the type of use to be serviced as approved by the Township Engineer but, in no case, shall exceed five hundred (500') feet in length.
 - iii. Unless future extension is clearly impractical or undesirable, the turn-around right-of-way shall be placed adjacent to the tract boundary with sufficient additional width provided along the boundary line to permit extension of the street at full width.
 - iv. All cul-de-sac streets, whether permanently or temporarily designed as such, shall be provided at the closed end with a fully paved turn-around.
 - (1) The minimum radius to the pavement edge or curb line shall be forty (40') feet, and the minimum radius of the right-of-way line shall be fifty (50') feet.
 - v. 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.

- vi. Cul-de-sac streets, whether permanently or temporarily designed as such, shall provide for a twenty (20') foot snow removal easement at the end of the street for stockpiling snow during the winter months.
- vii. The centerline grade on a cul-de-sac street shall not exceed eight (8%) percent and the grade of the diameter of the turn-around shall not exceed three (3%) percent.

8. Driveways and Service Drives.

- a. 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.
- b. 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.
- c. 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, or the safe and convenient passage of traffic.
- d. All driveways must have a valid highway occupancy or driveway permit from the PA Department of Transportation or Township prior to installation.
- e. Direct access from residential lots to a major arterial and collector street shall be avoided whenever possible. Where such direct access cannot be avoided, adequate turnaround space shall be provided behind the right-of-way line.
- f. Driveways serving single family residences shall intersect streets at angles of no less than sixty (60°) degrees. All other driveways or service drives shall intersect streets at right angles, where possible, and in no instance shall such intersection be less than seventy-five (75°) degrees.
- g. The width of service drives or driveways shall be in accordance with the following standards:
 - i. For multi-family residential, mobile / manufactured home parks, and all non-residential developments or subdivisions, service drives or driveways shall be no less than twenty-two (22') feet in width at the street line, and shall be clearly defined.

- ii. For single family residential subdivisions, driveways shall be not less than ten (10') feet in width and no greater than twenty (20') feet in width at the street line.
- h. In order to provide for safe and convenient ingress and egress points, service drives and driveway entrances shall be rounded at the following minimum radius.
 - i. For multi-family residential, mobile / manufactured home parks, and all non-residential developments or subdivisions, service drives or driveway entrances shall be rounded at a minimum radius of fifteen (15') feet.
 - ii. For single family residential subdivisions, driveway entrances shall be rounded at a radius of five (5') feet.
- i. The grades on service drives or driveways shall comply with the following:
 - i. The difference in slope between the shoulder and proposed driveway shall not exceed eight (8%) percent.
 - ii. The grade of the driveway at no point shall exceed ten (10%) percent or be less than one half percent (0.5%), within the right-of-way.
- j. Driveways must be constructed in a manner to permit the unimpeded flow of water runoff without causing encroachment on the street cartway.

9. Horizontal and Vertical Curves.

- a. In order to provide adequate sight distance 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. 70, as revised.
- b. Vertical Curves shall be used in changes of grade exceeding one (1%) percent and shall be designed for a sight distance which is adequate for the design speed limit.
- c. Where connecting street lines deflect from each other at any one point by more than five (5°) degrees, the lines must be connected with a true, circular curve. The minimum radius of the center line for the curve must be as follows:

| <u>Type of Street</u> | <u>Minimum Radius</u> |
|-----------------------|-----------------------|
| Collector | 300 feet |
| Minor | 150 feet |

Straight portions of the street must be tangent to the beginning or end of curves. Except for minor streets, there must be a tangent of a least one hundred (100') feet between curves.

10. Intersections.

- a. Intersections involving the junction of more than two (2) streets are prohibited.
- b. Right angle intersections must be used wherever possible. However, no street shall intersect another at an angle of less than seventy-five (75°) degrees.
- c. Streets intersecting another street shall intersect directly opposite to each other, or shall be separated by at least one hundred twenty-five (125') feet between centerlines, measured along the centerline of the street being intersected.
- d. Intersections shall be approached on all sides by a straight leveling area. Leveling areas shall have a minimum of sixty (60') feet (measured from the intersection of the center lines) within which no grade shall exceed a maximum of four (4%) percent.

11. Intersection Curve Radii.

- a. At intersection of streets, the curbs or edge of pavement radii shall not be less than the following:

| | |
|--------------------------------|-----|
| Collector with Collector | 35' |
| Collector with Minor Street | 25' |
| Minor Street with Minor Street | 15' |
- b. 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.

12. Intersection Sight Distance and Clear Sight Triangles.

- a. Sight distance must be provided with respect to both horizontal and vertical alignment in accordance with the Pennsylvania Department of

Transportation, Guidelines for Design of Local Roads and Streets – Publication No. 70, as revised.

- b. Proper sight lines must be maintained at all street intersections.
- c. Adequate sight distances and areas of view obstructions shall be provided at all intersections of streets and driveways intersecting a street.
- d. No building or obstruction higher than thirty (30") inches above the grade of the center line of the street shall be permitted in this sight triangle.

13. Names of Streets.

- a. Names of new streets shall not duplicate existing or platted street names, or approximate such names by the use of suffixes such as "lane", "way", "drive", "court", and/or "avenue". In approving the names of streets, consideration shall be given to existing or platted street names within the postal delivery district served by the local post office. New streets shall bear the same name or number of any continuation of alignment with an existing or platted street.
- b. The applicant shall provide a copy of the postmaster's approved street names.

14. Building Numbers for Emergency Response and Address Purposes.

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 Township streets shall be coordinated with existing residence address ranges. The Applicant shall present proposed street address ranges to the Township Planning Commission for review and recommendation. The U.S. Postal Service shall be consulted as may be necessary.

Section 503. Easements.

- 1. Easements shall be provided for overhead or underground utility facilities in consultation with the Township Engineer, the Pennsylvania Department of Transportation and the appropriate utility companies.
 - a. The minimum width of easements shall be twenty (20') feet for underground public utility facilities and overhead public utility facilities. Additional width may be required by the Board of Supervisors depending on the purpose and use of the easements.
 - b. Wherever possible such easements shall be centered on the side or rear lot lines, or along the front lot lines.

2. Stormwater Easements

- a. Easements shall be established for all on-site stormwater management or drainage facilities, including but not limited to: detention facilities (above or below ground), infiltration facilities, all stormwater BMPs, drainage swales, and drainage facilities (inlets, manholes, pipes, etc.).
 - b. Easements are required for all areas used for off-site stormwater control.
 - c. In the event that runoff from a project is to discharge to other than a natural watercourse on an adjoining property, appropriate easement agreements shall be executed by the developer with adjoining property owners.
 - d. Where practical, all easements shall be a minimum of thirty (30) feet wide.
 - e. Easements shall provide ingress to and egress from a public right-of-way. In lieu of providing an easement to the public right-of-way, a note may be added to the plan granting the Municipality or their designee access to all easements via the nearest public right-of-way.
 - f. Where possible, easements shall be centered on side and/or rear lot lines.
 - g. The following note shall be placed on the recorded plan, "Nothing shall be planted or placed within the easement which would adversely affect the function of the easement, or conflict with any conditions associated with such easement."
 - h. A note shall be placed on the SWM Site Plan identifying the party responsible for assuring the continued functionality and required maintenance of any easement.
3. 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 to the line of such watercourse, drainage way, channel or stream. In no case shall any drainage easement be less than thirty (30') feet in width, in order to preserve the unimpeded flow of natural drainage or for the purpose of widening, deepening, relocating, improving or protecting such drainage facilities, or for the purpose of installing a storm water sewer.
4. Where necessary for access to public or common lands, a pedestrian easement shall be provided with a width of no less than ten (10') feet. Additional width may be required by the Board of Supervisors depending on the purpose and use of the easement.

5. The applicant shall provide copies of easement agreements in recordable form, including plats, legal descriptions, terms, conditions, and maintenance responsibilities.

Section 504. Blocks.

1. The length, width, shape, and design of blocks shall be determined with due regard to the provision of adequate sites for buildings of the type proposed, to any adopted zoning requirements of the municipality, the topography of the land being subdivided or developed, and the requirements for safe and convenient vehicular and pedestrian circulation.
2. Blocks shall not exceed twelve hundred (1,200') feet in length.
3. Residential blocks shall generally be of sufficient depth to accommodate two (2) tiers of lots, except where reverse frontage lots bordering an arterial or collector street are used or, where due to the contour of the land, or the necessary layout of the subdivision, there is insufficient depth between intersecting streets for such two (2) tier design.
4. Blocks for commercial and industrial areas may vary from the elements of design contained in this Section if the nature of use requires other treatment. In such cases, off-street parking for employees and customers shall be provided along with safe and convenient limited access to the street system. Space for off-street loading shall also be provided with limited access to the street stream. Extension of streets, railroad access right-of-way, and utilities shall be provided as necessary.

Section 505. Lots.

1. General Standards.
 - a. If practical, side lot lines shall be at right angles to straight street lines or radial to curved street lines.
 - b. If practical, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
2. Lot Frontage.
 - a. All lots shall have right-of-way access or abut a public street, existing or proposed.
 - b. Double or reverse frontage lots shall be avoided except where required to provide separation of residential development from major streets or to overcome specific disadvantages of topography or orientation.

3. Dimension and Area of Lots.

- a. The dimensions and areas of lots shall conform to the following minimum requirements:

| Use | Lot Requirements | | | Minimum Building Setback (FT) | | | Building Height |
|--|-----------------------------------|---------------------|---------------------|-------------------------------|------|------|-----------------|
| | Min. Lot Areas* | Min. Lot Width (FT) | Max. Lot Coverage % | Front | Side | Rear | Max. (FT) |
| ON-LOT SEWER & WATER | | | | | | | |
| Any use with ON-LOT SEWER & WATER | 1.5 acres | 150 FT | 30% | 40/35/30 | 20 | 25 | 35 |
| Any use with Either Public Water or Public Sewer | 1.0 acres | 150 FT | 30% | 40/35/30 | 20 | 25 | 35 |
| PUBLIC WATER AND SEWER | | | | | | | |
| Single Family Detached Dwelling | .15,000 SF | 100 FT | 30% | 40/35/30 | 20 | 25 | 35 |
| Single Family Semi-Detached Dwelling (per DU) | 7,500 SF | 50 FT | 30% | 40/35/30 | 20 | 25 | 35 |
| Single Family Attached Townhouse | 2,500 SF Per unit/6 Units per Ac | 20 FT | 35% | 40/35/30 | 20 | 25 | 35 |
| Two Family Detached Duplex | 15,000 SF | 100 FT | 50% | 40/35/30 | 20 | 25 | 35 |
| Two Family Semi-Detached | 7,500 SF | 60 FT | 50% | 40/35/30 | 20 | 25 | 35 |
| Multi Family Apartments | 1,000 SF Per unit/10 Units per Ac | 100 FT | 50% | 40/35/30 | 20 | 25 | 35 |
| Non-Residential | .15,000 SF | 100 FT | 30% | 40/35/30 | 20 | 25 | 35 |
| * Lot size subject to PA DEP approval for on-lot sewage disposal systems SF = square feet; FT = feet; Ac = acre | | | | | | | |

- b. Single story, non-dwelling, non-industrial, other non-residential buildings, and non-commercial buildings (but such restriction is not designed to prohibit agricultural activities); less than six-hundred square feet (600 SF) in size, shall be permitted within the rear and side yards, provided they are no closer than five (5') feet from the property line.
- c. Lots in Recreation Vehicle Parks or Campgrounds.

On land laid out as a recreational vehicle park or campground, lots shall be not less than sixty (60') feet wide at the street line, nor less than five thousand (5,000 square feet) square feet in area for each recreational vehicle or campground lot, exclusive of streets and other public areas, provided that water and sewers are provided in accordance with standards

of and approved by the Pennsylvania Department of Environmental Protection.

d. Lot Size and Percolation Tests.

- i. From the results of these tests, the lot size shall be established large enough to provide for the specified minimum area required for the absorption field as prescribed in accordance with the "Rules and Regulations of the Pennsylvania Department of Environmental Protection." However, in no case shall the lot size be less than the lot areas designated in Sections 505.3.a and 505.3.b.
- ii. Where on-lot sewage disposal is to be used, the lot shall be large enough so that the water source shall be located not closer to the absorption field than the distance specified in accordance with the "Rules and Regulations of the Pennsylvania Department of Environmental Protection."

e. Lot Size on Slopes.

- i. On lots with slopes 25% or greater, maximum impervious coverage of the lot shall not exceed 25% of the lot.
- ii. The minimum lot area, width, coverage, set-back and/or height requirements herein established may be increased but not decreased by the Board of Supervisors with respect to proposed lot or lots, based on reports from the Department of Environmental Protection and the Soil Conservation Service indicating that, because of slope, surface runoff or subsurface drainage of septic tank effluent are likely to result in conditions which are hazardous to the public health, safety and welfare.

f. Corner Lots for Residential Subdivisions.

Corner lots in residential subdivisions shall have standard front yard setback for both street sides.

4. Front Building Setback Lines.

- a. Except as otherwise provided herein, the minimum setback from the street or highway right-of-way line as stated in the above table shall be as follows:

| <u>Street Type</u> | <u>Minimum Setback From Right-of-Way</u> |
|--------------------|--|
| Arterial Highway | Forty (40') feet |
| Collector Street | Thirty-five (35') feet |

Minor Street
(excluding service
drives and alleys)

Thirty (30') feet

- b. Where an existing building setback line is established on at least fifty (50%) percent of the properties in a block in which the proposed subdivision is located, or within two hundred (200') feet immediately adjacent to the proposed subdivision, this minimum may be increased or decreased by the Board of Supervisors on a case by case basis to conform with such established building set back line.
- c. On a corner lot, there are two front yards, two rear yards, and no side yards.

5. Mobile / manufactured Home Park, Recreational Vehicle Park and Campground.

- a. In a mobile / manufactured home park, recreational vehicle park or campground, setback lines of private roads shall be not less than twenty (20') feet from the cartway.
- b. In a mobile / manufactured home park, recreational vehicle park or campground, side and rear building setback lines shall not be less than ten (10') feet from the lot line on each side and rear lot line of each recreation vehicle or campground lot and not less than twenty-five (25') feet from the recreational vehicle park or campground property line on the sides and rear not adjacent to a dedicated public street right-of-way.

Section 506. Design Standards in Floodplains.

1. Statutory Authorization

- a. The Legislature of the Commonwealth of Pennsylvania has, by the passage of the Pennsylvania Floodplain Management Act of 1978, delegated the responsibility to local government units to adopt floodplain management regulations to promote public health, safety and the general welfare of its citizenry. Therefore, the Board of Supervisors of Halifax Township does hereby order as follows.

2. General Provisions

- a. Terms used in this Section are defined in Article III, Definitions.
- b. Intent: The intent of this Ordinance is to:
 - i. Promote the general health, welfare, and safety of the community.

- ii. Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
- iii. Minimize danger to public health by protecting water supply and natural drainage.
- iv. Reduce financial burdens imposed on the community, its governmental units, and its residents, by preventing excessive development in areas subject to flooding.
- v. Comply with federal and state floodplain management requirements.

c. Applicability

- i. It shall be unlawful for any person, partnership, business or corporation to undertake, or cause to be undertaken, any construction or development anywhere within Halifax Township unless a Building Permit has been obtained from the Floodplain Administrator.
- ii. A Building Permit shall not be required for minor repairs to existing buildings or structures.

d. Abrogation and Greater Restrictions

This ordinance supersedes any other conflicting provisions which may be in effect in identified floodplain areas. However, any other ordinance provisions shall remain in full force and effect to the extent that those provisions are more restrictive. If there is any conflict between any of the provisions of this Ordinance, the more restrictive shall apply.

e. Severability

If any section, subsection, paragraph, sentence, clause, or phrase of this Ordinance shall be declared invalid for any reason whatsoever, such a decision shall not affect the remaining portions of the Ordinance, which shall remain in full force and effect, and for this purpose the provisions of this Ordinance are hereby declared to be severable.

f. Warning and Disclaimer of Liability

The degree of flood protection sought by the provisions of this Ordinance is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. Larger floods may occur or flood heights may be increased by man-made or natural causes, such as

ice jams and bridge openings restricted by debris. This Ordinance does not imply that areas outside any identified floodplain areas or that land uses permitted within such areas will be free from flooding or flood damages.

This Ordinance shall not create liability on the part of Halifax Township or any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made hereunder.

3. Administration

a. Designation of Floodplain Administrator

The Township Engineer is hereby appointed to administer and enforce this ordinance and is referred to herein as the Floodplain Administrator.

b. Building Permits Required

A Permit shall be required before any construction or development is undertaken within any area of Halifax Township.

c. Duties and Responsibilities of the Floodplain Administrator

- i. The Floodplain Administrator shall issue a Permit only after it has been determined that the proposed work to be undertaken will be in conformance with the requirements of this and all other applicable codes and ordinances.
- ii. Prior to the issuance of any permit, the Floodplain Administrator shall review the application for the permit to determine if all other necessary government permits required by state and federal laws have been obtained, such as those required by the Pennsylvania Sewage Facilities Act (Act 1966-537, as amended); the Pennsylvania Dam Safety and Encroachments Act (Act 1978-325, as amended); the Pennsylvania Clean Streams Act (Act 1937-394, as amended); and the U.S. Clean Water Act, Section 404, 33, U.S.C. 1344. No permit shall be issued until this determination has been made.
- iii. In the case of existing structures, prior to the issuance of any Development/Permit, the Floodplain Administrator shall review the history of repairs to the subject building, so that any repetitive loss issues can be addressed before the permit is issued.

- iv. During the construction period, the Floodplain Administrator or other authorized official shall inspect the premises to determine that the work is progressing in compliance with the information provided on the permit application and with all applicable municipal laws and ordinances. He/she shall make as many inspections during and upon completion of the work as are necessary.
 - v. In the discharge of his/her duties, the Floodplain Administrator shall have the authority to enter any building, structure, premises or development in the identified floodplain area, upon presentation of proper credentials, at any reasonable hour to enforce the provisions of this ordinance.
 - vi. In the event the Floodplain Administrator discovers that the work does not comply with the permit application or any applicable laws and ordinances, or that there has been a false statement or misrepresentation by any applicant, the Floodplain Administrator shall revoke the Permit and report such fact to the Board of Supervisors for whatever action it considers necessary.
 - vii. The Floodplain Administrator shall maintain all records associated with the requirements of this ordinance including, but not limited to, permitting, inspection and enforcement.
 - viii. The Floodplain Administrator shall consider the requirements of the 34 PA Code and the 2009 IBC and the 2009 IRC or latest revisions thereof.
- d. **Application Procedures and Requirements**
- i. Application for such a building permit shall be made, in writing, to the Floodplain Administrator on forms supplied by Halifax Township. Such application shall contain the following:
 - (1) Name and address of applicant.
 - (2) Name and address of owner of land on which proposed construction is to occur.
 - (3) Name and address of contractor.
 - (4) Site location including address.
 - (5) Listing of other permits required.

- (6) Brief description of proposed work and estimated cost, including a breakout of flood-related cost and the market value of the building before the flood damage occurred where appropriate.
- (7) A plan of the site showing the exact size and location of the proposed construction, as well as any existing buildings or structures.

ii. If any proposed construction or development is located entirely or partially within any identified floodplain area, applicants for Permits shall provide all the necessary information in sufficient detail and clarity to enable the Floodplain Administrator to determine that:

- (1) All such proposals are consistent with the need to minimize flood damage and conform with the requirements of this and all other applicable codes and ordinances;
- (2) All utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage; and
- (3) Adequate drainage is provided so as to reduce exposure to flood hazards.
- (4) Structures will be anchored to prevent floatation, collapse, or lateral movement.
- (5) Building materials are flood-resistant.
- (6) Appropriate practices that minimize flood damage have been used.
- (7) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities have been designed and/or located to prevent water entry or accumulation.

iii. Applicants shall file the following minimum information plus any other pertinent information as may be required by the Floodplain Administrator to make the above determination:

- (1) A completed Building Permit Application Form.
- (2) A plan of the entire site, clearly and legibly drawn at a scale of one (1) inch being equal to fifty (50) feet or less, showing the following:

- (a) North arrow, scale, and date;
 - (b) Topographic contour lines at one (1) foot intervals.
 - (c) All property and lot lines including dimensions, and the size of the site expressed in acres or square feet;
 - (d) The location of all existing and proposed buildings, structures, and other improvements, including the location of any existing or proposed subdivision and land development;
 - (e) The location of all existing streets, drives, and other access ways; and
 - (f) The location of any existing bodies of water or watercourses, identified floodplain areas, and, if available, information pertaining to the floodway, and the flow of water including direction and velocities.
- (3) Plans of all proposed buildings, structures and other improvements, drawn to scale showing the following:
- (a) The proposed lowest floor elevation of any proposed building based upon North American Vertical Datum of 1988;
 - (b) The elevation of the base flood;
 - (c) Supplemental information as may be necessary under 34 PA Code, the 2009 IBC or the 2009 IRC.
- (4) The following data and documentation:
- (a) If available, information concerning flood depths, pressures, velocities, impact and uplift forces and other factors associated with a base flood elevation; and
 - (b) Detailed information concerning any proposed flood proofing measures and corresponding elevations.
 - (c) Documentation, certified by a registered professional engineer or architect, to show that the cumulative effect of any proposed development within a Special

Floodplain Area (See section 506.4.b.i (1) when combined with all other existing and anticipated development, will not increase the base flood elevation more than one (1) foot at any point.

- (d) A document, certified by a registered professional engineer or architect, which states that the proposed construction or development has been adequately designed to withstand the pressures, velocities, impact and uplift forces associated with the base flood elevation. Such statement shall include a description of the type and extent of flood proofing measures which have been incorporated into the design of the structure and/or the development.
 - (e) Detailed information needed to determine compliance with Section 506.5.d.vi, Storage, and Section 506.5.b.iv (1), Development Which May Endanger Human Life, including:
 - (i) The amount, location and purpose of any materials or substances referred to in Sections 506.5.d.vi and 506.5.b.iv (1) which are intended to be used, produced, stored or otherwise maintained on site.
 - (ii) A description of the safeguards incorporated into the design of the proposed structure to prevent leaks or spills of the dangerous materials or substances listed in Section 506.5.b.iv (1) during a base flood.
 - (f) The appropriate component of the Department of Environmental Protection's "Planning Module for Land Development."
 - (g) Where any excavation or grading is proposed, a plan meeting the requirements of the Department of Environmental Protection, to implement and maintain erosion and sedimentation control.
- (5) Applications for Permits shall be accompanied by a fee, payable to Halifax Township based upon an estimate as determined by the Floodplain Administrator per Section 802: Fee Schedule of this Ordinance.

e. Review by County Conservation District

A copy of all applications and plans for any proposed construction or development in any identified floodplain area to be considered for approval shall be submitted by the Floodplain Administrator to the County Conservation District for review and comment prior to the issuance of a building permit. The recommendations of the Conservation District shall be considered by the Floodplain Administrator for possible incorporation into the proposed plan.

f. Review of Application by Others

A copy of all plans and applications for any proposed construction or development in any identified floodplain area to be considered for approval may be submitted by the Floodplain Administrator to any other appropriate agencies and/or individuals (e.g. planning commission, municipal engineer, etc.) for review and comment.

g. Changes

After the issuance of a building permit by the Floodplain Administrator, no changes of any kind shall be made to the application, permit or any of the plans, specifications or other documents submitted with the application without the written consent or approval of the Floodplain Administrator. Requests for any such change shall be in writing, and shall be submitted by the applicant to Floodplain Administrator for consideration.

h. Placards

In addition to the building permit, the Floodplain Administrator shall issue a placard which shall be displayed on the premises during the time construction is in progress. This placard shall show the number of the permit the date of its issuance and be signed by the Floodplain Administrator.

i. Start of Construction

Work on the proposed construction or development shall begin within 180 days after the date of issuance and shall be completed within twelve (12) months after the date of issuance of the Permit or the permit shall expire unless a time extension is granted, in writing, by the Floodplain Administrator. The actual start of construction means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of

columns, or any work beyond the stage of excavation; or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first, alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Time extensions shall be granted only if a written request is submitted by the applicant, which sets forth sufficient and reasonable cause for the Floodplain Administrator to approve such a request.

j. Enforcement

i. Notices: Whenever the Floodplain Administrator or other authorized municipal representative determines that there are reasonable grounds to believe that there has been a violation of any provisions of this Ordinance, or of any regulations adopted pursuant thereto, the Floodplain Administrator shall give notice of such alleged violation as hereinafter provided. Such notice shall

- (1) Be in writing;
- (2) Include a statement of the reasons for its issuance;
- (3) Allow a reasonable time not to exceed a period of thirty (30) days for the performance of any act it requires;
- (4) Be served upon the property owner or his agent as the case may require; provided however, that such notice or order shall be deemed to have been properly served upon such owner or agent when a copy thereof has been served with such notice by any other method authorized or required by the laws of this State;
- (5) Contain an outline of remedial action which, if taken, will effect compliance with the provisions of this Ordinance.

ii. Penalties

Any person who fails to comply with any or all of the requirements or provisions of this Ordinance or who fails or refuses to comply

with any notice, order of direction of the Floodplain Administrator or any other authorized employee of the municipality shall be guilty of a misdemeanor and upon conviction, shall pay a fine to Halifax Township of not less than Twenty-five Dollars (\$25.00) nor more than Five Hundred Dollars (\$500.00) plus costs of prosecution. In addition to the above penalties all other actions are hereby reserved including an action in equity for the proper enforcement of this Ordinance. The imposition of a fine or penalty for any violation of, or noncompliance with, this Ordinance shall not excuse the violation or noncompliance or permit it to continue and all such persons shall be required to correct or remedy such violations and noncompliance within a reasonable time. Any development initiated or any structure or building constructed, reconstructed, enlarged, altered, or relocated, in noncompliance with this Ordinance may be declared by the Board of Supervisors to be a public nuisance and abatable as such.

k. Appeals

- i. Any person aggrieved by any action or decision of the Floodplain Administrator concerning the administration of the provisions of this Ordinance, may appeal to the Board of Supervisors. Such appeal must be filed, in writing, within thirty (30) days after the decision, determination or action of the Floodplain Administrator.**
- ii. Upon receipt of such appeal the Board of Supervisors shall set a time and place, within not less than ten (10) or more than thirty (30) days, for the purpose of considering the appeal. Notice of the time and place at which the appeal will be considered shall be given to all parties.**
- iii. Any person aggrieved by any decision of the Board of Supervisors may seek relief there from by appeal to court, as provided by the laws of this State including the Pennsylvania Flood Plain Management Act.**

4. Identification of Floodplain Areas

a. Identification

The regulated floodplain areas shall consist of the following areas:

- i. The identified floodplain area shall be any areas of Halifax Township classified as special flood hazard areas (SFHAs) in the Flood Insurance Study (FIS) and the accompanying Flood Insurance Rate Maps (FIRMs) dated August 2, 2012, and issued by**

the Federal Emergency Management Agency (FEMA) or the most recent revision thereof, including all digital data developed as part of the Flood Insurance Study.

The above referenced FIS and FIRMs, and any subsequent revisions and amendments are hereby adopted by Halifax Township and declared to be a part of this ordinance.

b. Description and Special Requirements of Identified Floodplain Areas

The identified floodplain area shall consist of the following specific areas:

i. Floodway Area

- (1) Description - the area identified as Floodway in the FIS which represents the channel of a watercourse and the adjacent land areas that must be preserved in order to discharge the base flood without cumulatively increasing the water surface elevation by more than one (1) foot at any point. This term shall also include floodway areas which have been identified in other available studies or sources of information for those special floodplain areas where no floodway has been identified in the FIS.**
- (2) Special Requirements:**
 - (a) Any encroachment that would cause any increase in flood heights shall be prohibited.**
 - (b) No new construction or development shall be allowed, unless a permit is obtained from the Department of Environmental Protection Regional Office.**

ii. Special Floodplain Area

- (1) Description - the areas identified as Zones AE and A1-30 in the FIS which are subject to inundation by the 1-percent-annual chance flood event determined by detailed methods and have base flood elevations (BFEs) shown.**
- (2) Special Requirements:**
 - (a) No new construction or development shall be located within the area measured fifty (50) feet landward from the top-of-bank of any watercourse, unless a permit is**

obtained from the Department of Environmental Protection Regional Office.

- (b) In Special Floodplain Areas without a designated floodway, no new development shall be permitted unless it can be demonstrated that the cumulative effect of all past and projected development will not increase the BFE by more than one (1) foot.

iii. **Approximate Floodplain Area**

- (1) **Description - the areas identified as Zone A in the FIS which are subject to inundation by the 1-percent-annual-chance flood event determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown.**
- (2) **Special Requirements:**
 - (a) **No new construction or development shall be located within the area measured fifty (50) feet landward from the top-of-bank of any watercourse, unless a permit is obtained from the Department of Environmental Protection Regional Office.**
 - (b) **When available, information from other Federal, State, and other acceptable sources shall be used to determine the BFE, as well as a floodway area, if possible. When no other information is available, the BFE shall be determined by using a point on the boundary of the identified floodplain area which is nearest the construction site in question. In lieu of the above, the municipality may require the applicant to determine the elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough technical review by Halifax Township.**

iv. **Shallow Flooding Area**

- (1) Description - the areas identified as Zones AO and AH in the FIS. These areas are subject to inundation by 1-percent-annual-chance shallow flooding where average depths are between one and three feet.
- (2) Special Requirements - Establish drainage paths to guide floodwaters around and away from structures on slopes.

c. Changes in Identification of Area

The identified floodplain area may be revised or modified by the Board of Supervisors where studies or information provided by a qualified agency or person documents the need for such revision. However, prior to any such change, approval must be obtained from the FEMA. Additionally, as soon as practicable, but not later than six (6) months after the date such information becomes available, a community shall notify the FEMA of the changes by submitting technical or scientific data.

d. Boundary Disputes

Should a dispute concerning any identified floodplain boundary arise, an initial determination shall be made by the Floodplain Administrator and any party aggrieved by this decision or determination may appeal to the Board of Supervisors. The burden of proof shall be on the appellant.

5. Technical Provisions

a. General

i. Alteration or Relocation of Watercourse

- (1) No encroachment, alteration, or improvement of any kind shall be made to any watercourse until all adjacent municipalities which may be affected by such action have been notified by the municipality, and until all required permits or approvals have been first obtained from the Department of Environmental Protection Regional Office.
- (2) No encroachment, alteration, or improvement of any kind shall be made to any watercourse unless it can be shown that the activity will not reduce or impede the flood carrying capacity of the watercourse in any way.
- (3) In addition, the FEMA and Pennsylvania Department of Community and Economic Development, shall be notified prior to any alteration or relocation of any watercourse.

- ii. **Submit technical or scientific data to FEMA for a Letter of Map Revision (LOMR) within six (6) months of the completion of any new construction, development, or other activity resulting in changes in the BFE.**
 - iii. **Any new construction, development, uses or activities allowed within any identified floodplain area shall be undertaken in strict compliance with the provisions contained in this Ordinance and any other applicable codes, ordinances and regulations.**
- b. **Special Requirements in Identified Floodplain Areas**
- i. **Within any identified floodplain area, new construction or development is prohibited with the following exceptions (provided the use does not require structures other than as indicated or fill other than as indicated):**
 - (1) **Accessory uses such as sheds or pavilions. Such uses are limited to 600 square feet of floor area. The total amount of floor area per lot for accessory uses is limited to 600 square feet regardless of the number of such accessory structures.**
 - (2) **Plowing, seeding, harvesting, pasture plant nurseries, horticulture, forestry, aquaculture and other normal farming operations.**
 - (3) **Vehicle access uses including driveways, roads, streets, bridges and culverts. Impacts to the floodplain are limited to the least amount needed to construct the use and provide safety and structural integrity.**
 - (4) **Public and Private recreational uses such as parks, camps, picnic areas, swimming areas, boat launches, wildlife areas and preserves, hunting and fishing, game farms, trails for hiking, horse riding, athletic fields and other recreational activities.**
 - (5) **Accessory residential uses such as yards, gardens and play areas.**
 - (6) **Projects conducted with the objective of improvement, stabilization, restoration, or enhancement of the stream bank, stream channel, floodplain or aquatic habitat. Such projects must receive appropriate permits and approvals from DEP prior to starting the project.**

- (7) Utility lines and pipes
- (8) Similar uses determined to be acceptable by the governing body of Halifax Township provided the use does not require structures other than as indicated above or fill other than as indicated above.

ii. Pre-Existing lots or parcels

- (1) Where a lot or parcel, that has been legally created and recorded prior to the effective date of this ordinance, is located entirely or partially within any identified floodplain area, the following conditions apply:
 - (a) If the lot or parcel is located entirely within any identified floodplain area, development may be allowed by variance. Such development shall be in full compliance with all other requirements of this ordinance.
 - (b) If the lot or parcel is located partially within any identified floodplain area, development shall be confined to the area outside of the floodplain area to the maximum extent practical. If the area outside of the floodplain area is insufficient for the proposed use, development within the floodplain may be allowed by variance. Such development shall be in full compliance with all other requirements of this ordinance.

iii. Creation of new lots or parcels

- (1) Any new lots or parcels created after the effective date of this ordinance shall contain adequate area outside of any identified floodplain for the proposed use.
- (2) No variance shall be granted for development of any lot or parcel created after the effective date of this ordinance.

iv. In accordance with the Pennsylvania Flood Plain Management Act, and the regulations adopted by the Department of Community and Economic Development as required by the Act, within any identified floodplain area and within 50 feet of the top of bank of any stream not located within an identified floodplain area, the following uses are expressly prohibited.

(1) Development Which May Endanger Human Life

(a) Any new or substantially improved structures which:

- (i) will be used for the production or storage of any of the following dangerous materials or substances; or,**
- (ii) will be used for any activity requiring the maintenance of a supply of more than 550 gallons, or other comparable volume, of any of the following dangerous materials or substances on the premises; or,**
- (iii) will involve the production, storage, or use of any amount of radioactive substances; shall be subject to the provisions of this section, in addition to all other applicable provisions.**

(b) The following list of materials and substances are considered dangerous to human life:

**Acetone
Ammonia
Benzene
Calcium carbide
Carbon disulfide
Celluloid
Chlorine
Hydrochloric acid
Hydrocyanic acid
Magnesium
Nitric acid and oxides of nitrogen
Petroleum products (gasoline, fuel oil, etc.)
Phosphorus
Potassium
Sodium
Sulphur and Sulphur products
Pesticides (including insecticides, fungicides, and rodenticides)
Radioactive substances, insofar as such substances are not otherwise regulated.**

- (c) Existing uses of the kind described in Sections 506.5.b.iv (1)(a) and 506.5.b.iv. (1)(b) above may continue. However, any substantial improvement to such structure is subject to the following requirements:
- (i) Within any Floodway Area, and within 50 feet of any stream not designated as having a floodway, expansion of any structure of the kind described in Sections 506.5.b.iv (1)(a) and 506.5.b.iv. (1)(b) above, shall be prohibited.
 - (ii) Any substantially improved structure of the kind described in Sections 506.5.b.iv (1)(a) and 506.5.b.iv. (1)(b) above, shall be:
 - 1 elevated or designed and constructed to remain completely dry up to at least one and one half (1 ½) feet above base flood elevation,
 - 2 designed to prevent pollution from the structure or activity during the course of a base flood elevation.
 - 3 Any such structure, or part thereof, that will be built below the regulatory flood elevation shall be designed and constructed in accordance with the standards for completely dry flood proofing contained in the publication "Flood-Proofing Regulations (U.S. Army Corps of Engineers, June 1972 as amended March 1992), or with some other equivalent watertight standard.
- (d) Mobile / Manufactured homes, mobile / manufactured home parks, expansion of existing mobile / manufactured home parks.

(2) Special Permit Activities

- (a) The commencement of any of the following activities
- hospitals
 - nursing homes

jails or prisons

- (b) Existing uses of the kind in Section 506.5.b.iv (2) described above may continue. However, any construction enlargement or expansion to such structure is subject to the following requirements:
- (i) Applicants for Special Permits shall provide five copies of the following items:
- 1 A written request including a completed Permit Application Form.
 - 2 A small scale map showing the vicinity in which the proposed site is located.
 - 3 A plan of the entire site, clearly and legibly drawn at a scale of one (1) inch being equal to fifty (50) feet or less, showing the following:
 - a. North arrow, scale and date;
 - b. Topography based upon the North American Vertical Datum (NAVD) of 1988, showing existing and proposed contours at intervals of one (1) foot;
 - c. All property and lot lines including dimensions, and the size of the site expressed in acres or square feet;
 - d. The location of all existing streets, drives, other access ways, and parking areas, with information concerning widths, pavement types and construction, and elevations;
 - e. The location of any existing bodies of water or watercourses, buildings, structures and other public or private facilities, including railroad tracks and

facilities, and any other natural and man-made features affecting, or affected by, the proposed activity or development;

- f. The location of the floodplain boundary line, information and spot elevations concerning the base flood elevation elevations, and information concerning the flow of water including direction and velocities;
- g. The location of all proposed buildings, structures, utilities, and any other improvements; and
- h. Any other information which the municipality considers necessary for adequate review of the application.

4 Plans of all proposed buildings, structures and other improvements, clearly and legibly drawn at suitable scale showing the following:

- a. Sufficiently detailed architectural or engineering drawings, including floor plans, sections, and exterior building elevations, as appropriate;
- b. For any proposed building, the elevation of the lowest floor (including basement) and, as required, the elevation of any other floor;
- c. Complete information concerning flood depths, pressures, velocities, impact and uplift forces, and other factors associated with the base flood elevation;

- d. Detailed information concerning any proposed floodproofing measures;
- e. Cross section drawings for all proposed streets, drives, other accessways, and parking areas, showing all rights-of-way and pavement widths;
- f. Profile drawings for all proposed streets, drives, and vehicular accessways including existing and proposed grades; and
- g. Plans and profiles of all proposed sanitary and storm sewer systems, water supply systems, and any other utilities and facilities.

5 The following data and documentation:

- a. Certification from the applicant that the site upon which the activity or development is proposed is an existing separate and single parcel, owned by the applicant or the client he represents;
- b. Certification from a registered professional engineer, architect, or landscape architect that the proposed construction has been adequately designed to protect against damage from the base flood elevation;
- c. A statement, certified by a registered professional engineer, architect, landscape architect, or other qualified person which contains a complete and accurate description of the nature and extent of pollution that might

possibly occur from the development during the course of a base flood elevation, including a statement concerning the effects such pollution may have on human life;

- d. A statement, certified by a registered professional engineer, architect, or landscape architect, which contains a complete and accurate description of the effects the proposed development will have on base flood elevation elevations and flows;
- e. A statement, certified by a registered professional engineer, architect, or landscape architect, which contains a complete and accurate description of the kinds and amounts of any loose buoyant materials or debris that may possibly exist or be located on the site below the base flood elevation and the effects such materials and debris may have on base flood elevation elevations and flows;
- f. The appropriate component of the Department of Environmental Protection's "Planning Module for Land Development;"
- g. Where any excavation or grading is proposed, a plan meeting the requirements of the Department of Environmental Protection to implement and maintain erosion and sedimentation control;
- h. Any other applicable permits such as, but not limited to, a permit for any activity regulated by the Department of

**Environmental Protection under
Section 302 of Act 1978-166; and**

- i. An evacuation plan which fully explains the manner in which the site will be safely evacuated before or during the course of a base flood.**

(ii) Application Review Procedures

- 1 Upon receipt of an application for a Special Permit by Halifax Township, the following procedures shall apply in addition to those of Section 506.2:**
 - a. Within three (3) working days following receipt of the application, a complete copy of the application and all accompanying documentation shall be forwarded to the County Planning Commission by registered or certified mail for its review and recommendations. Copies of the application shall also be forwarded to Halifax Township Planning commission and the Halifax Township engineer for review and comment.**
 - b. If an application is received that is incomplete, the Township shall notify the applicant in writing, stating in what respect the application is deficient.**
 - c. If Halifax Township decides to disapprove an application, it shall notify the applicant, in writing, of the reasons for the disapproval.**

- d. If Halifax Township approves an application, it shall file written notification, together with the application and all pertinent information, with the Department of Community and Economic Development, by registered or certified mail, within five (5) working days after the date of approval.
- e. Before issuing the Special Permit, Halifax Township shall allow the Department of Community and Economic Development thirty (30) days, after receipt of the notification by the Department, to review the application and decision made by Halifax Township.
- f. If Halifax Township does not receive any communication from the Department of Community and Economic Development during the thirty (30) day review period, it may issue a Special Permit to the applicant.
- g. If the Department of Community and Economic Development should decide to disapprove an application, it shall notify Halifax Township and the applicant, in writing, of the reasons for the disapproval, and Halifax Township shall not issue the Special Permit.

(iii) **Special Technical Requirements**

- 1 In addition to the requirements of Section 506.4 of this Ordinance, the following minimum requirements shall also apply to any proposed development requiring a Special Permit. If there is

any conflict between any of the following requirements and those in Section 506.4 of this Ordinance or in any other code, ordinance, or regulation, the more restrictive provision shall apply.

- 2 No application for a Special Permit shall be approved unless it can be determined that the structure or activity will be located, constructed and maintained in a manner which will:
 - a. Fully protect the health and safety of the general public and any occupants of the structure. At a minimum, all new structures shall be designed, located, and constructed so that:
 - (a.) The structure will survive inundation by waters of the base flood elevation without any lateral movement or damage to either the structure itself, or to any of its equipment or contents below the BFE.
 - (b.) The lowest floor (including basement) will be elevated to at least one and one half (1.5) feet above base flood elevation.
 - (c.) The occupants of the structure can remain inside for an indefinite period of time and be safely evacuated at any time during the base flood elevation.
 - b. Prevent any significant possibility of pollution, increased flood

levels or flows, or debris
endangering life and property.

(iv) All hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc. shall be submitted in sufficient detail to allow a thorough technical review by Halifax Township and the Department of Community and Economic Development.

v. All allowable uses, including substantial and non-substantial improvements or repairs and uses allowed by waiver, shall comply with this ordinance. Provisions of this ordinance that provide standards for construction, elevation, flood proofing or other activities or development shall not be construed to imply that new construction or development is permitted in any identified floodplain area except as provided for in section 506.5.b.i.

c. **Elevation and Flood Proofing Requirements**

i. **Residential Structures**

- (a.) In AE, A1-30, and AH Zones, any new construction or substantial improvement shall have the lowest floor (including basement) elevated to the regulatory flood elevation.
- (b.) In A Zones, where there no Base Flood Elevations specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated to the regulatory flood elevation in accordance with Section 506.4.b.iii (2) (b) of this ordinance.
- (c.) In AO Zones, any new construction or substantial improvement shall have the lowest floor (including basement) at or above the highest adjacent grade at least as high as the depth number specified on the FIRM.
- (d.) The design and construction standards and specifications contained in the 2009 International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the most

recent revisions thereof and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized.

ii. **Non-residential Structures**

- (a.) In AE, A1-30, and AH Zones, any new construction or substantial improvement of a non-residential structure shall have the lowest floor (including basement) elevated to the regulatory flood elevation, or be designed and constructed so that the space enclosed below the regulatory flood elevation:
 - (i.) Is floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water and,
 - (ii.) Has structural components with the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy:
- (b.) In A Zones, where there no Base Flood Elevations are specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated or completely flood proofed to the regulatory flood elevation in accordance with Section 506.4.b.(3).(b).(iii) of this ordinance.
- (c.) In AO Zones, any new construction or substantial improvement shall have their lowest floor elevated or completely flood proofed above the highest adjacent grade to at least as high as the depth number specified on the FIRM.
- (d.) Any non-residential structure, or part thereof, made watertight below above the regulatory flood elevation shall be flood proofed in accordance with the WI or W2 space classification standards contained in the publication entitled "Flood-Proofing Regulations" published by the U.S. Army Corps of Engineers (June 1972, as amended March 1992) or with some other equivalent standard. All plans and specifications for such flood proofing shall be accompanied by a statement certified by a registered professional engineer or architect which states that the proposed design and methods of construction are in conformance with the above referenced standards.

- (e.) The design and construction standards and specifications contained in the 2009 International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the most recent revisions thereof and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized.
- iii. Space below the lowest floor
 - (a.) Fully enclosed space below the lowest floor (excluding basements) which will be used solely for the parking of a vehicle, building access, or incidental storage in an area other than a basement, shall be designed and constructed to allow for the automatic entry and exit of flood waters for the purpose of equalizing hydrostatic forces on exterior walls. The term "fully enclosed space" also includes crawl spaces.
 - (b.) Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
 - (i.) A minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space;
 - (ii.) The bottom of all openings shall be no higher than one (1) foot above grade; and
 - (iii.) Openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- iv. Accessory structures – Allowable structures accessory to a principal building need not be elevated or floodproofed to remain dry, but shall comply, at a minimum, with the following requirements:
 - (a.) The structure shall not be designed or used for human habitation, but shall be limited to the parking of vehicles, or to the storage of tools, material, and equipment related to the principal use or activity.
 - (b.) Floor area shall not exceed 600 square feet. The total amount of floor area per lot for accessory uses is limited to 600 square feet regardless of the number of such accessory structures.

- (c.) The structure will have a low damage potential.
- (d.) The structure will be located on the site so as to cause the least obstruction to the flow of flood waters.
- (e.) Power lines, wiring, and outlets will be at the Regulatory Flood Elevation.
- (f.) Permanently affixed utility equipment and appliances such as furnaces, heaters, washers, dryers, etc. are prohibited.
- (g.) Sanitary facilities are prohibited.
- (h.) The structure shall be adequately anchored to prevent flotation or movement and shall be designed to automatically provide for the entry and exit of floodwater for the purpose of equalizing hydrostatic forces on the walls. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
 - (i.) A minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
 - (ii.) The bottom of all openings shall be no higher than one (1) foot above grade.
 - (iii.) Openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

d. **Design and Construction Standards:**

The following minimum standards shall apply for all construction and development proposed within any identified floodplain area:

- i. **Fill** If fill is used, it shall:
 - (1) Extend laterally at least fifteen (15) feet beyond the building line from all points;
 - (2) Consist of soil or small rock materials only - Sanitary Landfills shall not be permitted;

- (3) Be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling
- (4) Be no steeper than one (1) vertical to two (2) horizontal, feet unless substantiated data, justifying steeper slopes are submitted to, and approved by the Floodplain Administrator; and,
- (5) Be used to the extent to which it does not adversely affect adjacent properties.
- (6) Be limited to only the amount needed for the intended use.

ii. **Drainage Facilities**

Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall insure proper drainage along streets, and provide positive drainage away from buildings. The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.

iii. **Water and Sanitary Sewer Facilities and Systems**

- (1) All new or replacement water and sanitary sewer facilities and systems shall be located, designed and constructed to minimize or eliminate flood damages and the infiltration of flood waters.
- (2) Sanitary sewer facilities and systems shall be designed to prevent the discharge of untreated sewage into flood waters.
- (3) No part of any on-site sewage system shall be located within any identified floodplain area except in strict compliance with all State and local regulations for such systems. If any such system is permitted, it shall be located so as to avoid impairment to it, or contamination from it, during a flood.
- (4) The design and construction provisions of the UCC and FEMA #348, Protecting Building Utilities from Flood Damages and The International Private Sewage Disposal Code (Chapter 3) shall be utilized.

iv. **Other Utilities**

All other utilities such as gas lines, electrical and telephone systems shall be located, elevated (where possible) and constructed to minimize the chance of impairment during a flood.

v. **Streets**

The finished elevation of all new streets shall not be lower than one (1) foot below the Regulatory Flood Elevation.

vi. **Storage**

All materials that are buoyant, flammable, and explosive or, in times of flooding, could be injurious to human, animal, or plant life, and not listed in Section 506.5.b.(4).(a), Development Which May Endanger Human Life, shall be stored at or above the Regulatory Flood Elevation and/or flood proofed to the maximum extent possible.

vii. **Placement of Buildings and Structures**

All buildings and structures shall be designed, located, and constructed so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum effect upon the flow and height of flood water.

viii. **Anchoring**

(1) All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement.

(2) All air ducts, large pipes, storage tanks, and other similar objects or components located below the Regulatory Flood Elevation shall be securely anchored or affixed to prevent flotation.

ix. **Floors, Walls and Ceilings**

(1) Wood flooring used at or below the Regulatory Flood Elevation shall be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain without causing structural damage to the building.

(2) Plywood used at or below the Regulatory Flood Elevation shall be of a "marine" or "water-resistant" variety.

- (3) Walls and ceilings at or below the Regulatory Flood Elevation shall be designed and constructed of materials that are "water-resistant" and will withstand inundation.
- (4) Windows, doors, and other components at or below the Regulatory Flood Elevation shall be made of metal or other "water-resistant" material.

x. Paints and Adhesives

- (1) Paints and other finishes used at or below the Regulatory Flood Elevation shall be of "marine" or "water-resistant" quality.
- (2) Adhesives used at or below the Regulatory Flood Elevation shall be of a "marine" or "water-resistant" variety.
- (3) All wooden components (doors, trim, cabinets, etc.) shall be finished with a "marine" or "water-resistant" paint or other finishing material.

xi. Electrical Components

- (1) Electrical distribution panels shall be at least three (3) feet above the Base flood elevation.
- (2) Separate electrical circuits shall serve lower levels and shall be dropped from above.

xii. Equipment

Water heaters, furnaces, air conditioning and ventilating units, and other electrical, mechanical or utility equipment or apparatus shall not be located below the Regulatory Flood Elevation.

xiii. Fuel Supply Systems

All gas and oil supply systems shall be designed to prevent the infiltration of flood waters into the system and discharges from the system into flood waters. Additional provisions shall be made for the drainage of these systems in the event that flood water infiltration occurs.

xiv. Uniform Construction Code Coordination

The Standards and Specifications contained 34 PA Code (Chapters 401-405), as amended and not limited to the following provisions shall apply to the above and other sections and sub-sections of this ordinance, to the extent that they are more restrictive and/or supplement the requirements of this ordinance.

International Building Code (IBC) 2009 or the latest edition thereof: Sections 801, 1202, 1403, 1603, 1605, 1612, 3402, and Appendix G.

International Residential Code (IRC) 2006 or the latest edition thereof: Secs R104, R105, R109, R323, Appendix AE101, Appendix E and Appendix J.

e. **Special Requirements for Subdivisions**

All subdivision proposals and development proposals containing at least 50 lots or at least 5 acres, whichever is the lesser, in flood hazard areas where base flood elevation data are not available, shall be supported by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information. The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and processing fees shall be the responsibility of the applicant.

f. **Special Requirements for Mobile / Manufactured Homes**

- i. Where permitted within any floodplain area, all mobile / manufactured homes, and any improvements thereto, shall be:
 - (1) Placed on a permanent foundation.
 - (2) Elevated so that the lowest floor of the mobile / manufactured home is at least one and one half (1 ½) feet above base flood elevation.
 - (3) Anchored to resist flotation, collapse, or lateral movement.
- ii. Installation of mobile / manufactured homes shall be done in accordance with the manufacturers' installation instructions as provided by the manufacturer. Where the applicant cannot provide the above information, the requirements of Appendix E of the 2006 International Residential Building Code or the U.S. Department of Housing and Urban Development's Permanent Foundations for

Manufactured Housing, 1984 Edition, draft or latest revision thereto shall apply and 34 PA Code Chapter 401-405.

iii. Consideration shall be given to the installation requirements of the 2009 IBC, and the 2009 IRC or the most recent revisions thereto and 34 PA Code, as amended where appropriate and/or applicable to units where the manufacturers' standards for anchoring cannot be provided or were not established for the units(s) proposed installation.

g. **Special Requirements for Recreational Vehicles**

i. Recreational vehicles in any identified floodplain zone must either:

- (1) Be on the site for fewer than 180 consecutive days,
- (2) Be fully licensed and ready for highway use, or
- (3) Meet the permit requirements for mobile / manufactured homes in Section 506.5.f.

6. Existing Structures in Identified Floodplain Areas

a. **Existing Structures**

The provisions of this Ordinance do not require any changes or improvements to be made to lawfully existing structures. However, when an improvement is made to any existing structure, the provisions of Section 506.6.b shall apply.

b. **Improvements**

The following provisions shall apply whenever any improvement is made to an existing structure located within any identified floodplain area:

- i. No expansion or enlargement of an existing structure shall be allowed within any floodway area that would cause any increase in the Base Flood Elevation.
- ii. No expansion or enlargement of an existing structure shall be allowed within any Special Floodplain Area that would, together with all other existing and anticipated development, increase the Base Flood Elevation more than one (1) foot at any point.
- iii. Any modification, alteration, reconstruction, or improvement, of any kind to an existing structure, to an extent or amount of fifty (50)

percent or more of its market value, shall constitute a substantial improvement and shall be undertaken only in full compliance with the provisions of this Ordinance.

The above activity shall also address the requirements of the 34 PA Code as amended and the 2009 IBC and the 2009 IRC.

- iv. Any modification, alteration, reconstruction, or improvement of any kind to an existing structure, to an extent or amount of less than fifty (50) percent of its market value, shall be elevated and/or floodproofed to the greatest extent possible.
- v. Any modification, alteration, reconstruction, or improvement of any kind that meets the definition of "repetitive loss" shall be undertaken only in full compliance with the provisions of this ordinance

7. Variances

a. General

If compliance with any of the requirements of this Ordinance would result in an exceptional hardship to a prospective builder, developer or landowner, Halifax Township may, upon request, grant relief from the strict application of the requirements.

b. Variance Procedures and Conditions

Requests for variances shall be considered by Halifax Township in accordance with the procedures contained in Section 506.3.k and the following:

- i. No variance shall be granted for any construction, development, use, or activity within any floodway area that would cause any increase in the Base Flood Elevation.
- ii. No variance shall be granted for any construction, development, use, or activity within any Special Floodplain Area that would, together with all other existing and anticipated development, increase the Base Flood Elevation more than one (1) foot at any point.
- iii. Except for a possible modification of the regulatory flood elevation requirement involved, no variance shall be granted for any of the other requirements pertaining specifically to development regulated by Special Permit or to Development Which May Endanger Human Life.

- iv. If granted, a variance shall involve only the least modification necessary to provide relief.
- v. In granting any variance, Halifax Township shall attach whatever reasonable conditions and safeguards it considers necessary in order to protect the public health, safety, and welfare, and to achieve the objectives of this Ordinance.
- vi. Whenever a variance is granted, Halifax Township shall notify the applicant in writing that:
 - (1) The granting of the variance may result in increased premium rates for flood insurance.
 - (2) Such variances may increase the risks to life and property.
- vii. In reviewing any request for a variance, Halifax Township shall consider, at a minimum, the following:
 - (1) That there is good and sufficient cause.
 - (2) That failure to grant the variance would result in exceptional hardship to the applicant.
 - (3) That the granting of the variance will
 - (a) neither result in an unacceptable or prohibited increase in flood heights, additional threats to public safety, or extraordinary public expense,
 - (b) nor create nuisances, cause fraud on, or victimize the public, or conflict with any other applicable state or local ordinances and regulations.
- viii. A complete record of all variance requests and related actions shall be maintained by Halifax Township. In addition, a report of all variances granted during the year shall be included in the annual report to the Federal Emergency Management Agency.
- ix. No variances shall be granted for any activity on lots created after the date of this ordinance.
- x. Notwithstanding any of the above, however, all structures shall be designed and constructed so as to have the capability of resisting the one hundred (100) year flood.

Section 507. Erosion and Sedimentation.

1. Erosion and Sedimentation Requirements During Earth Disturbance Activities
 - a. The applicant shall meet requirements as contained in 25 PA Code, Chapters 92 and 102 as required and applicable as follows:
 - i. The implementation and maintenance of erosion and sediment control BMPs.
 - ii. Development of written plans.
 - iii. Submission of plans for approval.
 - iv. Obtaining Erosion and Sediment Control and NPDES permits.
 - v. Maintaining plans and permits on site.
 - b. Evidence of any necessary plan or permit approval for Earth Disturbance activities from PADEP or the Dauphin County Conservation District must be provided to the Municipality. The Township shall not issue a building permit or approve a submission or land development plan to those engaged in earth moving activities requiring a Department of Environmental Protection permit, until the Department has issued the permit.
 - c. The Erosion and Sedimentation Control Plan shall be submitted to the Township Engineer and County Conservation District for review, and a copy of the Plan and review comments shall be submitted to the Commission as part of the Preliminary and Final Plat Applications.
 - d. A copy of the approved Erosion and Sediment Control Plan and any other permit, as required by PADEP or the Dauphin County Conservation District, shall be available at the project site at all times if required under Chapter 102.
 - e. Construction of temporary roadways (e.g., for utility construction, timber harvesting, etc.) shall comply with all applicable standards for erosion and sedimentation control and stream crossing regulations under 25 PA Code, Chapters 102 and 105. The Erosion and Sedimentation Control Plan shall be submitted to the Dauphin County Conservation District for approval and shall address the following, as applicable:
 - i. Design of the roadway system, including haul roads, skid roads, landing areas, trails, and storage and staging areas.

- ii. Runoff control structures (e.g., diversions, culverts, detention ponds, etc.).
 - iii. Stream crossings for both perennial and intermittent streams.
 - iv. Access to public roadways, including design of rock construction entrance for mud and debris control.
 - v. A remediation plan for restoring the disturbed area through re-grading, topsoil placement, reseeding, and other stabilization techniques, as required.
- f. Additional erosion and sedimentation control design standards and criteria that must be applied where infiltration BMPs are proposed include the following:
- i. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase, as to maintain their maximum infiltration capacity.
 - ii. Infiltration BMPs shall be protected from receiving sediment-laden runoff.
 - iii. The source of protection for infiltration BMPs shall be identified (i.e. orange construction fence surrounding the perimeter of the BMP).
2. Total Maximum Daily Load (TMDL) Requirements
- a. Agricultural activities contributory to a watershed within Dauphin County containing an established non-point source (agricultural) TMDL, shall be conducted in compliance with Chapter 102 (Erosion and Sediment Pollution Control), Chapter 91 - Section 91.36 (General Provisions related to Manure Management) and Act 38 (Nutrient Management).
 - b. This section shall apply also to agricultural activities conducted in watersheds where TMDLs are established in the future.

Section 508. Storm Water Management.

1. Statement of Findings: The governing body of Halifax Township finds that:
- a. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public

facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.

- b. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety, welfare, and the protection of the people of Halifax Township and all the people of the Commonwealth, their resources, and the environment.
- c. Inadequate planning and management of stormwater runoff resulting from land development and redevelopment throughout a watershed can also harm surface water resources by changing the natural hydrologic patterns; accelerating stream flows (which increase scour and erosion of streambeds and stream banks thereby elevating sedimentation); destroying aquatic habitat; and elevating aquatic pollutant concentrations and loadings such as sediments, nutrients, heavy metals, and pathogens. Groundwater resources are also impacted through loss of recharge.
- d. Stormwater is an important water resource which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- e. Public education on the control of pollution from stormwater is an essential component in successfully addressing stormwater issues.
- f. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).
- g. Non-stormwater discharges to municipal separate storm sewer systems can contribute to pollution of Waters of the Commonwealth.

2. Purpose. The purpose of Section 508 is to promote health, safety, and welfare within Halifax Township, Dauphin County, by minimizing the harms and maximizing the benefits described in Section 508.1 of this Ordinance through provisions intended to:

- a. Meet legal water quality requirements under state law, including regulations at 25 PA Code Chapter 93 to protect, maintain, reclaim, and restore the existing and designated uses of the Waters of the Commonwealth.

- b. Manage accelerated runoff and erosion and sedimentation problems close to their source, by regulating activities that cause these problems.
- c. Preserve the natural drainage systems to the maximum extent practicable.
- d. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality, and to otherwise protect water resources.
- e. Maintain existing flows and quality of streams and watercourses.
- f. Preserve and restore the flood-carrying capacity of streams and prevent scour and erosion of stream banks and streambeds.
- g. Manage stormwater impacts close to the runoff source, with a minimum of structures and a maximum use of natural processes.
- h. Provide procedures, performance standards, and design criteria for stormwater planning and management.
- i. Provide proper operations and maintenance of all temporary and permanent stormwater management facilities and Best Management Practices (BMPs) that are constructed and implemented.
- j. Provide standards to meet the NPDES permit requirements.

3. Statutory Authority

- a. **Primary Authority:** Halifax Township is empowered to regulate these activities by the Authority of the Act of October 4, 1978, 32 P.S., P.L. (Act 167), 32 P.S. Section 680.1 et seq., as amended, the "Stormwater Management Act."
- b. **Secondary Authority:** Halifax Township is also empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

4. Applicability.

This Ordinance shall apply to all areas of Halifax Township, any Regulated Activity within Halifax Township, and all stormwater runoff entering into Halifax Township's separate storm sewer system from lands within the boundaries of the municipality.

Earth disturbance activities and associated stormwater management controls are also regulated under existing state law and implementing regulations. This

Ordinance shall operate in coordination with those parallel requirements; the requirements of this Ordinance shall be no less restrictive in meeting the purposes of this Ordinance than state law.

"Regulated Activities" are any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff. "Regulated Activities" include, but are not limited to, the following listed items. No person, partnership, business or corporation shall undertake any of the following activities without written approval from Halifax Township:

- a. Earth disturbing activity involving one (1) acre or more, except agricultural activity, provided such activity conforms to USDA Soil Conservation guidelines;
- b. Diversion or piping of any natural or manmade stream channel;
- c. Installation of storm water management facilities or appurtenances thereto;
- d. Installation of stormwater BMPs;
- e. Movement or alteration to an existing storm water 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 floodplain map, and as may be documented by other pertinent sources of floodplain information used by the Township;
- g. Land development;
- h. Land subdivisions; or
- i. Construction of new or additional impervious or semi-pervious surfaces;
- j. Construction of new buildings or additions to existing buildings

5. Township Liability.

The degree of storm water 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 Township, any appointed or elected official of the Township, the Dauphin County Conservation District, or any officer, engineer or employee thereof for any erosion, sedimentation or flood damages that may result from reliance on this article or any administrative decision lawfully made there under.

6. Compatibility with Other Ordinance Requirements

Approvals issued and actions taken pursuant to this Ordinance do not relieve the Applicant of the responsibility to comply with or to secure required permits or approvals for activities regulated by any other applicable codes, laws, rules, statutes, or ordinances. To the extent that this Ordinance imposes more rigorous or stringent requirements for stormwater management, the specific requirements contained in this Ordinance shall be followed.

7. Duty of Persons Engaged in the Development of Land

Notwithstanding any provision(s) of this Ordinance, including exemptions, any landowner or any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting stormwater runoff in a manner which otherwise adequately protects health, property, and water quality.

8. Content of the Storm Water Management Site Plan.

a. General Requirements

For any of the activities regulated by this Ordinance and not eligible for the exemptions provided in Section 508.10, the final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, or the commencement of any land disturbance activity, may not proceed until the Applicant has received written approval of a SWM Site Plan from the Municipality.

b. SWM Site Plan & Report Contents

The SWM Site Plan & SWM Site Report shall consist of all applicable calculations, maps, and plans. All SWM Site Plan materials shall be submitted to the Municipality in a format that is clear, concise, legible, neat and well organized; otherwise, the SWM Site Plan shall be rejected.

Appropriate sections from the Municipal Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Site Plan.

i. SWM Site Plan shall included (but not limited to):

- (1) Plans no larger than 24-inch x 36-inch sheets and in a form that meets the requirements for recording in the Office of the Recorder of Deeds of Dauphin County.
- (2) The name of the development; name and location address of the property site; name, address, and telephone number of the Applicant/Owner of the property; and name, address, telephone number, email address, and engineering seal of the individual preparing the SWM Site Plan.
- (3) The date of submission and dates of all revisions.
- (4) A graphical and written scale on all drawings and maps.
- (5) A north arrow on all drawings and maps.
- (6) A location map at a minimum scale of one (1) inch equals one-thousand (1,000) feet.
- (7) Metes and bounds description of the entire tract perimeter.
- (8) Existing and final contours at intervals of two (2) feet.
- (9) Existing waterbodies within and adjacent to the project area including streams, lakes, ponds, field delineated wetlands or other bodies of water, sinkholes, flood hazard boundaries (FEMA delineated floodplains and floodways), areas of natural vegetation to be preserved, the total extent of the upstream area draining through the site, and overland drainage paths.
- (10) The location of all existing and proposed utilities, on-lot wastewater facilities, water supply wells, sanitary sewers, and water lines on and within fifty (50) feet of property lines.
- (11) A key map showing all existing man-made features beyond the property boundary that may be affected by the project.
- (12) Soil names and boundaries with identification of the Hydraulic Soil Group classification.
- (13) The proposed limit of disturbance line and associated proposed disturbed acres.

- (14) Proposed structures, roads, paved areas, and buildings, including plans and profiles of roads and paved areas and floor elevations of buildings.
- (15) Horizontal alignment, vertical profiles, and cross sections of all open channels, pipes, swales and other BMPs.
- (16) The location and clear identification of the nature of permanent stormwater BMPs.
- (17) The location of all erosion and sedimentation control facilities.
- (18) A minimum thirty (30) foot wide access easement around all stormwater management facilities that would provide ingress to and egress from a public right-of-way. In lieu of providing an easement to the public right-of-way, a note may be added to the plan granting the Municipality or their designee access to all easements via the nearest public right-of-way.
- (19) Construction details for all drainage and stormwater BMPs.
- (20) Construction details of any improvements made to sinkholes.
- (21) Identification of short-term and long-term ownership, operations, and maintenance responsibilities.
- (22) Notes and Statements:
 - (a) The following signature block for the landowner:

“I, _____, hereby acknowledge that the stormwater BMPs are fixtures that cannot be altered or removed without prior approval by the Municipality.”
 - (b) A statement referencing the Operation and Maintenance (O&M) Agreement and stating that the O&M Agreement is part of the SWM Site Plan.
 - (c) A note indicating that Record Drawings will be provided for all stormwater management facilities prior to occupancy, or the release of financial security.
 - (d) The following signature block for the Qualified Professional preparing the SWM Site Plan:

"I, _____, hereby certify that the Stormwater Management Plan meets all design standards and criteria of the Halifax Township Subdivision and Land Development Ordinance."

- ii. SWM Site Report shall include (but not be limited to):
- (1) The name of the development; name and location address of the property site; name, address, and telephone number of the Applicant/Owner of the property; and name, address, telephone number, email address, and engineering seal of the individual preparing the SWM Site Report.
 - (2) Project description narrative including expected project time schedule.
 - (3) Location map showing the project site and its location relative to release rate districts.
 - (4) Drainage area maps for all watersheds and inlets depicting the time of concentration paths.
 - (5) A detailed description of the existing site conditions. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, and other environmentally sensitive areas such as brownfields.
 - (6) Complete hydrologic, hydraulic and structural computations, calculations, assumptions, and criteria for the design of all stormwater BMPs.
 - (7) For all basins, a plotting or tabulation of the storage volumes and discharge curves with corresponding water surface elevations, inflow hydrographs, and outflow hydrographs.
 - (8) Description of, justification, and actual field results for infiltration testing with respect to the type of test and test location for the design of infiltration BMPs.
 - (9) Calculations showing the total drainage area and impervious area loading rates to each BMP.
 - (10) The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and

aquatic features and on any existing municipal stormwater collection system that may receive runoff from the project site.

- (11) Description of the proposed changes to the land surface and vegetative cover including the type and amount of impervious area to be added.
- (12) All applicable worksheets from Chapter 8 of the BMP Manual when establishing volume controls.
- (13) Identification of short-term and long-term ownership, operation, and maintenance responsibilities as well as schedules and costs for inspection and maintenance activities for each permanent stormwater or drainage BMP, including provisions for permanent access or maintenance easements.

iii. Supplemental information to be provided prior to recording of the SWM Site Plan, as applicable:

- (1) Signed and executed Operations and Maintenance Agreement (Exhibit VIII).
- (2) Signed and executed easements, as required for all on-site and off-site work.
- (3) An Erosion and Sedimentation Control Plan & approval letter from the Dauphin County Conservation District.
- (4) A NPDES Permit.
- (5) Permits from PADEP and ACOE.
- (6) A Geologic Assessment.
- (7) A Wetland Delineation Report.
- (8) A Highway Occupancy Permit from PennDOT when utilization of a PennDOT storm drainage system is proposed or when proposed facilities would encroach onto a PennDOT right-of-way.

c. SWM Site Plan & Report Submission

- i. The Applicant shall submit the SWM Site Plan & Report for the Regulated Activity.
 - ii. Three (3) copies of the SWM Site Plan & Report shall be submitted to the Municipality and may be distributed as follows:
 - (1) Two (2) copies for the Municipality accompanied by the requisite Municipal Review Fee
 - (b) One (1) copy for the Municipal Engineer
 - iii. Additional copies shall be submitted as requested by the Municipality, Tri-County Regional Planning Commission, Dauphin County Conservation District or PADEP.
- d. **SWM Site Plan & Report Review**
- i. The Municipality shall require receipt of a complete SWM Site Plan & Report as specified in this Ordinance. The Municipality shall review the SWM Site Plan & Report for consistency with the purposes, requirements, and intent of this Ordinance.
 - ii. The Municipality shall not approve any SWM Site Plan & Report that is deficient in meeting the requirements of this Ordinance. At its sole discretion and in accordance with this Article, when a SWM Site Plan & Report is found to be deficient, the Municipality may disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Municipality may accept submission of modifications.
 - iii. The Municipality shall notify the Applicant in writing within forty-five (45) calendar days whether the SWM Site Plan & Report is approved or disapproved if the SWM Site Plan & Report is not part of a Subdivision or Land Development Plan. If the SWM Site Plan & Report involves a Subdivision or Land Development Plan, the timing shall follow the Subdivision and Land Development process according to the Municipalities Planning Code.
 - iv. The Municipal Building Permit Office shall not issue a building permit for any Regulated Activity if the SWM Site Plan & Report has been found to be inconsistent with this Ordinance, as determined by the Municipality. All required permits from PADEP must be obtained prior to issuance of a building permit.
- e. **Modification of Plans**

9. **General Requirements and Standards for Storm Water Management.**

- a. **For all Regulated Activities, unless specifically exempted in Section 508.10:**
 - i. **Preparation and implementation of an approved SWM Site Plan is required.**
 - ii. **No Regulated Activities shall commence until the municipality issues written approval of a SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance.**
 - iii. **The SWM Site Plan shall demonstrate that adequate capacity will be provided to meet the Volume and Rate Control Requirements, as described under Sections 508.11 and 508.12 of this Ordinance.**
 - iv. **The SWM Site Plan approved by the municipality, shall be on-site throughout the duration of the Regulated Activities.**
- b. **For all Regulated Earth Disturbance Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code (including, but not limited to Chapter 102 Erosion and Sediment Control) and the Clean Streams Law. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual), No. 363-2134-008 (April 15, 2000), as amended and updated.**
- c. **For all Regulated Activities, stormwater BMPs shall be designed, installed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law, conform to the State Water Quality Requirements, meet all requirements under the Storm Water Management Act and any more stringent requirements as determined by the municipality.**
- d. **The municipality may, after consultation with PADEP and/or DCCD, approve measures for meeting the State Water Quality Requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, state law including, but not limited to, the Clean Streams Law.**

- e. All Regulated Activities shall include, to the maximum extent practicable, measures to:
 - i. Protect health, safety, and property.
 - ii. Meet the water quality goals of this Ordinance by implementing measures to:
 - (1) Minimize disturbance to floodplains, wetlands, natural slopes, existing native vegetation and woodlands.
 - (2) Create, maintain, or extend riparian buffers and protect existing forested buffers.
 - (3) Provide trees and woodlands adjacent to impervious areas whenever feasible.
 - (4) Minimize the creation of impervious surfaces and the degradation of Waters of the Commonwealth and promote groundwater recharge.
 - (5) Protect natural systems and processes (drainageways, vegetation, soils, and sensitive areas) and maintain, as much as possible, the natural hydrologic regime.
 - (6) Incorporate natural site elements (wetlands, stream corridors, mature forests) as design elements.
 - (7) Avoid erosive flow conditions in natural flow pathways.
 - (8) Minimize soil disturbance and soil compaction.
 - (9) Minimize thermal impacts to Waters of the Commonwealth.
 - (10) Disconnect impervious surfaces by directing runoff to pervious areas wherever possible, and decentralize and manage stormwater at its source.
 - iii. Applicants are encouraged to incorporate the techniques for Low Impact Development Practices described in the "Pennsylvania Stormwater Best Management Practices Manual (BMP Manual)" to reduce the costs of complying with the requirements of this Ordinance and the State Water Quality Requirements. Developers are encouraged to incorporate designs to take advantage of the stormwater credits presented in Appendix D of the Mid-Dauphin Act 167 Stormwater Management Plan.

- f. **Impervious Areas:**
- i. The measurement of impervious areas shall include all of the impervious areas in the total proposed development, even if development is to take place in stages.
 - ii. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
 - iii. For projects that add impervious area to a developed parcel, the new impervious area is subject to the requirements of this Ordinance; and any existing impervious area that is within the new proposed limit of disturbance is also subject to the requirements of this Ordinance.
- g. The existing points of concentrated drainage that discharge onto adjacent property shall not be altered without permission of the altered property owner(s) and shall be subject to any applicable discharge criteria specified in this Ordinance.
- h. Areas of existing diffused drainage discharge shall be subject to any applicable discharge criteria in the general direction of existing discharge, whether proposed to be concentrated or maintained as diffused drainage areas, except as otherwise provided by this ordinance. If diffused flow is proposed to be concentrated and discharged onto adjacent property, the Developer must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding or other harm will result from the concentrated discharge.
- i. Applicant must provide an executed easement for newly concentrated flow across adjacent properties.
- i. Stormwater drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by stormwater management facilities or open channels consistent with this Ordinance.
- j. Where a development site is traversed by watercourses, drainage easements (with a minimum width of thirty (30) feet) shall be provided conforming to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures and any alterations that may adversely affect the flow of stormwater within any portion of the easement. Also, maintenance, including mowing of vegetation within the easement shall be required, except as approved by the appropriate governing authority.

- k. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work within natural drainageways shall be subject to approval by PA DEP under regulations at 25 PA Code Chapter 105 through the Joint Permit Application process, or, where deemed appropriate by PA DEP, through the General Permit process.
- l. Any stormwater management facilities or any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls, or stream enclosures, etc.) that are regulated by this Ordinance that would be located in or adjacent to waters of the Commonwealth or wetlands shall be subject to approval by PA DEP under regulations at 25 PA Code Chapter 105 through the Joint Permit Application process, or, where deemed appropriate by PA DEP, the General Permit process. When there is a question whether wetlands may be involved, it is the responsibility of the Developer or his agent to show that the land in question cannot be classified as wetlands; otherwise approval to work in the area must be obtained from PA DEP.
- m. Should any stormwater management facility require a dam safety permit under PA DEP Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of Chapter 105 concerning dam safety which may be required to pass storms larger than 100-year event.
- n. Any stormwater management facilities regulated by this Ordinance that would be located on, or discharged onto State highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PA DOT).
- o. When stormwater management facilities are proposed within 1,000 feet of a downstream Municipality, the stormwater analysis shall be submitted to the downstream Municipal's engineer for review and comment.
- p. Minimization of impervious surfaces and infiltration of runoff through seepage beds, infiltration trenches, etc. are encouraged, where soil conditions and geology permit, to reduce the size or eliminate the need for detention facilities.
- q. Infiltration BMPs should be dispersed throughout the site, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.

- r. The design of facilities over karst shall include an evaluation and implementation of measures to minimize adverse effects.
- s. Roof drains must not be connected to streets, sanitary or storm sewers or roadside ditches to promote overland flow and infiltration/percolation of stormwater where advantageous to do so. When it is more advantageous to connect directly to streets or storm sewers, then it shall be permitted on a case-by-case basis by the municipality.
- t. **Special Conditions for Areas Falling Within Defined Exceptional Value and High Quality Sub-Watersheds** – The temperature and quality of water and streams that have been declared as exceptional value and high quality is to be maintained as defined in Chapter 93, Water Quality Standards, Title 25 of Pennsylvania Department of Environmental Protection Rules and Regulations. Temperature sensitive BMPs and stormwater conveyance systems are to be used and designed with storage pool areas and supply outflow channels and should be shaded with trees. This will require modification of berms for permanent ponds and relaxation of restrictions on planting vegetation within the facilities, provided the capacity for volumes and rate controls is maintained. At a minimum, the southern half on pond shorelines will be planted with shade or canopy trees within ten (10) feet of the pond shoreline. In conjunction with this requirement, the maximum slope allowed on the berm area to be planted is 10 to 1. This will lessen the destabilization of berm soils due to root growth. A long term maintenance schedule and management plan for the thermal control BMPs is to be established and recorded for all development sites.

10. Exemptions / Modifications

- a. Under no circumstance shall the Applicant be exempt from implementing such measures as necessary to:
 - i. Meet State Water Quality Standards and Requirements.
 - ii. Protect health, safety, and property.
 - iii. Meet special requirements for High Quality (HQ) and Exceptional Value (EV) watersheds.
- b. The Applicant must demonstrate that the following BMPs are being utilized to the maximum extent practicable to receive consideration for the exemptions:
 - i. Design around and limit disturbance of Floodplains, Wetlands, Natural Slopes over 15%, existing native vegetation, and other sensitive and special value features.

- ii. Maintain riparian and forested buffers.
 - iii. Limit grading and maintain non-erosive flow conditions in natural flow paths.
 - iv. Maintain existing tree canopies near impervious areas.
 - v. Minimize soil disturbance and reclaim disturbed areas with topsoil and vegetation.
 - vi. Direct runoff to pervious areas.
- c. The Applicant must demonstrate that the proposed development / additional impervious area will not adversely impact the following:
- i. Capacities of existing drainageways and storm sewer systems.
 - ii. Velocities and erosion.
 - iii. Quality of runoff if direct discharge is proposed.
 - iv. Existing known problem areas.
 - v. Safe conveyance of the additional runoff.
 - vi. Downstream property owners.
- d. An Applicant proposing Regulated Activities, after demonstrating compliance with Sections 508.10.a, 508.10.b, and 508.10.c, may be exempted from various requirements of this Ordinance according to the following table:

| New Impervious Area* [Since the Date of Adoption of this Ordinance] (square footage) | Applicant Must Submit to the Municipality |
|---|--|
| 0 – 1,000 | — |
| 1,000 – 5,000 | Volume Controls and SWM Site Plan & Report |
| > 5,000 | Rate Controls, Volume Controls, SWM Site Plan & Report and Record Drawings |

- e. The purpose of this section is to ensure consistency of stormwater management planning between local ordinances and NPDES permitting (when required) and to ensure that the Applicant has a single and clear set of stormwater management standards to which the Applicant is subject. The Municipality may accept alternative stormwater management controls provided that:
 - i. The Applicant, in consultation with the Municipality, PADEP and/or DCCD, states that meeting the requirements of the Volume Controls or Rate Controls of this Ordinance is not possible or creates an undue hardship.
 - ii. The alternative stormwater management controls, proposed by the Applicant, are documented to be acceptable to the Municipality, PADEP and/or DCCD for NPDES requirements pertaining to post construction stormwater management requirements.
 - iii. The alternative stormwater management controls are in compliance with all other sections of this Ordinance, including but not limited to sections 508.9.d, 508.10.a, 508.10.b, and 508.10.c.
- f. Forest management and timber operations are exempt from Rate and Volume Control requirements and SWM Site Plan preparation requirement of this Ordinance provided the activities are performed according to the requirements of 25 PA Code Chapter 102. It should be noted that temporary roadways are not exempt.
- g. Agricultural activities are exempt from the requirements of this Ordinance provided the activities are performed according to the requirements of 25 PA Code Chapter 102.
- h. Linear roadway improvement projects that create additional impervious area are not exempt from the requirements of this Ordinance. However, alternative stormwater management strategies may be applied at the joint approval of the Municipality and the Dauphin County Conservation District (if an NPDES permit is required) when site limitations (such as limited right-of-way) and constraints (as shown and provided by the Applicant), preclude the ability of the Applicant to meet the enforcement of the stormwater management standards in this Ordinance. All strategies must be consistent with PADEP's regulations, including NPDES requirements.
- i. The municipality may, after an Applicant has demonstrated compliance with Sections 508.10.a, 508.10.b, and 508.10.c, grant a modification of the requirements of one or more provisions of this Ordinance if the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not

be contrary to the public interest and that the purpose and intent of the Ordinance is observed.

- i. All requests for a modification shall be in writing and shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the Ordinance involved, and the minimum modification necessary.

11. Volume Controls

- a. The Low Impact Development Practices provided in the BMP Manual and in Exhibit IX of this Ordinance shall be utilized for all Regulated Activities to the maximum extent practicable.
- b. Stormwater runoff Volume Controls shall be implemented using the Design Storm Method or the Simplified Method. For Regulated Activities equal to or less than one (1) acre, this Ordinance establishes no preference for either method; therefore, the Applicant may select either method on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology, and other factors.
 - i. The Design Storm Method (CG-1 in the BMP Manual) is applicable to any sized Regulated Activity. This method requires detailed modeling based on site conditions.
 - (1) Do not increase the post-development total runoff volume when compared to the pre-development total runoff volume for the 2-year/24-hour storm event.
 - (2) For hydrologic modeling purposes:
 - (a) Existing non-forested pervious areas must be considered meadow (good condition) for pre-development hydrologic calculations.
 - (b) Twenty (20) percent of existing impervious area, when present on the proposed project site, and contained within the new proposed limit of disturbance, shall be considered meadow (good condition) for pre-development hydrologic calculations for re-development.
 - ii. The Simplified Method (CG-2 in the BMP Manual) is independent of site conditions and should be used if the Design Storm Method is

not followed. This method is not applicable to Regulated Activities greater than one (1) acre. For new impervious surfaces:

- (1) Stormwater facilities shall capture at least the first two (2) inches of runoff from all new impervious surfaces.
 - (2) At least the first one (1) inch of runoff from new impervious surfaces shall be permanently removed from the runoff flow, i.e. it shall not be released into surface Waters of the Commonwealth. Removal options include reuse, evaporation, transpiration, and infiltration.
 - (3) Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first one-half (0.5) inch of the permanently removed runoff shall be infiltrated.
- c. All applicable worksheets from Chapter 8 of the BMP Manual must be used when establishing Volume Controls.
 - d. Actual field infiltration tests at the location of the proposed elevation of the stormwater BMPs are required when 5,000 square feet or greater of new impervious surface is added. Infiltration test shall be conducted in accordance with BMP Manual.

12. Rate Controls

- a. Halifax Township has been divided into three stormwater management districts as shown on the Watershed Map in the Mid-Dauphin Basins Act 167 Stormwater Management Plan. Standards for managing runoff from each district are shown below. The standards vary according to storm and location in the watershed.
- b. Post-development discharge rates shall not exceed the pre-development discharge rates for the 1-year, 50-year, and 100-year storms.
- c. For the 2-year design storm in Areas A & B, utilize a 30% release rate and for Area C, utilize a 100% release rate.
- d. For the 10- and 25-year design storms in Area A, utilize a 70% release rate. In Areas B and C, a 100% release rate may be used.
- e. For all storms in all areas, if the developer can show that the post-development hydrograph matches the pre-development hydrograph for

peak flows and volume, additional release rates, as described above are not required.

13. Prohibitions

a. Prohibited Discharges and Connections

- i. Any drain (including indoor drains and sinks), or conveyance whether on the surface or underground, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter the Municipality's separate storm sewer system or Waters of the Commonwealth is prohibited.
- ii. Any drain or conveyance connected from a commercial or industrial land use to the Municipality's separate storm sewer system, which has not been documented in plans, maps, or equivalent records, and approved by the Municipality is prohibited.
- iii. No person shall allow, or cause to allow, discharges into the Municipality's separate storm sewer system or into surface Waters of the Commonwealth, which are not composed entirely of stormwater, except: (1) as provided in subsection 1301.D below, and (2) discharges allowed under a state or federal permit.
- iv. The following discharges are authorized unless they are determined to be significant contributors to pollution to the Waters of the Commonwealth:

| | |
|---|---|
| Discharges from fire fighting activities | Flows from riparian habitats and wetlands |
| Potable water sources including dechlorinated water line and fire hydrant flushings | Uncontaminated water from foundations or from footing drains |
| Irrigation drainage | Lawn watering |
| Air conditioning condensate | Dechlorinated swimming pool discharges |
| Springs | Uncontaminated groundwater |
| Water from crawl space pumps | Water from individual residential car washing |
| Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used | Routine external building washdown (which does not use detergents or other compounds) |

- v. In the event that the Municipality or PADEP determines that any of the discharges identified in subsection 508.13.a.4, significantly contribute to pollution of Waters of the Commonwealth, or is so notified by PADEP, the Municipality will notify the responsible person(s) to cease the discharge.
 - vi. Upon notice provided by the Municipality or PADEP under subsection 508.13.a.5, the discharger will have a reasonable time, as determined by the Municipality or PADEP, to cease the discharge, consistent with the degree of pollution caused by the discharge.
 - vii. Nothing in this Section shall affect a discharger's responsibilities under Commonwealth Law.
- b. **Roof Drains**
- i. Roof drains and sump pumps shall discharge to infiltration areas, vegetative BMPs, or pervious areas to the maximum extent practicable.
- c. **Alteration of BMPs**
- i. No person shall modify, remove, fill, landscape, or alter any existing stormwater BMP, facilities, areas, or structures unless it is part of an approved maintenance program, without the written approval of the Municipality.
 - ii. No person shall place any structure, fill, landscaping, or vegetation into a stormwater BMP, facilities, areas, structures, or within a drainage easement which would limit or alter the functioning of the BMP without the written approval of the Municipality.

14. Ownership and Maintenance.

(a) Financial Guarantee

- i. The applicant shall provide a Financial Guarantee to the Municipality for the timely installation and proper construction of all stormwater management controls as required by the approved SWM Site Plan and this Ordinance, equal to 110% of the full construction cost of the required controls in accordance with the Municipalities Planning Code.
- ii. At the completion of the project and as a prerequisite for the release of the Financial Guarantee, the Applicant shall:

- (1) Provide a certification of completion from an engineer, architect, surveyor, or other qualified professional, verifying that all permanent facilities have been constructed according to the SWM Site Plan & Report and approved revisions thereto.
- (2) Provide a set of Record Drawings.
- (3) Request a final inspection from the Municipality to certify compliance with this Ordinance, after receipt of the certification of completion, and Record Drawings by the Municipality.

(b) Maintenance Responsibilities

- i. The SWM Site Plan & Report for the project site shall describe the future operation and maintenance responsibilities. The operation and maintenance description shall outline required routine maintenance actions and schedules necessary to ensure proper operation of the stormwater control facilities.
- ii. The SWM Site Plan & Report for the project site shall establish responsibilities for the continuing operation and maintenance of all proposed stormwater control facilities, consistent with the following principals:
 - (1) If a development consists of structures or lots that are to be separately owned and in which streets, sewers, and other public improvements are to be dedicated to the Municipality, stormwater control facilities/BMPs may also be dedicated to and maintained by the Municipality.
 - (2) If a development site is to be maintained in a single ownership or if sewers and other public improvements are to be privately owned and maintained, then the ownership and maintenance of stormwater control facilities/BMPs shall be the responsibility of the owner or private management entity.
 - (3) Facilities, areas, or structures used as stormwater BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or easements that run with the land.

- (4) The SWM Site Plan & Operation and Maintenance (O&M) Agreement shall be recorded as a restrictive deed covenant that runs with the land.
- (5) The Municipality may take enforcement actions against an Applicant for failure to satisfy any provision of this Ordinance.

- iii. The Municipality, upon recommendation of the Municipal Engineer, shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan & Report. The Municipality may require a dedication of such facilities as part of the requirements for approval of the SWM Site Plan. Such a requirement is not an indication that the Municipality will accept the facilities. The Municipality reserves the right to accept or reject the ownership and operating responsibility for any portion of the stormwater management controls.
- iv. If the Municipality accepts ownership of stormwater BMPs, the Municipality may, at its discretion, require a fee from the Applicant to the Municipality to offset the future cost of inspections, operations, and maintenance.
- v. It shall be unlawful to alter or remove any permanent stormwater BMP required by an approved SWM Site Plan, or to allow the property to remain in a condition, which does not conform to an approved SWM Site Plan, unless the Municipality grants an exception in writing.

(c) Maintenance Agreement for Privately Owned Stormwater Facilities

- i. Prior to final approval of the SWM Site Plan & Report, the Applicant shall sign the Operation and Maintenance (O&M) Agreement (Appendix A) covering all stormwater control facilities that are to be privately owned. The Operation and Maintenance (O&M) Agreement shall be recorded with the SWM Site Plan and made a part hereto.
- ii. Other items may be included in the Operation and Maintenance (O&M) Agreement where determined necessary to guarantee the satisfactory operation and maintenance of all BMP facilities. The Operation and Maintenance (O&M) Agreement shall be subject to the review and approval of the Municipality and the Municipal Solicitor.

- iii. The owner is responsible for operation and maintenance of the stormwater BMPs. If the owner fails to adhere to the Operation and Maintenance (O&M) Agreement, the Municipality may perform the services required and charge the owner appropriate fees. Non-payment of fees may result in a lien against the property.

8. Inspections

(a) Schedule of Inspections

- i. PADEP or its designees normally ensure compliance with any permits issued, including those for stormwater management. In addition to PADEP compliance programs, the Municipality or their municipal assignee may inspect all phases of the installation of temporary or permanent stormwater management facilities.
- ii. During any stage of Earth Disturbance Activities, if the Municipality determines that the temporary or permanent stormwater management facilities are not being installed in accordance with the approved SWM Site Plan, the Municipality shall revoke any existing permits or approvals until a revised SWM Site Plan is submitted and approved as specified in this Ordinance.
- iii. Stormwater BMPs shall be inspected by the landowner, or the landowner's designee according to the inspection schedule described on the SWM Site Plan for each BMP.
 - (1) The Municipality may require copies of the inspection reports, in a form as stipulated by the Municipality.
 - (2) If such inspections are not conducted or inspection reports not submitted as scheduled, the Municipality, or their designee, may conduct such inspections and charge the owner appropriate fees. Non-payment of fees may result in a lien against the property.
 - (a) Prior to conducting such inspections, the Municipality shall inform the owner of its intent to conduct such inspections. The owner shall be given thirty (30) days to conduct required inspections and submit the required inspection reports to the Municipality.

(b) Right-of-Entry

- i. Upon presentation of proper credentials, duly authorized representatives of the Municipality may enter at reasonable times,

upon any property within the Municipality, to inspect the implementation, condition, or operations and maintenance of the stormwater BMPs in regard to any aspect governed by this Ordinance.

- ii. Stormwater BMP owners and operators shall allow persons working on behalf of the Municipality ready access to all parts of the premises for the purposes of determining compliance with this Ordinance.
- iii. Persons working on behalf of the Municipality shall have the right to temporarily locate on any stormwater BMP in the Municipality such devices, as are necessary, to conduct monitoring and / or sampling of the discharges from such stormwater BMP.
- iv. Unreasonable delay in allowing the Municipality access to a stormwater BMP is a violation of this Ordinance.

Section 509. Stormwater Management District Implementation Provisions (Performance Standards).

- 1. **District Boundaries** - The boundaries of the Stormwater Management Districts are shown on an official map, which is available for inspections at the municipal office. A copy of the official map at a reduced scale is included in the Mid-Dauphin Basins Act 167 Stormwater Management Plan. The exact location of the Stormwater Management District boundaries as they apply to a given development site shall be determined by mapping the boundaries using the two-foot topographic contours (or most accurate data required) provided as part of the Drainage Plan.
- 2. **Sites Located in More Than 1 District** - For a proposed development site located within two or more release category sub areas, the peak discharge rate from any sub area shall be the pre-development peak discharge for that sub area multiplied by the applicable release rate. The calculated peak discharges shall apply regardless of whether the grading plan changes the drainage area by sub area. An exception to the above may be granted if discharges from multiple sub areas re-combine in proximity to the site. In this case, peak discharge in any direction may be a 100% release rate provided that the overall site discharge meets the weighted average release rate.
- 3. **Off-Site Areas** - Off-site areas that drain through a proposed development site are not subject to release rate criteria when determining allowable peak runoff rates. However, on-site drainage facilities shall be designed to safely convey off-site flows through the development site.

4. **Site Areas** - Where the site area to be impacted by a proposed development activity differs significantly from the total site area, only the proposed impact area shall be subject to the release rate criteria.
5. **Regional Detention Alternatives** - For certain areas within the study area, it may be more cost-effective to provide one control facility for more than one development site than to provide an individual control facility for each development site. The initiative and funding for any regional runoff control alternatives are the responsibility of prospective developers. The design of any regional control basins must incorporate reasonable development of the entire upstream watershed. The peak outflow of a regional basin would be determined on a case-by-case basis using the hydrologic model of the watershed consistent with protection of the downstream watershed areas. "Hydrologic model" refers to the calibrated model as developed for the Stormwater Management Site Plan.

Section 510. Stormwater Management Design Criteria

1. Design Criteria for Stormwater Management & Drainage Facilities

a. General Design Guidelines:

- i. 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 rate discharge onto adjacent lands; or (3) easements from the affected landowner(s) are provided.
- ii. 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 confined in an easement or returned to a pre-development flow type condition.
- iii. The proposed storm water discharge at the perimeter of the site shall not be beyond the capacity of any existing storm water management facility into which it flows.
- iv. Innovative stormwater BMPs and recharge facilities are encouraged (e.g., rooftop storage, drywells, cisterns, recreation area and parking lot 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 PADEP, 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).

- v. All existing and natural watercourses, channels, drainage systems and areas of surface water concentration shall be maintained in their existing condition unless an alteration is approved by the appropriate regulatory agency.
- vi. No outlet structure from a stormwater management facility, or swale, shall discharge directly onto a Municipal or State roadway. Any stormwater facility located on state rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PennDOT).
- vii. The invert of all stormwater management facilities and underground infiltration/storage facilities shall be located a minimum of two (2) feet above the seasonal high groundwater table or other soil limiting zone. The invert of stormwater facilities may be lowered if adequate sub-surface drainage, which does not alter the existing water table level, is provided.
- viii. Any stormwater management facility may be required to be fenced with a minimum four (4) foot high fence of material acceptable to the Municipality. Gates with a minimum opening of ten (10) feet shall be provided for access.
- ix. Stormwater management facilities excavated to carbonate rock must either be fitted with an impervious clay liner, or over-excavated four (4) feet and refilled with a suitable material mix. Suitable backfill material is subject to the approval of the Municipal Engineer.
- x. The type, location, and number of landscaping and planting specification shall be provided for all stormwater management facilities and be specific for each type of facility.
- xi. The design of all stormwater management facilities shall incorporate sound engineering principles and practices. The Municipality shall reserve the right to disapprove any design that would result in the occupancy or continuation of an adverse hydrologic or hydraulic condition within the watershed.

- b. Stormwater Management Facilities (with a depth of water equal to or greater than 3 feet measured from the lowest point inside a facility to the crest of the emergency spillway):
- i. Any stormwater management facility designed to store runoff and requiring a berm or earthen embankment required or regulated by this ordinance, shall be designed to provide an emergency spillway to handle peak rate of stormwater runoff up to and including the 100-year post-development flow, with a blocked primary outlet structure. The height of embankment must be set as to provide a minimum one (1) foot of freeboard through the spillway, above the maximum water surface elevation, computed when the spillway functions for the 100-year post-development inflow, with a blocked outlet structure. The primary outflow structure must be designed to pass all design storms (up to and including the 100-year event) without discharging through the emergency spillway. Outlet structures shall be designed using any generally accepted hydraulic analysis technique or method. The maximum water depth within any stormwater management facility shall be no greater than eight (8) feet when functioning through the primary outlet structure. Should any stormwater management facility require a dam safety permit under PA DEP Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of Chapter 105 concerning dam safety which may be required to pass storms larger than 100-year event.
 - ii. Emergency spillways shall be armored to prevent erosion during the 100-year post-development flow, with blocked primary outlet structure. Synthetic liners or rip-rap may be used, and calculations sufficient to support proposed armor must be provided. An earthen plug must be used to accurately control the spillway invert if rip-rap is the proposed armoring material. Emergency spillway armor must extend up the sides of the spillway, and continue at full width to a minimum of ten (10) feet past the toe of slope.
 - iii. A stormwater management facility berm cross sections must be at least five (5) feet wide at the top, and eight (8) feet wide through the emergency spillway. For fill embankments, the side slopes shall be no steeper than 3:1 on the inside of the facility and 2:1 on the outside of the facility. For cut slopes, the side slopes shall be no steeper than 2:1.
 - iv. A cutoff and key trench of impervious material shall be provided under all embankments four (4) feet or greater in height.

- v. Soils used for the construction of stormwater management facilities shall have low-erodibility factors ("K" factors) (refer to E&S Manual) and be identified on the SWM Site Plan.
- vi. Trash racks must be provided to prevent clogging of primary outflow structure stages for all orifices equivalent to twelve (12) inches or smaller in diameter.
- vii. Anti-seep collars must be provided on all outflow culverts in accordance with the methodology contained in the latest edition of the E&S Manual. An increase in seepage length of 15 percent must be used in accordance with the requirements for permanent anti-seep collars.
- viii. Conventional, non-BMP stormwater management facilities (i.e. dry detention basins) must empty over a period of time not less than 24 hours and not more than 72 hours from the end of the facility's inflow hydrograph. Infiltration tests performed at the facility locations and proposed basin bottom depths, in accordance with the BMP Manual, must support time-to-empty calculations if infiltration is a factor in the sizing of the stormwater management facility.
- ix. Impervious low-flow channels are not permitted within stormwater management facilities to promote water quality and groundwater recharge for frequent storm events. Facilities designed as water quality / infiltration BMPs may have a bottom slope of zero. Minimal maintenance, saturation tolerant vegetation must be provided in basins designed as water quality / infiltration BMPs. Conventional, non-BMP stormwater management facilities must have a minimum slope of 1% extending radially out from the primary outlet structure. Water storage below the lowest outlet structure stage (i.e. dead storage) is permitted in stormwater management facilities designed as water quality / infiltration BMPs.
- x. Stormwater management facilities bottom elevations must be greater than adjacent floodplain elevations (FEMA or HEC-RAS analysis). If no floodplain is defined, bottom elevations must be higher than existing ground elevations fifty (50) feet from top of stream bank in the facilities vicinity.
- xi. Basin outflow culverts discharging into floodplains must account for tailwater. Tailwater corresponding to the 100-year floodplain elevation may be used for all design storms, or the Applicant may elect to determine flood elevations of the adjacent watercourse for each design storm. The floodplain is assumed to be fifty (50) feet

from top of stream bank in areas where a floodplain is not designated, or where no other evidence is provided.

- xii. Retention basins and/or detention basins shall be stabilized promptly.
- xiii. Retention basins and/or detention basins shall be designed and maintained to insure the design capacity after sedimentation has taken place.
- xiv. Exceptions to these requirements may be made at the discretion of the Municipality for BMPs that retain or detain water, but are of a much smaller scale than traditional stormwater management facilities.

c. Storm Sewer Facilities:

- i. Storm sewers must be able to convey post-development runoff from a ten (10) year design storm without surcharging inlets where appropriate. When connecting to an existing storm sewer system, the Applicant must demonstrate that the proposed system will not exacerbate any existing stormwater problems and that adequate downstream capacity exists.
- ii. Storm sewers that convey runoff to detention basins shall be analyzed to demonstrate that the 100-year runoff will be safely conveyed.
- iii. Any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls, or stream enclosures) and any work involving wetlands as directed in PA DEP Chapter 105 regulations (as amended or replaced from time to time by PA DEP), shall be designed in accordance with Chapter 105 and will require a permit from PA DEP. Any other drainage conveyance facility (e.g. culverts) that does not fall under Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, runoff from the 25-year design storm with a minimum 1.0 foot of freeboard measured below the lowest point along the top of the roadway. Roadway crossings located within designated floodplain areas must be able to convey runoff from a 100-year design storm with a minimum 1.0-foot of freeboard measured below the lowest point along the top of roadway. Any facility that constitutes a dam as defined in PA DEP Chapter 105 regulations may require a permit under dam safety regulations. Any facility located within a PA DOT right-of-way must meet PA DOT minimum design standards and permit submission requirements.

- iv. All piping used in the storm drainage system shall be corrugated plastic, corrugated metal, or reinforced concrete. A minimum pipe size of eighteen (18) inches in diameter shall be used in all roadway systems (public or private) proposed for construction. A minimum pipe size of twelve (12) inches in diameter for on-site surface drainage requirements is permitted on private facilities which receive no off-site drainage. Pipes shall be designed to provide a minimum velocity of two and one-half (2 1/2) feet per second when flowing full, but in all cases; the slope shall be no less than 0.5%. Arch pipe of equivalent cross-sectional area may be substituted in lieu of circular pipe where cover or utility conflict conditions exist.
- v. Curved pipes, tee joints, elbows, and wyes are prohibited except for pipes with at least a 36-inch diameter or height.
- vi. In proposed curbed roadway sections, the maximum encroachment of water on the roadway pavement shall not exceed half of a through travel lane or one (1) inch less than the depth of curb during the ten (10) year design storm of five (5) minute duration. Gutter depth shall be verified by inlet capture/capacity calculations that account for road slope and opening area. The maximum distance between inlets in curbed roadway sections shall be no more than 600 feet, however access to underground pipes shall be provided every 300 feet.
- vii. Manholes and inlets, when proposed, shall not be spaced 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.
- viii. Standard Type "C" inlets with 8" hoods shall be used along vertical concrete curbs roadway networks. Type "C" inlets with 10" hoods that provide a 2" sump condition may be used with approval of the Municipal Engineer when roadway longitudinal slopes are 1.0% or less.
- ix. For inlets containing a change in pipe size, the elevation for the crown of the pipes shall be the same or the smaller pipe's crown shall be at a higher elevation.
- x. All inlets shall provide a minimum 2" drop between the lowest inlet pipe invert elevation and the outlet pipe invert elevation.

- xi. On curbed sections, a double inlet shall be placed at the low point of sag vertical curves, or an inlet shall be placed at the low point and on each side of the low point at a distance not to exceed 100 feet, or at an elevation not to exceed 0.2 feet above the low point.
- xii. At all roadway low points, swales and easements shall be provided behind the curb or swale and through adjacent properties to channelize and direct any overflow of stormwater runoff away from dwellings and structures.
- xiii. Inlets shall be placed so drainage cannot cross intersections or street centerlines.
- xiv. All inlets in paved areas shall have heavy duty bicycle safe grating consistent with PennDOT Publication 72M. A note to this effect shall be added to the SWM Site Plan or inlet details therein.
- xv. Inlets must be sized to accept the specified pipe sizes without knocking out any of the inlet corners. All pipes entering or exiting inlets shall be cut flush with the inlet wall. A note to this effect shall be added to the SWM Site Plan or inlet details therein.
- xvi. Inlets shall have weep holes covered with geotextile fabric placed at appropriate elevations to completely drain the sub grade prior to placing the base and surface course on roadways.
- xvii. Inlets, junction boxes, or manholes greater than five (5) feet in depth shall be equipped with ladder rungs and shall be detailed on the SWM Site Plan.
- xviii. Inlets shall not have a sump condition in the bottom (unless designed as a water quality BMP). Pipes shall be flush with the bottom of the box or concrete channels shall be poured.
- xix. Inlets, manholes, pipes, and culverts shall be constructed in accordance with the specifications set forth in PennDOT's Publication 408, latest edition, and as detailed in the PennDOT's Publication 72M - Standards for Roadway Construction (RC), latest edition, or as approved by the Municipal Engineer. All material and construction details (inlets, manholes, pipe trenches, etc.), must be shown on the SWM Site Plan, and a note added that all construction must be in accordance with PennDOT's Publication 408 and PennDOT's Publication 72M, latest edition. A note shall be added to the plan stating that all frames, concrete top units, and grade adjustment rings shall be set in a bed of full mortar according to Publication 408.

- xx. Accessible drainage structures shall be located on continuous storm sewer system at all vertical dislocations, at all locations where a transition in storm sewer pipe sizing is required, at all vertical and horizontal angle points exceeding five (5) degrees, and at all points of convergence of two (2) or more storm sewer pipes.
 - xxi. All storm drainage piping (equal to or greater than 12") 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 PennDOT Publication 408 and Publication 72M.
 - xxii. Outlet protection shall be provided at all surface discharge points with storm drainage piping (equal to or greater than 12") in order to minimize erosion consistent with the E&S Manual.
 - xxiii. Pavement base drain shall be provided at all low point in cut areas, toe of slope areas, and other areas as dictated by proven engineering principles and design judgment. All base drain shall be in accordance with PennDOT Publication 408.
- d. **Swale Conveyance Facilities:**
- i. Swales must be able to convey post-development runoff from a 10-year design storm with six (6) inches of freeboard to top of the swale.
 - ii. Swales shall have side slopes no steeper than 3:1.
 - iii. All swales shall be designed, labeled on the SWM Site Plan, and details provided to adequately construct and maintain the design dimension of the swales.
 - iv. Swales shall be designed for stability using velocity or shear criteria. Velocity criteria may be used for channels with less than 10% slope. Shear criteria may be used for all swales. Documentation must be provided to support velocity and/or shear limitations used in calculations.
 - v. Grass lined channels shall be considered stable if the calculated velocity does not exceed the allowable velocities shown below:
 - (1) 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.

- (2) Four (4') feet per second where normal growing conditions exist and vegetation is to be established by seeding.
 - (3) 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.
 - (4) Six (6') feet per second where there exists a well established sod of good quality. These calculated grass lined channel flows may be exceeded if the designer can provide supportive design criteria as proof of erosions prevention.
- vi. Where swale bends occur, the computed velocities or shear stresses shall be multiplied by the following factor for the purpose of designing swale erosion protection:
- (1) 1.75 – When swale bend is 30 to 60 degrees
 - (2) 2.00 – When swale bend is 60 to 90 degrees
 - (3) 2.50 – When swale bend is 90 degrees or greater
- vii. Swales must be designed for both temporary and permanent conditions in accordance with the latest E&S Manual.
- viii. Water carrying facilities shall be stabilized promptly.

2. Calculation Methodology

- a. All calculations shall be consistent with the guidelines set forth in the BMP Manual.
- b. Stormwater runoff from all development sites shall be calculated using either the Rational Method or a Soil Cover Complex methodology. Methods shall be selected by the Qualified Professional based on the individual limitations and suitability of each method for a particular site.
 - i. Any stormwater runoff calculations involving drainage areas greater than 20 acres, including on- and off-site areas, shall use a generally accepted calculation technique that is based on the NRCS soil cover complex method. Table 510.2.b.1 summarizes acceptable computation methods. It is assumed that all methods will be selected by the design professional based on the individual

limitations and suitability of each method for a particular site. The Municipality may approve the use of the Rational Method to estimate peak discharges from drainage areas that contain less than 20 acres.

| TABLE 510.2.b.1 ACCEPTABLE COMPUTATION METHODOLOGIES FOR STORMWATER MANAGEMENT PLANS | | |
|---|---------------------------------|--|
| METHOD | METHOD DEVELOPED BY | APPLICABILITY |
| TR-20 or Commercial Package Based on TR-20 | USDA – NRCS | When use of full model is desirable or necessary |
| Tr-55 Or Commercial Package Based on TR-55 | USDA – NRCS | Applicable for plans within the models limitations |
| HEC - 1 | U.S. Army Corps of Engineers | When full model is desirable or necessary |
| PSRM | Penn State Univ. | When full model is desirable or necessary |
| Rational Method or Commercial Package based on Rational Method | Emil. Kuiching (1889) | For sites less than 20 acres |
| Other Methods | Various | As approved by the municipal engineer |

c. **Rainfall Values:**

- i. **Rational Method – The Pennsylvania Department of Transportation Drainage Manual, Intensity-Duration-Frequency Curves, Publication 584, Chapter 7A, latest edition, shall be used in conjunction with the appropriate time of concentration and return period.**
- ii. **Soil Cover Complex Method – The Soil Conservation Service Type II, 24-hour rainfall distribution shall be used in conjunction with rainfall depths from NOAA Atlas 14 or consistent with the following table:**

| Return Interval (Year) | 24-hour Rainfall Total (Inches) |
|-----------------------------------|--|
| 1 | 2.40 |
| 2 | 2.90 |

| | |
|-----|------|
| 10 | 4.36 |
| 25 | 5.43 |
| 50 | 6.38 |
| 100 | 7.48 |

d. Peak Flow Rates:

- i. Rational Method – May be used for drainage areas up to 20 acres. Extreme caution should be used by the Qualified Professional if the watershed has more than one main drainage channel, if the watershed is divided so that hydrologic properties are significantly different in one verses the other, if the time of concentration exceeds 60 minutes, or if stormwater runoff volume is an important factor. The combination of Rational Method hydrographs based on timing shall be prohibited.
 - (a) The use of the Modified Rational Method to design stormwater management facilities must be approved by the Municipal Engineer.
- ii. Soil Cover Complex Method – May be used for drainage areas greater than 20 acres. This method is recommended for design of stormwater management facilities and where stormwater runoff volume must be taken into consideration.
- iii. For comparison of peak flow rates, flows shall be rounded to a tenth of a cubic foot per second (cfs).

e. Runoff Coefficients:

- i. Rational Method – Use Table X-1 (Exhibit X).
- ii. Soil Cover Complex Method – Use Table X-2 (Exhibit X).
- iii. For the purposes of pre-development peak flow rate and volume determination, existing non-forested pervious areas conditions shall be considered as meadow (good condition).
- iv. For the purposes of pre-development peak flow rate and volume determination, twenty (20) percent of existing impervious area, when present on the project site, and contained within the new proposed limit of disturbance, shall be considered meadow (good condition) for pre-development hydrologic calculations for re-development.

f. Design Storm:

- i. All drainage facilities (inlets, pipes, and swales) shall be designed to safely convey the 10-year storm.
- ii. All stormwater management facilities shall be verified by routing the proposed 1-year, 2-year, 10-year, 25-year, 50-year, and 100-year hydrographs through the facility using the storage indication (Modified Puls) method. The design storm hydrograph shall be computed using a calculation method that produces a full hydrograph.
- iii. The stormwater management and drainage system shall be designed to safely convey the post-development 100-year storm event to stormwater detention facilities, for the purpose of meeting peak rate control.
- iv. All structures (culvert or bridges) proposed to convey runoff under a Municipal road shall be designed to pass the 50-year design storm with a minimum one (1) foot of freeboard measured below the lowest point along the top of the roadway.
- v. All design within State or Federal right-of-ways or that falls under the design criteria of any higher authority must meet the requirements of that agency in addition to meeting the minimum requirements of this Ordinance.

g. Time of Concentration:

- i. Time of concentration shall be computed using the NRCS Segmental Method as described in TR-55 (SCS 1986 or most current update). The length of sheet flow shall be limited to 100-feet. The Manning's "n" Roughness Coefficient for TR-55 sheet flow can be found in Table X-4 (Exhibit X). Time of concentration for channel and pipe flow shall be computed using Manning's equation.
- ii. For sites with insignificant channelized flow and less than 20% imperviousness coverage, the time of concentration may be computed using the NRCS equation for lag time:

Time of Concentration = $T_c = [(T_{lag}/.6) * 60]$ (minutes)

$$T_{lag} = L^{0.8} \frac{(S+1)^{0.7}}{1900\sqrt{Y}}$$

Where:

T_{lag} = Lag time (hours)

L = Hydraulic length of watershed (feet)

Y = Average overland slope of watershed (percent)

S = Maximum retention in watershed as defined by:

$$S = [(1000/CN) - 10]$$

CN = NRCS Curve Number for watershed as defined by the NRCS Loss Method

- iii. Additionally, the following provisions shall apply to calculations for time of concentration:
- (1) The post-development time of concentration shall never be greater than the pre-development time of concentration for any watershed or subwatershed.
 - (2) The minimum time of concentration for any watershed shall be five (5) minutes.
 - (3) The designer may choose to assume a five (5) minute time of concentration for any post-development watershed or subwatershed without providing any computations.
 - (4) The designer must provide computations for all pre-development time of concentration paths. A five (5) minute time of concentration cannot be assumed for pre-development.
 - (5) Undetained fringe areas (areas that are not tributary to a stormwater facility but where a reasonable effort has been made to convey runoff from all new impervious coverage to best management practices) may be assumed to represent the pre-development conditions for purpose of time of concentration calculations.
- h. Drainage areas tributary to sinkholes or closed depressions in areas underlain by limestone or carbonate geologic features shall be excluded from the modeled point of analysis defining pre-development flows. If left undisturbed during construction activities, areas draining to closed depressions may also be removed from peak runoff rates in the post-development analysis. New, additional contributing runoff shall not be directed to existing sinkholes or closed depressions.
- i. Where uniform flow is anticipated, the Manning's equation shall be used for hydraulic computations and to determine the capacity of open channels, pipes, and storm sewers. The Manning's equation shall not be used for analysis of pipes under pressure flow or for analysis of culverts.

Manning's "n" values shall be obtained from Table X-3 (Exhibit X). Inlet control shall be checked at all inlet boxes to ensure the headwater depth during the ten (10) year design event is contained below the top of grate for each inlet box.

- j. The Municipality may approve the use of any generally accepted full hydrograph approximation technique that shall use a total runoff volume that is consistent with the volume from a method that produces a full hydrograph.
- k. The Municipality has the authority to require that computed existing runoff rates be reconciled with field observations, conditions and site history. If the designer can substantiate, through actual physical calibration, that more appropriate runoff and time of concentration values should be utilized at a particular site, then appropriate variations may be made upon review and approval of the Municipality. Calibration shall require detailed gauge and rainfall data for the particular site in question.
- l. Compliance with Department of Environmental Protection (DEP) Chapter 105 Regulations: A DEP permit in accordance with Chapter 105 shall be required for any obstruction or encroachment in the regulated waters of the Commonwealth, prior to the approval of the final plan. All areas of the Township 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 on the DEP regulations shall govern.

Section 511. Riparian Buffer Standards

[RESERVED]

Section 512. Parking

- 1. Vehicular parking facilities shall be provided where land uses other than single-family detached residences are proposed. Parking facilities shall be designed according to the following provisions:
 - a. Parking Spaces shall be a minimum of ten (10) feet wide by eighteen (18) feet long.
 - b. Parallel parking spaces shall be a minimum of eight (8) feet wide by twenty-four (24) feet long.
 - c. Buffer planting shall be provided on lots which are adjacent to residential uses wherever more than five (5) parking spaces are required. The buffer yard shall be at least fifteen (15') feet in depth as measured from the

residential property line and extend along the entire limits of all adjacent residential use property lines.

- d. Horizontal curves in a parking area shall have a minimum radius of four (4') feet.
 - e. All dead end parking lots shall be designed to provide a sufficient back-up area for end stalls.
 - f. Painted lines, arrows and dividers shall be provided and maintained to control parking and, when necessary, to control vehicular circulation.
 - g. Parking areas, main entrances and exits that are open to the public shall be lighted so as to provide for safe ingress and egress without unnecessary glare.
 - h. Parking areas shall be provided with drainage facilities in accordance with the provisions of this Ordinance.
 - i. Parking areas shall provide ample room to allow for snow removal.
2. Landscape buffers may be accomplished by the placement of adequate buildings, a solid fence high enough to provide screening, and/or the provision, and maintenance, or solid planting in the form of contiguous shrubs. All buffers shall be at least ten (10') feet from any property line.
 3. No parking lot shall be located closer to a building than ten (10') feet to allow adequate room for landscaping.
 4. Parking facilities shall not be permitted within ten (10') feet of a side or rear property line, unless formal arrangements, satisfactory to the Board of Supervisors, have been made for the establishment of a common parking facility.
 5. Islands shall be provided between every ten (10) parking spaces or at the end of each parking row, whichever is less, for traffic flow control, and shall be the length of the parking spaces in the row and at least ten (10) feet in width.
 6. For any land use where the total number of parking spaces exceeds 100 stalls, the parking area shall be divided by continuous islands perpendicular to the spaces every four (4) rows of parking spaces and 2 aisles. These divider islands shall be a minimum of ten (10) feet wide.
 7. Landscaping shall be placed within the islands.
 8. Off-Street parking requirements for residential uses:

- a. Apartment houses and townhouse / condominium developments. The total number of parking or garage spaces shall be not less than 2.5 times the number of dwelling units in the building to allow for resident and visitor parking. A garage accessory to an apartment house shall provide only for the storage of vehicles of the owner, tenants and employees.
- b. Apartment units in combination with commercial uses shall provide parking spaces as required if both uses were established separately
- c. Boarding – and rooming houses, motels and bed-and-breakfast inns: at least one parking space for each guest room, plus one additional space for every two full-time employees. If a restaurant in connection with the above is open to the public, the off-street parking facilities shall be not less than those required for restaurants, in addition to those required for guest rooms.
- d. All other dwellings defined in this ordinance: two parking spaces for each dwelling unit.

9. Parking requirements for commercial uses.

- a. Beauty shops and barbershops: three parking spaces for each chair to be utilized in the business. If, however, the beauty shop or barbershop is legally part of a residence, two spaces for each chair, provided that there are two parking spaces for the residents.
- b. Bowling alleys: at least five spaces per bowling lane.
- c. Commercial kennels: one space per employee, plus three spaces for customer parking.
- d. Commercial recreation: one space per five seats or similar accommodation or one space per two lockers or similar accommodation, whichever yields the larger parking requirement.
- e. Commercial vehicles: Space shall be provided at the rear of each commercial or business building for the parking of commercial vehicles.
- f. Convenience stores: one space for every 100 square feet of gross floor area, plus one space for every employee on the largest shift.
- g. Dance halls, roller rinks, clubs, lodges and other similar places: at least one parking space for each 100 square feet of floor area.
- h. Department/variety stores: not less than one parking space per every 200 square feet of floor area or fraction thereof.

- i. Restaurants, fast-food or similar establishments: at least one space for each 50 square feet of building floor area.
- j. Restaurants, taverns, and bars, sit-down: at least one parking space for each four customer seats, plus one additional space for every two full-time employees.
- k. Restaurants, take-out: at least one space for each 100 square feet of building floor area.
- l. Food stores and pharmacies: at least one space for every 200 square feet of floor area devoted to the sale or display of merchandise, office use and employee use.
- m. Medical, dental and veterinary offices and clinics: at least four parking spaces per practitioner.
- n. Mortuaries, funeral homes and undertaking establishments: at least one parking space for each three seats for public use. Such space shall be in addition to employee parking needs and service area for mobile equipment, such as hearses and ambulances.
- o. Office buildings: at least one parking space for each 200 square feet of floor area or fraction thereof.
- p. Open areas used for commercial purpose: at least one parking space for each 1,500 square feet of area or fraction thereof.
- q. Personal service establishments (not otherwise provided for): one space for each 100 square feet of floor area or fraction thereof devoted to such use, plus one space per employee.
- r. Retail stores: at least one parking space for each 200 square feet of floor area, exclusive of areas not used for sale or display of merchandise.
- s. Self-service laundries: one space per every 1.5 washing machines.
- t. Shopping centers/malls: not less than 5.5 parking spaces per every 1,000 square feet of floor area, or fraction thereof, except that convenience stores and all restaurants shall be required to calculate required off-street parking spaces independent of the overall shopping center/mall.
- u. Motor vehicle sales and service or motor vehicle body shops and repair garages: at least one parking space for each 100 square feet of floor area

devoted to sales, repairs or service facilities, in addition to display and storage spaces.

- v. **Motor vehicle service station:** at least one parking space for every three service bays, plus one parking space for every two fuel pumps, or fraction thereof. In no case shall there be fewer than five parking spaces provided.
- w. **Motor vehicle washes:** no less than four spaces per wash lane.
- x. **All other commercial uses:** one space per employee, plus such space as may be determined by the Township on a case-by-case basis.

10. Parking requirements for industrial uses:

- a. **Bus and trucking terminals:** sufficient parking to accommodate employees and visitors, subject to the approval of the Township.
- b. **Manufacturing, printing or publishing and other industrial establishments:** at least one parking space for each two employees on the largest shift or each 500 square feet of floor area, whichever is greater.
- c. **Wholesale sales, storage or distribution:** at least one space for each 1,000 square feet of sales and storage area or each two employees working on the largest shift.
- d. **In addition to all of the above minimum requirements, additional spaces for visitor parking and salesmen provided according to the specific requirements of each use.**

11. Parking requirements for public and quasi-public uses.

- a. **Day-care centers and nursery schools:** one space per employee, plus three spaces for a drop-off area.
- b. **Elementary schools:** 2.5 spaces for each classroom, plus one space for each five seats in any auditorium or other place of public assembly.
- c. **Golf course/facility:** at least eight parking spaces for each tee, plus one space for each employee on the largest shift, plus 100% of the spaces normally required for accessory uses.
- d. **Golf driving range:** at least one parking space per tee, plus one space per employee.

- e. Hospitals, nursing or convalescent homes: for visitors at the rate of at least one parking space for each three accommodations (beds) for patients, plus one space for each employee on largest shift.
- f. Miniature golf course: at least two parking spaces per hole, plus one space per employee.
- g. Secondary schools and similar educational establishments: four spaces for each classroom, plus one space for each five seats in any auditorium or other place of public assembly.
- h. Swimming pools: where a swimming pool is the principal use, at least one parking space for each four persons based upon the designed capacity of the pool.
- i. Theaters, auditoriums (excluding schools), places of worship, stadiums or any other place of public or private assembly: at least one parking space for each three seats or 200 square feet of floor space provided for public or private assembly, whichever is greater.

12. Location of Parking Spaces

- a. Parking spaces for multiple dwelling buildings, commercial or industrial uses shall be on the same lot as the principal building or open area conforming to the following regulations, unless the applicant meets the requirements below for Joint Parking Facilities.
- b. The required parking spaces, except for college and universities, shall be suitable within 600' feet of the principal building or open space. Such spaces shall be in the same ownership as the principal use to which they are accessory and shall be subject to deed restrictions acceptable to the Township binding the owner and heirs or assigns to maintain the required number of parking spaces throughout the life of the principal use.

13. Joint Parking Facilities

Joint parking facilities shall be allowed subject to the following requirements:

- a. The nearest point of the parking lot shall be no further distance to the nearest point of the property served as provided below:
 - i. Residential use: One hundred (100) feet.
 - ii. Commercial use: Two hundred (200) feet.
 - iii. Industrial use: Three hundred (300) feet.

b. The required parking shall not be less than the total required separately for each use with the following exceptions:

i. It shall be demonstrated that the uses jointly utilizing the parking facility are utilizing the parking facility at different periods of the day or different days of the week. A reduction may be granted for the total number of parking spaces needed, requiring only the number of spaces needed based on the one use of the facility requiring the most spaces.

ii. An agreement for the joint use of a parking facility shall be recorded as a deed restriction, irrevocable license, easement or other recordable document in a form satisfactory to the Township (municipality) solicitor filed in the Dauphin County Courthouse in the chain of title of the land to be burdened in perpetuity or for a period to extend throughout the life of the use requiring the maintenance of the required number of spaces.

Section 513. Landscaping Standards

1. All areas not occupied by buildings, structures or impervious surfaces shall be landscaped in accordance with this section for any use of Land that is Commercial or Industrial or within a Mobile / Manufactured Home Park.

2. Standards for screening in buffer yards.

a. Installation and minimum size requirements for buffer yard screens. All plant material must comply and conform to the code of standards set forth and cited in the latest edition by the American Standard Nursery Stock, ANSI Z60.1-2004,, as amended and meet the following requirements:

i. Minimum plant sizes for all landscape material at the time of planting:

(1) Shade Trees: 2-inch – 2½ inch caliper.

(2) Evergreen Trees: 6-foot minimum height.

(3) Ornamental Trees: 1½ inch – 2-inch caliper or 8 feet – 10 feet height.

(4) Deciduous Shrubs: 24-inch – 30-inch height.

(5) Evergreen Shrubs: 24-inch – 30-inch height.

ii. Bare root trees are not permitted.

- iii. No plant material within buffer yards will be permitted in situations where it may inhibit sight distance, conflict with the circulation and safety of pedestrians or create potential maintenance problems.
- iv. Buffer plantings shall not only be of evergreen plant species. A collective landscape design approach must be used to mix and combine a variety deciduous shade and ornamental trees and deciduous and evergreen shrubs.

3. Substitutions. Substitutions of required landscaping may be made as follows:

- a. Two ornamental trees may be substituted for one shade tree.
- b. Two evergreen trees may be substituted for one shade tree.
- c. Ten deciduous or evergreen shrubs may be substituted for one shade tree.
- d. Existing wooded areas may meet the criteria of the requirements of a buffer yard with the following condition:
 - i. The existing wooded area encompasses the entire required width of the buffer yard.
 - ii. The existing wooded area is comprised mainly of acceptable plant species as described in the sections of Native Plant Species and Recommended Plan Species Lists.
 - iii. The existing wooded areas provide a buffer equal to or better than the required buffer when mature.
- e. Decorative fencing, walls and earthen berms of adequate height may be substituted for a portion of the landscaping at the discretion of the Board of Supervisors.

4. Standards for buffer yards and screening

- a. One shade tree per 40 linear feet and one evergreen tree per 30 linear feet of buffer yard screen and one deciduous or evergreen shrub per 20 linear feet of buffer yard screen. At least 60% of shrub plantings shall be of the evergreen type
 - i. All screening materials and landscaping shall not encroach upon the adjoining property line at full maturity.

- ii. Landscaping shall be a combination of shade trees, ornamental trees, evergreen trees, deciduous shrubs, evergreen shrubs and ground covers.
- iii. All loading and service areas shall meet the following screening requirements when adjacent to a residential use: one shade tree per 60 linear feet and one evergreen per 10 linear feet of visible loading and service area.
- iv. All dumpsters, transformers, fuel storage tanks and unsightly utilities shall meet the following screening requirements regardless of location: one shade tree per 40 linear feet and one evergreen tree per five linear feet of visibility. In addition, all trash disposal areas shall be effectively screened with no less than a six-foot solid fence so as not to be visible from parking areas, roadways or adjacent properties
- v. Existing acceptable vegetation should be retained when feasible. Credit may be applied to required perimeter landscape plantings if the existing trees can be maintained and are of acceptable size and health.
- vi. Screening of stormwater management facilities shall be in accordance with the following standards:
 - (1) Landscape buffering and screening techniques shall be required for stormwater management facilities that are adjacent to dissimilar adjoining properties and public and private roads.
 - (2) The stormwater management screening and buffering shall not be applied to fulfill any other of the required landscape buffering requirements of the site.
 - (3) If stormwater facilities and ponds are required to provide fencing, the required fencing cannot be credited towards stormwater facility landscape requirements.
 - (4) When fences abut public or private roads or dissimilar land uses, the proposed plantings shall be on the exterior of the fence, facing adjacent roadways and properties.
 - (5) Stormwater management buffering and screening requirements may be exempt if they are not adjacent to dissimilar uses. When stormwater facilities adjoin or are adjacent to residential areas or

public roadways, the required screening shall be in compliance with buffer yard requirements listed above.

- (6) The means in which to quantify required plant material will be measured from the top of the dam elevation in linear feet.
- (7) Plant material shall not be permitted in fill areas which may compromise the structural integrity of the stormwater management facility. This restriction shall not supersede the required landscape screening and buffering requirements.
- (8) The required plant material shall be of native vegetation or an acceptable equivalent site-tolerant plant type in accordance with the Halifax Township Subdivision and Land Development Ordinance.
- (9) The proposed plant material and landscaping requirements for the stormwater management facility shall be designed in a manner that will minimize excessive maintenance.
- (10) If the side slopes of the stormwater facility are too steep (3:1 slope or greater) to mow and maintain, it is recommended that they be planted with acceptable ground covers which do not require excessive mowing.
- (11) The proposed required landscape shall not encroach or impede the ability to access and maintain the stormwater facility. Woody vegetation that includes deciduous evergreen trees and shrubs shall not be on the embankments or within 50 feet of an inlet structure, standpipe or drainageway. Proposed vegetation that has excessive leaf and seed litter will not be permitted.
- (12) Existing acceptable vegetation should be retained around the proposed stormwater management facility when feasible. Credit may be applied to required perimeter landscape plantings if the existing trees can be maintained and are of acceptable size and health.

5. Standards for Street Trees.

- a. Street trees shall be required based on the type of street.
 - i. For arterial streets as defined herein one street tree shall be provided for every 40 linear feet along the road frontage with the exception of commercial and industrial uses in which case one

street tree shall be provided every 30 linear feet along the road frontage.

- ii. For collector streets as defined herein one street tree shall be provided for every 40 linear feet along the road frontage with the exception that one street tree shall be provided for single-family residential uses every 50 linear feet and for industrial uses every 30 linear feet.
 - iii. For minor streets or cul-de-sacs defined herein one street tree shall be provided for every 40 feet with the exception that single-family residential uses shall provide the one street tree every 50 linear feet.
- b. **Design Guidelines.** The following design guidelines shall be met unless otherwise stipulated in this Chapter.
- i. Street trees shall be planted no closer than 30 feet on center for each side of the street.
 - ii. If the distance between curb and sidewalk is six feet or greater the proposed street tree shall be centered between the face of curb and the sidewalk.
 - iii. If sidewalks are not required, street trees shall be planted six feet from the back of curb or the edge of proposed or existing road.
 - iv. The location of street trees shall not be planted within clear sight triangles of access drives or intersections.
 - v. Street trees shall not be planted within 10 feet from any storm drain inlet, accessible manhole or utility structure.
- c. **Credit for Preservation of Existing Trees.**
- i. A credit of two shade trees can be applied to the required landscaping for each existing tree that is at least eight inches in caliper and is within the required buffer yard.
 - ii. All existing trees must be healthy, vigorous, in good form and preserved within the net buildable/developable area.
 - iii. The existing trees must also be able to tolerate any induced stresses and changes caused by the proposed development for a one-year period after construction is completed.

- iv. Existing trees with an eight-inch or greater caliper considered for preservation shall be measured 12 inches above the existing grade.
 - v. Existing trees considered for preservation will be field-marked by the owner/developer and protected from construction activities in an acceptable and appropriate manner.
 - vi. Existing trees considered for preservation within the developable area shall remain undisturbed and encircled with an acceptable fence for protection.
 - vii. The diameter of the undisturbed area shall extend to the drip line of the tree or by one foot of undisturbed area per inch of the tree caliper measured 12 inches up from the existing grade. The tree can be preserved if at least 2/3 of designated area can remain undisturbed.
 - viii. Impervious or construction material shall not be placed under the drip line or the designated tree protection fenced area.
 - ix. If existing trees that meet the preservation criteria cannot be saved successfully and die within a one-year period after completion of the project, the owner/developer shall be responsible to replace the existing tree with the required landscaping.
- d. **Landscape Surety.**
- i. When buffer yards and street trees are required, a required cost estimate shall be submitted showing the landscape requirements which shall include itemized costs of the required landscaping or acceptable screening techniques.
 - ii. Upon approval of the cost estimate by Halifax Township and the Township Engineer, the owner/developer shall enter into a written agreement with the Township to guarantee the required plant materials, landscaping, fencing and walls are correctly provided and installed according to the approved plan.
 - iii. No surety will be required for the preservation of existing trees that are credited towards the required landscaping. The owner/developer's agreement with the Township shall be accompanied by a letter of credit, cash deposit or certified check in the amount of the approved cost estimate as acceptable to Halifax Township.

- iv. The required landscaping must be installed within two years of the date of the acceptance and execution of the agreement. Failure to install and complete the required landscaping in a timely fashion in accordance with the agreement will result in the forfeit of the total amount of the approved surety. The surety shall be retained for a one year period after the installation of the landscaping in order to ensure that any replacement of dead or damaged plant material is executed.
 - v. In order to obtain a full release of the surety, the professional responsible for preparing the cost estimate must submit a written certification to Halifax Township. The written certification will state that all required landscaping was installed and that it is in accordance with the approved plan and that a one-year guarantee has been executed.
- e. Maintenance and Guarantee.
- i. The owner/developer shall be responsible for maintenance of the required landscaping during all construction activity of the land development project. The owner/developer shall also be responsible for obtaining a one-year guarantee that ensures that all required plant material will remain in vigorous good health for at least one year from the date of the developer's agreement. If plant material should die prior to the one-year period, the owner/developer shall be responsible for replacing all affected plant material within one year following the date of the agreement.
 - ii. The required landscape responsibilities of the owner/developer shall include but not be limited to watering, mowing, pruning, weeding, fertilizing and other maintenance techniques necessary to ensure the health and long-term survival of the plan material. The required landscaping shall be maintained and, if need be, replaced with original plant species or acceptable equivalent, in order to remain in compliance with current landscape regulations.
- f. Recommended plant species for landscape screens.
- i. Medium-to-large shade trees:

| | |
|-----------------------|----------------|
| Acer rubrum | Red maple |
| Betula alleghaniensis | Yellow birch |
| Betula lenta | Black birch |
| Betula nigra | River birch |
| Fagus grandifolia | American beech |
| Fraxinus americana | White ash |

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|--------------------------------|--------------------|
| <i>Fraxinus pennsylvanica</i> | Green ash |
| <i>Liriodendron tulipifera</i> | Tulip poplar |
| <i>Nyssa sylvatica</i> | Black gum |
| <i>Pinus strobes</i> | Eastern white pine |
| <i>Platanus occidentalis</i> | Sycamore |
| <i>Quercus alba</i> | White oak |
| <i>Quercus montana</i> | Chestnut oak |
| <i>Quercus palustris</i> | Pin oak |
| <i>Quercus rubra</i> | Red oak |
| <i>Sassafras albidum</i> | Sassafras |
| <i>Tilia americana</i> | Basswood |
| <i>Tsuga canadensis</i> | Canadian hemlock |

ii. Small trees and shrubs:

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|-------------------------------------|----------------------------|
| <i>Alnus serrulata</i> | Smooth alder |
| <i>Amelanchier arborea</i> | Serviceberry |
| <i>Aronia melanocarpa</i> | Black chokeberry |
| <i>Ceanothus americanus</i> | New Jersey tea |
| <i>Cephalanthus occidentalis</i> | Buttonbush |
| <i>Cercis canadensis</i> | Redbud |
| <i>Cornus alternifolia</i> | Alternative-leaved dogwood |
| <i>Cornus amonum</i> | Silky dogwood |
| <i>Cornus florida</i> | Flowering dogwood |
| <i>Hamamelis virginiana</i> | Witch hazel |
| <i>Hydrangea arborescens</i> | Wild hydrangea |
| <i>Ilex verticillata</i> | Winterberry |
| <i>Kalmia latifolia</i> | Mountain laurel |
| <i>Lindera benzoin</i> | Spicebush |
| <i>Physocarpus opulifolius</i> | Ninebark |
| <i>Prunus americana</i> | Wild plum |
| <i>Rhododendron maximum</i> | Rosebay |
| <i>Rhododendron periclymenoides</i> | Pinxter flower |
| <i>Salix nigra</i> | Black willow |
| <i>Salix sericea</i> | Silky willow |
| <i>Sanbucus canadensis</i> | Elderberry |

| | |
|------------------------------------|-----------------------|
| <i>Vaccinium angustifolium</i> | Lowbush blueberry |
| <i>Vaccinium corymbosum</i> | Highbush blueberry |
| <i>Viburnum acerifolium</i> | Maple-leaved viburnum |
| <i>Viburnum recognitum</i> | Arrowwood |
| <i>Parthenocissus quinquefolia</i> | Virginia creeper |

g. The following plants CANNOT be used because they are on the Pennsylvania Invasive Plant List.

i. Trees:

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|----------------------------|----------------|
| <i>Ailanthus altissima</i> | Tree of Heaven |
| <i>Ulmus pumila</i> | Siberian elm |

ii. Shrubs:

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|--|-----------------------|
| <i>Elaeagnus umbellata</i> | Autumn olive |
| <i>Lonicera maackii</i> | Amur honeysuckle |
| <i>Lonicera morrowii</i> | Morrow's honeysuckle |
| <i>Lonicera standishii</i> | Standish honeysuckle |
| <i>Lonicera tatarica</i> | Tartarian honeysuckle |
| <i>Rosa multiflora</i> | Multiflora rose |
| <i>Berberis vulgaris</i> | European barberry |
| <i>Elaeagnus angustifolia</i> | Russian olive |
| <i>Ligustrum obtusifolium</i> | Border privet |
| <i>Ligustrum vulgare</i> | Common privet |
| <i>Lonicera morrowii</i> x <i>tatarica</i> | Bell's honeysuckle |
| <i>Rhamnus catharticus</i> | Common buckthorn |
| <i>Rhamnus frangula</i> | Glossy buckthorn |
| <i>Rubus phoenicolasius</i> | Wineberry |

ARTICLE VI

IMPROVEMENTS AND CONSTRUCTION REQUIREMENTS

Section 601. Improvements Required.

The Applicant shall provide all improvements required by these regulations. The specifications for the improvements contained herein, the engineering specifications ordinance of the Township, or applicable state agency rules and regulations, shall apply.

Section 602. Monuments and Markers.

1. Monuments and / or markers must be set at a minimum of three locations, two of which shall be in the front of the lot, as shown on the plan.
2. Monuments and / or markers must be placed at the intersection of all perimeter boundary lines of the proposed subdivision, before the Final Plan is submitted to the Board of Supervisors for final review.
3. Monuments and markers shall be the following sizes and made of the following materials:
 - a. Monuments shall be four (4") 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.
 - b. Markers shall be three quarters (3/4") of an inch square or three quarters (3/4") of an inch in diameter and fifteen (15") inches long. Markers shall be made of iron pipes or iron or steel bars.
4. Monuments and markers must be placed 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.
5. In locations to be affected by street construction and final grading operations, the permanent monuments must be established prior to final acceptance by the Township of the proposed roadway within the subdivision.
6. Removal – Any monuments or markers that are removed must be replaced by a Registered Surveyor at the expense of the Developer and/or Owner.

Section 603. Street Construction.

1. Pavements and Construction.

Streets shall be designed in accordance with Article V herein and shall be surfaced to the grades with dimensions drawn on the plans, profiles, and cross-sections submitted by the Applicant and approved by the Board of Supervisors. Before paving the street surface, the Applicant shall install the required utilities and provide, where necessary, adequate underdrains and stormwater drainage for the streets, as acceptable to the Board of Supervisors and Township Engineer. The pavement base and wearing surface must be constructed according to the following specifications and as outlined in Table 1, Section 502 entitled "Streets, Driveways, and Service Drives," herein.

a. Specifications.

All materials shall conform to PennDOT Publication 408, latest edition, or PennDOT's Seldom Used Specifications.

b. Inspection.

The Township Engineer or his representative must inspect each phase of pavement construction before subsequent courses are placed. That is,

Subgrade
Base Course
Binder Course
Wearing Course

c. Underdrain.

- i. Underdrains or combination storm sewer and underdrain shall be constructed where required by the Township Engineer.**
- ii. Underdrain shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, as amended, and as detailed on the Roadway Construction Standard Drawings (RC-30).**
- iii. Underdrain shall be installed and inspected by the Township Engineer or his designated agent after completion of all work, just prior to the base course application.**

d. **Handicapped Accessibility.**

Unless waived by the Board of Supervisors, intersection curb shall be provided where sidewalks and curbs are required in accordance with ADA Standards in effect at the time of Application.

Section 604. Sewer and Water Systems.

1. Sewer Systems.

- a. Where a public sanitary sewerage 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 sewerage system. Where a public sanitary sewerage system does not currently exist within one thousand (1,000') feet of the development site, but in the opinion of the Board of Supervisors will become available within five (5) years, the Applicant shall install a complete sanitary sewerage system within the development. A complete sanitary sewerage system shall include, but not limited to, a collector main installed in the street or approved right-of-way, lateral installations to the rights-of-way lines of streets, lot or parcel property lines or sewer easement rights-of-way lines, whichever pertains to the individual situation. 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 sewer system. The system shall be designed by a Registered Engineer and approved by the Township Engineer. The Township Engineer shall inspect construction of all sanitary sewers to assure that said sewers will coordinate and have congruity with the Township's overall comprehensive plan. All sewage pumping stations, interceptors and treatment plants to be installed by the Applicant at the Applicant's expense shall be reviewed and approved by the Township Engineer, who shall inspect the construction thereof.
- b. If the subdivision borders the system, mandatory connection to the sewer system is required. Section A is not applicable for Minor subdivision.
- c. When a public sanitary sewerage system is installed and capped by the Applicant, the Applicant may also install on-site sewage disposal facilities provided that the system is designed to provide connection to the public sewer when it becomes operable.
- d. Design, approval of design, supervision and inspection fees for services rendered on behalf of the Applicant by the Township Engineer shall be paid by the Applicant in accordance with the fee schedule approved by the Board of Supervisors and made a part of this Ordinance by reference thereto, which schedule shall be available for review by any Applicant, at

the Township Office. Said fee schedule shall be amended from time to time by Resolution of the Board of Supervisors.

- e. Where installation of a public sanitary sewerage system is not required, the Applicant shall provide for each lot, at the time improvements are erected thereon, a private sewage disposal system consisting of a septic tank and tile absorption field or other approved sewage disposal system and constructed in accordance with the "Rules and Regulations of the Pennsylvania Department of Environmental Protection."

In addition to the primary site on a lot to be utilized for on-lot sewage disposal the Applicant/Developer shall provide for an alternate site on the lot, found suitable by the Township Sewage Enforcement Officer through proper testing.

- f. All fees for permits shall be at the Applicant expense.

2. Water Systems.

- a. The Applicant shall provide an adequate and potable water supply and distribution system to service the proposed subdivision or land development through one of the following methods listed in their orders of preference.
 - i. Connection to a public water supply system where such a system is within 1,000 feet of the proposed development site and where the capacity of such a system can adequately fulfill the water supply demands of the proposed development, including fire protection. A distribution system shall be designed to furnish an adequate supply of water to each lot. A copy of the approval of such a system by the appropriate public authority or utility company shall be submitted with the final plan.
 - ii. Individual On-Lot Wells or Community Water System.
 - (1) In subdivisions or land developments proposing to utilize individual on-lot wells or a community water supply, the Applicant shall drill and test the well(s) and have a report prepared on the quantity and quality of ground water at the site.
 - (2) The contents of the report or study of the proposed community water system shall include those specific items as described in the Public Water Supply Manual of the Pennsylvania Department of Environmental Protection (DEP). Where the water supply system occurs 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.

- (3) Locations of failed and acceptable wells shall be noted on the recorded plan.
- iii. Construction of wells for individual small water supplies shall conform to DEP's Construction Standards for Individual Water Supplies, as revised.

Section 605. Storm Sewers.

Whenever the evidence available to the Board of Supervisors, Township Engineer, or by recommendation by the Planning Commission indicates that natural surface drainage is inadequate, the Applicant shall install a storm water sewer system that meets the design criteria and improvement specifications set forth in Section 508 and 510 of this Ordinance. The system shall be designed by a Registered Engineer and be approved by the Township Engineer in accordance with the guidelines and specifications of Section 508 and 510.

Section 606. Curbs and Gutters.

The Board of Supervisors, upon review and reporting by the Township Engineer, may require installation of curbs and/or gutters in any subdivision or land development where the bulk of buildings, area of parking, roads, and the gradient of such areas or other evidence indicates that such improvements are necessary for proper drainage and/or protection of the roadway. The Board of Supervisors may waive the requirements of curbs and/or gutters through the modification of requirements procedure set forth in ARTICLE IX, "Modifications" of this Ordinance.

1. Curbs and gutters, shall be constructed in accordance with the specifications as set forth in the current edition of the Pennsylvania Department of Transportation, Publication 408, as amended, and as detailed on the Roadway Construction Standard Drawing (RC-64).
2. Curbs and gutters shall be set and finished to the line and grade given on the approved drawings.
3. When curbing is to be removed to construct a driveway, the removal shall be done on the complete curb section. The length of curbing to be removed shall be carried to the nearest expansion joint or saw cut if the joint is located more than five (5') feet from the end of the curb removal. Curb replacement shall be formed and shaped to the required driveway width. The driveway shall be depressed to a height of one (1") inch above the finished paving grade.

4. Curbs shall be inspected by the Township Engineer or his designated agent after the forms have been placed, just prior to the pouring of concrete and after completion of all work.

Section 607. Sidewalks.

The Board of Supervisors, upon recommendation of the Planning Commission and/or Township Engineer may require installation of sidewalks. The Board of Supervisors, upon recommendations of the Planning Commission and the Township Engineer, may waive the requirements of sidewalks through the alteration of requirements procedures set forth in ARTICLE IX of this Ordinance.

1. In order to provide for the drainage of surface water, sidewalks shall slope from the right-of-way line toward the curb. The sidewalk slope shall be a minimum of one-quarter (1/4") inch per foot and a maximum of three-eighths (3/8") inch per foot.
2. Sidewalks shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, as amended.
3. Four (4") inches of AASHTO #57 coarse aggregate shall be placed under all sidewalks.
4. Sidewalks shall be within the right-of-way of the street and shall extend in width from the right-of-way line toward the curb line.
5. Sidewalks shall be at least four (4') feet wide, or as otherwise recommended by the Planning Commission or Township Engineer.
6. Where a sidewalk abuts a curb, wall, building or any other structure, a pre-molded expansion joint one-quarter (1/4") inch of thickness, shall be placed between the sidewalk and said structure of the full length of said structure.
7. Sidewalks shall be inspected by the Township Engineer or his designated agent after the forms have been placed, just prior to the pouring of concrete and after completion of all work.

Section 608. Fire Protection.

Whenever a public or community water system is provided, fire hydrants suitable for the coupling of equipment serving the Township shall be installed as specified by the Insurance Services Office of Pennsylvania and the local fire companies. Location of hydrants shall be approved by the Township.

1. Generally, all fire hydrants will be located on an eight (8") inch line or a looped (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 be an eight (8") inch minimum diameter.

2. 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.
3. All community water systems must provide a minimum of 500 GPM at a residual pressure of 20 psi for a two (2) hour period.
4. For additional fire protection, a fire truck access to a dry hydrant may be required to be incorporated into new developments with existing and/or proposed water sources.
5. Hydrants shall be located in a manner to provide complete accessibility and such that the possibility of damage from vehicles or injury to pedestrians will be minimized. The hydrant barrel shall be set such that no portion of the hose nozzle cap will be less than twenty-four (24") inches from the gutter face of the curb. When set in the lawn space between the curb and the sidewalk or between the curb and the property line, no portion of the hydrant or nozzle cap shall be within six (6") inches of the sidewalk.

Section 609. Natural Features Preservation.

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 Township. These natural features include: the natural terrain of the site, woodland areas, large trees, natural watercourses and bodies of water, wetlands, rock outcropping and scenic views.

1. Lake, Stream, and River Frontage Preservation
 - a. A maintenance easement for the Township or its designee, with a minimum width of twenty-five (25') feet, shall be provided along all stream and river banks and lake edges. Such easement, in all cases, shall be of sufficient width to provide proper maintenance.
 - b. Lake, stream, stabilizing vegetation and river frontage shall be preserved as open space whenever possible.
 - c. Access shall be provided to the water and maintenance easement area. The width of such access points shall not be less than fifty (50') feet.

Section 610. Street Signs.

All subdivisions and/or land developments shall provide street signs including but not limited to: street identification signs at all intersections, directional, regulatory and informational signs. All signs shall conform to Pennsylvania Department of Transportation standards.

Section 611. Utility Lines.

All electric, telephone, and other utility service lines, including street lighting, shall be placed underground within any subdivision or land development in accordance with the design guidelines and requirements of this Ordinance.

ARTICLE VII

MOBILE / MANUFACTURED HOME PARK REGULATIONS

Section 701. Grant of Power.

The governing body of each municipality may regulate subdivision and land development within the municipality by enacting a subdivision and land development ordinance. Provisions regulating Mobile / Manufactured Home Parks shall be set forth in separate and distinct articles of any subdivision and land development ordinance adopted pursuant to the "Pennsylvania Municipalities Planning Code," Act 247, as amended, Article V, Section 501.

Section 702. Purpose, Authority and Jurisdiction.

The purpose, authority and jurisdiction for a Mobile / Manufactured Home Park as a land development are the same as those contained in ARTICLE II of this Ordinance.

Section 703. Plat Requirements and Processing Procedure.

The plat requirements and processing procedure for a mobile / manufactured home park as a land development shall be in accordance with the requirements contained in ARTICLE IV, Sections 401, 402, 403, 404, 405, 406, and 407 of this Ordinance.

Section 704. Design Standards and Other Requirements.

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 V herein except as otherwise specified in this Article VII, (the Halifax Township Mobile / Manufactured Home Ordinance), as amended.

1. Site-Location and Design Standards:

a. Layout of Mobile / Manufactured Home Lots

- i. All Mobile / manufactured Home Lots shall abut a street. Side lot lines laid out in rectangular blocks shall be diagonal to the street at an angle of 30 degrees from perpendicular. Front and rear lot lines in rectangular blocks shall be straight and continuous.
- ii. In cul-de-sac arrangements, the side lot lines shall be radial to the street lines.

b. Mobile / Manufactured Home Lot Dimensions:

The lot size shall be not less than fifty (50) feet wide at the building setback line for interior lots, nor less than 5,000 square feet in area for all lots. In addition, each mobile / manufactured home lot size shall:

- i. Fit dimensions of mobile / manufactured homes anticipated; and
- ii. Provide for mobile / manufactured home appurtenant structures and appendages.

c. **Corner Mobile / Manufactured Home Lots:**

Corner lots for mobile / manufactured home use shall have the mobile / manufactured home situated to permit appropriate building set back from both streets and allow proper sight distance.

d. **Building Setback Lines:**

The minimum setbacks from each Mobile / manufactured Home lot line shall be as follows:

- i. Park boundary property line – 20 feet.
- ii. Front yard – 20 feet.
- iii. Side yard – 15 feet.
- iv. Rear yard – 15 feet.

e. **Buffer Strips and Screening**

A Mobile / Manufactured Home Park shall comply with Section 513.

2. **Mobile / Manufactured Home Park Street System.**

a. **General Requirements:**

A safe and convenient vehicular access shall be provided from abutting public streets or roads. Streets shall be privately owned.

b. **Location Principles:**

The streets or roads in a mobile / manufactured home park shall be located and built with regard to:

- i. Providing traffic-ways for convenient access to each mobile / manufactured home lot and other important facilities in the park;

- ii. Recognizing existing easements which are to be preserved;
- iii. Permit connection to existing facilities where necessary for the proper functioning of drainage and utility systems.

c. **Circulation:**

The street system shall provide safe and convenient circulation by means of minor street and properly located collector streets. The following standards shall also be applied to mobile / manufactured home park street systems:

- i. Closed ends of dead-end streets shall be provided with a paved vehicular turning space having a minimum diameter of at least 80 feet to the outside paving edge.
- ii. Minor streets shall be so laid out that through traffic is discouraged.
- iii. Where a mobile / manufactured home park abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage with screen planting along the rear property line, or such other treatment as may be necessary to afford separation of through and local traffic.

d. **Extent of Street Improvements:**

General Requirements

The street improvements in mobile / manufactured home parks shall conform to the following general requirements:

- i. Extend continuously from the existing improved street to provide access to each mobile / manufactured home lot and other facilities in the park; and
- ii. Provide safe and convenient circulation of vehicles.

e. **Street Surfacing:**

Streets shall be surfaced to the grades and dimensions shown on the street profile and cross-section plan submitted and approved with the final plan. The paving and wearing surface shall be constructed according to the Halifax Township specifications. The owner shall provide, within one (1) year, a paved road to each mobile / manufactured home which has been situated and occupied in the park.

3. Blocks.

- a. The size and shape of blocks shall be determined with regard to:
 - i. All applicable ordinances as to lot size;
 - ii. Need for convenient access, automotive and pedestrian movement; and
 - iii. Providing desirable lot depths for interior walkways and easements for utilities to be located within the block.
- b. Blocks shall not exceed a maximum length of 1200 feet.

4. Sidewalks.

Pedestrian interior walks may be required where essential to assist circulation or pedestrian movement and safety to common or important facilities in the park. These facilities shall be constructed in accordance with Section 607.

5. Easements.

- a. Easements shall be provided for all utilities not located in a street and for well-defined watercourses.
- b. Utility easements shall have a minimum width of fifteen (15) feet, in accordance with Section 503. Easements for access to natural watercourses shall be thirty (30) feet in width to permit maintenance and provide for future flow.
- c. Easements shall be centered on or adjacent to side and rear lot lines whenever possible.
- d. Where necessary for access to public or common lands, a pedestrian easement shall be provided with a width of no less than ten (10) feet. Additional width may be required by the Board of Supervisors depending on the purpose and use of the easement.

6. Mailboxes.

The owner shall provide and maintain a central location for all mailboxes for persons living in the park.

7. Landscaping shall comply with Section 513.

Section 705. Fuel Supply and Storage.

1. Natural Gas System.

- a. Natural gas piping systems when installed in mobile / manufactured home parks shall be maintained in conformity with accepted engineering practices.
- b. Each mobile / manufactured home lot provided with piped gases shall have an approved shutoff valve installed upstream of the gas outlet. The outlet shall be equipped with an approved cap to prevent accidental discharge of gas when the outlet is not in use.

2. Liquefied Petroleum Gas Systems.

- a. Liquefied petroleum gas systems provided for mobile / manufactured homes, service buildings or other structures when installed shall be maintained in conformity with the rules and regulations of the authority having jurisdiction and shall include the following:
 - i. Systems shall be provided with safety devices to relieve excessive pressures and shall be arranged so that the discharge terminates at a safe location.
 - ii. Systems shall have at least one accessible means for shutting off gas. Such means shall be located outside the mobile / manufactured home and shall be maintained in effective operating condition.
 - iii. All LPG piping outside of the mobile / manufactured homes shall be well supported and protected against mechanical injury. Undiluted liquefied petroleum gas in liquid form shall not be conveyed through piping equipment and systems in mobile / manufactured homes.
 - iv. Vessels of more than twelve (12) and less than sixty (60) U.S. gallons gross capacity must be installed on a mobile / manufactured home lot and shall be securely but not permanently fastened to prevent accidental overturning.
 - v. No LJP vessel shall be stored or located inside or beneath any storage cabinet, carport, mobile / manufactured home or any other structure unless such installations are specially approved by the authority having jurisdiction.

3. Fuel Oil Supply Systems.

- a. All fuel oil supply systems provide for mobile / manufactured homes, services, buildings and other structures shall be installed and maintained in conformity with the rules and regulations of the authority having jurisdiction when provided.
- b. All piping from outside fuel storage tanks or cylinders to mobile / manufactured home shall be securely, but not permanently, fastened in place.
- c. All fuel oil supply systems provided for mobile / manufactured homes, service buildings and other structures shall have shut-off valves located within five (5) inches of storage tanks.
- d. All fuel storage tanks or cylinders shall be securely placed and shall not be less than five (5) feet from any mobile / manufactured home exit.
- e. Storage tanks located in areas subject to traffic shall be protected against physical damage.

Section 706. Animals.

No animals, except household pets, shall be permitted within the Park and then only such animals as will not create a nuisance or disturb other people.

Section 707. Improvement and Construction Requirements.

All improvements, construction requirements, and engineering specifications for improvements required, shall be provided in accordance with ARTICLE VI of this Ordinance in addition to those required in the Halifax Township Mobile / Manufactured Home Ordinance, as amended.

1. Street Lights.

Street or on-site lights shall be provided to illuminate streets, driveways, and walkways for the safe movement of vehicles and pedestrians at night. Their type and location shall be shown on the plan.

2. Underground Utilities.

Electric, telephone and all other utilities facilities shall be installed underground unless, in the opinion of the Planning Commission, special conditions require otherwise.

Section 708. Park Rules and Regulations.

The owner shall provide each occupant of the Park with a copy of the pertinent laws applicable to occupiers of mobile / manufactured home parks.

Section 709. Permits, Fees and Licenses.

1. Mobile / Manufactured Home Park Permits.

Any person intending to develop a tract of land as a mobile / manufactured home park shall have a permit from the Township for each such park, issued in accordance with the requirements contained in the Halifax Township Mobile / Manufactured Home Ordinance and/or the Halifax Township Subdivision and Land Development Ordinance, as amended.

2. Fees.

At the time of filing the Preliminary Plat and the Final Plat for the development of a tract of land for a mobile / manufactured home park, the Applicant shall be required to pay to Halifax Township plat processing and inspection fees as contained below.

- a. A fee of Twenty-Five Dollars (\$25.00) plus Five Dollar (\$5.00) for each mobile / manufactured home lot in the mobile / manufactured home park shall accompany all applications for the original approval of all mobile / manufactured home parks.
- b. A fee of Twenty-Five Dollars (\$25.00) plus Five Dollar (\$5.00) for each mobile / manufactured home lot to be altered or added to the mobile / manufactured home park shall accompany all applications for alteration or extension.

When upon final approval of the application by the Halifax Township Board of Supervisors it has been ascertained that the proposed plan meets the requirements of this ordinance and regulations issued hereunder a permit shall be issued.

3. Licenses.

Any person intending to operate a mobile / manufactured home park within the Township shall have a license from the Township for each such park, issued in accordance with the requirements contained in the Halifax Township Mobile / Manufactured Home Ordinance, as amended.

- a. It shall be unlawful for any person to operate any mobile / manufactured home park within Halifax Township unless he holds a valid license, in the

name of such person for the specific mobile / manufactured home park. All license applications shall be made to the Municipality who shall issue a license upon compliance by the Applicant with provisions of this ordinance and regulations issued hereunder and other applicable legal requirements.

- b. Every person holding a license shall give notice in writing to the Township within ten (10) days after having sold, transferred, or otherwise disposed of, interest in or control of any mobile / manufactured home park. Such notice shall include the name and address of the person succeeding to the ownership or control of such mobile / manufactured home park.
- c. Upon application in writing for transfer of the license and deposit of a fee of Twenty-Five Dollars (\$25.00), the license shall be transferred if the mobile / manufactured home park is in compliance with all applicable provisions of this ordinance and regulations issued hereunder.
- d. Application for original licenses shall be in writing, as signed by the Applicant, accompanied by an affidavit of the Applicant as to the truth of the application and by a fee of Twenty-Five Dollars (\$25.00) plus Five Dollar (\$5.00) for each mobile / manufactured home lot in the mobile / manufactured home park, and shall contain:
 - i. The name and address of the applicant;
 - ii. The location and legal description of the mobile / manufactured home park; and
 - iii. The plan of the mobile / manufactured home park, approved by the Halifax Township Board of Supervisors, showing all mobile / manufactured home lots, mobile / manufactured home stands, structures, roads, highways, walkways, service facilities, and storm water drainage facilities, and other pertinent information required under Article IV of the Subdivision and Land Development Ordinance.
- e. The license shall be valid for a period of one (1) year unless revoked by Municipality.
- f. Applications for renewal of licenses shall be made in writing by the holders of the licenses, shall be accompanied by a fee of Twenty-Five Dollars (\$25.00), plus Five Dollars (\$5.00) for each mobile / manufactured home in the park during the previous year, that latter shall be due and payable at the end of each year regardless of whether or not a renewal application is submitted. The application shall contain any change in the information submitted since the original license was issued or the latest renewal granted.

g. Whenever, upon inspection of any mobile / manufactured home park, the Municipality finds that conditions or practices exist which are in violation of any provision of this ordinance or regulations issued hereunder, the Municipality shall give notice in writing in accordance with Section 712.1, to the person to whom the license was issued that unless such conditions or practices are corrected within a reasonable period of time as specified in the notice by the Municipality, the license shall be suspended. At the end of such period the Municipality shall re-inspect the mobile / manufactured home park and, if such conditions or practices have not been corrected, the license shall be suspended and notice given in writing of such suspension to the person to whom the license is issued. Upon receipt of notice of such suspension, such person shall cease operation of such mobile / manufactured home park, except as provided in Section 712.5.

h. Any person whose license has been suspended, or who has received notice from the Municipality that his license will be suspended unless certain conditions or practices at the mobile / manufactured home park are corrected, may request and shall be granted a hearing on the matter before the Township Board of Supervisors or under the procedure provided by Section 712 of this ordinance.

Provided that when no petition for such hearing shall have been filed within ten (10) days following the day on which notice of suspension was served, such license shall be deemed to have been automatically revoked at the expiration of such ten (10) day period.

i. A temporary license, upon written request therefore, may be issued by the Governing Body for every mobile / manufactured home park in existence at the effective date of this ordinance, permitting the mobile / manufactured home park to be operated during the period ending one hundred eighty (180) days after the effective date of this ordinance in accordance with such conditions as the Municipality may require.

j. The term of the temporary license shall be extended, upon written request, for not to exceed one additional period of one hundred eighty (180) days, if:

i. The licensee shall have filed application for a license in conformity with Section 3.3 of this ordinance within ninety (90) days after the effective date of this ordinance;

ii. The plans and specifications accompanying the application for license comply with all provisions of this ordinance and all other applicable ordinances and statutes;

- iii. The licensee shall have diligently endeavored to make the existing mobile / manufactured home park conform fully to the plans and specifications submitted with the application; and
- iv. Failure to make the existing mobile / manufactured home park conform fully to such plans and specifications shall have been due to causes beyond the control of the licensee.

Section 710. Inspection of Mobile / Manufactured Home Parks.

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

1. The Municipality shall have the power to enter at reasonable times upon any private or public property for the purpose of inspecting and investigating conditions relating to the enforcement of this ordinance and regulations issued hereunder.
2. The Municipality shall have the power to inspect the register containing a record of all residents of the mobile / manufactured home park.
3. It shall be the duty of the owners or occupants of the mobile / manufactured home park and mobile / manufactured homes contained therein, or of the person in charge thereof, to give the Municipality access to such premises at reasonable times for the purpose of inspection.
4. It shall be the duty of every occupant of the mobile / manufactured home park to give the owner thereof or his agent or employee access to any part of such mobile / manufactured home park or its premises at reasonable times for the purpose of making such repairs or alterations as necessary to effect compliance with this ordinance and regulations issued hereunder, or with any lawful order issued pursuant to the provisions of this ordinance.

Section 711. Notices, Hearings and Orders.

1. Whenever the Municipality determines that there are reasonable grounds to believe that there has been a violation of any provision of this ordinance or regulations issued hereunder, notice shall be given of such alleged violation to the person to whom the permit of license was issued, as hereafter provided.

Such notice shall:

- a. Be in writing;

- b. Include a statement of the reasons for its issuance;
 - c. Allow a reasonable time for the performance of any act it requires:
 - d. Be served upon the owner or his agent as the case may require; provided: that such notice or orders shall be deemed to have been properly served upon such owner or agent when a copy thereof has been sent by certified mail to his last known address, or when he has been served by such notice by any method authorized or required by the laws of this State; and
 - e. Contain an outline of remedial action which, if taken, will affect compliance with the provisions of this ordinance and regulations issued hereunder.
2. Any person affected by any notice which has been issued in connection with the enforcement of any provisions of this ordinance, or regulation issued hereunder, may request a hearing on the matter before the Governing Body; provided, that such person file in the office of the Municipality a written petition requesting such hearing and setting forth a brief statement of the grounds therefore within ten (10) days after the day of the notice was served.

The filing of the request for a hearing shall operate as a stay of the notice and of the suspension except in the case of an order issued under Section 711.5. Upon receipt of such petition, the Governing Body shall set a time and place for such hearing and shall give the petitioner written notice thereof. At such hearing the petitioner shall be given an opportunity to be heard and to show why such notice should be modified or withdrawn.

The hearing shall be commenced no later than ten (10) days after the day on which the petition was filed; provided; that upon application of the petitioner the Governing Body may postpone the date of the hearing for a reasonable time beyond such ten (10) day period when in their judgment the petitioner has submitted good and sufficient reasons for such postponement.

3. After such hearing the Governing Body shall make findings as to compliance with the provisions of this ordinance and regulations issued hereunder and shall issue an order in writing sustaining, modifying or withdrawing the notice which shall be served as provided in Section 711.1.d. Upon failure to comply with any order sustaining or modifying a notice, the license of the mobile / manufactured home park affected by the order shall be revoked.
4. The proceedings at such a hearing, including the findings and decision of the Governing Body and together with a copy of every notice and order related thereto shall be entered as a matter of public record in the office of the Governing Body. However, the transcript of the proceedings need not be transcribed unless judicial review of the decision is sought as provided by this section. Any person aggrieved by the decision of the Governing Body may seek relief there from in

any court of competent jurisdiction, as provided by the laws of the Commonwealth of Pennsylvania.

5. Whenever the Municipality finds that an emergency exists which requires immediate action to protect the public, they may without notice or hearing issue an order reciting the existence of such an emergency and requiring that such action be taken as they may deem necessary to meet the emergency, including the suspension of the permit or license. Notwithstanding any other provisions of this Ordinance, such order shall be effective immediately. Any person to whom such an order is directed shall comply therewith immediately, but upon a petition to the governing body shall be afforded a hearing as soon as possible. The provisions of Section 711.3 and 711.4 shall be applicable to such hearing and the order issued thereafter.

Section 712. Mobile / Manufactured Home Removal Permit.

1. It shall be unlawful for the owner, tenant or custodian of a mobile / manufactured home to remove or attempt to remove from Halifax Township a mobile / manufactured home without first obtaining a Removal Permit from the Township Tax Collector. A Removal Permit shall be granted upon payment of a fee of Five Dollars (\$5.00) and submission of the following information:
 - a. The street address of the mobile / manufactured home.
 - b. Names of the owners and of the occupants of the mobile / manufactured home.
 - c. Evidence of payment of all taxes duly assessed by the Township, the County of Dauphin and the Halifax Area School District.

Section 713. Modification of Requirements.

The application for a modification of requirements shall be in accordance with the provisions of ARTICLE IX herein.

Section 714. Enforcement, Amendments, Remedies, Severability, and Repealer.

The enforcement, amendments, remedies, severability and repealer provisions shall be in accordance with the provisions of ARTICLE X herein.

ARTICLE VIII

FEES

Section 801. Filing.

At the time of filing, the Applicant shall pay to Halifax Township all fees and charges specified herein and shall agree to pay such fees and charges as are identified herein, but not yet determinable at the time of filing.

Section 802. Fee Schedule.

1. The Board of Supervisors shall establish by resolution a Schedule of Fees to be paid by the Applicant at the time of filing a SWM Site Plan and Report, Floodplain permit application, and / or Preliminary and / or Final Plan.
 - a. Such fees for Preliminary and / or a Final Plan shall include the reasonable and necessary charges by the Township's professional consultants, as defined by 53 P.S. §10107, for the review and report to Halifax Township. Such fees shall be reasonable and in accordance with the ordinary and customary charges by the consultants for similar services in the Township, but in no event shall the fees exceed the rate or cost charged by the consultants to the Township when fees are not reimbursed or otherwise imposed on applicants.
 - b. The Floodplain Administration and Stormwater fees established in the Schedule of Fees shall, at a minimum, cover: administrative and clerical costs; review of the SWM Site Plan and Report by the Municipality; review of the floodplain application; pre-construction meetings; inspection of facilities and BMPs and drainage improvements during construction; final inspection upon completion of the facilities and BMPs and drainage improvements presented in the SWM site plan or floodplain application; and any additional work required to enforce any permit provisions regulated by this Ordinance, correct violations, and assure proper completion of stipulated remedial actions.
 - c. In the event the Applicant disputes the amount of any such review fees, the Applicant shall, within forty-five (45) days after the date of transmittal of the bill, notify the Township and the professional consultant that such fees are disputed and shall explain the basis of their objections to the fees charged, in which case the Township shall not delay or disapprove the application due to the dispute over fees.
 - c. Arbitration of Disputed Fees.

- i. If the professional consultant and the applicant cannot agree on the amount of 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 professional consultant 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 professional consultant whose fees are being challenged.
- ii. The arbitrator so appointed shall hear such evidence and review such documentation as the arbitrator in his or her sole opinion deems necessary and shall render a decision no later than fifty (50) days after the date of appointment. Based on the decision of the arbitrator, the applicant or the professional consultant whose fees were challenged shall be required to pay any amounts necessary to implement the decision within sixty (60) days. In the event the Township has paid the professional consultant an amount in excess of the amount determined to be reasonable and necessary, the professional consultant shall within sixty (60) days reimburse the excess payment.
- iii. In the event that the Township's professional consultant and applicant cannot agree upon the arbitrator to be appointed within twenty (20) days of the request for appointment of an arbitrator, then, upon applicant of either party, the President Judge of the Court of Common Pleas of the judicial district in which the Township is located (or if at the time there be no President Judge, then the senior active judge then sitting) shall appoint such arbitrator, who, in that case, shall be neither the Township's professional consult nor any professional consult who has been retained by, or performed services for, the Township or the applicant within the preceding five years.
- iv. 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 five thousand dollars (\$5,000.00), the arbitrator shall have the discretion to assess the arbitration fee in whole or in part against either the applicant or the professional consultant. The Township and the consultant whose fees are the subject of the dispute shall be parties to the proceeding.

2. The Schedule of Fees shall be available in the Township Municipal Office and in such other places as the Township may designate.
3. No plan shall be considered by the Board of Supervisors or Planning Commission unless all fees and charges then due are paid in full.

Section 803. Engineering Fees.

1. On or before the date on which the Preliminary or Final Plan is to be considered by the Township, the Applicant shall pay by a check, payable to the Township of Halifax, an amount determined by the Township Engineer sufficient to cover costs of:
 - a. Reviewing the plan's engineering details;
 - b. Inspecting the site layout for conformance with the plan;
 - c. Preparing cost estimates of required improvements (as applicable);
 - d. Inspecting required improvements during installation;
 - e. Final inspection on completion of installation of required improvements;
 - f. Other engineering verifications and administrative work required by this Ordinance.

Section 804. Fee Estimates.

The legal, engineering, floodplain administration, storm water management plan and report review, and other fees required to be paid by this Section may be assessed on an estimated basis and shall be promptly paid to the Township by the Applicant. Such estimated amounts shall be adjusted and supplemented as actual fees are billed to the Township by its solicitors, engineers or other consultants.

Section 805. Miscellaneous.

In addition to the foregoing, the Applicant shall, at the time of filing a Plan or at such other time as the Board of Supervisors shall deem appropriate, pay all fees and charges related to the following:

1. All permits required by the Township or relevant municipal authority for opening roads, connecting to municipal sewers, building construction, mobile / manufactured home parks, etc., shall be paid by a check payable to the Township or its Authority.

2. All costs related to accepting and recording of deeds dedicating public improvements.
3. All costs related to Plan review and report by the Dauphin County Planning Commission.
4. All legal fees and other costs incurred by the Township on account of special agreements and / or documents entered by the Township and the Applicant concerning the Plan.

ARTICLE IX

MODIFICATION OF REQUIREMENTS

Section 901. General Statement.

Where, owing to special conditions, a literal enforcement of the provisions of these regulations will result in undue hardship because of peculiar conditions pertaining to the land, the Board of Supervisors, on recommendation of the Planning Commission and Township Engineer, may make such reasonable modification thereto as will not be contrary to the public interest and so that the spirit of these regulations shall be observed and substantial justice done.

Section 902. Application Submission.

All requests for a modification of requirements shall be submitted in writing by the Applicant at the time the Preliminary Plan is filed with the Planning Commission. The application shall state in full the grounds and facts on reasonableness or hardship upon which the request is based, the provision or provisions of the ordinance involved, and the minimum modification necessary.

Section 903. Recording of Decision – Approval.

In granting any modification of requirements, the Board of Supervisors shall record its action and the grounds for granting any modification in its minutes. The Board of Supervisors shall notify the Applicant in writing with fifteen (15) working days of the date of the Board's decision.

Section 904. Recording of Decision – Denial.

Whenever a request for an alteration of requirements is denied, the Board of Supervisors shall record its action and the grounds for such denial in its minutes. The Board of Supervisors shall notify the applicant in writing of its action and the grounds for such denial of any modification within fifteen (15) working days of the date of the Board's decision.

Section 905. Appeals.

Persons aggrieved by the granting or denial of the request from a modification of requirements may appeal the Board of Supervisor's decision through the use of the appeals procedure as outlined in the "Pennsylvania Municipalities Planning Code", Act 247, as amended.

ARTICLE X

ENFORCEMENT, AMENDMENTS, REMEDIES, SEVERABILITY AND REPEALER

Section 1001. Administration and Enforcement.

1. The Board of Supervisors and 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 the Township 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 the Township.

2. Permits required by the Township for the erection or alteration of buildings, the installation of sewers or sewage disposal systems, or for other appurtenant improvements to or use of the land, shall not be issued by any municipal official responsible for such issuance until it has been ascertained that the site for such building, alteration, improvement, or use is contained in a subdivision or land development plan approved and publicly recorded in accordance with the provisions of this and other applicable Township Codes and Ordinances.
3. The Township Sewage Enforcement Officer shall require that the Sewage Module and applications for sewage disposal system permits contain all the information necessary to ascertain that the sites for the proposed systems are acceptable in accordance with the provisions of this Ordinance, the "Rules and Regulations of the Department of Environmental Protection," and Township Regulations.

The approval of a subdivision or land development plan or of any improvement installed, or the granting of a permit for the erection or use of a building or land therein, shall not constitute a representation, guarantee, or warranty of any kind or nature by municipality 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 the municipality or such official, employee or appointee for any damage that may result pursuant thereto.

2. Stormwater Management Enforcement and Penalties

a. Notification

- i. In the event that a person fails to comply with the requirements of an approved SWM Site Plan, issued hereunder, the Municipality shall provide written notification, via certified mail, of the violation to

the Landowner indicated on the O&M Agreement. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violation(s).

- ii. Failure to comply within the time specified shall subject such person to the enforcement provisions of this paragraph 5. All such penalties shall be deemed cumulative and shall not prevent the Municipality from pursuing any and all other remedies. It shall be the responsibility of the owner of the real property on which any Regulated Activities are proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this Ordinance.

b. **Enforcement**

- i. The municipal governing body is hereby authorized and directed to enforce all of the provisions of this paragraph 5. The approved SWM Site Plan shall be on file at the project site throughout the duration of the construction activity. The Municipality or their designee may make periodic inspections during construction.
- ii. **Adherence to Approved SWM Site Plan:**
 - (1) It shall be unlawful for any person, firm, or corporation to undertake any Regulated Activity on any property except as provided for by an approved SWM Site Plan and pursuant to the requirements of this Ordinance.
 - (2) It shall be unlawful to alter or remove any control structure required by the SWM Site Plan pursuant to this Ordinance.
 - (3) It shall be unlawful to allow a property to remain in a condition that does not conform to an approved SWM Site Plan.

c. **Public Nuisance**

- i. A violation of any provision of this paragraph 5 is hereby deemed a Public Nuisance.
- ii. Each day that a violation continues shall constitute a separate violation.
- iii. The provisions of this paragraph 5 supersede any and all other nuisance ordinances in effect in the municipality.

d. Suspension and Revocation

- i. Any approval or permit issued by the Municipality may be suspended or revoked for:**
 - (1) Non-compliance with or failure to implement any provision of the approved SWM Site Plan or Operation and Maintenance (O&M) Agreement.**
 - (2) A violation of any provision of this Ordinance relating to the Regulated Activity, or any other applicable law, Ordinance, rule or regulation relating to the Regulated Activity.**
 - (3) The creation of any condition or the commission of any act, during the Regulated Activities which constitutes or creates a hazard or nuisance, pollution, or which endangers the life or property of others.**
- ii. A suspended approval or permit may be reinstated by the Municipality when:**
 - (1) The Municipality or their designee has inspected and approved the corrections to the violation(s) that caused the suspension.**
 - (2) The Municipality is satisfied that the violation(s) has been corrected.**
- iii. An approval that has been revoked by the Municipality cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.**

e. Penalties

- i. Anyone violating the provisions of this Ordinance relating to the Regulated Activities shall be guilty of a summary offense and upon conviction, shall be subject to a fine of not more than One Thousand Dollars (\$1,000.00) for each violation, recoverable with costs, including Attorney's Fees. Each day that the violation continues shall be a separate offense and penalties shall be cumulative.**
- ii. In addition, the Municipality, through its solicitor, may institute injunctive, mandamus, or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance relating to the Regulated Activities. Any court of competent**

jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or other appropriate forms of remedy or relief, including costs and Attorney's Fees.

f. Appeals

- i. Any person aggrieved by any action of the Municipality or its designee, relevant to the provisions of this Ordinance, may appeal to the Municipality within thirty (30) days of that action.
- ii. Any person aggrieved by any decision of the Municipality, relevant to the provisions of this Ordinance, may appeal to the Dauphin County Court of Common Pleas within thirty (30) days of the Municipality's decision.

Section 1002. Amendments.

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 Planning Code," Act 247, as amended.

1. From the time an application for approval of a plan, whether preliminary or final, is duly filed as provided in this Ordinance, and while such application is pending approval or disapproval, no change or amendment of this Ordinance, zoning 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 in effect at the time the application was 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 regulation.

2. When an application for approval of a plan, whether preliminary or final, has been approved without conditions or approved by the Applicant's acceptance of conditions, no subsequent change or amendment in this Ordinance, zoning 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 time of such approval within five (5) years from such approval.
3. 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 the preliminary approval, the terms shall be

construed in the light of the provisions of this Ordinance or the governing ordinance or plans in effect at the time when the application for such approval was duly filed.

4. Where the Applicant has substantially completed the required improvements as depicted upon the final plan within the aforesaid five-year limit, or any extension thereof as may be granted by the Board of Supervisors, no change of any ordinance or plan enacted subsequent to the date of filing of the preliminary plan shall modify or revoke any aspect of the approved final plan pertaining to zoning classification or density, lot, building, street or utility location.
5. In case of a preliminary plan calling for the installation of improvements beyond the five-year period, a schedule shall be filed by the Applicant with the preliminary plan delineating all proposed sections as well as deadlines within which applications for final plan 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 plan approval, until final plan approval of the final section has been granted and any modification in the aforesaid schedule shall be subject to approval of the Board of Supervisors in its discretion.
6. Each section in any residential subdivision or land development, except for the last section, shall contain a minimum of twenty-five (25%) percent of the total number of dwelling units as depicted on the preliminary plan, unless a lesser percentage is approved by the Board of Supervisors in its discretion.

Provided the Applicant has not defaulted with regard to or violated any of the conditions of the preliminary plan approval, including compliance with Applicant's aforesaid schedule of submission of final plans for the various sections, then the aforesaid protections afforded by substantially completing the improvements depicted upon the final plan within five (5) 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 (5) year period the aforesaid protections shall apply for an additional term or terms of three (3) years from the date of final plan approval for each section.

7. Failure of the Applicant to adhere to the aforesaid schedule of submission of final plans for the various sections shall subject any such section to any and all changes in this ordinance, zoning, and other governing ordinance enacted by the Township subsequent to the date of the initial preliminary plan submission.

Section 1003. Remedies and Jurisdiction.

1. Preventive Remedies
 - a. In addition to other remedies, the Township may institute and maintain appropriate actions by law or in equity to restrain, correct or abate

violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

- b. The Township may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a subdivision of real property in violation of this Ordinance. This authority to deny such a permit or approval shall apply to any of the following applicants:
 - i. The owner of record at the time of such violation.
 - ii. 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.
 - iii. 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.
 - iv. The vendee or lessee of the current record who acquired the property subsequent to the time of violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.
- c. As an additional condition for issuance of a permit or the granting of an approval to any such owner, current owner, vendee or lessee for the development of any such real property, the Township may require compliance with the conditions that would have been applicable to the property at the time the applicant acquired an interest in such real property.

2. Enforcement Remedies.

- a. Any person, partnership, or corporation who or which has violated the provisions of this subdivision or land development ordinance shall, upon being found liable therefore in a civil judgment of not more than five hundred (\$500.00) dollars plus all court costs, including reasonable attorney fees incurred by the Township as a result thereof. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the district justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of civil procedure. Each day

that a violation continues shall constitute a separate violation, unless the district justice determining that there has been a violation further determines that there was a good faith basis for the person, partnership, or corporation violating this 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 a violation by the district justice and thereafter each day that a violation continues shall constitute a separate violation.

- b. The Court of Common Pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.
- c. Nothing contained in this Section shall be construed or interpreted to grant to any person or entity other than the Township the right to commence any action for enforcement pursuant to this Section.

Section 1004. Severability.

In any section, clause, provision, or portion of these regulations 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 these regulations. It is hereby declared to be the intent of Halifax Township that this Ordinance would have been adopted if such invalid or unconstitutional section, clause, provision or portion had not been included herein.

Section 1005. Repealer.

- 1. Any Ordinance or part thereof inconsistent herewith is hereby repealed to the extent of such inconsistency.
- 2. 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 shall any right or remedy of any character be lost, impaired or affected.
- 3. Any previously existing Subdivision Ordinance, as amended, is hereby repealed.

ARTICLE XI

EFFECTIVE DATE AND ENACTMENT

Section 1101. Effective Date.

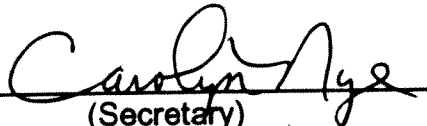
This Ordinance shall take effect on the 2nd day of August, 2012.

Section 1102. Enactment.

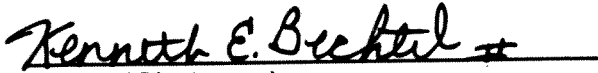
ENACTED AND ORDAINED INTO AN ORDINANCE THIS 23rd DAY OF July, 2012.

ATTEST:

HALIFAX TOWNSHIP
BOARD OF SUPERVISORS,
DAUPHIN COUNTY, PENNSYLVANIA



(Secretary)



(Chairman)

(Municipal Seal)

**EXHIBIT I
SAMPLE CERTIFICATION AND DEDICATORY BLOCKS**

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF DAUPHIN

ON THIS THE _____ DAY OF _____ 20 ____ BEFORE ME THE
UNDERSIGNED PERSONALLY APPEARED

OWNER _____ (S)

OWNER _____ (S)

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT THEY
ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN AND THAT THEY
ACKNOWLEDGE THE SAME TO BE THEIR ACT AND DEED AND DESIRE THE SAME
TO BE RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND NOTARIAL SEAL THE DAY AND DATE ABOVE WRITTEN,

MY COMMISSION EXPIRES

NOTARY PUBLIC

IT IS HEREBY CERTIFIED THAT THE UNDERSIGNED ARE THE LEGAL/EQUITABLE
OWNERS OF THE PROPERTY SHOWN ON THIS PLAT AND THAT ALL STREETS
OR PARTS THEREOF, IF NOT PREVIOUSLY DEDICATED, ARE HEREBY
TENDERED FOR DEDICATION TO PUBLIC USE.

OWNER (S) _____

OWNER (S) _____

OWNER (S) _____

OWNER (S) _____

I HEREBY CERTIFY THIS PLAN TO BE CORRECT AS SHOWN.

REGISTERED SURVEYOR

NAME OF SURVEYOR
ADDRESS

TELEPHONE NUMBER EXHIBIT II

SAMPLE PLAT APPROVAL BLOCKS

THIS PLAN REVIEWED BY THE DAUPHIN COUNTY PLANNING COMMISSION THIS _____ DAY OF _____ 20 ____.

CHAIRMAN _____

SECRETARY _____

THIS PLAN REVIEWED BY THE HALIFAX TOWNSHIP ENGINEER THIS _____ DAY OF _____ 20 ____.

TOWNSHIP ENGINEER _____

THIS PLAN RECOMMENDED FOR APPROVAL BY THE HALIFAX TOWNSHIP PLANNING COMMISSION THIS _____ DAY OF _____ 20 ____.

CHAIRMAN _____

SECRETARY _____

THIS PLAN APPROVED BY THE BOARD OF SUPERVISORS OF HALIFAX TOWNSHIP THIS _____ DAY OF _____ 20 ____.

CHAIRMAN _____

SECRETARY _____

THIS PLAN RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR DAUPHIN COUNTY THIS _____ DAY OF _____ 20 ____.

PLAN BOOK _____ VOLUME _____ PAGE _____.

**EXHIBIT III
SAMPLE TIME EXTENSION AGREEMENT
HALIFAX TOWNSHIP**

AGREEMENT TO EXTEND THE TIME FOR RENDERING AND COMMUNICATING A DECISION ON CERTAIN PRELIMINARY AND/OR FINAL SUBDIVISION/LAND DEVELOPMENT PLANS.

This agreement made the ____ day of _____, 20____, by and between the Board of Supervisors of Halifax Township, Dauphin County, Pennsylvania, (hereinafter called "Governing Body") and _____ (hereinafter called "Applicant").

WHEREAS, the Applicant submitted a preliminary/final plan of subdivision/land development for a development known as _____ to the Township on the ____ day of _____, 20 ____; and

WHEREAS, there are certain deficiencies, matters of incompleteness or other similar items by reason of which the Board of Supervisors cannot approve said plan of subdivision/land development as more fully detailed in a letter delivered to Applicant by the Board of Supervisors dated ____ day of _____, 20 ____, receipt of which is acknowledged by Applicant; and

WHEREAS, the term within which the Board of Supervisors 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 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 Township ordinances and regulations;

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 Board of Supervisors must render a decision and communicate its decision relative to the above-mentioned plan of subdivision/land development to the Applicant, which extended time period shall expire the _____ day of _____ 20 ____.

2. In consideration of the extension of time granted by Applicant, the Board of Supervisors 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; rather, the Board of Supervisors agrees to consider the plan of subdivision/land development with such changes and corrections as the Applicant shall make and to render within the time as extended by this Agreement.

IN WITNESS WHEREOF, the parties intending to be legally bound have set their hands and seals the day and year first written above.

WITNESS:

Applicant

Accepted by Halifax Township

BY: _____
Chairman

**EXHIBIT IV
SAMPLE IRREVOCABLE LETTER OF CREDIT**

Halifax Township
P. O. Box 405
Halifax, PA 17032

IRREVOCABLE LETTER OF CREDIT NO. _____

At the request of _____, we hereby authorize Halifax Township, Dauphin County, to draw on _____ up to an aggregate amount of _____ U.S. Dollars available by your drafts at sight accompanied by your written certification for the failure of _____ to complete improvements as required by the subdivision/land development plan of _____, dated _____, 20____, and any related agreements between _____, and the Township of Halifax, particularly the Agreement to Establish Security, dated _____, 20 ____.

Such certification must enumerate the amount payable to you from the account of _____. All drafts so drawn must be marked under our credit number _____.

It is a condition of this Letter of Credit that it shall be deemed automatically extended without amendment for one year from the expiration date provided hereinafter unless thirty (30) days prior to such expiration date we shall notify you in writing by registered mail that we elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder, without having incurred liability by reason of the failure of _____ to construct and install the improvements as required by the above identified plans, profiles and agreements, by means of your drafts on us, at sight, accompanied by your written certification that certain installation and construction work remains to be completed and the proceeds of your drafts will be retained and used by you to make payments which you might thereafter be _____ to complete the construction and installation of said improvements, and further, that you will refund to us the amount paid, less any amounts which may have been paid by you for the construction and installation of said uncompleted improvements.

We engage with you that all drafts drawn under and in compliance with the terms of this credit will be duly honored on or before _____ or any automatically extended date, as hereinbefore set forth. We confirm the credit and hereby undertake that all drafts, presented as above specified, will be duly honored by us.

We specifically agree that your drafts will be honored regardless of any objection made by _____ or any third party, even if said objections indicate that all

the required improvements have been completed. In the event we refuse and fail to honor your drafts in violation of the foregoing we will be responsible for reasonable attorney fees incurred by you in enforcing your right to payment under the terms hereof. It shall be the responsibility of _____ to resolve any disputes with the Township of Halifax and payments on drafts will not be withheld as a result of such disputes.

Very truly yours,

ATTEST:

Secretary

The Applicant is aware of the contents of this letter of credit, understands the same, and agrees that the issuance of the same, subject to the conditions herein, effectively eliminates any right to object to payment of said drafts, although Applicant retains all rights to take any legal or equitable action against the Township of Halifax to recover the proceeds of said drafts so honored to the extent that the Township of Halifax is determined to be not entitled to the same and/or has not refunded the same to

By _____
President/Partner

**EXHIBIT V
SAMPLE SECURITY AGREEMENT**

THIS AGREEMENT made and entered into this ____ day of _____, 20 ____.

by and between _____,

hereinafter referred to as "Applicant," and THE TOWNSHIP OF HALIFAX, Dauphin County, Pennsylvania, hereinafter called "TOWNSHIP."

WHEREAS, Section ____ of Ordinance ____ provides as a prerequisite to receiving authorization to proceed to construct required improvements, the Applicant shall deposit with the Township cash, a corporate bond or other security acceptable to the Township in an amount sufficient to cover at least one hundred ten (110%) percent of the costs of construction of the subject improvements which amount shall be approved by the Township engineers in writing prior to submission of the letter of credit, and which may be required and for such period of time as the Township determines reasonable.

WHEREAS, the Applicant has submitted final design plans a preliminary and final subdivision/land development plan known as _____ to the Township which plan has been approved contingent upon the Applicant's depositing security acceptable to the Township to guarantee the installation of improvements shown thereon.

NOW, THEREFORE, it is hereby agreed between the Applicant and the Township as follows:

1. The owners, at their sole expense, will construct and install the improvements required by the final design plans for the preliminary and final subdivision/land development plan of the development known as

_____ and by accompanying engineering drawings identified as follows:

2. Said improvements shall be constructed and installed by _____. Time of the completion of the said improvements shall be of the essence unless extended by mutual parties in writing.

3. The Township engineer, after submission of the Applicant's plans and information, has determined that the amount of sufficient security for the construction and installation of said improvements shall be _____ Dollars, determined as follows:

4. Upon execution of this Agreement the Applicant shall deposit with the Township an irrevocable letter of credit in the amount of at least _____ having an expiration date of no earlier than _____. Said irrevocable letter of credit shall be issued by a suitable banking institution acceptable to the Township, shall refer to the within Agreement and otherwise shall be acceptable to the Township and in a form generally as that attached hereto and marked Exhibit "IV."

5. Immediately after execution of this Agreement and receipt by the Township of the letter of credit, the Township shall authorize the Applicant to proceed with the construction of the improvements provided the Applicant complies with the requirements of all other pertinent Township Ordinances.

6. Upon completion of the improvements in accordance with the procedure of Section 510 of the Pennsylvania Municipalities Planning Code, as amended and supplemented, and with the provisions of Ordinance _____, the Township shall release said security.

7. Prior to acceptance of the improvements by the Township, the Applicant shall post a maintenance bond or letter of credit in favor of the Township. This guarantee shall be in an amount not less than 15% of the original improvement guarantee and shall bear a term of 18 months. At the end of the 18 month period, the Township Engineer or his designated representative shall inspect the improvements to ascertain their condition prior to release of the maintenance guarantee. If any repairs are deemed necessary at this time, as a result of this inspection, the Applicant shall make all required repairs as soon as possible. In the event the Applicant refuses to make the repairs or is financially unable to do so, the Township shall invoke the provisions of the maintenance guarantee and use the proceeds thereof to complete the repairs.

IN WITNESS WHEREOF, the parties aforesaid have hereunto set their hands and seals the day and year first above written.

WITNESS:

By: _____
BOARD OF SUPERVISORS
HALIFAX TOWNSHIP,
DAUPHIN COUNTY,
PENNSYLVANIA

ATTEST:

Secretary

By: _____
President or Vice President Applicant

EXHIBIT VI

RESERVED FOR FUTURE USE

EXHIBIT VII

Roadway Materials

| Street Classification | Base Material | Surface Material |
|---|---|---|
| Arterial Streets | As determined by the Board of Supervisors after consultation with the Township Engineer and the Pennsylvania Department of Transportation (PENNDOT) | |
| Collector Streets | SAMD HMA Base Course, PG 64-22, 0.3 to < 3 million ESALS, 25.0 mm Mix, 5" depth -AND- Base (No. 2A Crushed Aggregate) 6" depth | SAMD HMA Wearing Course, PG 64-22, 0.3 to < 3 million ESALS, 9.5 mm Mix, 1.5" depth, SRL ¹ -AND- SAMD HMA Binder Course, PG 64-22, 0.3 to < 3 million ESALS, 19.0 mm Mix, 2" depth |
| Minor Streets ² | Same as Collector Streets | Same as Collector Streets |
| Minor Streets ³ | SAMD HMA Base Course, PG 64-22, 0.3 to < 3 million ESALS, 25.0 mm Mix, 3" depth -AND- Base (No. 2A Crushed Aggregate) 6" depth | SAMD HMA Wearing Course, PG 64-22, 0.3 to < 3 million ESALS, 9.5 mm Mix, 1- 1/2 " depth, SRL ¹ -AND- SAMD HMA Binder Course, PG 64-22, 0.3 to < 3 million ESALS, 19.0 mm Mix, 2" depth |
| ¹ Skid Resistance Level (SRL Determination) | | |
| ² Industrial / Commercial Use | | |
| ³ Residential Use | | |
| Average Daily Traffic | SRL | Alternates |
| 20,000 and Above | E | None |
| 5,000 to 20,000 | H | E, H, Blend of E/M, Blend of E/G |
| 3,000 to 5,000 | G | E, H, G, Blend of H/L, Blend of E/L |
| 1,000 to 3,000 | M | E, H, G, M, Blend of H/L, Blend of G/L, Blend of E/L |
| 1,000 and Below | L | Any |
| Note: All blends are 50% by weight and shall be accomplished by an approved method. | | |
| SAMD HMA - Superpave Asphalt Mix Design, Hot Mix Asphalt | | |

EXHIBIT VIII
OPERATION AND MAINTENANCE (O&M) AGREEMENT
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs)

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between _____, (hereinafter the "Landowner"), and _____, Dauphin County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of Dauphin County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the SWM Site Plan approved by the Municipality (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that stormwater BMPs as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.
2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order in accordance with the specific maintenance requirements noted on the approved SWM Site Plan.
3. The Landowner hereby grants permission to the Municipality, its authorized agents, and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.
4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Municipality or its representatives may enter upon the property and take whatever action is deemed necessary to maintain said BMPs. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality. The Landowner may be subjected to the Penalties Section of the applicable Ordinance.
5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Municipality.

EXHIBIT VIII

- 6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
- 7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMPs by the Landowner or Municipality.
- 8. The Municipality may inspect the BMPs whenever necessary to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Dauphin County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

For the Landowner:

ATTEST:

_____ (City, Borough, Township)

County of Dauphin, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 20____.

NOTARY PUBLIC

(SEAL)

EXHIBIT IX - LOW IMPACT DEVELOPMENT PRACTICES

LOW IMPACT DEVELOPMENT PRACTICES ALTERNATIVE APPROACHES FOR MANAGING STORMWATER RUNOFF

Natural hydrologic conditions may be altered radically by poorly planned development practices, such as introducing unneeded impervious surfaces, destroying existing drainage swales, constructing unnecessary storm sewers, and changing local topography. A traditional drainage approach of development has been to remove runoff from a site as quickly as possible and capture it in a detention basin. This approach leads ultimately to the degradation of water quality, as well as expenditure of additional resources for detaining and managing concentrated runoff at some downstream location.

The recommended alternative approach is to promote practices that will minimize post-development runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities. To simulate pre-development hydrologic conditions, forced infiltration is often necessary to offset the loss of infiltration by creation of impervious surfaces. The ability of the ground to infiltrate runoff depends upon the soil types and its conditions.

Preserving natural hydrologic conditions requires careful alternative site design considerations. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces, and protecting natural depression storage. A well-designed site will contain a mix of all those features. The following describes various techniques to achieve the alternative approaches:

- ◆ **Preserving Natural Drainage Features.** Protecting natural drainage features, particularly vegetated drainage swales and channels, is desirable because of their ability to infiltrate and attenuate flows and to filter pollutants. However, this objective is often not accomplished in land development. In fact, commonly held drainage philosophy encourages just the opposite pattern - streets and adjacent storm sewers typically are located in the natural headwater valleys and swales, thereby replacing natural drainage functions with a completely impervious system. As a result, runoff and pollutants generated from impervious surfaces flow directly into storm sewers with no opportunity for attenuation, infiltration, or filtration. Developments designed to fit site topography also minimize the amount of grading on site.
- ◆ **Protecting Natural Depression Storage Areas.** Depressional storage areas have no surface outlet, or drain very slowly following a storm event. They can be commonly seen as ponded areas in farm fields during the wet season or after large runoff events. Traditional development practices eliminate these depressions by filling or draining, thereby obliterating their ability to reduce surface runoff volumes and trap pollutants. The volume and release-rate characteristics of depressions should be protected in the design of the development site. The depressions can be protected by simply avoiding the depression or by incorporating its storage as additional capacity in required detention facilities.
- ◆ **Avoiding Introduction of Impervious Areas.** Careful site planning should consider reducing impervious coverage to the maximum extent possible. Building footprints,

sidewalks, driveways, and other features producing impervious surfaces should be evaluated to minimize impacts on runoff.

- ◆ **Reducing the Hydraulic Connectivity of Impervious Surfaces.** Impervious surfaces are significantly less of a problem if they are not directly connected to an impervious conveyance system (such as storm sewer). Two basic ways to reduce hydraulic connectivity are: routing of roof runoff over lawns; and reducing the use of storm sewers. Site grading should promote increasing travel time of stormwater runoff and should help reduce concentration of runoff to a single point in the development.
- ◆ **Routing Roof Runoff Over Lawns.** Roof runoff can be easily routed over lawns in most site designs. The practice discourages direct connections of downspouts to storm sewers or parking lots. The practice also discourages sloping driveways and parking lots to the street. The routing of roof drains and crowning the driveway to allow runoff to discharge to pervious areas is desirable as the pervious area essentially acts as a filter strip.
- ◆ **Reducing the Use of Storm Sewers.** By reducing the use of storm sewers for draining streets, parking lots, and backyards, the potential for accelerating runoff from the development can be greatly reduced. The practice requires greater use of swales and may not be practical for some development sites, especially if there are concerns for areas that do not drain in a "reasonable" time. The practice requires educating local citizens and public works officials, who expect runoff to disappear shortly after a rainfall event.
- ◆ **Reducing Street Widths.** Street widths can be reduced by either eliminating on-street parking or by reducing cartway widths. Municipal planners and traffic designers should encourage narrower neighborhood streets, which ultimately could lower maintenance and maintenance related costs.
- ◆ **Limiting Sidewalks to One Side of the Street.** A sidewalk on one side of the street may suffice in low-traffic neighborhoods. The lost sidewalk could be replaced with bicycle/recreational trails that follow back-of-lot lines. Where appropriate, backyard trails should be constructed using pervious materials.
- ◆ **Using Permeable Paving Materials.** These materials include permeable interlocking concrete paving blocks or porous bituminous concrete. Such materials should be considered as alternatives to conventional pavement surfaces, especially for low use surfaces such as driveways, overflow parking lots, and emergency access roads.
- ◆ **Reducing Building Setbacks.** Reducing building setbacks reduces driveway and entry walks and is most readily accomplished along low-traffic streets where traffic noise is not a problem.
- ◆ **Constructing Cluster Developments.** Cluster developments can also reduce the amount of impervious area for a given number of lots. The biggest savings is in

street length, which also will reduce costs of the development. Cluster development "clusters" the construction activity onto less-sensitive areas without substantially affecting the gross density of development.

In summary, careful consideration of the existing topography and implementation of a combination of the above mentioned techniques may avoid construction of costly stormwater control measures. Other benefits include: reduced potential of downstream flooding, reduced water quality degradation of receiving streams and water bodies, enhancement of aesthetics, and reduction of development costs. Beneficial results include: more stable baseflows in receiving streams, improved groundwater recharge, reduced flood flows, reduced pollutant loads, and reduced costs for conveyance and storage.

EXHIBIT X - STORMWATER MANAGEMENT DESIGN CRITERIA

TABLE X-1 - RATIONAL METHOD RUNOFF COEFFICIENTS

Hydrologic Soil Group and Slope Range

| Land Use | A | | | B | | | C | | | D | | |
|----------------------|-------------------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|
| | 0 to 2% | 2 to 6% | 6+% | 0 to 2% | 2 to 6% | 6+% | 0 to 2% | 2 to 6% | 6+% | 0 to 2% | 2 to 6% | 6+% |
| Cultivated Land | 0.08 ^a | 0.13 | 0.16 | 0.11 | 0.15 | 0.21 | 0.14 | 0.19 | 0.26 | 0.18 | 0.23 | 0.31 |
| | 0.14 ^b | 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 1/8 acre | 0.25 | 0.28 | 0.31 | 0.27 | 0.30 | 0.35 | 0.30 | 0.33 | 0.38 | 0.33 | 0.36 | 0.42 |
| | 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 1/4 acre | 0.22 | 0.26 | 0.29 | 0.24 | 0.29 | 0.33 | 0.27 | 0.31 | 0.36 | 0.30 | 0.34 | 0.40 |
| | 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 1/3 acre | 0.19 | 0.23 | 0.26 | 0.22 | 0.26 | 0.30 | 0.25 | 0.29 | 0.34 | 0.28 | 0.32 | 0.39 |
| | 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 1/2 acre | 0.16 | 0.20 | 0.24 | 0.19 | 0.23 | 0.28 | 0.22 | 0.27 | 0.32 | 0.26 | 0.30 | 0.37 |
| | 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 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 |
| Gravel | 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 |
| 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 |

NOTES:
^a Runoff coefficients for storm recurrence intervals less than 25 years.
^b Runoff coefficients for storm recurrence intervals of 25 years or more.
 Source: Rawls, W.J., S.L. Long, and R.H. McCuen, 1981. Comparison of Urban Flood Frequency Procedures. Preliminary Draft Report prepared for the Soil Conservation Service, Beltsville, Maryland.

TABLE X-2 - RUNOFF CURVE NUMBERS (FROM NRCS (SCS) TR-55)

| Runoff Curve Numbers for Urban Areas | | | | | |
|---|---------------------------------|--|----|----|----|
| Cover Description | | Curve Numbers for Hydrologic Soil Groups | | | |
| Cover Type and Hydrologic Condition | Average Percent Impervious Area | A | B | C | D |
| <i>Fully Developed Urban Areas (Vegetation Established)</i> | | | | | |
| Open Space (lawns, parks, golf courses, etc): | | | | | |
| Poor Condition (grass cover < 50%) | | 68 | 79 | 86 | 89 |
| Fair Condition (grass cover 50% to 75%) | | 49 | 69 | 79 | 84 |
| Good Condition (grass cover > 75%) | | 39 | 61 | 74 | 80 |
| Impervious Areas: | | | | | |
| Paved Parking Lots, Roofs, Driveways, etc. | | 98 | 98 | 98 | 98 |
| Streets and Roads: | | | | | |
| Paved: Curbed and Storm Sewers | | 98 | 98 | 98 | 98 |
| Paved: Open Ditches | | 83 | 89 | 92 | 93 |
| Gravel | | 76 | 85 | 89 | 91 |
| Dirt | | 72 | 82 | 87 | 89 |
| Urban Districts: | | | | | |
| Commercial and Business | 85% | 89 | 92 | 94 | 95 |
| Industrial | 72% | 81 | 88 | 91 | 93 |
| Residential Districts by Average Lot Size: | | | | | |
| 1/8 Acres or less | 65% | 77 | 85 | 90 | 92 |
| 1/4 Acre | 38% | 61 | 75 | 83 | 87 |
| 1/3 Acre | 30% | 57 | 72 | 81 | 86 |
| 1/2 Acre | 25% | 54 | 70 | 80 | 85 |
| 1 Acre | 20% | 51 | 68 | 79 | 84 |
| 2 Acres | 12% | 46 | 65 | 77 | 82 |

| Runoff Curve Numbers for Cultivated Agricultural Lands | | | | | | |
|---|------------------------------|----------------------|--|----|----|----|
| Cover Description | | | Curve Numbers for Hydrologic Soil Groups | | | |
| Cover Type | Treatment | Hydrologic Condition | A | B | C | D |
| Fallow | Bare Soil | — | 77 | 86 | 91 | 94 |
| | Crop Residue Cover (CR) | Poor | 76 | 85 | 90 | 93 |
| | | Good | 74 | 83 | 88 | 90 |
| Row Crops | Straight Row (SR) | Poor | 72 | 81 | 88 | 91 |
| | | Good | 67 | 78 | 85 | 89 |
| | SR + CR | Poor | 71 | 80 | 87 | 90 |
| | | Good | 64 | 75 | 82 | 85 |
| | Contoured (C) | Poor | 70 | 79 | 84 | 88 |
| | | Good | 65 | 75 | 82 | 86 |
| | C + CR | Poor | 69 | 78 | 83 | 87 |
| | | Good | 64 | 74 | 81 | 85 |
| | Contoured & Terraced (C & T) | Poor | 66 | 74 | 80 | 82 |
| | | Good | 62 | 71 | 78 | 81 |
| C & T + CR | Poor | 65 | 73 | 79 | 81 | |
| | Good | 61 | 70 | 77 | 80 | |
| Small Grain | SR | Poor | 65 | 76 | 84 | 88 |
| | | Good | 63 | 75 | 83 | 87 |
| | SR + CR | Poor | 64 | 75 | 83 | 86 |
| | | Good | 60 | 72 | 80 | 84 |
| | C | Poor | 63 | 74 | 82 | 85 |
| | | Good | 61 | 73 | 81 | 84 |
| | C + CR | Poor | 62 | 73 | 81 | 84 |
| | | Good | 60 | 72 | 80 | 83 |
| | C & T | Poor | 61 | 72 | 79 | 82 |
| | | Good | 59 | 70 | 78 | 81 |
| C & T + CR | Poor | 60 | 71 | 78 | 81 | |
| | Good | 58 | 69 | 77 | 80 | |
| Close Seeded or Broadcast Legumes Or Rotation Meadow | SR | Poor | 66 | 77 | 85 | 89 |
| | | Good | 58 | 72 | 81 | 85 |
| | C | Poor | 64 | 75 | 83 | 85 |
| | | Good | 55 | 69 | 78 | 83 |
| | C & T | Poor | 63 | 73 | 80 | 83 |
| Good | | 51 | 67 | 76 | 80 | |

| Runoff Curve Numbers for Other Agricultural Lands | | | | | |
|---|-----------------------------|---|----------|----------|----------|
| Cover Description | | Curve Numbers for Hydrologic Soil Groups | | | |
| Cover Type | Hydrologic Condition | A | B | C | D |
| Pasture, Grassland, or Range – Continuous Forage for Grazing | Poor | 68 | 79 | 86 | 89 |
| | Fair | 49 | 69 | 79 | 84 |
| | Good | 39 | 61 | 74 | 80 |
| Meadow – Continuous Grass, Protected from Grazing and Generally Mowed for Hay | – | 30 | 58 | 71 | 78 |
| Brush – Brush, Weed, Grass Mixture with brush the major element | Poor | 48 | 67 | 77 | 83 |
| | Fair | 35 | 56 | 70 | 77 |
| | Good | 30 | 48 | 65 | 73 |
| Woods – Grass Combination (orchard or tree farm) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 43 | 65 | 76 | 82 |
| | Good | 32 | 58 | 72 | 79 |
| Woods | Poor | 45 | 66 | 77 | 83 |
| | Fair | 36 | 60 | 73 | 79 |
| | Good | 30 | 55 | 70 | 77 |
| Farmsteads – Buildings, Lanes, Driveways and Surrounding Lots. | – | 59 | 74 | 82 | 86 |

TABLE X-3 – MANNING'S EQUATION "n" ROUGHNESS COEFFICIENTS

| Description | Manning's "n" |
|---|---------------|
| Smooth-Wall Plastic Pipe | 0.011 |
| Concrete Pipe | 0.012 |
| Smooth-Lined Corrugated Metal Pipe | 0.012 |
| Corrugated Plastic Pipe | 0.024 |
| Annular Corrugated Steel And Aluminum Alloy Pipe (Plain or Polymer Coated) | |
| 68 mm × 13 mm (2 2/3 in × 1/2 in) Corrugations | 0.024 |
| 75 mm × 25 mm (3 in × 1 in) Corrugations | 0.027 |
| 125 mm × 25 mm (5 in × 1 in) Corrugations | 0.025 |
| 150 mm × 50 mm (6 in × 2 in) Corrugations | 0.033 |
| Helically Corrugated Steel And Aluminum Alloy Pipe (Plain or Polymer Coated) | |
| 75 mm × 25 mm (3 in × 1 in), 125 mm × 25 mm (5 in × 1 in), or 150 mm × 50 mm (6 in × 2 in) Corrugations | 0.024 |
| Helically Corrugated Steel And Aluminum Alloy Pipe (Plain or Polymer Coated) | |
| 68 mm × 13 mm (2 2/3 in × 1/2 in) Corrugations | |
| a. Lower Coefficients* | |
| 450 mm (18 in) Diameter | 0.014 |
| 600 mm (24 in) Diameter | 0.016 |
| 900 mm (36 in) Diameter | 0.019 |
| 1200 mm (48 in) Diameter | 0.020 |
| 1500 mm (60 in) Diameter or larger | 0.021 |
| b. Higher Coefficients** | 0.024 |
| Annular or Helically Corrugated Steel or Aluminum Alloy Pipe Arches or Other Non- Circular Metal Conduit (Plain or Polymer Coated) | 0.024 |
| Vitrified Clay Pipe | 0.012 |
| Ductile Iron Pipe | 0.013 |
| Asphalt Pavement | 0.015 |
| Concrete Pavement | 0.014 |
| Grass Medians | 0.050 |
| Grass – Residential | 0.030 |
| Earth | 0.020 |
| Gravel | 0.030 |
| Rock | 0.035 |
| Cultivated Areas | 0.030 - 0.050 |
| Dense Brush | 0.070 - 0.140 |
| Heavy Timber (Little undergrowth) | 0.100 - 0.150 |
| Heavy Timber (with underbrush) | 0.40 |
| Streams: | |
| Some Grass And Weeds (Little or no brush) | 0.030 - 0.035 |
| Dense Growth of Weeds | 0.035 - 0.050 |
| Some Weeds (Heavy brush on banks) | 0.050 - 0.070 |

Notes:

* Use the lower coefficient if any one of the following conditions apply:

- a. A storm pipe longer than 20 diameters, which directly or indirectly connects to an inlet or manhole, located in swales adjacent to shoulders in cut areas, shoulders in cut areas or depressed medians.
- b. A storm pipe which is specially designed to perform under pressure.

** Use the higher coefficient if any one of the following conditions apply:

- a. A storm pipe which directly or indirectly connects to an inlet or manhole located in highway pavement sections or adjacent to curb or concrete median barrier.
- b. A storm pipe which is shorter than 20 diameters long.
- c. A storm pipe which is partly lined helically corrugated metal pipe.

TABLE X-4 – MANNING'S EQUATION "n" ROUGHNESS COEFFICIENTS FOR TR-55 TIME OF CONCENTRATION CALCULATIONS (SHEET FLOW)

| Surface Description | Manning's "n" ¹ |
|---|----------------------------|
| Smooth Surfaces (Concrete, Asphalt, Gravel, or Bare Soil) | 0.011 |
| Fallow (No Residue) | 0.050 |
| Cultivated Soils: | |
| Residue Cover (less than or equal to 20%) | 0.060 |
| Residue Cover (greater than 20%) | 0.170 |
| Grass: | |
| Short Grass Prairie | 0.150 |
| Dense Grasses ² | 0.240 |
| Bermuda grass | 0.410 |
| Range (Natural) | 0.130 |
| Woods: ³ | |
| Light Underbrush | 0.400 |
| Dense Underbrush | 0.800 |

Notes:

1. The "n" values are a composite of information compiled by Engman (1986).
2. Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.
3. When selecting "n", consider cover to a height of about 0.1 feet. This is the only part of the plant cover that will obstruct sheet flow.