

**TOWNSHIP OF LOWER MOUNT BETHEL
NORTHAMPTON COUNTY, PENNSYLVANIA**

**ORDINANCE NO. 2013-__
(DULY ADOPTED _____, 2013)**

AN ORDINANCE OF LOWER MOUNT BETHEL TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA, ESTABLISHING NEW SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, PROVIDING FOR THE PURPOSE OF AND AUTHORITY FOR THE REGULATIONS, PROVIDING FOR DEFINITION OF TERMS, PROVIDING FOR GENERAL PLAN SUBMISSION PROCEDURES, PRE-APPLICATION DESIGN PROCEDURES, SKETCH PLAN, PRELIMINARY PLAN AND FINAL PLAN SUBMISSION PROCEDURES, PROVIDING FOR THE REQUIRED CONTENT FOR VARIOUS PLAN SUBMISSIONS AND OUTLINING THE REQUIREMENTS FOR VARIOUS IMPACT AND RESOURCE STUDIES, PROVIDING FOR DESIGN STANDARDS FOR IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO BLOCK LAYOUT, ROADS, DRIVEWAYS, CURBS, SIDEWALKS, TRAILS, EASEMENTS, LANDSCAPING, SCREENING, WATER SUPPLY, SEWAGE DISPOSAL, GRADING, DEDICATION OF RECREATION LANDS AND FEES IN LIEU THEREOF, CARBONATE GEOLOGY AND NATURAL RESOURCE CONSERVATION, PROVIDING FOR IMPROVEMENT GUARANTEES, INSPECTIONS, SECURITY AND ACCEPTANCE OF IMPROVEMENTS, PROVIDING FOR GENERAL ADMINISTRATION STANDARDS, PROVIDING FOR A REPEALER, FOR SEVERABILITY OF PARTS OF THIS ORDINANCE DEEMED TO BE INVALID AND FOR AN EFFECTIVE DATE

WHEREAS, Lower Mount Bethel Township (“**Township**”) is a Second Class Township situated in Northampton County, Commonwealth of Pennsylvania; and

WHEREAS, pursuant to the Pennsylvania Municipalities Planning Code, Act 247 of July 31, 1968, reenacted and amended by Act 170 of December 21, 1988, P.L. 1329, as subsequently amended from time to time (“**MPC**”), the Township adopted a subdivision and land development ordinance on January 17, 1990 (“**1990 SALDO**”); and

WHEREAS, the Township desires to re-enact, amend and restate the 1990 SALDO in its entirety consistent with the terms of this Ordinance.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Board of Supervisors of Lower Mount Bethel Township, County of Northampton, Commonwealth of Pennsylvania as follows:

Section 1. 2013 Subdivision and Land Development Ordinance.

The Lower Mount Bethel Township Board of Supervisors does hereby enact and ordain as the Township's official Subdivision and Land Development Ordinance those provisions attached hereto as Exhibit "A".

Section 2. Repealer.

The 1990 SALDO and any other ordinance, resolution and/or other regulation of the Township in conflict herewith are hereby repealed. All other provisions of the ordinances, resolutions and/or other regulations of Lower Mount Bethel Township, Northampton County Pennsylvania shall remain in full force and effect.

Section 3. Severability.

It is hereby declared to be the Board of Supervisors' intent that:

A. If a court of competent jurisdiction declares any provisions of this Ordinance to be invalid or ineffective in whole or in part, the effect of such decision shall be limited to those provisions which are expressly stated in the decision to be invalid or ineffective, and all other provisions of this Ordinance shall continue to be separately and fully effective.

B. If a court of competent jurisdiction finds the application of any provision or provisions of this Ordinance to any lot, building or other structure, or tract of land, to be invalid or ineffective in whole or in part, the effect of such decision shall be limited to the person, property, or situation immediately involved in the controversy, and the application of any such provision to other persons, property, or situations shall not be affected.

Section 4. Effective Date.

This Ordinance shall become effective five (5) days following the date of adoption by the Board of Supervisors.

DULY ENACTED AND ORDAINED as an Ordinance of Lower Mount Bethel Township, this ____ day of _____, 2013 by a majority of the Board of Supervisors of the Township of Lower Mount Bethel, Northampton County, Pennsylvania, at a duly advertised meeting of the Board of Supervisors at which a quorum was present. As part of this Ordinance, the Board of Supervisors has directed that the Chairperson, or Vice-Chair in the absence of the Chairperson, execute this Ordinance on behalf of the Board.

TOWNSHIP OF LOWER MOUNT BETHEL
BOARD OF SUPERVISORS

By: _____
Stuart Gallaher, Chairperson

Attest:

Lori A. Stauffer, Secretary
(Seal)

Exhibit "A"

**Lower Mount Bethel Township
2013 Subdivision and Land Development Ordinance**

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

**LOWER MOUNT BETHEL TOWNSHIP
NORTHAMPTON COUNTY, PENNSYLVANIA**

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ARTICLE I

PURPOSE AND AUTHORITY

Section 100 Title

An ordinance establishing rules, regulations, and standards governing the subdivision and development of land within Lower Mount Bethel Township, setting forth the procedures to be followed by the Board of Supervisors and Planning Commission in administering these rules, regulations and standards, and setting forth the penalties for the violation thereof.

Section 101 Short Title

These regulations shall be known and may be cited as “The Lower Mount Bethel Township Subdivision and Land Development Ordinance.”

Section 102 Purpose

The regulations are adopted for the following purposes:

- A. To further the goals and policies of the Lower Mount Bethel Township Comprehensive Plan, including but not limited to, promoting the conservation and enhancement of the rural character of the Township.
- B. To promote the health, safety, and general welfare of the residents of Lower Mount Bethel Township.
- C. To ensure the development of land will be conducted with due regard to topography, geologic conditions, and natural and cultural resources, so that the highest quality environment is obtained.
- D. To ensure that proper provision shall be made for pedestrian and vehicular access and circulation, stormwater management, water supply, wastewater treatment and disposal, public utilities and other community services and facilities, and to provide for adequate coordination of existing and new facilities.
- E. To provide for adequate light, air, recreation, road trees, and landscape quality.
- F. To encourage and promote flexibility, economy and ingenuity in the layout and design of subdivisions and land developments to facilitate realization of these purposes.
- G. To establish procedures and standards for applicants, the Planning Commission and the Board of Supervisors.

Section 103 Authority

This Ordinance has been prepared under the authority and is consistent with the terms and requirements of the Pennsylvania Municipalities Planning Code (53 P.S. §10101 et seq., Act 1988-170, as amended) (MPC). It is intended to further the objectives of Article I, Section 27 of the Constitution of the Commonwealth of Pennsylvania and of the Lower Mount Bethel Township Comprehensive Plan.

Section 104 Jurisdiction

- A. Subdivision and Land Development Control. It shall be unlawful for any person owning or controlling any land in Lower Mount Bethel Township, to sell lots not yet lawfully subdivided, to subdivide any lot, tract, parcel of land, or interior or exterior space by leasehold or other means, including but not limited to the creation of condominium units, to otherwise undertake any land development as defined herein, or to lay out, construct, open or dedicate for public use or travel, any road, sanitary or storm sewer drainage facility or other facility in connection therewith, for the use of occupants of buildings located within the subdivision or land development, unless the following conditions have been met:
1. Final plans for any such subdivision or land development shall: (a) have been prepared and signed by and sealed by a professional engineer or land surveyor or landscape architect registered in the Commonwealth of Pennsylvania, as permitted by the applicable registration laws, duly and currently in force; (b) have been signed by the applicant(s) and record land owner(s); (c) have been submitted to and approved in writing thereon by the Board of Supervisors subsequent to meeting all applicable requirements set forth in this Ordinance; and (d) have been recorded in the Northampton County Recorder of Deeds office in Easton, Pennsylvania; and
 2. Proper completion of any improvements required by this Ordinance and any other Township resolution, regulation and/or policy has been guaranteed by deposit of funds or financial security sufficient to cover the cost of improvements, inspections and legal fees, as address in Article VI of this Ordinance.
- B. In order to aid the Board of Supervisors in their considerations of subdivision and land development applications, the Board of Supervisors hereby decrees that the Planning Commission of Lower Mount Bethel Township shall serve the following functions:
1. All plans, whether major or minor, upon submission to the duly-authorized representative of the Township, shall be referred to the Planning Commission for review.

2. The Planning Commission shall make recommendations to the Board of Supervisors concerning approval, disapproval, modification, and/or conditions for approval of such plans.
 3. The Planning Commission shall make recommendations to the Board of Supervisors concerning the interpretation and the modification of the provisions and standards of this Ordinance.
- C. Prior to the approval of any plan by the Board of Supervisors, a complete copy of the proposed submission shall have been transmitted to the Lehigh Valley Planning Commission, and the Commission shall have thirty (30) days in which to review and make recommendation(s) in the form of a report to the Board in regard to such submission. Pending the receipt and consideration of such report, the Board of Supervisors shall defer action thereon, but if such report is not received by the Board within thirty (30) days from the submission of the plan to the Lehigh Valley Planning Commission, or within such further time as may be agreed upon by the Board of Supervisors, the Board may proceed to final action thereon.

Section 105 Interpretation

The provisions of this Ordinance shall be held to be minimum requirements to meet the above stated purposes. Where the provisions of this Ordinance impose greater restrictions than those of any statute, other ordinance, or regulation, the provisions of this Ordinance shall prevail. Where the provisions of any statute, other ordinance or regulation impose greater restrictions than those of this Ordinance, the provisions of such statute, ordinance, or regulation shall prevail.

Section 106 Severability

It is hereby declared to be the Board of Supervisors' intent that:

- A. If a court of competent jurisdiction declares any provisions of this Ordinance to be invalid or ineffective in whole or in part, the effect of such decision shall be limited to those provisions which are expressly stated in the decision to be invalid or ineffective, and all other provisions of this Ordinance shall continue to be separately and fully effective.
- B. If a court of competent jurisdiction finds the application of any provision or provisions of this Ordinance to any lot, building or other structure, or tract of land, to be invalid or ineffective in whole or in part, the effect of such decision shall be limited to the person, property, or situation immediately involved in the controversy, and the application of any such provision to other persons, property, or situations shall not be affected.

Section 107 Repealer

All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed to the extent that such Ordinances or parts of Ordinances are inconsistent herewith. The Lower Mount Bethel Township Subdivision and Land Development Regulations of 1990, and subsequent amendments thereto, are hereby specifically repealed.

Section 108 Effective Date

This Ordinance shall become effective five (5) days following the date of adoption by the Board of Supervisors.

ARTICLE II DEFINITIONS

Section 200 General

- A. Unless otherwise expressly stated or the context clearly indicates another meaning, the following words and phrases shall be construed throughout the Ordinance to have the meanings indicated below.

- B. For the purpose of this Ordinance, words and terms used herein shall be interpreted as follows:
 - 1. Words used in the present tense include the future.
 - 2. The singular includes the plural, and the plural includes the singular, except that such interchange of meaning shall not apply where numbers in the text refer to specific minimum and maximum quantities.
 - 3. The masculine gender includes the feminine and neuter.
 - 4. The word “person” includes an individual, estate, trust, firm, corporation, partnership, company, association, incorporated association or government entity and any department, board, bureau or agency thereof, and any other legal entity which is recognized by law and shall include trustees, receivers, assignees, and similar representatives or entities.
 - 5. The word “lot” includes the words “plot”, “parcel” or “tract.”
 - 6. The words “may” and “should” are permissive. The words “shall”, “must”, and “will” are mandatory.
 - 7. The word “used” as applied to any land or building shall be construed to include the words “intended, arranged, or designed to be used.”
 - 8. The word “occupied” as applied to any land or building shall be construed to include the words “intended, arranged, or designed to be occupied.”
 - 9. The words “as amended from time to time” and the like as applied to any statute, ordinance, code, regulation, plan or map, includes replacements, supplements or restatements thereof.
 - 10. References to a particular Article, Section or Subsection which inherently refers to other Articles, Sections or Subsections, includes all Articles, Sections or Subsections referred to.

11. The word “Supervisors” and the words “Board of Supervisors,” where not otherwise specified, shall mean the Lower Mount Bethel Township Board of Supervisors.
 12. The words “Governing Body” refer to the Lower Mount Bethel Township Board of Supervisors.
 13. The word “Commission” and the words “Planning Commission” or “Township Planning Commission,” where not otherwise specified, shall mean the Lower Mount Bethel Township Planning Commission.
 14. The words “Zoning Ordinance” shall refer to the Lower Mount Bethel Township Zoning Ordinance, as amended from time to time.
 15. The words “comprehensive plan” refer to the then-current version of the Lower Mount Bethel Township Comprehensive Plan.
- C. The terms “such as”, “including” and the like are intended to introduce matters which are illustrative of the meaning of the sentence, clause or phrase in which such terms appear without limiting or derogating from the general application of the sentence, clause or phrase in which such terms appear. The word "includes" or "including" shall not limit the term to the specified example, but is intended to extend its meaning to all other instances of like kind and character and is considered interchangeable with the phrase “including but not limited to”.
- D. The word “building” includes structure and shall be construed as if followed by the phrase “or part thereof”.
- E. In addition to the definitions in this article, additional definitions in this or other ordinances, applicable regulations, or appendices thereto may apply or be called into application by reference. In case of conflict, the more stringent or restrictive definition shall apply.
- F. Any word or term not defined herein shall be used with a meaning of standard usage.
- G. Within this Ordinance, generalized goals or policies are included to provide guidance to applicants. To the extent that a specific standard is also included which could possibly be read as being inconsistent with generalized goals or policies, the specific standards found within this Ordinance shall control and supersede generalized goals or policies.

Section 201 Definitions

For the purpose of this Ordinance, the following words, terms, and phrases have the meaning indicated herein:

ABUTTING – Any parcel, feature or improvement which is contiguous at any point to another parcel, feature or improvement or which is on the other side of a section of street (public or private) on which the subject parcel, feature or improvement has frontage.

ABUTTING OWNER – The owner of record of a parcel of land which is contiguous at any point to the parcel in question or which is on the other side of a section of street (public or private) on which the subject parcel has frontage i.e., a lot across from the subject parcel.

ACCESS DRIVE – An ingress/egress road or way serving commercial, industrial, institutional and residential developments excluding driveways to individual residential units.

ACRE – An area of land and/or water which equals forty three thousand, five hundred sixty (43,560) square feet, measured on horizontal plans.

ACTIVE RECREATIONAL AREA – Land devoted to uses involving leisure time activities and/or areas, typically involving sports, requiring equipment, or occurring at prescribed sites or fields, (e.g., soccer, football, baseball, tennis, swimming, fitness trails, and the like).

ADJACENT – See **ABUTTING**.

AGENT – Any person other than the applicant or developer, including but not limited to a consultant, contractor, subcontractor, representative, licensee or invitee, who, acting for the applicant or developer, submits to the Township an application for development and/or subdivision or land development plans for the purpose of obtaining approval thereof.

AGRICULTURAL USE or PURPOSE – Those land uses which are devoted to the growing and harvesting of agricultural, horticultural, silvicultural, aquacultural, and viticulture crops and commodities and dairy products, livestock, including, but not limited to, raising dairy cattle, beef cattle, sheep, swine, horses, ponies, mules, goats, ranch raised fur bearing animals, poultry and bee raising, forestry, sod crops, and any and all products raised on farms intended for human or animal consumption or other uses. Property used to commercially board the aforementioned animals shall be considered to be in “agricultural use.” Agricultural Use or Purpose shall not include commercial slaughtering or rendering operations.

AGRICULTURAL SOILS – Unless otherwise specified, soils classified in the current edition of the Soil Survey of Northampton County as land capacity Classes I, II, III and IV, which may be considered prime agricultural soils or soils of statewide significance.

ALLUVIAL SOILS – Areas subject to periodic flooding or defined as alluvial in the current edition of the Soil Survey of Northampton County; soil formed from the deposit of sediment in flowing water.

ALTERATION –

- A. As applied to land, any change in topography as a result of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; or any change which would alter the type or method of wastewater disposal system; any land disturbance.
- B. As applied to buildings or other structures, any change or rearrangement, other than a repair, in the supporting members of an existing building such as bearing walls, columns, beams, or girders, as well as any change in exterior doors or windows, or any enlargement to or diminution of a building or structure, whether horizontally or vertically, or moving of a building or structure from one (1) location to another.

APARTMENT – See DWELLING.

APPLICANT – A landowner, developer, contract purchaser (equitable owner), or his, her or its authorized agent who has filed a complete application for subdivision and/or land development, including his, her or its heirs, executors, personal representatives, successors, assigns and grantees.

APPLICATION and APPLICATION FOR DEVELOPMENT – Every application, for subdivision or land development, whether sketch, preliminary or final, either recommended (sketch), or required (preliminary and final) to be filed and approved prior to the start of construction or development, including but not limited to an application for a building permit, for the approval of a subdivision plat or plan, or for approval of a land development plan, including the application form itself, all plan sheets, storm water flow calculations and all other calculations, reports and studies required to be submitted by this Ordinance or applicable regulation.

ASTM – American Society for Testing and Materials.

AUTHORITY – A body, politic and corporate, created pursuant to the Municipal Authorities Act of 1945, as amended from time to time.

AWWA – American Water Works Association.

BERM – A mound of earth, natural or manmade, which serves purposes such as: directing the flow of surface water runoff, preventing soil erosion, or supporting plant materials or fencing to aid in screening or buffering.

BEST MANAGEMENT PRACTICES (BMPs) – Management practices, activities, facilities, measures, procedures or methods for controlling stormwater runoff which provide hydrological (i.e., reduction of runoff volumes) and water quality (i.e., reduction of pollutants) benefits.

BIKE LANES – Lanes located on the paved surface or shoulder of a street.

BLOCK – A parcel of land bounded on all sides by any combination of streets, public park land, railroad right-of-way, waterways, the corporate boundaries of Lower Mount Bethel Township, or any other barrier to the continuity of development.

BOARD – The Board of Supervisors of Lower Mount Bethel Township, Northampton County, PA, or the official, person, or committee designated by the Board of Supervisors to act with respect to a particular matter set forth herein.

BUFFER (AREA) – A defined portion of a parcel or lot proposed for development appropriate for the planting of, or retention of, suitable hardwood and/or evergreen trees, shrubs, bushes, grasses or other landscaping materials, including modifications to existing contours where appropriate, to create an acceptable transition between adjacent and potentially incompatible land uses or to screen glare and noise or create a visual barrier or otherwise reduce the potential for conflicts between them, within which no structure is permitted except a fence.

BUILDING – A combination of materials forming a permanent structure having walls and a roof. For the purposes of this Ordinance, a building includes manufactured homes and trailers for human habitation.

BUILDING COVERAGE – See **COVERAGE, BUILDING**.

BUILDING PERMIT – An approval statement signed by the Zoning Officer and the Township’s Building Code Official, indicating compliance with the Lower Mount Bethel Township Zoning Ordinance and any other ordinances or regulations, authorizing the construction, alteration, reconstruction, restoration, demolition or razing of all or a part of any building or structure within the Township.

BUILDING SETBACK LINES –

- A. **Building Setback Line, Front** – A line parallel to the right-of-way line at the front of a lot at a distance equal to the depth of the minimum front yard, as designated for each use and each district by the Township zoning ordinance.

- B. Building Setback Line, Side – A line parallel to the side lot line at a distance there from equal to the depth of the minimum side yard, as designated for each use and each district by the Township zoning ordinance.
- C. Building Setback Line, Rear – A line parallel to the rear lot line at a distance from the rear lot line equal to the depth of the minimum rear yard, as designated for each use and each district by the Township zoning ordinance.

CALIPER – The maximum thickness or diameter of nursery stock trees at a point on the trunk six (6”) inches above the natural ground line for trees up to four (4”) inches in diameter and at a point twelve (12”) inches above the natural ground for trees over four (4”) inches in diameter. Diameter measurements for existing trees shall be taken as defined under “diameter at breast height” or “DBH” in this section.

CAPZO – the Township zoning ordinance amendment adopted by Ordinance 2010-05, known as the Comprehensive Agricultural Protection Zoning Ordinance

CARTWAY – The surface portion of a street which is paved, improved, designated, available or intended for vehicular use.

CENTERLINE OF STREET – A line in the center of a street which is equidistant from and parallel to the street lines.

CLEAR-SIGHT DISTANCE – The distance along a public or private road in which a driver of a stopped vehicle on a driveway, access drive or intersecting road needs to safely pull out and enter onto the main road. See Pennsylvania Code, Title 67, transportation, Chapter 441, “Access to and Occupancy of Highways by Driveways and Local Roads”.

CLEAR SIGHT TRIANGLE – An area of unobstructed vision at street intersection defined by lines of sight between points at a given distance from the intersection down the center lines of the intersecting streets.

COMMON OPEN SPACE – See OPEN SPACE, COMMON.

COMMON DRIVEWAY – See DRIVEWAY, SHARED OR COMMON.

COMMUNITY FACILITIES – The services which provide for various community health, education, safety, leisure, and like needs and the locations at which these services are provided. Typical community facilities include: schools, parks and recreation areas, libraries, health care facilities, fire protection, police, ambulance and rescue services and postal services.

COMPREHENSIVE PLAN – A long-range policy plan intended to guide the growth and development of Lower Mount Bethel Township and adopted as the Lower Mount Bethel Township Comprehensive Plan by the Board of Supervisors, as amended and its successor provisions, consisting of maps, charts and textual material.

CONDOMINIUM – A type of ownership wherein each apartment or dwelling unit is owned in fee by its occupant, while the land and such appurtenances as driveways, parking areas, sidewalks, landscaping, swimming pools and other recreation facilities, road lighting, heating facilities, entrance lobbies, halls, elevators and on-site utilities remain under the ownership, with full responsibility for maintenance, of the developer or any organization holding title to such land and appurtenances in accordance with the Pennsylvania Uniform Condominium Act of 1980 (68 Pa.C.S. §§ 3101-3404). The unit may be any permitted dwelling type.

CONSERVATION DISTRICT – The Northampton County Conservation District.

CONSTRUCTION, CONSTRUCTION OPERATION OR ACTIVITY – Any activity which may involve construction, reconstruction, interior renovation, repair, extension, expansion, alteration, or relocation of a building or structure, including the placement of mobile homes and the excavation, cutting, filling, and grading of lots in connection therewith or in preparation thereof.

COVERAGE, BUILDING – The ratio of the total ground floor area of all buildings on a lot to the total area of the lot on which they are located; the percentage of the lot area covered by buildings.

COVERAGE, IMPERVIOUS – See IMPERVIOUS COVER.

CROSSWALK – A marked or specially constructed crossing of a public or private road or other vehicular accessway designed to enhance pedestrian safety and facilitate pedestrian circulation.

CUL-DE-SAC – A form of a single access street with access at one end and terminated at the other by a vehicular turnaround.

CULVERT – A structure, including appurtenant works, which carries water under or through an embankment or fill.

CUT – The removal of soil or rock from its natural or predevelopment location.

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

DBH (dbh) – See DIAMETER AT BREAST HEIGHT.

DATE OF FILING – Date on which a completed application together with all required information, fees, etc., is received by the Township Secretary.

DECISION – Final adjudication of any board or other body granted jurisdiction under this ordinance or the Pennsylvania Municipalities Planning Code (Act 247, as amended) to do so, either by reason of the grant of exclusive jurisdiction or by reason of appeals from determinations.

DEP – Pennsylvania Department of Environmental Protection, formerly Pennsylvania Department of Environmental Resources. See PADEP.

DENSITY – A measure of the number of dwelling units per unit of area calculated by dividing the number of dwelling units by the site area, usually expressed in dwelling units (DU) per acre.

DESIGNATED OPEN SPACE – Areas allocated to meet requirements for open space where applicable.

DESIGN STANDARDS – Regulations adopted pursuant to this ordinance imposing specific improvement requirements by which a subdivision or land development is developed.

DESIGN STORM – The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., 50-year storm) and duration (e.g., 24-hour), and used in the design and evaluation of stormwater management systems.

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

DETERMINATION – The final action by an officer, body or agency charged with the administration of any land use ordinance or application, except the following: (i) the Board of Supervisors; and (ii) the zoning hearing board. Determinations shall be appealable only to the boards designated as having jurisdiction for such appeals.

DEVELOPER – Any landowner, agent of such landowner, contract purchaser, or tenant with the permission of such landowner, or equitable owner who makes or causes to be made a subdivision of land or a land development, including his, her or its heirs, executors, personal representatives, successors, assigns and grantees.

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; and the subdivision of land.

DEVELOPMENT PLAN – A sketch, preliminary or final plan, submitted in compliance with the requirements of this Ordinance, showing the provisions for development of a tract of land and including all information required pursuant to this Ordinance, including all covenants relating to use, location of buildings and other structures, intensity of use or density of development, streets, and parking facilities, common open space and public facilities.

DIAMETER AT BREAST HEIGHT (dbh) – The diameter of a tree trunk, measured at four and one-half (4.5) feet from the ground surface at the point of the highest elevation in contact with the trunk of such tree.

DRAINAGE – The flow of water or liquid waste and the methods of directing such flow, whether natural or artificial.

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

DRAINAGE FACILITY – Any ditch, gutter, pipe, culvert, storm sewer, retention basin, detention basin, or other structure designed, intended, or constructed for the purpose of controlling or diverting surface waters or carrying surface waters off streets, public rights-of-way, parks, recreational areas, or any part of any subdivision, land development, or contiguous land areas.

DRIP LINE – A generally circular line, the circumference of which is determined by the outer reaches of a tree's widest branching points.

DRBC – Delaware River Basin Commission.

DRIVEWAY – A private ingress/egress to a street from private property.

DRIVEWAY, SHARED OR COMMON – A driveway which is shared by separate lots.

DULY FILED – An application for approval by the Township which is complete in terms of plans, reports, studies, maps, investigations, analyses, exhibits, fees, and the like required by this Ordinance. Applications for permits, subdivision, land development and the like shall not be considered as being duly filed unless all plans, accompanying information and applicable fees are submitted as required by the Township.

DWELLING – Any building or other structure designed for, and occupied exclusively for, residential purposes, including an apartment and mobile home which is supported either by a foundation or is otherwise permanently attached to the land, but excluding rental units in a motel, rooming house, bed and breakfast, tourist

home, institutional home, dormitory, and the like. It is the intention to include within the definition of dwelling, all recognized housing types, architectural types or styles, or combinations thereof, whether such housing units are for lease or for sale. Dwelling types include, but are not limited to, the following:

- A. SINGLE-FAMILY DETACHED DWELLING – A building designed for and occupied exclusively as a residence, containing one (1) dwelling unit for a single family and having no common or party wall with an adjacent dwelling, and having yards on all sides. Where a private garage is structurally attached to such building, it shall be considered as part thereof.
- B. SINGLE-FAMILY SEMI-DETACHED DWELLING (TWIN) – A building designed for and occupied exclusively as a residence, containing two (2) dwelling units separated by a vertical common or party wall extending from ground to roof and having yards on all but one (1) side.
- C. TWO-FAMILY DETACHED DWELLING (DUPLEX) – A building designed for and occupied exclusively as a residence, containing two (2) distinct single-family dwelling units totally separated from each other by a horizontal party wall.
- D. MULTI-FAMILY DWELLING – A residential building containing two (2) or more distinct dwelling units, each with independent kitchen, bathroom and bedroom facilities including, but not limited to, the following:
 - 1. Townhouse (Single-Family Attached Dwelling) – A building containing at least three (3) distinct dwelling units separated by a vertical common party wall, each one (1) dwelling unit from ground to roof, independent outside access, having yards on two (2) sides except dwelling units at either end of the building with yards on three (3) sides.
 - 2. Four-Plex or Quadraplex – A building containing four (4) distinct dwelling units, each of which has: independent inside access through a common area or independent outside access, two (2) non-parallel party walls in common with adjacent dwelling units, and yards on two (2) non-parallel sides.
 - 3. Apartment – A building containing three (3) or more distinct dwelling units separated by common party walls which may have more than one (1) dwelling unit from ground to roof and common outside access(es).

DWELLING UNIT – A building or portion thereof, forming a single habitable unit with facilities which are used or intended to be used for living, sleeping, cooking and eating exclusively by one (1) family.

EAC – The Environmental Advisory Council of Lower Mount Bethel Township.

EARTH DISTURBANCE ACTIVITY – Any activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, mining, excavation, embankments, road maintenance, construction and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

EASEMENT – An interest in land, owned by a party other than the owner of the fee interest in the land, that entitles the holder to a specific use, purpose, or enjoyment of the land, or to enforcement of restriction(s) on the use of the land or structures thereon.

ENGINEER – A person duly licensed and registered by the Commonwealth of Pennsylvania to practice professional engineering.

ENGINEER, TOWNSHIP – A licensed Pennsylvania registered professional engineer, duly appointed by the Lower Mount Bethel Township Board of Supervisors as the engineer for the Township.

ENLARGEMENT – An addition to the floor area or the increase in size or volume of an existing structure, an increase in the area of a parcel which is occupied by an existing use, or an increase in the intensity of a use as a result of increased parking, traffic generation, sewage disposal system or other impacts on surrounding land uses, existing or zoned.

EROSION – The wearing away of soil, bedrock or land surface by water, wind, ice, chemical, or other natural force.

EROSION, ACCELERATED – The removal of the surface of the land through the combined action of man's activity and the natural processes at a rate greater than would occur because of the natural process alone.

EROSION, CHANNEL – The widening and deepening of waterways due to erosion.

ERSAP – Existing Resources and Site Analysis Plan.

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

EXISTING CONDITIONS – The initial condition of a project site prior to the proposed construction.

FENCE – An accessory wall or structure composed of wood, iron, steel, vinyl, brick, stone, decorative block, concrete block and/or other similar materials constructed, hedges (which may include shrubbery, trees (excluding shade trees) or other plants) or other material erected in such a manner and positioned as to enclose, or partially enclose, or inhibit the view of any premises or along any part of any premises. Trellises or other structures supporting, or for the purpose of supporting, vines, flowers and other vegetation when erected in such position as to enclose any premises or any part of any premises shall be included within the definition of "fence". Electronic or sound controlled invisible fences shall not be included within the definition of the word "fence."

FILL – Any act by which earth, sand, gravel, rock or any other material is placed, pushed, dumped, pulled, transported or moved to a new location above the natural surface of the ground or on top of the stripped surface, including all conditions resulting therefrom.

FINISHED GRADE or FINISHED ELEVATION – The final vertical elevation of the ground surface after development.

FLAG LOT – See LOT, FLAG.

FLOOD – A general and temporary inundation of normally dry land by water.

FLOOD, ONE HUNDRED (100) YEAR – A flood that, on the average, is likely to occur once every one hundred (100) years (i.e., that has a one [1] percent chance of occurring each year, although the flood may occur in any year).

FLOODPLAIN OR FLOODPLAIN AREA – A relatively flat or low area of land which is subject to partial or complete inundation from an adjoining or nearby stream, river, or watercourse, and/or an area subject to the unusual and rapid accumulation of runoff or surface waters from any source.

FLOODPLAIN MAPS – Those maps prepared by the Federal Emergency Management Agency (FEMA) for Lower Mount Bethel Township, delineating the Floodplain, as may be amended from time to time.

FOREST – See WOODLANDS.

FORESTED LAND CLEARING PLAN – A plan submitted in conformance with the provisions of this Ordinance which describes by means of text and maps proposed actions involving the removal of trees from a tract of land. Such plan shall have been prepared by a professional with demonstrable expertise in woodland or forest management, and shall document measures to be taken to: protect water quality; minimize impacts from skid trails and logging roads, land areas, and the tree removal process; and ensure site restoration.

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.

GRADE –

- A. **GRADE** (noun) – A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein.
- B. **TO GRADE** (verb) – 1) To finish the surface of a roadbed, top of embankment or bottom of excavation; 2) To change the surface of the ground by excavation or fill or a combination thereof; the act of moving earth.

GRADING – “To Grade” as defined above.

GROSS FLOOR AREA – The sum of the horizontal areas of all floors of a building measured from the exterior face of exterior walls, or from the centerline of a wall separating two (2) buildings, but not including interior parking spaces, loading space for motor vehicles, or any space where the average floor-to-ceiling height is less than six (6) feet.

GREYWATER – Wastewater generated from domestic activities such as laundry, dishwashing and bathing which may be recycled on-site for uses such as landscape irrigation, and constructed wetlands, subject to receiving appropriate County and Commonwealth department approvals.

GROUNDWATER RECHARGE – The process by which water from above the surface is added to the saturated zone of an aquifer by indirect methods.

HALF OR PARTIAL STREET – A street, parallel and adjacent to a property line, having a lesser right-of-way width than required for satisfactory improvement and use of the street.

HAZARDOUS MATERIALS – Any hazardous or toxic substances, material or waste or petroleum derivative which is or becomes regulated by any environmental-related law. The term “Hazardous Material” includes, without limitation, any material or substance which is (i) designated as a “hazardous substance” pursuant to Section 1311 of the Federal Water Pollution Control Act (33 U.S. C. Section 1317, (ii) defined as a “hazardous waste” pursuant to Section 1004 of the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. (42 U.S. C. Section 6903), or (iii) defined as a “hazardous substance” pursuant to Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq (42 U.S.C. Section 9601).

HEDGEROW – A linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, fence lines, property lines, or between fields, and may occur naturally or be specially planted (e.g., as a windbreak). Hedgerows are considered woodlands and regulated as such.

HERITAGE TREE – Any tree greater than twenty-four (24) inches dbh shall be considered a Heritage Tree, with the exception of invasive alien species. The Township may designate as additional Heritage Trees any tree or other plant selected as uniquely representative of a class or group in terms of size, shape, form, age, historical importance, scenic qualities, visual prominence or other characteristics. Trees or other plants determined to be dead or diseased or in any manner constituting a safety hazard shall not be considered Heritage Trees.

HISTORIC RESOURCE – Any building, structure, or site that is:

- A. Listed individually on the National Register of Historic Places, maintained by the National Park Service, Department of the Interior (NPS);
- B. Determined by NPS or the Pennsylvania Historical and Museum Commission (PHMC) to be a contributing property to the significance of a National Register listed or eligible historic district;
- C. Determined by NPS or PHMC to be eligible (“determination of eligibility” or DOE) for listing either individually or as part of a historic district on the National Register; or
- D. Listed on any Lower Mount Bethel Township Historic Sites Survey or Inventory.

HOMEOWNERS' ASSOCIATION – A non-profit organization of homeowners or property owners, planned and operated pursuant to the Pennsylvania Uniform Planned Community Act (68 Pa.C.S. §§ 5101 *et. seq.*), under approved rules and regulations, for the purpose of administering to the needs of residents through the maintenance of community-owned property or facilities.

HYDRIC SOILS – Soil that is saturated, flooded, or ponded, long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of wetlands vegetation. Wetlands vegetation includes those plant species that have adapted to saturated soils and periodic inundations occurring in wetlands. Hydric soils include any soil inventoried or described as hydric or as a soil with hydric inclusions according to the Soil Survey of Northampton County, Pennsylvania (most current data available) or other information provided by the Natural Resource Conservation Service (NRCS).

HYDROGEOLOGIST – A registered, professional person trained and having experience in the areas of hydrology and geology that deal with groundwater, its occurrence

and movements, in its replenishment and depletion, the properties of rocks that control groundwater movement and storage, and the methods of investigation and utilization of groundwater.

HYDROLOGIC SOIL GROUP – A classification of soils by the Natural Resources Conservation Service into four runoff potential groups. The groups range from A soils, which are very permeable and produce little runoff, to D soils, which are not very permeable and produce much more runoff.

HYDROLOGIC STUDY – An analysis of the volume and velocity of water flow through a watershed consistent with standardized modeling practices such as Natural Resources Conservation Service TR-20 Model.

IMPERVIOUS COVER – Any surface or material which is impenetrable or unable to absorb water, or allow for groundwater recharge, including but not limited to buildings, structures, roof overhangs, and paved areas including parking areas, driveways, streets, sidewalks, and other such areas in concrete, stone, or asphalt. In addition, other areas determined by the Township Engineer to be impervious within the meaning of this definition shall also be considered as contributing to total impervious cover.

IMPERVIOUS SURFACE RATIO – A ratio which is measured by dividing the total areas of all impervious surfaces within the site by the site area.

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

IMPROVEMENTS – Any and all physical improvements, additions, changes enhancements, augmentations, conditions, common amenities and facilities to the land (whether or not the same are intended to be offered for dedication). Improvements shall include, but not be limited to streets (including but not limited to: curbing, base course, binder course, wearing course, sub-base, excavation to rough grade, saw cutting and milling), erosion and sedimentation control facilities (including but not limited to: any proposed temporary E&S measures, rock construction entrance(s), silt fences, tree protection fences, baffles, temporary seeding of stockpiles, matting and inlet protection), stormwater management facilities (including but not limited to: swales, piping, inlets, manholes, end walls, head walls, outlet structures, level spreaders, detention basins (including topsoil and seeding), catch basins, fencing around detention basins, swale grading, stone backfill, anti-seep collars, rip-rap and conversion from sedimentation basins), landscaping (including but not limited to: deciduous trees, evergreen trees, evergreen shrubs, perennials/grasses and buffer and screening plantings) street trees, street lights, recreation paths and sidewalks (including but not limited to: excavation to rough grade and materials) walking paths and gazebos, corner iron pins and concrete monuments, striping and signage (traffic signs, street signs, etc.), utility trenching/installation for phone, cable,

electric, etc., including backfill material, open space and recreation area improvements, clearing and grubbing, replacement of topsoil, traffic control signage and site preparation.

INFILTRATION STRUCTURE – A structure designed to direct runoff into the ground, (e.g., french drains, seepage beds, seepage trench, and biofiltration swale).

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 LOT – See LOT, INTERIOR.

INVASIVE ALIEN SPECIES – Plant species not native to local natural communities that grow and spread aggressively and displace native plants. Also called “exotics,” these species tend to reproduce prolifically and out-compete native plants for light, space, and nutrients, reducing plant diversity and wildlife habitat. Such species shall include those with a similar definition or classification assigned by the Commonwealth of Pennsylvania’s Department of Environmental Protection and/or Department of Conservation and Natural Resources, as such definition or classification may be amended or updated from time to time, including but not limited to the following: *Rosa multiflora* (Multiflora Rose, a shrub), *Eleagnus umbellata* (Autumn Olive, a shrub), *Lonicera japonica* (Japanese Honeysuckle, a vine), *Lonicera* spp (Amur, Morrow, Bells, or Tartarian honeysuckle, non-native shrubs), *Celastrus orbiculatus* (Oriental Bittersweet, a vine), *Acer platanoides* (Norway Maple, a tree), *Pyrus calleryana* (Callery pear, a tree), *Ulmus pumila* (Siberian elm, a tree), *Ampelopsis brevipedunculata* (Porcelain-berry, a vine), *Ligustrum obtusifolium* (Privet, a shrub) *Ailanthus altissima* (Tree-of-Heaven, a tree), *Viburnum plicatum* (Doublefile viburnum, a shrub) and *Polygonum perfoliatum* (Mile-a-Minute Weed, a vine).

LAKES AND PONDS – Natural or artificial bodies of water that retain water year-round. Artificial ponds may be created by dams, or may result from excavation. The shoreline of such water bodies shall be measured from the spillway crest elevation.

LAND DEVELOPMENT – Any of the following activities:

- A. The improvement of one (1) lot or two (2) or more contiguous lots, tracts, or parcels of land for any purpose involving:
 - 1. 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

2. 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, buildings, or other features.
- B. A subdivision of land.
 - C. Development in accordance with Section 503(1.1) of the Municipalities Planning Code, as amended, is specifically included in the definition of land development, except where otherwise excluded in Section 503(1.1).

LAND DEVELOPMENT PLAN – A sketch, preliminary or final plan, submitted in compliance with the requirements of this Ordinance, showing the provision for development of a tract of land and including all information required pursuant to this Ordinance, including all covenants relating to use, location of buildings and other structures, intensity of use or density of development, streets, and parking facilities, common open space and public facilities.

LAND DISTURBANCE – Any activity which exposes soils, alters topography, and/or alters vegetation including any activity defined as woodland disturbance. The following activities shall not be regulated as land disturbance but shall nevertheless be undertaken in a manner such that disturbed areas shall be stabilized with suitable vegetation and shall not be left bare:

- A. Customary agricultural practices such as tilling, plowing, mowing, and harvesting;
- B. Customary landscaping practices such as mowing, planting, trimming;
- C. Removal of hazardous vegetation or invasive alien species; or
- D. Timber harvesting in accordance with the applicable provisions of the Township’s Zoning Ordinance.

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 the landowner, or other person having a proprietary interest in land, shall be deemed to be a landowner for the purposes of this Ordinance.

LANDSCAPE ARCHITECT – A professional landscape architect registered in the Commonwealth of Pennsylvania.

LANDSCAPE PLAN – A plan for the installation and maintenance of landscaping, prepared according to the provisions of this ordinance.

LANDSCAPING – The planting of turf or other appropriate groundcover or the planting of deciduous and evergreen trees and shrubbery, including the maintenance thereof, for the control of erosion, the retention of precipitation, protection against the elements, and promotion of human comfort and welfare.

LOADING SPACE, OFF-STREET – A space in a building or on a lot which is accessible from the public street system for the temporary use of vehicles while loading or unloading merchandise, materials or passengers.

LOOP ROAD – A road that has its origin and ending with the same intersecting road.

LOT – A designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit with one or more buildings and any buildings accessory thereto or for any other purpose in single and separate ownership and not divided by a road, nor including any land within a right-of-way or a public or private road upon which said lot abuts, even if the ownership to such right-of-way is in the owner of the lot.

LOT AREA – The area of land contained within the limits of the property lines bounding a lot or tract, as shown on a deed, survey, plot, subdivision or land development plan.

LOT AREA OR TRACT AREA, GROSS – The entire area of a lot or tract.

LOT AREA OR TRACT AREA, NET – The area of a lot or tract exclusive of any existing right-of-way or area that has been set aside as right-of-way or easement for a public or private street.

LOT, CORNER – A lot at the junction of and abutting two (2) or more intersecting streets where the interior angle of intersection does not exceed one hundred thirty-five (135) degrees. A lot abutting a curved street shall be deemed a corner lot if the tangents to the curve at the points of intersection of the side lot lines within the street lines intersect at an interior angle of less than one hundred thirty-five (135) degrees.

LOT, FLAG – An interior lot which is connected to a public street, highway or public right-of-way by a strip of land that does not meet the minimum lot width at street line and connects the main portion of the lot with the aforesaid public street, highway or public right-of-way. The strip of land must be no less than fifty (50') feet in width.

LOT LINE – A property boundary line dividing one lot from another or from a street, road, or any public space, except that, in the case of any lot abutting a street or road deemed to be the same as the street or road line, the lot line shall not be the centerline of the street or road, or any other line within the street or road line even though such may be on the property boundary line in a deed.

LOT LINE, FRONT – The line separating a lot from the street or road line.

LOT LINE, REAR – A lot line opposite and most distant from the front lot line; if the rear lot line is less than ten (10) feet in length, or if the lot forms a point at the rear, the rear lot line shall be deemed to be a line ten (10) feet in length within the lot, parallel to and at the maximum distance from the front lot line.

LOT LINE, SIDE – Any lot line, which is not a front lot line or a rear lot line.

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

LOT WIDTH – The distance measured between side lot lines at the required building set back line. In the case of a corner lot, lot width shall be measured between such side lot line and the opposite lot line or front lot line.

MANUFACTURED HOME – A structure, transportable in one or more sections, which in the traveling mode is 8 feet or more in width or 40 feet or more in length, or, when erected on site, is 320 square feet or more, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation, or a structure which does not meet the size requirements note above but for which the manufacture voluntarily files a certification required by the secretary of HUD and complies with the standards of the applicable residential construction code. For the purpose of these provisions, a mobile home shall be considered a manufactured home.

MARKER – A metal pipe or pin at least three-quarter (3/4) inches in diameter, and at least thirty-six (36) inches in length.

MOBILE 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 a single 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 connections to utilities, including any addition, such as porches or additional rooms.

MONUMENT – A stone or concrete monument with a flat top at least four (4) inches across and at least thirty-six (36) inches in length.

MUNICIPALITIES PLANNING CODE (MPC) – The Pennsylvania Municipalities Planning Code, Act 247 of 1968, as amended, 53 P.S. §§10101, et seq.

NATIVE PLANT SPECIES – A species of plant that currently or previously inhabited or grew in a specified location, and which was not introduced to that location as a result of human activity, either intentional or accidental. The term "native"

species generally refers to a species whose range was located within a large area like a continent or a nation. The term "indigenous" species is typically used to refer to a species whose original range extended into a smaller area like a state, county, or watershed.

NPDES – National Pollutant Discharge Elimination System, the system whereby the federal government issues permits in accordance with the federal Clean Water Act, which authority is delegated in Pennsylvania to the Pennsylvania Department of Environmental Protection (DEP).

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

ON-LOT SEWAGE DISPOSAL SYSTEM – A system which collects, treats, and disposes of sewage from only one dwelling unit, principal use or lot into a soil absorption system, spray field or tank.

OPEN SPACE, COMMON – A parcel or parcels of land or an area of water, or a combination of both within a development site designed and intended for the use and enjoyment of residents of such development and possibly the general public or other open space use dependent on the terms of agreement and ownership of the open space. Common open space is substantially free of structures, including stormwater detention basins, but may contain such improvements as are in the approved Final development plan, but shall not include individually owned private yards, roads, and off-street parking areas unless provided in conjunction with a recreational facility.

OUTLET CONTROL STRUCTURE – A structure designed to control the volume of stormwater runoff that passes through it during a specified length of time.

OWNER – See LANDOWNER.

PARCEL – See LOT.

PARENT TRACT – That portion of each tract of land that is within Lower Mount Bethel Township, as that tract existed as of the effective date of this Ordinance.

PARKING SPACE – A space, available for the parking of one (1) motor vehicle, exclusive of passageways, driveways or other means of circulation or access. A parking space shall include either a covered garage space or uncovered parking lot space located outside of the road right-of-way.

PARKING SPACE ACCESS – The drives or roadways and the maneuvering space required to service the parking space.

PASSIVE RECREATIONAL USE – Any leisure time activity not considered active (e.g., walking, picnicking, bird watching, fishing).

PASSIVE RECREATION AREA – Any area developed in such a manner as to be conducive of those activities that fall within the range of passive-recreation, such as nature areas, craft areas, meeting areas, sitting areas, walkways, sunbathing areas, ponds and lakes, and picnicking areas.

PEDESTRIAN WALKWAY – A continuous way designated for pedestrians and separated from the through lanes for bicycles or motor vehicles by space or other barrier.

PERSON – Any 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, including any members, directors, officers, trustees, employees, managers and supervisors, partners or principals thereof. Whenever used in any clause prescribing and imposing a penalty, person specifically includes the members, directors, officers, trustees, employees, managers and supervisors, partners or principals, or any of them, of such legal entities, all of which shall be jointly and severally liable to the Township.

PENNDOT – Pennsylvania Department of Transportation.

PIPE – A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater, water or sanitary sewerage.

PLAN – See definition of “plat”.

PLAN, AS-BUILT – A corrected final plan, showing dimensions and locations of all streets and other improvements as actually constructed. As built plans shall be provided in both hard copies and an acceptable electronic format (CADD, etc.) to the Township Engineer.

PLAN, FINAL – A complete and exact subdivision and/or land development plan, including all required supplementary data, complete and prepared for official recording in accordance with the requirements of this ordinance and with any conditions of approval imposed by the Township, to define property rights, proposed roads and other improvements. See Article IV of this Ordinance for final plan content.

PLAN, PRELIMINARY – A subdivision and/or land development plan presented to the Lower Mount Bethel Township Planning Commission and Board of Supervisors demonstrating compliance with existing ordinances and regulations and showing existing features, proposed road and lot layout, stormwater management facilities and engineering detail sufficient to ensure proper functioning of proposed improvements. See Article IV of this Ordinance for preliminary plan content.

PLAN, RECORD – An exact copy of the approved final plan on mylar or linen of standard size, prepared for necessary signatures and recording with the Northampton County Recorder of Deeds.

PLAN, SKETCH – An informal plan indicating existing features of a tract and its surroundings and, with respect for those features, the general layout of the proposed subdivision or land development submitted to the Township for discussion purposes only with the Planning Commission and Board of Supervisors. See Article IV of this Ordinance for sketch plan content.

PLANNING COMMISSION – The Planning Commission of Lower Mount Bethel Township, Northampton County, PA.

PLAT – The map or plan of a subdivision or land development, whether preliminary or final.

PLAT, RECORD – An exact copy of the approved final plan on mylar or linen of standard size, prepared for necessary signatures and recording with the Northampton County Recorder of Deeds.

PRIVATE STREET – See STREET, PRIVATE.

PUBLIC HEARING – A formal meeting held pursuant to public notice by the Board of Supervisors, intended to inform and obtain public comment, prior to action in accordance with the Municipalities Planning Code, Act 247 of 1968, as amended.

PUBLIC MEETING – A meeting advertised by public notice, or a regularly scheduled meeting, for the discussion of a particular matter or required purpose, such as the review, approval, or denial of subdivision or land development applications. Such meetings may, at the discretion of the meeting body, inform and obtain public comment, and shall proceed pursuant to the applicable regulations for the matter at hand, including the Pennsylvania Municipalities Planning Code, Act 247 1968, as amended.

PUBLIC NOTICE – Notice published once each week for two (2) successive weeks in a newspaper of general circulation in the Township. Such notice shall state the time, place, and particular nature of the matter to be considered. 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.

REAL PROPERTY – All land whether publicly or privately owned, whether improved or not improved, with or without structures.

REPORT – Any letter, review, memorandum, compilation or similar writing made by any applicant, developer, body, board, officer or consultant other than a solicitor to any (other) body, board, officer or consultant for the purpose of assisting the recipient of such report in the rendering of any decision or determination.

RESERVE STRIP – A parcel of land which is parallel to and between a road right-of-way and a tract of land.

REVERSE FRONTAGE LOT – See LOT, REVERSE FRONTAGE.

REVIEW – An examination of a plan, report, study or other material submitted by an applicant or developer to determine compliance with this ordinance, the zoning ordinance, and other pertinent requirements.

RIGHT-OF-WAY – Land area reserved or dedicated for a street, road, other means of travel or other public or private purpose, or essential services and utilities such as gas pipes, waterlines, or sewer lines.

RIGHT-OF-WAY, EXISTING – The legal right-of-way as established by a governing authority and currently in existence.

RIGHT-OF-WAY, FUTURE/ULTIMATE – The right-of-way deemed necessary to provide adequate width for future road or street improvements.

RIPARIAN BUFFER – Except to the extent a more restrictive riparian buffer is required by the regulations of the Department of Environmental Protection for high quality waters and/or exceptional value waters, in which case the more restrictive regulation of the Department of Environmental Protection shall apply, the following shall be a riparian buffer for purposes of this Ordinance. A riparian buffer is an area of trees and other vegetation adjacent to a watercourse or wetland that forms a transition area between the aquatic and terrestrial environment. The riparian buffer is designed to intercept runoff from upland sources for the purpose of mitigating the effects of nutrients, sediment, organic matter, pesticides or other pollutants prior to entry into surface waters. The riparian buffer shall be divided into two Zones:

- A. **Zone One: Inner Riparian Buffer** – This zone shall begin at each edge of any identified wetland or watercourse and shall occupy a margin of land on each side, each with a minimum width of fifteen (15) feet from any wetland or twenty-five (25) feet from any watercourse, whichever is greater. The width of such margin shall be measured horizontally on a line perpendicular to the applicable edge of the wetland or, in the case of a

watercourse, to the nearest edge of the water at bankful flow. Where very steep slopes (+25%) are located within and extend beyond such margin, Zone One shall extend to include the entirety of the very steep slopes up to a maximum dimension of one hundred (100) feet from the subject watercourse or sixty (60) feet from the subject wetland, whichever is greater.

- B. Zone Two: Outer Riparian Buffer – Zone Two begins at the outer edge and on each side of any area delineated within Zone One and occupies any additional area, if any, within one hundred (100) feet of the nearest edge of any watercourse or sixty (60) feet from the nearest edge of any wetland, whichever is greater and measured as for Zone One.

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 – See STREET.

SANITARY SEWAGE – The water-carried waste resulting from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers, or any other source of water-carried waste of human origin.

SANITARY SEWER – A conduit that collects and transports sanitary sewage.

SEDIMENTATION BASIN – A barrier, dam, or retention or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

SELECTIVE CUTTING – The felling of certain, but not all trees, in an area for the purpose of removing dead, diseased, damaged, mature, or marketable timber or for improving the quality of a tree stand.

SEEPAGE BEDS/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.

SEWAGE – Any substance that contains any waste products or excrementation matter or other discharge from the bodies of human beings and laundry, bathroom, and kitchen waste water.

SEWAGE DISPOSAL SYSTEM –

- A. **INDIVIDUAL (ON-LOT OR OFF-LOT) SEWAGE DISPOSAL SYSTEM** – The disposal of sewage from one (1) lot by the use of piping, tanks and other facilities approved by the Township’s sewage enforcement officer or the Department of Environment Protection. Such system shall be totally within the confines of the lot on which the use is located (ON-

LOT), or shall be located within an easement designated for such purpose on another lot (OFF-LOT).

- B. **COMMUNITY COLLECTION AND TREATMENT SEWAGE DISPOSAL SYSTEM** – A sanitary sewage system which carries sewage from more than one (1) individual discharger or other Township service area by a system of pipes to a common treatment and disposal facility, either on-site or off-site approved by the Pennsylvania Department of Environmental Protection, or other applicable regulatory agency.
- C. **PUBLIC SEWAGE DISPOSAL SYSTEM** – An off-site system for treatment and disposal of sewage in which sewage is conveyed by interceptor to the treatment facility and disposed of through means approved by the Pennsylvania Department of Environmental Protection. Such service may be administered by government agency, municipal authority, or public utility. Such system services a municipality(s) or generally larger areas within a municipality(s).

SEWER SERVICE AREA – That portion of the Township designated in the Official Sewage Facilities Plan (Act 537 Plan) in which there is, or may be, constructed a public sewage disposal system.

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

SIGHT DISTANCE – The distance along a public or private road in which a driver of a stopped vehicle on a driveway, access drive or intersecting road needs to safely pull out and enter onto the main road. See Pennsylvania Code, Title 67, transportation, Chapter 441, "Access to and Occupancy of Highways by Driveways and Local Roads".

SITE – A parcel or parcels of land intended to have one or more buildings or intended to be subdivided into two or more lots.

SITE AREA – Any land area within a site as determined by an actual site survey.

SLOPE – The percentage of the change in vertical distance (rise) over the horizontal distance (run), as measured between consecutive contour lines expressed as a percentage.

SOIL PERCOLATION TEST – A field test conducted according to the rules and regulations of the Commonwealth of Pennsylvania, Title 25, Chapter 73, or such successor provisions as may be amended or restated from time to time, to determine the suitability of the soil for sanitary sewage disposal by measuring the absorptive capacity of the soil at a given location and depth.

STABILIZATION – The proper placing, grading and/or covering of soil, rock, or earth to insure their resistance to erosion, sliding or other movement.

STEEP SLOPE – Those areas of land where the grade is fifteen (15) percent or greater. Steep slopes are divided into two categories:

- A. Moderately Steep Slopes are those areas of land where the grade is fifteen (15) percent to twenty-five (25) percent.
- B. Very Steep Slopes are those areas of land where the grade is greater than twenty-five (25) percent.

Slopes shall be measured as the change in elevation over the horizontal distance between consecutive contour lines and expressed as a percent. For the purpose of application of these regulations, slope shall be measured over three (3) or more two (2) foot contour intervals (six [6] cumulative vertical feet of slope). All slope measurements shall be based on contour intervals determined by detailed topographical survey using aerial photogrammetry or actual field survey and shall be signed and sealed by a registered surveyor or engineer licensed to practice in the Commonwealth of Pennsylvania.

STEEP SLOPE MARGIN – Any area not otherwise regulated as steep slope and located within twenty-five (25) feet upslope of any area regulated as steep slope, measured perpendicularly to the contour of the land. Areas measured laterally or downslope of steep slope areas shall not be regulated as steep slope margin.

STORM SEWER – A system of pipes or other conduits which carries intercepted surface runoff, road water and other waters, or drainage, but excludes domestic sewage or wastewater and industrial wastes.

STORMWATER – The precipitation reaching the ground surface.

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

STORMWATER MANAGEMENT PLAN – The plan prepared by the developer or his representative indicating how stormwater will be managed in accordance with the requirements of this Ordinance.

STREAM – A watercourse.

STREET – The word “street” includes thoroughfare, avenue, boulevard, court, drive, expressway, highway, lane, service street, and road or similar terms.

STREET, CENTERLINE OF – A line which is an equal distance from both street lines as originally laid out and constructed.

STREET FUNCTIONAL CLASSIFICATION – A designation in the Lower Mount Bethel Comprehensive Plan, as amended, given a street in accordance with its function as a carrier of traffic and from which specific setback distances and other regulations in this Ordinance apply. Classifications for new streets within the Township, or streets not designated in the current Township Comprehensive Plan, shall be determined by the Board of Supervisors after recommendation by the Planning Commission. For the purpose of this Ordinance, the following four (4) classifications shall apply based on the Lower Mount Bethel Township Comprehensive Plan, Chapter 8 – Road Classification Plan, 2007:

- A. **RURAL MINOR ARTERIAL** – Arterials of this type also emphasize mobility and serve to link urban and rural centers, but their focus is more regional. They provide for traffic ranging from 5,000 to 15,000 trips per day with higher access than principal arterials, but still some access control.
- B. **RURAL MAJOR COLLECTOR** – Its purpose is to collect traffic and move it to the arterials. A major collector links residential and commercial areas by “collecting” traffic from residential areas and moving it to arterials. This road classification accommodates traffic averaging 3,000 to 8,000 trips per day.
- C. **RURAL MINOR COLLECTOR** – Minor collectors serve the same function as a major collector, but on a smaller scale. These serve traffic in the range of 1,000 to 3,000 trips per day, collecting traffic from various access points mainly in residential areas, and distributing it to other residential and commercial centers. Minor collectors serve mainly local traffic.
- D. **LOCAL ROAD** – Local roads focus on access, and often help to define the municipality’s unique character. Roads in the neighborhoods are considered local and provide direct residential access. They are intended for very short distance travel and usually do not carry through-trips.

STREET LINE – The right-of-way, or the dividing line between a lot and the outside boundary of a public street, road or highway, legally open or officially plotted, or between a lot and outside the boundary of a privately owned street, road, or way over which the owners or tenants of two (2) or more lots each held in single and separate ownership have the right-of-way.

STREET, PRIVATE – A thoroughfare serving abutting lots held in single and separate ownership and not deeded or dedicated to the Township.

STREET, PUBLIC – A public thoroughfare which has been dedicated and deeded to the Township and which affords the principal means of access to the abutting property.

STREET, SINGLE ACCESS – A street which has access to an existing public street and circulation system only at one (1) point. A single access street includes cul-de-sacs, loop roads, and dead end streets.

STRUCTURE – Any man-made object having an ascertainable stationary location on or in land or water, whether public or private, including, but not limited to, buildings, sheds, mobile homes, signs, fences or walls, antennae, porches, platforms, tennis courts, swimming pools, tanks, and towers, and similar items.

SUBDIVIDER – See DEVELOPER.

SUBDIVISION – The division or redivision of a lot, tract or parcel of land by any means, into two (2) or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development: provided, however, that the division by lease of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street, easement of access or any residential dwelling shall not be considered a subdivision.

SUBDIVISION, MAJOR – Any subdivision not classified as a minor subdivision, and any land development that does not include subdivision.

SUBDIVISION, MINOR – Any plan providing for a lot line adjustment or rejoining of lots where no land development is proposed, or any subdivision or land development application in which all of the following apply:

- A. No public or private street is constructed or is required to be widened;
- B. No earth moving activities except those incidental to construction of a single family dwelling on each proposed lot will take place;
- C. No public improvement or guarantee thereof is required other than as may relate to road widening, on-lot stormwater management systems or sewer or water lines serving an individual lot; and
- D. No more than five (5) residential or agricultural lots shall result from any subdivision including any residual portion of the parent tract, nor from the cumulative result of more than one subdivision of the same parent tract occurring after the date of adoption of this Ordinance, excluding

subdivision of lots or parcels permanently restricted to agricultural or open space use.

SUBDIVISION PLAN – A sketch, preliminary or final plan, submitted in compliance with this Ordinance, showing the provision for the subdivision of a tract of land.

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE – The Subdivision and Land Development Ordinance of Lower Mount Bethel Township, Northampton County, PA.

SUPERVISORS – The Board of Township Supervisors of Lower Mount Bethel Township, Northampton County, Pennsylvania.

SURFACE RUN-OFF – Water flowing from a specific site or land area, typically from defined precipitation events such as a 24-hour storm, including flows from pervious natural surfaces in excess of soil permeability rates and flows from fully and partially impervious developed surfaces.

SURVEYOR – A professional land surveyor registered by the Commonwealth of Pennsylvania.

SWALE – A low-lying stretch of land which gathers or carries surface water runoff.

TOWNSHIP – The Township of Lower Mount Bethel. The Board of Supervisors of Lower Mount Bethel Township or the official, person, or committee designated by the Board of Supervisors to act with respect to a particular matter set forth herein.

TRACT – One (1) or more contiguous lots within the Township, assembled for the purpose of unified development, including a planned residential development, multiple-family development, planned shopping center, planned office park, industrial park, cluster development or lot averaging development, or a mobile home park.

USE – An activity or the specific purpose for which land or a building is designed, arranged, intended, or improved on a lot or for which it is or may be occupied or used.

WATER SUPPLY – Water Supply shall mean the following:

- A. **INDIVIDUAL WATER SUPPLY** – A safe and healthful supply of water consisting of a well, piping, pump and other equipment which services one single user.
- B. **COMMUNITY WATER SUPPLY SYSTEM** – A system for supplying water from a common source or sources to more than one (1) dwelling and

other buildings within a development, or other Township service area. The water supply source may be located on-site and/or off-site and may be publicly or privately owned.

- C. PUBLIC WATER SUPPLY SYSTEM – A system for supplying water in sufficient quantities to more than one (1) dwelling and other buildings, which is administered by a municipality, municipal authority, or public utility as defined and regulated by the Pennsylvania Public Utility Commission (PUC). Such system services a municipality(s) or generally larger areas within a municipality(s).
- D. OFF-SITE WATER SUPPLY – A safe, adequate and healthful supply of water to more than one (1) user from a common source or common supplier approved by all governmental agencies having jurisdiction over such matters and either governmentally or privately owned or PUC controlled.

WATER TABLE – The upper surface of a zone of saturation, except where that surface is formed by an impermeable body.

WATERCOURSE – A watercourse is a channel or conveyance of surface water having defined bed and banks, with perennial or intermittent flow, including the course of outflow from any spring, a river, brook, creek or stream. The definition of watercourse shall exclude facilities constructed solely for stormwater management.

WATERS OF THE COMMONWEALTH – Any and all rivers, streams, creeks, rivulets, dammed water, ponds, springs, and all 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.

WET POND – See RETENTION BASIN.

WETLANDS – Wetlands are those areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, ponds, lakes, and similar areas. Wetlands include all lands regulated as wetlands by the PADEP or the U.S. Army Corps of Engineers. In the event there is a conflict between the definitions of these agencies, the more restrictive definition applies.

WETLANDS MARGIN – An examined area measured from the outer limit of the wetland extending to the outer limit of the hydric soils contiguous to the wetland or one hundred (100) feet, whichever is less.

WOODLANDS – A tree mass or plant community covering an area of one-quarter (0.25) acre or more, in which tree species are dominant or co-dominant and the branches of the trees form a complete, or nearly complete aerial canopy. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where timber has been harvested within the previous three (3) years and/or woodland disturbance has occurred within the previous three (3) years which would have met the definition of woodland prior to timbering or disturbance, but not prior to enactment of this Section. Woodlands do not include orchards or old fields.

WOODLAND CANOPY – The aerial cover formed by the crowns of trees greater than fifty (50) feet in height.

WOODLAND CANOPY TREES – The individual trees which collectively form the woodland canopy.

WOODLAND DISTURBANCE – Any activity which:

- A. alters the existing structure of a woodland or hedgerow. Alterations include the cutting or removal of canopy trees, subcanopy trees, understory shrubs and vines, woody and herbaceous woodland floor species as well as the removal of humus or duff from the ground; or
- B. constitutes a land disturbance within a woodland or hedgerow.
- C. Notwithstanding the foregoing, woodland disturbance does not include the following:
 - 1. Removal of vegetation which constitutes hazardous condition(s); or
 - 2. Selective cutting or removal of invasive alien species, including trees, shrubs, vines or herbaceous species; or
 - 3. Timber harvesting which is independently governed by the Township's Zoning Ordinance.
- D. Where woodland disturbance is regulated as a Timber Harvesting Operation, such operation shall not be separately regulated as woodland disturbance for the purposes of this Ordinance and shall not require a submission pursuant to this Ordinance.

YARD – An open space between the principal building or group of buildings and the nearest lot line or road right-of-way which is unoccupied and unobstructed from the ground upward except for permitted accessory structures or as otherwise

herein permitted. The minimum depth of each required yard is established by the applicable building setback line.

ZONING MAP – The official Zoning Map of Lower Mount Bethel Township, Northampton County, Pennsylvania.

ZONING ORDINANCE – The Zoning Ordinance of Lower Mount Bethel Township, Northampton County, Pennsylvania.

**ARTICLE III
PROCEDURES FOR SUBDIVISION AND LAND DEVELOPMENT**

Section 300 General Provisions

The Township has adopted the procedures set forth herein which shall be observed by all applicants, developers, and their agents.

- A. Authority for Plan Approval. Final authority for approval or denial of all subdivision and land development plans is vested in the Township Board of Supervisors in accordance with the procedures set forth herein. Prior to action by the Board, all plans shall be referred for review and recommendation to the Township Planning Commission, the Township Engineer, the Township Solicitor, and such other agencies, bodies, committees, boards, commissions, consultants, etc., as deemed pertinent by the Board or as required by law. However, the failure to make such referral and/or the failure by any reviewing party to review and/or make recommendation with respect to any plan shall not affect the validity of any action taken by the Board with respect to such plan.
- B. Plan Classification. All applications filed pursuant to this Ordinance shall be classified as either major or minor as defined below:
1. Minor: any of the following:
 - a. Any plan providing for lot line adjustment where all of the criteria set forth in Subsection 300.B.1.c apply;
 - b. Any plan providing for a rejoining of lots where all of the criteria set forth in Subsection 300.B.1.c apply;
 - c. Any subdivision or land development application in which all of the following apply:
 - i. No public or private road is proposed to be constructed; and
 - ii. No public improvement is required other than as may relate to road widening where required by the Township, on-lot stormwater management systems or sewer or water lines serving an individual lot; and
 - iii. No more than five (5) residential or agricultural lots shall result from any subdivision including any residual portion of the parent tract, nor from the cumulative result of more than one subdivision of the same parent tract occurring after the date of adoption of this section, excluding

subdivision of lots or parcels permanently restricted to agricultural or open space use; and

- iv. The potential future subdivision or land development of any remaining portion of the parent tract shall be provided for and not adversely affected by the subject plan.

2. Major:

Any (i) non-residential or non-agricultural land development application; or (ii) any other subdivision or land development application not classified as minor as provided above.

- C. Overview of Plan Submission and Review Process. The following plan review steps are used in Lower Mount Bethel Township. Plan contents shall be as set forth in Article IV and the number of plan sets to be submitted is as specified in the Lower Mount Bethel Subdivision and Land Development Submission Checklist in effect at the time of submission.

	Minor Subdivision or Land Development	Major Subdivision or Land Development
Pre-Application Meeting	Recommended	Recommended
Existing Resources and Site Analysis Plan (ERSAP)	May be required based on existing published information	Required
Site visit with Township representatives	Recommended	Recommended
Four-Step Design Process	Not required	Required
Sketch Plan	Recommended	Recommended
Preliminary Plan	Not required	Required
Final Plan	Required	Required

- D. MPC Requirements. Preliminary and final plans shall be reviewed in accordance with the requirements of the MPC and as set forth herein.

- E. Site Access for Purposes of Plan Review. The owner of the parcel of land to be subdivided or developed shall, as part of the initial submission, submit a written statement on a form provided by Lower Mount Bethel Township granting the Lower Mount Bethel Township Board of Supervisors, its authorized agents and representatives, the Planning Commission, the Township Engineer, the Township Solicitor, other Township agencies, bodies, committees, boards, commissions, consultants, etc., and the representatives of the County and municipal departments and agencies having responsibility for review and/or approval under this Ordinance, the right to enter the parcel of land for the purpose of inspection and enforcement of the requirements, terms, and conditions herein. The written statement form provided by the Township shall include, among other things, that site visits shall be by appointment scheduled with the Applicant.
- F. Plan Review by Adjacent Municipalities.
1. Any plan applications involving tracts of land along the Township's boundary shall include one additional complete set of plans and documentation which shall be forwarded by the Township to the adjacent municipality for its comments.
 2. The Township may solicit comments from an adjacent municipality even if the plan is not on the boundary of the Township where a plan, in the opinion of the Township, affects the adjacent municipality, in which case additional plan sets may be required.
 3. When comments are solicited from any adjacent municipality, the Planning Commission and the Board of Supervisors shall review the reports from the adjacent municipality as part of the plan review process.
- G. Required Notification of Surrounding Property Owners.
1. All applicants for major subdivision or land development approval shall notify in writing all individuals or entities who own real estate of the pendency of the application, where any portion of such real estate is adjacent to or within two hundred fifty (250) feet of the proposed major subdivision or land development where located within any Village Center or Village Residential land use designation on the Future Land Use Map of the Lower Mount Bethel Comprehensive Plan, or within one thousand (1,000) feet of the proposal in any other future land use designation, including property all or partly within adjacent municipalities.
 2. All applicants for minor subdivision or land development approval shall notify in writing all individuals or entities who own adjacent real estate, including property all or partly within adjacent municipalities, of the pendency of such minor subdivision or land development proposal.

3. The notice required under this Section shall be made by Registered Mail, Return Receipt Requested, to the landowner's last known address within fifteen (15) days of the submission of the preliminary or final plan. The address on the tax rolls shall be considered the last known address. Verification of mailing, including a copy of the names, addresses and tax parcel numbers of each person to whom the notice was mailed, including copies of the appropriate Return Receipts from Registered Mail, shall be delivered to the Township within thirty (30) days of submission. Until the Township receives the required verification of mailing, the Township shall be under no obligation to place the application on the agenda for any committee, commission or board for discussion and/or action.
 4. The Township shall not be obligated to provide affected landowners with written notice of meetings held on the application except as may be required by any other legal authority. The failure of any person or entity to receive notice given pursuant to this Section shall not constitute grounds for any court to invalidate any action of the Township for which the notice was given.
- H. Re-filing of Plans May be Considered New Plan Submission. Any plan which meets any one of the criteria below shall be considered to be a new plan and shall be accompanied by an application, appropriate fees and all required information.
1. A plan which is submitted after a previous plan for the same property has been withdrawn shall constitute a new plan.
 2. A plan which is submitted after a plan for the same property has been approved or rejected shall constitute a new plan.
 3. A plan which is re-submitted during the course of plan review by the Township and is deemed by the Township to contain a substantially altered lot layout, road configuration, building location(s) or use, for the same land that was involved in a prior plan submission, shall constitute a new plan.
- I. Multiple plans for the same property may be processed simultaneously. However, each such plan shall be considered an independent plan and shall be accompanied by all appropriate fees, application forms and documentation required by this Ordinance.

Section 301 Pre-Application Planning and Design Procedures

The following pre-application planning and design procedures are strongly recommended to promote mutual understanding among Township and Applicant representatives regarding resource protection and development objectives, to enhance the ability of the Township to review and act on any application in a timely fashion, and to reduce

expenditure which may result from otherwise unnecessary repetitive submission of engineered plans. All steps taken prior to Preliminary Plan submission (or Preliminary/Final Plan submission in the case of a minor plan), while recommended, are voluntary on the part of the Applicant. In no case shall the date of any submission prior to submission of a complete Preliminary or Preliminary/Final Plan, as applicable, constitute the “date of filing,” as defined in Section 303.B.4, nor shall any such submission impose any formal requirement for review or action on the part of the Township.

- A. Pre-Application Meeting. Prior to any formal plan submission, applicants for any major subdivision or land development are encouraged to schedule a pre-application meeting with representative(s) designated by the Township (e.g., Township Engineer). The purpose of the pre-application meeting is to inform the Applicant of the Township’s planning objectives and applicable regulations and procedures and to discuss the Applicant’s objectives. Upon scheduling a pre-application meeting, the Applicant shall establish with the Township an escrow account to cover reasonable costs incurred by the Township. Any funds not utilized shall be refunded.
- B. Site Visit. Prior to any formal plan submission, applicants for any major subdivision or land development are encouraged to schedule an on-site pre-application meeting with representative(s) designated by the Township (e.g., Township Engineer). If not previously completed, a site visit shall be scheduled once Preliminary or Preliminary/Final Plans, as applicable, are filed in accordance with Section 303 or Section 304, as applicable.

Applicants are encouraged to accompany Township representatives on these site visits. The purpose of the site visit is to familiarize Township representatives with the property’s existing conditions and special features, to identify potential site design issues and to provide an informal opportunity to discuss site design concepts, including the general layout of open space, undisturbed areas and landscaped areas, potential locations for proposed buildings and road alignments, stormwater management concepts and the protection of natural and cultural (including historic) resources. Comments made by the Township or its staff and consultants on site visits are only advisory and shall not be binding on either the Township or the Applicant. No formal recommendations can be offered and no official decisions can be made at the site visit or during the sketch plan process.

Upon scheduling a site visit, the Applicant shall establish with the Township an escrow account to cover reasonable costs incurred by the Township if such an account has not been previously established. Any funds not utilized shall be refunded.

- C. Existing Resources and Site Analysis Plan. At the time of the pre-application meeting or when scheduling a site visit, if applicable, applicants for any subdivision or land development are encouraged to provide an Existing Resources and Site Analysis Plan (ERSAP) to the Township. If not previously submitted,

applicants shall submit an ERSAP to the Township at the time of Preliminary or Preliminary/Final plan submission, as applicable. The purpose of the ERSAP is to familiarize Township representatives with existing conditions on the Applicant's property and within its immediate vicinity, and to provide a complete and factual reference for a site visit and a basis for planning and design that is consistent with the Township's natural and cultural resource protection and design objectives. As provided in Section 400, the ERSAP may make use of existing published information.

D. Four-Step Design Process. Except for subdivision of lands in accordance with Township Ordinance 2010-05, known as the Comprehensive Agricultural Protection Zoning Ordinance (CAPZO), including but not limited to Section 647 of the Township Zoning Ordinance, which are exempt from the four-step design process, all applicants for major subdivision or land development approval shall use the following four-step design process to assist in determining the most suitable approach to development of the subject site. The layout of lots or development shall be designed so that areas or features identified as being important in the ERSAP or upon the site visit are preserved to the greatest extent practicable and the areas of secondary importance are used for development. The steps in the four-step design process are as follows:

1. Step 1: Establishment of Site Context and Delineation of Resources to be left undisturbed, protected, or incorporated into development plans.
 - a. Site resources and open areas proposed to be left undisturbed or incorporated into development plans shall be identified and described based on review and assessment of mapping and other information in the ERSAP, including open space, prime agricultural soils, woodlands, other significant vegetation, slopes, views, and historic resources, as relevant. The pre-application meeting and the site visit, if applicable, should be used to assign relative value to such areas, assess relative sensitivity to development impacts, and determine those features and areas most desirable for conservation.
 - b. The areas that are identified at this stage of the design process as appropriately left open and undisturbed shall take into account functional considerations such as stormwater management considerations and suitability for groundwater recharge and infiltration, wherever feasible.
 - c. Areas identified as appropriately left open and undisturbed need not formally be designated or set aside as open space unless open space designation is required in accordance with applicable provisions of Township ordinances, nor shall such areas be deducted from any permitted density calculation or impervious

cover limitation except as may be provided in the Zoning Ordinance. The primary purpose of designation of areas to be left open and undisturbed is to guide ultimate location of structural development and related land disturbance.

- d. Special design considerations relative to structural placement and landscape treatment shall be identified based on review of the Lower Mount Bethel Township Comprehensive Plan and Lower Mount Bethel Township Zoning Ordinance, as applicable, as well as an assessment of relevant relationships to neighboring properties.
2. Step 2: Delineation of Primary Development Areas, Location of Structures and Alignment of Infrastructure: roads, trails, utilities, and stormwater management
 - a. Primary development areas, including potential building area(s) and zones of land disturbance shall be identified initially on the basis of lands remaining after identification of areas appropriately left open and undisturbed in Step 1 above. While ultimate development plans shall avoid disturbance of areas identified as appropriately left open and undisturbed to the greatest degree practicable, it is recognized that potential development consistent with applicable zoning provisions and otherwise consistent with the provisions of this Ordinance may not practicably avoid all such areas. Identification of additional development area, where necessary, shall be made on the basis of those areas assigned lower relative resource protection value or relative sensitivity to development impacts in accordance with Step 1.a, above. The conservation of historic resources may include their incorporation into development plans.
 - b. Identification of building locations and related disturbance areas shall conform to development areas designated per Step 2.a, above.
 - c. An access and circulation plan, including provision for parking, shall provide pedestrian and vehicular access to the development having a logical relationship to topographic conditions and neighboring properties and which minimizes further land disturbance and negative impacts to resource protection objectives.
 - d. Locations of and methods available for providing facilities for water service, wastewater disposal, stormwater management and other utilities, as necessary, shall be defined and indicated.

3. Step 3: Preparation of Schematic Design, Building and Conservation Plan.
 - a. Narrative and plans shall be provided as appropriate indicating the ways in which the Applicant proposes to undertake development, as defined in Step 2, in order to implement identified design objectives and respect the significant features of the land described in the ERSAP and areas designated for non-disturbance in Step 1.
 - b. Proposed limits to land disturbance on the subject site, including limits to grading and soil disturbance activities, shall be stated.
 - c. How proposed limits to land disturbance comply with any applicable disturbance limitations set forth in this Ordinance or in the Lower Mount Bethel Township Zoning Ordinance in respect to prime agricultural soils and other natural and cultural resources shall also be set forth.
 - d. Plans as necessary to demonstrate how existing natural contours and vegetation will be respected shall be described.
 - e. How stormwater will be captured on site for infiltration in accordance with DEP regulations shall be described, indicating that the areas best suited for stormwater infiltration have been selected for that purpose, based on hydrologic soil groups and the stormwater management requirements of this Ordinance.
 - f. A building plan which incorporates necessary infrastructure, road improvements, and landscaping, as necessary, shall be presented. A description of any historic resources on the site and proposed efforts to preserve their historical integrity shall also be included, including specific identification of instances where such resources are intended to be incorporated into any building program.
 - g. Incorporation of necessary infrastructure, road improvements and landscaping shall be described and presented, as necessary.
4. Step 4: Drawing Lot Lines/Defining Ownership Responsibilities
 - a. Lot lines shall be drawn as required to delineate the boundaries of individual lots, public and private rights-of-way, and open space areas, as applicable. In all cases, ownership responsibilities shall be defined in a manner which will implement the Schematic Design, Building and Conservation Plan defined in Step 3. Where permanently restricted from further development, and where

approved by the Board of Supervisors, required open space areas, if applicable, may be included within the bounds of private lots.

5. Documentation. Applicants proposing a major subdivision or land development are encouraged to submit plans outlining the findings of each step of the design process at the time of Sketch Plan review, if a Sketch Plan is submitted. If not previously submitted, Applicants shall submit such plans at the time of Preliminary Plan submission.

Section 302 Sketch Plans

- A. Purpose and Applicability. The purpose of the Sketch Plan is to afford the Applicant the opportunity to consult early and informally with the Planning Commission and the Township before submission of formal plans (Preliminary or Preliminary/Final, as applicable) for subdivision or land development approval. Applicants for sketch plan review are encouraged, but not required, to follow the Pre-Application Planning and Design Procedures set forth in Section 301.
- B. Sketch Plan Submission and Review.
 1. Applicants choosing to submit a Sketch Plan application are encouraged to submit the minimum number of copies of the Sketch Plan application to the Township as specified in the Lower Mount Bethel Subdivision and Land Development Submission Checklist in effect at the time of submission. Applicants are encouraged to prepare Sketch Plan applications in accordance with the requirements contained in Section 401 hereof. Applicants are further encouraged to submit an ERSAP and documentation outlining the Four-Step Design Process, if applicable.
 2. In addition to paper copy submission, Applicants are encouraged to submit Sketch Plans to the Township electronically in the format specified by the Township Engineer.
 3. The Township may distribute copies of the Sketch Plan application to the Township Planning Commission, Township Engineer, Township Solicitor and such other Township agencies, bodies, committees, boards, commissions, and consultants as the Township deems appropriate.
 4. The Applicant is encouraged to present the Sketch Plan and supporting materials to the Township Planning Commission. The Township Planning Commission shall review the Sketch Plan and shall informally advise the Applicant of the extent to which the proposed subdivision or land development conforms to the relevant Township ordinances, resolutions, regulations and policies, to Township planning, design and historic preservation objectives, and to environmentally responsible design. To the extent that sufficient information has been submitted to the Planning

Commission, the Commission shall undertake a general review which may encompass but shall not be limited to:

- a. the compatibility of the proposal with respect to the objectives and policy recommendations of the Lower Mount Bethel Township Comprehensive Plan;
 - b. its consistency with the Lower Mount Bethel Township Zoning Ordinance;
 - c. the compatibility of the plan with the input from the pre-application meeting, site visit, ERSAP, and the Four-Step Design Process where applicable;
 - d. the location of all areas proposed for land disturbance (roads, foundations, yards, utilities and wastewater disposal systems, storm water management areas, etc.) with respect to notable features of natural or cultural significance as identified on the Applicant's ERSAP;
 - e. the proposed building density and impervious coverage;
 - f. the potential for vehicular and pedestrian connections with existing roads, other proposed roads, and existing or potential development on neighboring properties;
 - g. the location of proposed access points along the existing road network; and
 - h. the need for any waivers or modifications from otherwise applicable ordinance standards, including any waivers or modifications which the Planning Commission would recommend in order to permit the proposal to better conform to Township planning objectives.
5. All comments and recommendations made by Township representatives in regard to Sketch Plan review are non-binding. No comment or recommendation, nor the failure of the Planning Commission or any Township representative, to proceed or act in accordance with this Section, shall be deemed to be a decision with respect to any subdivision or land development plan or to vest any rights in the Applicant.

Section 303 Preliminary Plans

A. Purpose and Applicability.

1. All applicants for major subdivision or land development approval shall submit a Preliminary Plan application which is a set of documents demonstrating compliance with zoning provisions, showing existing features, proposed road and lot layout, storm water management facilities and engineering detail sufficient to ensure proper functioning of proposed improvements and sufficient to meet the plan requirements of this Ordinance. Applicants for minor subdivision approval are not required to submit a Preliminary Plan application but may proceed with a combined Preliminary/Final Plan application.
2. Preliminary Plan applications shall conform with all information, requirements, and procedures set forth herein.

B. Preliminary Plan Submission and Acceptance for Review.

1. The Preliminary Plan application shall include all information as set forth in Section 402, including the ERSAP and documentation of fulfillment of the Four-Step Design Process. Any steps which Applicant has satisfactorily completed during the Pre-Application or Sketch Plan review stages need not be undertaken again. Submitted plans and accompanying documentation shall be clearly marked “Preliminary Plans.”
2. Applicants shall submit the minimum number of copies of the Preliminary Plan application, including all required supporting information and materials, to the Township as specified in the Lower Mount Bethel Subdivision and Land Development Submission Checklist in effect at the time of submission. The Preliminary Plan application shall be submitted to the Township at least thirty (30) calendar days prior to the Planning Commission meeting at which the Applicant requests that time be reserved on the agenda to discuss the Preliminary Plan although submission by the Applicant within that time period does not guarantee that the Applicant will be on the requested Planning Commission agenda.
3. Plans and all supporting information as required herein, included in the Preliminary Plan application, also shall be submitted to the Township electronically in the format specified by the Township Engineer.
4. The date on which a Preliminary Plan application is submitted to the Township shall be considered the date of filing. Within ten (10) business days from the date the Preliminary Plan application is received, the Township shall determine whether the submission is administratively complete.
 - a. To be considered administratively complete, all of the documentation required by this Ordinance shall be included with the application and all required application, escrow and review fees

shall be paid to the Township in accordance with the municipal fee schedule and all required fees shall be paid to the Lehigh Valley Planning Commission in accordance with the Lehigh Valley Planning Commission's fee schedule.

- b. If a Preliminary Plan application is determined not to be administratively complete, it shall be returned to the Applicant with a specific indication of the missing materials or fees which rendered it incomplete. Any professional consultant fees, including engineering fees and legal fees, incurred by the Township in the review of the Preliminary Plan for completeness prior to formal acceptance shall be billed to the Applicant and deducted from the escrow deposit. An incomplete Plan that is returned shall not be considered as having been submitted for purposes of establishing the required review period.

5. Where not previously accomplished, upon acceptance of a submission for review, the Applicant shall arrange for a site visit of the subject property as set forth in Subsection 301.B.

C. Distribution of Preliminary Plans. The Applicant shall file the Preliminary Plan and accompanying documentation, as appropriate, with the Lehigh Valley Planning Commission, appropriate emergency services representatives, the Northampton County Conservation District, and other agencies as deemed appropriate by the Township. Time stamped verification of such filings shall be provided to the Township.

D. Review of the Preliminary Plan and Rendering of Decision.

1. Official Review Period.

The Board of Supervisors shall render its decision that the submitted plan be approved, approved with conditions, or disapproved within the time period set by applicable law for decision making. The Board of Supervisors, at its discretion, may extend this time if the Applicant grants an extension of time to the Township in writing, on a form provided by the Township. Any extension of time requested by an Applicant shall be for a minimum of sixty (60) days.

2. Review by Township Engineer, Zoning Officer, and other Township Staff and Consultants.

- a. The review shall assure the following:

- i. that all information required by this Ordinance is presented in the plans submitted and that the submission complies with all requirements of this Ordinance;
 - ii. that the Preliminary Plan complies with all applicable laws, ordinances, resolutions, regulations, and/or policies;
 - iii. that the Preliminary Plan complies with the Four-Step Design Process, where applicable;
 - iv. that the Preliminary Plan complies with any conditions set forth in any previous Order or Approval for any applicable conditional use, special exception, or zoning variance;
 - v. that, in the opinion of the Township Engineer, the various schemes presented for the location, alignment and grade of roads, stormwater management/Best Management Practices, erosion and sedimentation control, physical site constraints, site grading, sanitary sewers, water supply, and any other proposed improvements are feasible from an engineering perspective.
 - b. The Township Engineer and other staff and consultants, as applicable, shall submit their written comments to the Township. The review fees shall be the responsibility of the Applicant and shall be deducted from the escrow deposit. Preliminary plan comments issued by the Zoning Officer shall be deemed to be determinations, as that term is defined by the MPC, as to the issues upon which the Zoning Officer provides written comments.
 - c. The Township may request additional review by the Township Engineer, Township fire company and other emergency services providers, Township staff, Township agencies, bodies, commissions, boards, committees (e.g., EAC, Recreation Board), Township land planning consultant, or other professional consultants to ascertain the accuracy of the Preliminary Plan and submitted supplementary data, materials, or documentation, as it may deem necessary based on the specific circumstances. All additional review fees shall be the responsibility of the Applicant and shall be deducted from the escrow deposit.
3. Review by Other Agencies.
 - a. Lehigh Valley Planning Commission. As the designated County planning agency, the Lehigh Valley Planning Commission shall be

- provided with the opportunity to review and comment on the Preliminary Plan submission as required by the MPC.
- b. Northampton County Conservation District. The Northampton County Conservation District shall be provided with the opportunity to review and comment on the Preliminary Plan submission.
 - c. Other Agencies. County, state, federal, or other reviewing or regulatory agencies having jurisdiction over all or a portion of the property subject to the application shall be provided with the opportunity to review and comment on permit or other agency-specific matters, as applicable.
4. Review by the Township Planning Commission.
- a. The Township Planning Commission shall, at its duly advertised public meetings, review the Preliminary Plan application for consistency with this Ordinance and any other applicable ordinances, resolutions, regulations, and policies, with any conditions of approval contained in any applicable Order or Approval for any conditional use, special exception or zoning variance, with the Four-Step Design Process, where applicable, and in consideration of the comments submitted by the Township Engineer and any other Township consultants, agencies, bodies, commissions, boards, committees, etc., where applicable. The Planning Commission review shall further include, but is not limited to, those items set forth in Section 302.B.4.a through h.
 - b. The Applicant or designated representative should be present at such meeting. The Planning Commission shall advise the Applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance and the Lower Mount Bethel Township Zoning Ordinance, any other applicable ordinances, resolutions, regulations and policies, any conditions of approval contained in any applicable Order or Approval for any conditional use, special exception, or zoning variance, the need for or acceptability of any waivers or modifications of design standards contained herein, and any suggested plan modifications that would increase the subdivision's or land development's degree of conformance in order to obtain a Planning Commission recommendation of approval.
 - c. Prior to communicating its recommendations to the Board of Supervisors regarding any Preliminary Plan application, the Planning Commission may request the input and/or may review the

written or verbal comments of any of the Township's planning, legal and engineering consultants, the Township's other agencies, bodies, commissions, boards, committees (e.g., EAC, Recreation Board), other professional consultants, and other agencies involved in the review of the subject plan as provided in Sections 303.D.2 and 3 above. The Planning Commission may also receive comments from surrounding or affected landowners and may conduct a site visit(s) to facilitate its review.

- d. Except where an extension of time is granted to the Township in writing by the Applicant, on a form provided by the Township, and such extension is accepted by the Board of Supervisors, the Planning Commission shall communicate its comments and recommendations to the Township Board of Supervisors in advance of the last scheduled meeting of the Board prior to the expiration of the review period set by applicable law for decision making. The communication from the Planning Commission to the Board of Supervisors may include any recommended conditions of approval and may cite specific sections of the Ordinance, other ordinances, resolutions, regulations and/or policies, or other reasons relied upon for the Commission's recommendations. Failure of the Planning Commission to communicate its recommendations to the Board of Supervisors within the prescribed time frame shall not affect the status of the Preliminary Plan application nor cause any extension of the applicable review period.
5. Review and Decision by the Board of Supervisors.
 - a. The Board of Supervisors shall render its decision that the submitted plan be approved, approved with conditions, or disapproved within the time period set by applicable law for decision-making. This time may be extended if the Applicant grants an extension of time to the Township in accordance with Section 303.D.1 hereof.
 - b. The decision of the Board of Supervisors shall be in writing and shall be communicated to the Applicant personally or be mailed to him at his last known address not later than fifteen (15) days following the date of the decision.
 - i. When the application is not approved as filed, the decision shall specify the defects in the application, shall describe requirements that have not been met, and shall cite the provisions of the statute, ordinance, resolution, regulation and/or policy relied upon.

- ii. When the application is approved with conditions, the decision shall contingently comply with Section 303.D.5.b.i above. The Board of Supervisors shall set forth the applicable conditions and the Applicant shall either (a) execute the Acceptance of Conditions form as presented or (b) indicate in writing that the conditions are not acceptable and specifically identify which conditions are not acceptable to the Applicant.
- iii. Prior to the meeting at which the Board of Supervisors will take action on the Preliminary Plan application, the Township shall advise the Applicant of the proposed conditions to such approval. Before the Board of Supervisors takes action on the Preliminary Plan application, the Applicant shall inform the Township in writing whether the condition(s) proposed to be imposed by the Board of Supervisors are acceptable or not to the Applicant.
- c. The Final Plan application for the subject property shall be submitted within twelve (12) months of the date of Preliminary Plan approval. The Applicant may request an extension beyond the twelve (12) months subject to approval by the Board of Supervisors.
- d. Upon approval of the Preliminary Plan application, the Board of Supervisors shall designate one copy of the Preliminary Plan as the official copy. This copy shall include all necessary corrections as required by the Board of Supervisors. It shall be retained in the Township files.
- e. Approval of the preliminary plan shall not constitute approval of the Final Plan or authorize the sale of lots or construction of buildings.

Section 304 Final Plans

A. Purpose and Applicability.

- 1. The purpose of the Final Plan application for subdivision or land development is to assure full compliance with this Ordinance, with applicable zoning provisions and with all other applicable laws, statutes, ordinances, resolutions, policies and/or regulations prior to formal recording of all relevant planning documents and land records, and to

ensure long-term proper functioning, maintenance, and funding for all proposed improvements.

2. Final Plan applications shall conform with all information, requirements, and procedures set forth herein.

B. Final Plan Submission and Acceptance for Review.

1. The Final Plan application shall include all information as set forth in Section 403, including the ERSAP and documentation of fulfillment of the Four-Step Design Process. Any steps that Applicant has satisfactorily completed during the Pre-Application, Sketch Plan, or Preliminary Plan review stages that meet applicable criteria for Final Plan submission need not be undertaken again. Submitted plans and accompanying documentation shall be clearly marked “Final Plans.”
2. Applicants shall submit the minimum number of copies of the Final Plan application, including all required supporting information and materials, to the Township as specified in the Lower Mount Bethel Subdivision and Land Development Submission Checklist in effect at the time of submission. The Final Plan application shall be submitted to the Township at least thirty (30) calendar days prior to the Planning Commission meeting at which the Applicant requests that time be reserved on the agenda to discuss the Final Plan although submission by the Applicant within that time period does not guarantee that the Applicant will be on the requested Planning Commission agenda.
3. Plans and all supporting information as required herein, included in the Final Plan application, also shall be submitted to the Township electronically in the format specified by the Township Engineer.
4. The date on which a Final Plan application is submitted to the Township shall be considered the date of filing. Within ten (10) business days from the date the Final Plan application has been received, the Township shall determine whether the submission is administratively complete.
 - a. To be considered administratively complete, all of the documentation required by this Ordinance shall be included with the application and required application, escrow and review fees shall be paid to the Township in accordance with the municipal fee schedule and all required fees shall be paid to the Lehigh Valley Planning Commission in accordance with the Lehigh Valley Planning Commission’s fee schedule.
 - b. If a Final Plan application is determined not to be administratively complete, it shall be returned to the Applicant with a specific

indication of the missing materials or fees that rendered it incomplete. Any professional consultant fees, including engineering fees and legal fees, incurred by the Township in the review of the Final Plan for completeness prior to formal acceptance shall be billed to the Applicant and deducted from the escrow deposit. An incomplete Plan that is returned shall not be considered as having been submitted for purposes of establishing the required review period.

5. Within ten (10) business days from the date the Final Plan application is received, the Township shall also determine whether the submission is a Major Plan submission or a Minor Plan submission, as defined in Section 300.B.
 - a. If the application is a Major Plan submission, but no Preliminary Plan application has previously been submitted and approved, the application shall be returned to the Applicant or, upon the request of the Applicant in writing, considered to be a Preliminary Plan submission made in accordance with Section 303 hereof.
 - b. If the application is a Major Plan submission following a Preliminary Plan application previously submitted and approved, or if the application is a Minor Plan submission, the application shall be retained by the Township for review in accordance with this Section.
 - c. For a Major Plan submission, the Final Plan shall conform to the approved Preliminary Plan.
 - d. For a Major Plan submission, the Board of Supervisors may permit submission of the Final Plan in sections, consistent with Section 508 of the MPC.
 - e. Final Plan applications shall conform to any conditions in any applicable Order or Approval for a conditional use, special exception, or zoning variance.
 6. Where not previously accomplished, upon acceptance of a submission for review, the Applicant shall arrange for a site visit of the subject property as set forth in Subsection 301.B.
- C. Distribution of Final Plans. The Applicant shall file the Final Plan and accompanying documentation, as appropriate, with the Lehigh Valley Planning Commission, appropriate emergency services representatives, Northampton County Conservation District, and other agencies as deemed appropriate by the

Township. Time stamped verification of such filings shall be provided to the Township.

D. Review of the Final Plan and Rendering of Decision.

1. Official Review Period.

The Board of Supervisors shall render its decision that the submitted plan be approved, approved with conditions, or disapproved within the time period set by applicable law for decision making. The Board of Supervisors, at its discretion, may extend this time if the Applicant grants an extension of time to the Township in writing, on a form provided by the Township. Any extension of time requested by an Applicant shall be for a minimum of sixty (60) days.

2. Review by Township Engineer, Zoning Officer, and other Township Staff and Consultants.

a. The review shall assure the following:

- i. that all information required by this Ordinance is presented in the plans submitted and that the submission complies with all requirements of this Ordinance;
- ii. that the Final Plan complies with all applicable laws, ordinances, resolutions, regulations, and/or policies;
- iii. that the Final Plan complies with the Four-Step Design Process, where applicable;
- iv. that the Final Plan conforms with the approved Preliminary Plan, as applicable;
- v. that the Final Plan complies with any conditions set forth in any previous Order or Approval for any applicable conditional use, special exception, or zoning variance;
- vi. that, in the opinion of the Township Engineer, the various schemes presented for the location, alignment and grade of roads, stormwater management/Best Management Practices, erosion and sedimentation control, physical site constraints, site grading, sanitary sewers, water supply, and any other proposed improvements are feasible from an engineering perspective.

- b. The Township Engineer and other staff and consultants, as applicable, shall submit their written comments to the Township. The review fees shall be the responsibility of the Applicant and shall be deducted from the escrow deposit. Final plan comments issued by the Zoning Officer shall be deemed to be determinations, as that term is defined by the MPC, as to the issues upon which the Zoning Officer provides written comments.
 - c. The Township may request additional review by the Township Engineer, Township fire company and other emergency services providers, Township staff, Township agencies, bodies, commissions, boards, (e.g., EAC, Recreation Board), Township land planning consultant, or other professional consultants to ascertain the accuracy of the Final Plan and submitted supplementary data, materials, or documentation, as it may deem necessary based on the specific circumstances. All additional review fees shall be the responsibility of the Applicant and shall be deducted from the escrow deposit.
3. Review by Other Agencies.
- a. Lehigh Valley Planning Commission. As the designated County planning agency, the Lehigh Valley Planning Commission shall be provided with the opportunity to review and comment on the Final Plan submission as required by the MPC.
 - b. Northampton County Conservation District. The Northampton County Conservation District shall be provided with the opportunity to review and comment on the Final Plan submission.
 - c. Other Agencies. County, state, federal, or other reviewing or regulatory agencies having jurisdiction over all or a portion of the property subject to the application shall be provided with the opportunity to review and comment on permit or other agency-specific matters, as applicable.
4. Review by the Township Planning Commission.
- a. The Township Planning Commission shall, at its duly advertised public meetings, review the Final Plan application for consistency with any applicable Preliminary Plan approval and consistency with this Ordinance and any other applicable ordinances, resolutions, regulations, and policies, with any conditions of approval contained in any applicable Order or Approval for any conditional use, special exception, or zoning variance, with the Four-Step Design Process, where applicable, and in consideration

of the comments submitted by the Township Engineer and any other Township consultants, agencies, bodies, commissions, boards, committees, etc., where applicable. The Planning Commission review shall further include, but is not limited to, those items set forth in Section 302.B.4.a through h.

- b. The Applicant or designated representative should be present at such meeting. The Planning Commission shall advise the Applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance and the Lower Mount Bethel Township Zoning Ordinance, any other applicable ordinances, resolutions, regulations and policies, any conditions of approval contained in any applicable Order or Approval for any conditional use, special exception, or zoning variance, the need for or acceptability of any waivers or modifications of design standards contained herein, and any suggested plan modifications that would increase the subdivision's or land development's degree of conformance in order to obtain a Planning Commission recommendation of approval.
- c. Prior to communicating its recommendations to the Board of Supervisors regarding any Final Plan application, the Planning Commission may request the input and/or may review the written comments or testimony of any of the Township's planning, legal and engineering consultants, the Township's other agencies, bodies, commissions, boards, committees (e.g., EAC, Recreation Board), other professional consultants, and other agencies involved in the review of the subject plan as provided in Sections 304.D.2 and 3 above. The Planning Commission may also receive comments from surrounding or affected landowners and may conduct a site visit(s) to facilitate its review.
- d. Except where an extension of time is granted to the Township in writing by the Applicant, on a form provided by the Township and such extension is accepted by the Board of Supervisors, the Planning Commission shall communicate its comments and recommendations to the Township Board of Supervisors in advance of the last scheduled meeting of the Board prior to the expiration of the review period set by applicable law for decision making. The communication from the Planning Commission to the Board of Supervisors may include any recommended conditions of approval, and may cite specific sections of the Ordinance, other ordinances, resolutions, regulations and/or policies, or other reasons relied upon for the Commission's recommendations. Failure of the Planning Commission to communicate its recommendations to the Board of Supervisors

within the prescribed time frame shall not affect the status of the Final Plan application nor cause any extension of the applicable review period.

5. Review and Decision by the Board of Supervisors.
 - a. The Board of Supervisors shall render its decision that the submitted plan be approved, approved with conditions, or disapproved within the time period set by applicable law for decision-making. This time may be extended if the Applicant grants an extension of time to the Township in accordance with Section 304.D.1 hereof.
 - b. The Board of Supervisors may specify conditions, changes, modifications, or additions to the application that the Board deems necessary.
 - c. All Final Plan approval shall be subject to the following conditions, as applicable, and others which may be imposed by the Township and agreed upon by the Applicant, all as demonstrated in the resolution of approval for the application:
 - i. The Applicant shall execute a written agreement, in accordance with Section 601 herein, agreeing to install all the improvements as required by this Ordinance and all regulations adopted pursuant hereto if such improvements are not installed prior to recording of the Final Plan and agreeing to provide evidence of the necessary insurance coverage for the benefit of the Township.
 - ii. The Applicant shall provide a performance guarantee in accordance with Section 601 herein.
 - iii. The Applicant shall agree to tender deed(s) of dedication to the Township for such roads, easements for sanitary sewers, water lines, or storm sewers, public open space(s) and public improvements, including stormwater basins, road paving, sidewalks, trails, shade trees, roadscape amenities, water mains, any fire hydrants, sanitary and storm sewers, as may be required for the promotion of the public welfare. Such deed(s) of dedication shall not be accepted by the Township until after all said improvements are completed and such completion is certified as satisfactory by the Township Engineer. All Deed(s) of Dedication shall be provided in a form prepared by the Township Solicitor, and shall be submitted to the Township

- accompanied by (i) an opinion of record title, in form acceptable to the Township Solicitor, prepared by the Applicant's counsel (who must not be affiliated with the Applicant, must be licensed to practice law in Pennsylvania and must maintain an office in Pennsylvania) or (ii) a title insurance policy issued by a title insurance company licensed to do business in Pennsylvania in such amount as is established by the Township from time to time by resolution and in a form as is acceptable to the Township, indicating that the rights-of-way are free and clear of all liens and of all encumbrances that could adversely affect the Township's ownership or use of such rights-of-way.
- iv. The Applicant shall have applied for all required permits from agencies having jurisdiction over the proposed development, including but not limited to the Pennsylvania Department of Transportation (PennDOT), the PADEP, and the Pennsylvania Public Utility Commission.
 - v. No plan which proposes access onto a road under the jurisdiction of PennDOT shall be finally approved unless the plan contains a notice that a Highway Occupancy Permit is required therefore pursuant to Section 420 of Act 428, known as the "State Highway Law," before access to a State road is permitted.
- d. The decision of the Board of Supervisors shall be in writing and shall be communicated to the Applicant personally or be mailed to him at his last known address not later than fifteen (15) days following the date of the decision.
- i. When the application is not approved as filed, the decision shall specify the defects in the application, shall describe requirements that have not been met, and shall cite the provisions of the statute, ordinance, resolution, regulation and/or policy relied upon.
 - ii. When the application is approved with conditions, the decision shall contingently comply with Section 304.D.5.d.i. above. The Board of Supervisors shall set forth the applicable conditions and the Applicant shall either (a) execute the Acceptance of Conditions form as presented or (b) indicate in writing that the conditions are not acceptable and specifically identify which conditions are not acceptable to the Applicant.

- iii. Prior to the meeting at which the Board of Supervisors will take action on the Final Plan application, the Township shall advise the Applicant of the proposed conditions to such approval. Before the Board of Supervisors takes action on the Final Plan application, the Applicant shall inform the Township in writing whether the condition(s) proposed to be imposed by the Board of Supervisors are acceptable or not to the Applicant.
6. Approved Final Plan.
- a. Upon approval of the Final Plan application, the Board of Supervisors shall designate one copy of the Final Plan as the official copy. This copy shall include all necessary corrections as finally approved by the Board, shall be certified by the Applicant's appropriate professional and shall be endorsed by signature of the Applicant, the record landowner of the property (if different than the Applicant), the Chairperson of the Board of Supervisors, the Township Secretary and the Township Engineer. It shall be retained in the Township files.
 - b. A minimum of seven (7) copies of the Final Plan as finally approved, certified and endorsed, as provided above, shall be distributed by the Applicant as follows:
 - i. Seven (7) copies shall be provided to the Lehigh Valley Planning Commission for signing. The Lehigh Valley Planning Commission shall keep one (1) copy and return the remaining six (6) copies to the Applicant.
 - ii. Four (4) signed copies shall be provided to the Township, together with one (1) copy of all supporting materials. One (1) copy shall be recorded within ninety (90) days at the Office of the Northampton County Recorder of Deeds, consistent with the provisions of Section 513(a) of the MPC. The Office of the Northampton County Recorder of Deeds shall retain the signed and recorded copy. The Township shall retain the remaining three (3) copies and the supporting materials.
 - iii. One (1) signed copy shall be forwarded to the Sewage Enforcement Officer.
 - iv. The Applicant shall retain one (1) copy.

- c. The Final Plan as finally approved, certified, endorsed, and fully signed shall also be submitted to the Township electronically in the format specified by the Township Engineer.
- d. Where conditional final approval has been granted, the conditions must be satisfied within one (1) year of the date of the resolution of approval. If the conditions are not satisfied within one (1) year, the conditional approval shall lapse and the plan shall be deemed denied. Thereafter, the plan must be resubmitted in accordance with the applicable sections of this Ordinance.

**ARTICLE IV
PLAN CONTENT REQUIREMENTS**

Section 400 Required Contents of Existing Resources and Site Analysis Plan

The following information shall be included in any ERSAP filed in support of an application for major subdivision or land development approval. Applicants for minor subdivision or land development approval shall submit the following information to the extent available from existing published information. Much of the required information is available from data collected for the Lower Mount Bethel Township Comprehensive Plan (2007), or as may be acceptable to the Township, from available sources such as Google Maps. The drafting standards set forth in Section 402.A for Preliminary Plan submission shall be employed in drafting of the ERSAP.

- A. Site Boundaries.

- B. Existing Resources Inventory. A comprehensive analysis of existing conditions on the proposed development site and areas within 200 feet of the site boundaries, showing:
 - 1. Soils - Soils types, based on maps contained in the Natural Resource and Conservation Services Soil Survey of Northampton County, Pennsylvania, U.S. Department of Agriculture, as last revised at the date of the application. The soil classifications and boundary lines of all soils shall be shown. In addition, any alluvial soils, hydric soils, soils with hydric inclusions, or Class I, II, or III agricultural soils shall be graphically indicated. Soil descriptions for all soil types shall be provided and may be in the form of plan notes.
 - 2. Topography - Contour lines measured at vertical intervals of two (2) feet, determined by aerial photogrammetry or on-site survey.
 - 3. Slope areas - Areas to be shown graphically. The amount of area, in acres, in each slope category shall be indicated.
 - a. Moderate slopes – 8 percent to 15 percent
 - b. Moderately steep slopes - 15 percent to 25 percent grade
 - c. Very steep slopes - greater than 25 percent grade
 - 4. Ridge lines and watershed boundaries.
 - 5. Floodplain areas, using the most recently available FEMA maps. When no FEMA mapping has been prepared, a determination of the floodplain

- for any stream with a drainage area of one hundred (100) acres or more shall be made by the applicant.
6. Riparian buffers, as defined by the Lower Mount Bethel Township Comprehensive Plan, shall be indicated.
 7. Geologic formations on the property, including rock outcroppings covering 25 square feet or more, cliffs, escarpments, sinkholes, closed depressions, disappearing streams, ghost lakes, surface pinnacles, fracture traces, fissures, lineaments and fault lines, based on available published information or more detailed site data obtained by the applicant.
 8. Woodlands and tree masses shall be indicated. Trees over twelve (12) inches in diameter at breast height shall be indicated.
 9. Streams, watercourses, Waters of the Commonwealth, Waters of the United States, lakes, ponds, and all natural drainage areas with an explanation of how site drainage works. Boundaries between drainage areas shall be indicated along with the names of any named stream, watercourse, lake, pond, etc., to which drainage flows.
 10. Applicable stream classifications made by PADEP or PA Fish and Boat Commission shall be indicated.
 11. Wetlands - All wetland boundaries shall be indicated at the time of submission of the ERSAP where accompanying Preliminary or Final Plan submission. Wetland boundaries within the tract shall be determined from on-site delineation in accordance with the 1987 US Army Corps of Engineers Wetlands Delineation Manual. All wetlands shall be classified as one of the following: exceptional value, important, or limited value, or other classification as may be enacted by applicable governmental authority from time to time. Wetlands delineation and classification shall be conducted by licensed professional(s) acceptable to the Township, and shall be plotted from actual field survey. Where the ERSAP is submitted at any voluntary plan submission stage, including Sketch Plan submission, formal wetland(s) delineation(s) shall not be required but wetlands identified in the National Wetlands Survey shall be delineated, as shall hydric soils and soils with hydric inclusions, based on the Soil Survey of Northampton County.
 - a. If any wetland disturbance is proposed, a detailed Wetland Delineation Report shall be provided.
 - b. The wetland delineation must have been completed within one (1) year of the submission of the preliminary plan and shall be deemed valid for five (5) years from the date of the initial submission.

- c. The Township may undertake its own wetland delineation at the applicant's expense if any of the following site-specific criteria are applicable:
 - i. It is recommended by the Township Engineer due to uncertainties raised by the applicant's delineation.
 - ii. Conflicts exist between the applicant's delineation and wetlands information obtained from other sources including surrounding subdivisions.
 - iii. Greater than one acre of wetlands exists on-site.
 - iv. Wetlands on-site are associated with a wetland system of ten or more contiguous acres.
 - d. In the event the applicant's and the Township's delineations are conflicting, the delineation which will result in the preservation of the larger area of wetlands shall govern.
12. Groundwater.
- a. Individual groundwater withdrawals greater than 10,000 gallons per day;
 - b. Existing residential wells.
13. Areas of known environmental impact (e.g., failed septic, leaking underground storage tank, polluted stream flow and/or stormwater runoff, eroded stream embankments) shall be indicated. Applicant shall provide the results of a Desktop search of environmental impacts.
14. Existing land uses shall be indicated, including any areas where sludge (biosolids) has been applied.
15. A description of the types and diversity of biological resources present on the property shall be included:
- a. Any Pennsylvania Natural Diversity Inventory Sites shall be indicated;
 - b. Any other known rare, threatened, and/or endangered species, including both plants and animals, shall be indicated;

- c. Habitats, including habitats that are, or may be, identified as unique to the Township or in need of special protection or consideration.
- 16. Historic resources, including but not limited to those included in the Northampton County Historic Resources Survey, or indicated as historic by the Pennsylvania Historical and Museum Commission or local information sources.
- 17. All recorded easements and deed restrictions.
- 18. Existing buildings, structures, and roads.
- 19. Photographs of the site including views from all abutting public roads and a plan demonstrating the location at which the photographs were taken and the direction the photographer was facing for each photograph. The dates of the photographs shall also be indicated.
- 20. Orientation of site to sun for use of solar resources.
- 21. Any pedestrian or equestrian trails commonly used on the property.
- 22. A viewshed analysis which shall indicate via mapping and narrative as appropriate, the geographical extent and character of views as follows:
 - a. Views into the tract from public roads;
 - b. Views within the tract;
 - c. External views from within the tract; and
 - d. Identification of any scenic roads.
- 23. Aerial photograph of the site – most recent available.

Section 401 Required Content of Sketch Plans

A sketch plan shall consist of and be prepared in accordance with the following standards:

- A. Drafting Standards. Except where otherwise provided herein, to the extent practicable at the time of Sketch Plan submission, the drafting standards set forth in Section 402.A for Preliminary Plan submission should be employed.

B. Required Contents of Sketch Plan.

1. Name and address of the legal, record owner, the equitable owner, and/or the Applicant.
2. Tax Parcel Number(s) from current Northampton County Tax Assessors records.
3. Name and address of the professional engineer, surveyor, planner, architect, landscape architect, or site designer responsible for preparing the plan.
4. Graphic scale (not greater than 1 inch = 100 feet) and true north arrow. Precise scale and dimensions are not required at the time of Sketch Plan submission; however, the subject plan shall clearly be titled "Sketch Plan."
5. Approximate tract boundaries and tract size.
6. A location map and north arrow for the purpose of locating the site to be subdivided or developed, at a scale of not less than eight hundred (800) feet to the inch, showing the relation of the tract to adjoining property and to all roads and municipal boundaries existing within one thousand (1,000) feet of any part of the property proposed to be subdivided or developed.
7. Applicable zoning district(s), including any overlays.
8. Locations and names of existing and proposed roads on, adjacent to, or within 100 feet of the subject tract.
9. A brief narrative description of the subdivision or land development proposal.
10. Topographic, physical, and cultural features in the ERSAP as provided in Section 400. Where aerial photogrammetry or on-site topographic survey has not been completed at the time of Sketch Plan submission, USGS topographic information may be utilized. Minor subdivision or land development applications not required to submit an ERSAP may use generalized information to identify relevant site features consistent with those required in the ERSAP.
11. Schematic layout indicating a general concept for land conservation and development including lot lines, if any, proposed locations of buildings and other major structures, parking areas, roads and other vehicular and pedestrian access ways, necessary utilities and proposed stormwater management locations, including Best Management Practices, roadscape, landscape, and recreational improvements, and any other improvements.

Section 402 Required Content of Preliminary Plans

A preliminary plan shall consist of and be prepared in accordance with the following minimum standards:

A. Drafting Standards.

1. The plan shall be drawn on a scale equal to or larger than 1" = 50'.
2. Dimensions shall be set in feet, bearing in degrees, minutes, and seconds, with errors of closure not to exceed one part per 10,000.
3. Each sheet shall be numbered and shall show its relationship to the total number of sheets.
4. The plan shall bear an adequate legend to indicate clearly which features are existing and which are proposed.
5. The original drawing, and all submitted prints thereof, shall be made on sheets no larger than thirty (30) inches by forty-two (42) inches and no smaller than twenty-four (24) inches by thirty-six (36) inches.
6. If the preliminary plan requires more than one sheet, a master sheet at a scale not smaller than 1"= 200' showing the location of each section shall accompany the plan.
7. If more than one scale is used in the plan, a key must be provided that indicates the difference in scale.
8. Each sheet shall include the title of the sheet, such as record plan or detail plan.

B. Required Contents of Preliminary Plan and Supplementary Documentation.

1. A location map and north arrow for the purpose of locating the site to be subdivided or developed, at a scale of not less than eight hundred (800) feet to the inch, showing the relation of the tract to adjoining property and to all roads and municipal boundaries existing within one thousand (1,000) feet of any part of the property proposed to be subdivided or developed.
2. A sheet or series of plan sheets prepared in accordance with the drafting standards set forth above, with accompanying narrative as needed, showing the following:

- a. Proposed subdivision or land development name or other identifying title.
- b. Name, address and telephone number of the applicant and the owner of record and of his authorized agent, if any.
- c. Name, address and telephone number of the registered engineer or surveyor responsible for the plan. If a registered engineer, architect or landscape architect collaborated in the preparation of the plan, his name, address, and seal also shall appear.
- d. Zoning information, including applicable district, lot size and yard requirements, proof of any variance, special exception or conditional use approval which may have been granted, and any zoning boundaries that traverse or are within one hundred (100) feet of the tract.
- e. All waivers or modifications being requested by the Applicant shall be clearly stated on the first sheet of the preliminary plan submission, and also be filed simultaneously in letter form to the Township with a narrative justification of the waiver or modification sought by the Applicant.
- f. Original date of preparation, revision dates with concise descriptions of significant revisions, north point, and scale, both written and graphic.
- g. Total lot or tract boundaries and all existing rights of way within and adjacent to the tract, showing bearings and distances prepared by a registered professional land surveyor.
- h. Total area of the subject lot or tract to the nearest square foot.
- i. The applicable front, side, and rear setbacks shall be shown on each lot, including any applicable required setbacks from pipeline rights-of-way or other utilities.
- j. The names of all current owners of all adjacent lands, the names of all proposed and existing adjacent subdivisions, and the locations and dimensions of any roads or right-of-way easements.
- k. The locations and dimensions of all existing roads, railroads, sewers and sewage systems, water mains and feeder lines, fire hydrants, gas, electric, and oil transmission lines, water courses, sources of water supply, easements, and other significant features

within the property, and all driveways, intersections and utilities within one hundred (100) feet of any part of the subject lot or tract.

- l. A Horizontal Plan showing layout of proposed improvements, including stations corresponding to those shown on the profiles, horizontal curves, location and size of inlets and manholes, horizontal location of proposed utilities, and existing contours.
- m. A Profile Plan indicating the final grades of roads, water lines, sanitary sewers and storm sewers, as applicable, and the extent of cut and fill operations.
 - i. The Profile Plan shall show the vertical section of the existing grade and proposed grade along the centerline of the proposed road. Where storm drainage and/or sanitary sewer lines are to be installed, they shall also be indicated on the Profile Plan.
 - ii. The horizontal scale of the Profile Plan shall be not less than 1"=50' and the vertical scale shall be not less than 1"=5'.
 - iii. The locations of all traverse storm sewer, sanitary sewer, public water, gas line, and other proposed or existing utilities crossing the area of the subject Profile Plan shall be indicated in profile.
- n. Typical cross-section(s) of proposed road construction indicating the following:
 - i. Right of way width and the location and width of paving within the right of way;
 - ii. Type, thickness and crown of paving, including material specifications;
 - iii. The location, width, type, thickness and material specifications of curbs and sidewalks to be installed, if any;
 - iv. Shoulders, roadside swales, pedestrian walkways and trails, and bike lanes where applicable;
 - v. Typical location, size and depth of any underground utilities that are to be installed in the right of way where such information is available.

- o. Topographic, physical, and cultural features as required in an ERSAP, prepared in accordance with Section 400 hereof. Separate submission of an ERSAP is not required at the time of Preliminary Plan application filing if an ERSAP that complies with this ordinance's requirements has been previously provided to the Township.
- p. Location and elevation of the datum to which contour elevations refer; datum used shall be the North American Vertical Datum of 1988 as amended.
- q. Any proposed improvements or land disturbances requiring a permit from the U.S. Army Corps of Engineers, the PADEP, the Northampton County Conservation District, the Delaware River Basin Commission, the Pennsylvania Fish and Boat Commission, or any other governmental agency having jurisdiction shall be so indicated and a copy of all relevant applications, submissions, re-submissions, review letters, responses, correspondences, etc., between the Applicant and the governmental agency shall be submitted to the Township either concurrently with the submission thereof to a governmental agency or copies thereof sent to the Township within five (5) business days of receipt from a governmental agency.
- r. In any case where individual on-lot sewage disposal systems are proposed, percolation test holes and deep probe test pits shall be excavated and the exact locations of the successful and failed percolation and deep holes for the primary and replacement disposal areas shall be shown. Minimum horizontal isolation distances shall be maintained for the sewage disposal system as required by Pennsylvania Code, Title 25 Environmental Resources, Chapter 73, Standards for Sewage Disposal Facilities (or any successor provision enacted in the future), and shall be indicated on the plan.
- s. In any case where community or central sewage disposal systems are proposed, the locations of and specifications for all sewage collection and disposal facilities shall be indicated and copies of any application for approval, and any approval, from PADEP shall be submitted to the Township. In addition, a business plan shall be submitted to the Township detailing the long-term operation of any such system, pursuant to the requirements set forth in Article V.
- t. Where a community well is proposed, the proposed location of the well shall be indicated on the plan. In addition, a business plan shall be submitted to the Township detailing the long-term

- operation of any community well, pursuant to the requirements set forth in Article V.
- u. The locations and widths of any roads or other public ways or places as shown upon an adopted local or county plan for the area to be subdivided or developed.
 - v. Locations of all existing structures on the tract and distance thereof from all adjacent existing and proposed lot lines.
 - w. A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or developments except those which divide farms into two or more parcels for continued agricultural use.
 - x. All notations on the plan must be readable. Illegible notations will be considered incomplete data on the plan.
3. All Preliminary Plan applications shall show compliance with the Four-Step Design Process in accordance with Section 301.D of this Ordinance.
4. A master plan of the proposed subdivision or land development with a scale not smaller than 1"= 200' and otherwise prepared in accordance with the drafting standards set forth above, including at a minimum the following:
- a. Location and width of all roads and rights-of-way with a statement of any conditions governing their use, including distance to the nearest intersection; proposed dedicated rights-of-way and reserved ultimate rights-of-way; road names and state or municipal road numbers.
 - b. Existing and proposed road and utility easement locations with dimensions.
 - c. All proposed lot lines with dimensions and lot areas, both gross and net, indicating those limitations excluded in any lot area definition where applicable; impervious coverage calculations.
 - d. Building setback lines along each road, minimum side and rear yard limits.
 - e. A statement of the intended use of all nonresidential lots and parcels.

- f. Lot numbers, and a statement of the total number of lots and parcels; addresses of each lot as assigned by the Township.
 - g. Locations of all stormwater management facilities including but not limited to storm sewers, groundwater recharge areas, bioretention areas, and other drainage improvement measures. Specific design of such facilities shall be demonstrated in the required Stormwater Management Plan.
 - h. Locations of all existing and proposed sanitary sewers and any other sewage conveyance, treatment or disposal facilities.
 - i. Locations of all water supply facilities.
 - j. Location of existing and/or proposed sidewalks, paths and trails throughout the property and on neighboring property within two hundred (200) feet.
 - k. Proposed parks, playgrounds, and other open space areas to be dedicated or reserved for public use with any conditions governing such use, ownership or maintenance.
 - l. Any other required improvements.
 - m. The Pennsylvania One-Call Number and a Table showing all affected utilities.
5. The preliminary plan shall be accompanied by the following supplementary documentation:
- a. An Erosion and Sedimentation Control Plan pursuant to Section 529 herein.
 - b. A Stormwater Management Plan pursuant to the Lower Mount Bethel Township Stormwater Management Ordinance.
 - c. A Landscape Plan demonstrating compliance with Section 522 herein.
 - d. A Lighting Plan demonstrating compliance with Section 524 herein.
 - e. If the preliminary plan or land development application includes any feature subject to conditional use, special exception, or variance approval, then the applicant's supplementary documentation shall contain copy(ies) of any applicable order of

- approval for such conditional use, special exception, or variance and all plans approved as part of the order.
- f. If the proposed subdivision or land development will utilize groundwater as the source of potable water, a Hydrologic Study prepared pursuant to Section 408 shall accompany the Preliminary Plan submission.
 - g. An Historic Resource Impact Study prepared pursuant to Section 407 herein, if required by Section 407.
 - h. An Environmental Impact Assessment prepared pursuant to Section 406 herein, if required by Section 406.
 - i. A Community Impact Assessment prepared pursuant to Section 405 herein, if required by Section 405.
 - j. A Traffic Impact Study prepared pursuant to Section 409 herein, if required by Section 409.
 - k. A Hydrogeology Study prepared pursuant to Section 408 herein, if required by Section 408.
 - l. A Carbonate Study prepared pursuant to Section 404 herein, if required by Section 404.
 - m. If the preliminary plan or land development involves land that is subject to a prior subdivision and/or land development, the applicant shall submit copies of all prior permits and approvals relating to the prior subdivision and/or land development, including but not limited to waivers granted, conditions imposed on the prior approval, PennDOT Highway Occupancy Permits, etc.
 - n. If a homeowners' association or similar entity is to be established to maintain any improvements depicted on the subdivision or land development plan, the association documents (the declaration, public offering statement, etc.) shall be provided to the Township solicitor for review prior to preliminary plan approval. The formation documents must clearly describe the maintenance, operation and funding mechanism relative to the perpetual operation and maintenance of improvements.
 - o. A full title search for all parcels which are part of the subdivision and/or land development, including copies of all excepted documents for each parcel.

- p. Any other documents or information which the Township may require in order to clarify the submittal and carry out the intention of this ordinance.

Section 403 Required Content of Final Plans

Final plans shall conform with approved preliminary plans, where applicable, including any conditions of approval specified by the Board of Supervisors. A final plan shall consist of and be prepared in accordance with the following:

- A. Drafting Standards. Final Plans shall conform to the drafting standards set forth in Section 402.A. hereof.
- B. Required Contents of Final Plan and Supplementary Documentation. Final Plan submissions shall include all information and data set forth below. Information and data already supplied at the time of Preliminary Plan submission and satisfactorily meeting all requirements for Final Plan submission need not be resubmitted except to the extent that additional copies may be needed by the Township to facilitate review, the information and data has changed following Preliminary Plan submission or additional, supplementary information is available.
 - 1. Final Plan submissions shall include all information and data required under Section 402.B. hereof, except that preliminary supplementary documentation required under Section 402.B.5.a-d hereof need not be resubmitted and instead shall be supplanted by the required supplementary plans set forth in Section 403.B.16 below.
 - 2. All final lot area calculations and lot line dimensions, including straight lot lines and chords and radii of curved lot lines, defined in feet and hundredths of a foot by distances, and in degrees, minutes and seconds either by magnetic bearings or by angles of deflection from other lot and road lines.
 - 3. A statement of restrictions of any type which exist or will exist as covenants in the deed(s) for all lots wholly or partly in the subdivision and, if covenants are recorded, the deed book and page number.
 - 4. The specific proposed placement of each building and all water and sewer facilities; for single-family detached dwellings, in lieu of specific building locations, a generalized building area of 5,000 square feet may be identified.
 - 5. The location of all existing and proposed monuments.

6. All easements or rights-of-way for any purpose, including written legal descriptions and plot plans, and any limitations on such easements or rights-of-way. Easements or rights-of-way shall be specifically described on the plans. Easements should be located in cooperation with the appropriate public utilities where applicable.
7. If the subdivision proposes a new road intersection with a state legislative route, the intersection permit number(s) shall be indicated for all such intersections.
8. A certification of ownership, an acknowledgement of the plan and an offer of dedication shall be affixed to the plan and shall be acknowledged and signed by the applicant(s) and owner(s) of the property and duly notarized.
9. All waivers being requested by the applicant, as well as all waivers previously granted to the applicant by the Board of Supervisors, shall be clearly stated on the first sheet of the Final Plan submission.
10. Certificate for approval of the plan by the Board of Supervisors and by the Township Planning Commission shall be included as well as any other certificates required by the Township.
11. The name (or number) and cartway width and lines of all existing public roads and the name and location of all other roads within the property, as applicable.
12. Any fees, whether required or as agreed to by the applicant, shall be clearly noted on the plan.
13. The following data for the centerline of the cartway and both right-of-way lines of all recorded or proposed roads, within and adjacent to the property:
 - a. Courses and distances with length in feet and hundredths of a foot of all straight lines and of the radius and the arc (or chord) of all curved lines with delta angles including curved lot lines, and bearings in degrees, minutes and seconds for all straight lines; and
 - b. The width in feet of the cartway, right-of-way and of the ultimate right-of-way, and (in degrees, minutes and seconds) of the delta angle of all curved lines, including curved lot lines.
14. A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or land developments except those which divide farms into two or more parcels for continued agricultural use.

15. A grading plan indicating all changes in grade necessitated by any improvements; for single-family detached dwellings the grading plan may be based on identification of a generalized building area of 5,000 square feet rather than specific building location as provided above.
16. The Final Plan shall be accompanied by the following supplementary documentation:
 - a. An Erosion and Sedimentation Control Plan pursuant to Section 529 herein.
 - b. A Stormwater Management Plan pursuant to the Lower Mount Bethel Township Stormwater Management Ordinance.
 - c. A Landscape Plan demonstrating compliance with Section 522 herein.
 - d. A Lighting Plan demonstrating compliance with Section 524 herein.
 - e. If the proposed subdivision or land development will utilize groundwater as the source of potable water, a Hydrologic Study prepared pursuant to Section 408.
 - f. An Historic Resource Impact Study prepared pursuant to Section 407 herein, if required by Section 407.
 - g. An Environmental Impact Assessment prepared pursuant to Section 406, if required by Section 406.
 - h. A Community Impact Assessment prepared pursuant to Section 405 herein, if required by Section 405.
 - i. A Traffic Impact Study prepared pursuant to Section 409 herein, if required by Section 409.
 - j. A Hydrogeology Study prepared pursuant to Section 408 herein, if required by Section 408.
 - k. A Carbonate Study prepared pursuant to Section 404 herein, if required by Section 404.
 - l. If the final plan or land development application involves land that is subject to a prior subdivision and/or land development, the applicant shall submit copies of all prior permits and approvals

relating to the prior subdivision and/or land development, including but not limited to waivers granted, conditions imposed on the prior approval, PennDOT Highway Occupancy Permits, etc.

- m. If a homeowners' association or similar entity is to be established to maintain any improvements depicted on the subdivision or land development plan, the association documents (the declaration, public offering statement, etc.) shall be provided to the Township solicitor for review prior to final plan approval. The formation documents must clearly describe the maintenance, operation and funding mechanism relative to the perpetual operation and maintenance of improvements.
- n. A full title search for all parcels which are part of the subdivision and/or land development, including copies of all excepted documents for each parcel.
- o. Any other documents or information which the Township may require in order to clarify the submittal and carry out the intention of this ordinance.
- p. If the final plan or land development application includes any feature subject to conditional use, special exception, or variance approval, then the applicant's supplementary documentation shall contain copy(ies) of any applicable order of approval for such conditional use, special exception, or variance and all plans approved as part of the order.

Section 404 Carbonate (Karst Geology) Study

- A. Applicability. A Carbonate Study shall be submitted to the Township as part of a Preliminary Plan and Final Plan for any subdivision or land development application involving lands where any Karst geologic features are present within two hundred (200') feet of any proposed development activity or land disturbance, based initially on generalized geologic mapping provided pursuant to the ERSAP and as further refined pursuant to testing as provided below.
- B. Purpose. To ensure that new subdivisions or land developments constructed within the Township do not result in sinkholes, ground subsidence, and other hazards due to the presence of Carbonate or Karst geologic features.
- C. Carbonate Study Contents.
 - 1. Identification of Carbonate Features. The presence of any of the following soil or geologic features or characteristics on the property subject to application shall be documented in map and narrative form:

- a. sinkholes
 - b. closed depressions
 - c. lineaments
 - d. fracture traces
 - e. caverns
 - f. ghost lakes
 - g. disappearing streams
 - h. surface or subsurface pinnacles
 - i. fissures
 - j. faults
2. The preliminary and final plans, as applicable, shall indicate the locations of any of the following existing or proposed components of development plans relative to identified carbonate geology features:
- a. existing and proposed grading and drainage conditions
 - b. all structures exceeding 3,500 square feet in ground area footprint
 - c. all roads, driveways and parking areas
 - d. all stormwater management facilities
 - e. any primary and secondary private and public sewage disposal systems
 - f. any private and public water supplies
 - g. any other pipelines or underground transmission lines.
3. Any applicant proposing any of the development components listed under subsection 2 above within any area identified as having carbonate geologic features shall perform test borings (or an alternate testing procedure, such as resistivity testing or ground penetrating radar, which shall be approved by the Township) of the site in areas where such components are proposed. The test borings shall be laid out in a grid on 50 foot centers

under the locations of any proposed development components. All boring holes shall be closed with concrete at the conclusion of the test procedures.

4. In the event that the preliminary plan does not indicate specific locations of structures, a minimum of two borings shall be provided within the buildable area of each proposed lot. In the event that any structure is not built in the location in which the test borings were taken, new test borings must be performed in the same grid fashion in the location in which the structure is to be located before the issuance of a building permit. The test borings or approved alternate procedures shall be made to determine the depth to bedrock and suitability of bedrock to supports structures. Noninvasive testing methods are preferred.
5. Test borings shall be conducted in accordance with American Society for Testing Materials D 1586, standard method for “penetration test and split barrel sampling of soils.” Where intact rock and consolidated material is encountered, samples shall be secured in accordance with ASTM D 2113 for “diamond core drilling for site investigation.” The location and depth of each test boring shall be satisfactory to the engineer providing the report required below. Boring samples shall be obtained and bottled in accordance with ASTM D 1586. Samples shall be delivered to the Township Municipal Building.
6. An interpretation of test borings shall be provided by a licensed professional geologist or licensed professional civil engineer with expertise in geotechnical engineering and shall include a report of findings and recommendations with regard to building and site development construction requirements. The professional shall also conduct a site inspection of the property.

Section 405 Community Impact Assessment

- A. Applicability. A Community Impact Assessment shall be submitted to the Township as part of a Preliminary Plan and Final Plan for any major subdivision or land development application, except for residential subdivisions involving less than twenty five (25) lots and agricultural subdivisions subject to the CAPZO provisions of the Township Zoning Ordinance.
- B. The Community Impact Assessment shall assess potential physical and fiscal impacts, service demands and capital improvement needs associated with the proposed subdivision or land development in relation to roads, water supply systems, sewage treatment and collection systems, the School Districts, Township finances, and community services, including libraries and park and recreation facilities, utilities, fire and emergency medical services.

- C. The Community Impact Assessment shall identify any necessary improvements to all such systems and services needed to accommodate or mitigate the impacts from the proposed subdivision or land development.
- D. The Community Impact Assessment shall identify and estimate the financial and fiscal impacts of the needed improvements to all community systems and services identified per Section 405.C. above.
- E. The Community Impact Assessment shall assess potential impact(s), both positive and negative, that the proposed development may have in relation to social, cultural and economic activity and opportunities in Lower Mount Bethel Township and its environs.
- F. Qualifications of Preparer. The Community Impact Assessment must be prepared by a certified planner(s) and/or professional(s) with appropriate education, training and experience to perform such an analysis. A report presenting the results of the Community Impact Assessment and the qualifications of the preparer of the Community Impact Assessment must be submitted with the development plan.

Section 406 Environmental Impact Assessment

- A. Applicability. An Environmental Impact Assessment (EIA) shall be submitted to the Township as part of a Preliminary Plan and Final Plan for any major subdivision or land development application, except for residential subdivisions involving less than ten (10) lots and agricultural subdivisions subject to the CAPZO provisions of the Township Zoning Ordinance.
- B. Purpose. To ensure that adequate analysis of site features result in designs that preserve and incorporate open space, historic, visual, environmental, biological and natural and other community resources in development plans.
- C. Identification of Site Features. The applicant shall identify, inventory and map the site features of the tract proposed for development, including those required in an ERSAP, prepared in accordance with Section 400 hereof. These plan(s) shall be provided at the same scale as development plans submitted for Preliminary and Final Plan applications, as applicable.
- D. Narrative. In addition to the plan and resource inventory, the applicant shall submit a narrative description of the following:
 - 1. The general character of the site features identified in accordance with this Ordinance, including environmental quality, conservation value and scenic significance, as applicable. Relevant information provided in any submitted Historic Resource Impact Study or Community Impact Assessment may be cited by reference.

2. An analysis of all impacts, both positive and negative, to environmental, natural, and scenic resources caused by or directly related to the development/improvement projects submitted to the Township for review and approval, including impacts to the property and any impacts to surrounding properties.
3. A description, and identification on plan map(s), as applicable, of proposed means and/or rationale demonstrating how development as proposed will minimize or mitigate the identified negative impacts, including a detailed description of the proposed measures that will be taken to mitigate any impacts to the identified resources on the property and any other affected property as a result of the planned development.

E. Qualifications of Preparer.

1. The EIA must be prepared by a certified planner(s) and/or environmental professional(s) with appropriate education, training and experience to perform such an analysis. A report presenting the results of the EIA and the qualifications of the EIA preparer must be submitted with the development plan.
2. Each EIA report must include a certification statement from the individual or company that prepared the report as follows:

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Section 407 Historic Resource Impact Study

A. Applicability.

An Historic Resource Impact Study (HRIS) shall be submitted to the Township as part of a Preliminary Plan and Final Plan for any subdivision or land development application which proposes new construction of buildings, structures, roads, driveways, parking areas, or other land disturbance within two hundred fifty (250) feet of any Historic Resource.

B. Purpose.

1. To delineate sensitive Historic Resources and identify the necessary measures needed to protect them.
 2. To establish a clear process by which proposed land use changes affecting significant Historic Resources can be reviewed.
 3. To discourage the unnecessary demolition of significant Historic Resources.
 4. To encourage the conservation of historic settings and scenic corridors, vistas and landscapes.
- C. Contents of Historic Resource Impact Study. The HRIS shall contain the following information:
1. Background Information.
 - a. If not otherwise provided by the Applicant, a general, narrative description of the site that is the subject of the application, including topography, watercourses, vegetation, landscaping, existing drives, etc.
 - b. General description and classification of all Historic Resources within two hundred fifty (250) feet of any proposed land development or land disturbance.
 - c. Physical description of all Historic Resources, including location information on identified and potential archaeological resources and their relationship to the environmental attributes of the property.
 - d. Narrative description of the historical significance of each Historic Resource relative to both the Township and to the region in general.
 - e. Color 8"x10" photographs sufficient to show each Historic Resource in its setting.
 2. Assessment of Potential Impacts to Historic Resources. Description of potential impact(s) to each Historic Resource including, but not limited to, impacts to the integrity, setting, relationship to scenic corridors, vistas and landscapes, and future use of each Historic Resource.
 3. Mitigation Measures. Suggested approaches to mitigate potentially negative impacts to each Historic Resource, including avoidance, design

alternatives, buffering, landscaping, conservation of existing vegetation, and any other appropriate measures permitted under the terms of this and other Township ordinances, resolutions, regulations and policies.

4. Qualifications of Preparer. Historic Resource Impact Studies shall be prepared by those individuals meeting the Secretary of Interior's Professional Qualifications Standards (36 CFR Part 61). Lists of qualified consultants are available from the Pennsylvania Historical and Museum Commission.

Section 408 Hydrogeology Study

A. Applicability.

Submission of a Hydrogeology Study is required for any subdivision or land development proposing any of the following:

1. Ten (10) or more residential lots; or
2. Any nonresidential use of 4,000 gallons per day or greater.

B. Purpose

1. To enable the Township to assess the likely impact of a proposed development on the surface and groundwater resources in the Township.
2. To ensure that new wells constructed within the Township are able to provide a reliable, safe, and adequate water supply to support the intended use.
3. To assess the potential for new development to adversely impact adjacent property owners.

C. Professional Input.

The applicant shall retain a certified soil scientist, registered professional hydrogeologist or geologist, or a licensed professional engineer qualified in geology, to prepare the study. The qualifications and experience of the applicant's consultant shall be included as part of any study. The Township Engineer or other consultant hired by the Township as an expert may reject any study due to lack of suitable experience by the preparer.

D. Area(s) of Study.

Area(s) of study shall be defined by the applicant's qualified consultant who represents the areas that are likely to be affected by the development, but shall be

no less than a one thousand (1,000) foot radius from a proposed on-lot individual supply well and no less than two thousand, five hundred (2,500) feet from a proposed community water supply system. Prior to identifying these areas, the applicant's consultant shall discuss possible study area boundaries with the Township Engineer.

- E. Pumping Test. In order to determine if suitable water capacity exists for the proposed development, including fire protection, as well as to assess potential impacts on adjacent groundwater users, appropriate aquifer testing is required.
1. Testing will comply with the requirements of the DEP Public Water Supply Manual, as may be amended from time to time, and the Delaware River Basin Commission (DRBC) requirements, as may be amended from time to time.
 2. A minimum of one test (1) well will be tested for every ten (10) proposed residential dwelling units which are proposed to use on lot wells as the means for water supply. One test well shall be drilled for every proposed non-residential use.
 3. A well log shall be provided to the Township showing pumping well depth, diameter, casing length, static and pumping water levels, pumping rate, geologic formations, depth at which groundwater was encountered, draw down test plot of pumping well, etc.
 4. In order to determine its capacity, the well shall be tested for yield, drawdown, and specific capacity. The well shall be evaluated through a two-part pump test, comprised of "peak demand" and "constant head", or approved equal, at flow rates calculated on the basis of the projected household population, assuming a water use of seventy five (75) gallons per capita per day and a peak use of one and one half (1.5) times the average. On-lot residential wells shall yield at least three (3) gallons per minute unless a storage tank(s) is incorporated into the water supply system, in which case the yield shall be at least one (1) gallon per minute. Yields for community water supply systems shall be as required by PADEP. Non-residential flow rates shall be based upon data from similar type uses.
 5. Description, location, and any results of the pump testing performed shall be included in the Hydrogeology Study.
- F. Permeability Testing. In order to assess potential impacts on adjacent groundwater users, appropriate infiltration testing is required.
1. Testing will be in accordance with the requirements outlined in the ASTM Standard D2434-68, as may be amended from time to time, and PADEP recommended practices.

2. The following data and information is to be submitted:
 - a. Description of soils and geology at the site and the characteristics of these which may limit the horizontal and/ or vertical movement of sewage water.
 - b. Description, location and results of permeability testing performed, including:
 - i. Identification and description of restrictive layers of soil, weathered bedrock (saprolite), and bedrock lithology.
 - ii. Rate of flow through and laterally over those restrictive layers in inches per hour.
 - iii. Calculations of potential groundwater mounding expected from the additional flows to the groundwater system.
 - c. Recommendations on system design modifications needed because of poor permeability, including:
 - i. Absorption area sizing or placement and dosing rates for on-lot disposal.
 - ii. Spray rates and pretreatment for spray irrigation and/or overland flow.
 - d. The Township may require more detailed infiltration information based on the information submitted in this section.

G. Hydrogeology Study Documentation.

1. **General Site Description.** The site description shall include the size, location, proposed land uses, construction staging and completion date of the proposed development. A brief description of other existing uses and approved recorded development plans that could have potential on the proposed development shall also be included. Development proposals not yet approved and recorded, but with sufficient status and probable impact to the proposed development shall be included. Reference shall be made to applicable content found within the Township's Act 537 Plan, as amended. Hydrogeological data contained in this study shall be included in the site description.
2. **Preliminary Hydrogeology.** The following information is to be submitted in map and narrative form:

- a. Rainfall and recharge characteristics of the groundwater area in which the proposal is located.
 - b. Intended quantity and quality of withdrawal of groundwater to support the project.
 - c. Impact of any proposed sewage and/or water disposal system upon groundwater recharge. Description of proposed water import and export quantities.
 - d. Impact of the proposed stormwater management plan measures upon groundwater recharge. Description of the extent to which infiltration/BMPs will be utilized on-site.
 - e. A survey of existing wells utilizing groundwater resources.
 - f. Maps showing well locations, both existing and proposed within the area designated by the Township and Township Engineer and/or other consultant hired by the Township as an expert, but no less than 2,500 feet from the boundary of the tract.
 - g. Projection of estimated effects of new withdrawals on existing water supplies and streamflow.
3. For subdivisions and land developments proposing a stream or surface discharge of wastewater, subsurface disposal or discharge via spray or drip irrigation, the following additional information shall be included.
- a. Type of discharge to groundwater:
 - i. Dry stream channel
 - (a) Intermittent stream (dry in dry season only).
 - (b) Stormwater drainage ditch (flow in wet season or during and immediately after storms.)
 - ii. On-lot subsurface disposal
 - (a) Individual on-lot systems.
 - (b) Community on-lot systems.
 - iii. Spray or drip irrigation

- iv. Overland flow
- b. Topographic location of the discharge.
- c. Relationship of topography to groundwater flow.
- d. Geologic characteristics which influence groundwater flow:
 - i. Faults and lineaments.
 - ii. Bedding features.
 - iii. Sinkholes, solution channels, pinnacles or other specific features.
 - iv. Range of depth of bedrock.
 - v. Nature of unconsolidated material.
 - vi. Confining formations (fragipans, impermeable rock formations).
 - vii. Bedrock formation and litho logic relationships.
 - viii. Description of glacial material.
 - ix. Thickness and texture of unconsolidated bedrock.
 - x. Nature and degree of bedrock fracturing.
- e. Groundwater/surface water characteristics:
 - i. Depths of water table, including seasonal variations.
 - ii. Existing groundwater quality and quantity, including but not limited to the following analysis:
 - Total coliform (e. coli and fecal coliform)
 - pH
 - Total iron
 - Turbidity
 - Alkalinity
 - Arsenic
 - Cadmium
 - Copper
 - Lead

- Mercury
 - Molybdenum
 - Nickel
 - Selenium
 - Nitrogen-Nitrate
 - Chloride
 - Ammonia-Nitrogen
 - Total Manganese
 - Sodium
 - Magnesium
 - Calcium
 - Potassium
 - Sulfate
 - Zinc
 - Poly-chlorinated bi-phenols (PCBs)
 - Total Dissolved Solids
 - Hardness
 - Volatile Organic Compounds
- iii. Identification, location, flow characteristics, and volume of any receiving streams or watercourses from the point of discharge to the receiving perennial stream.
- iv. Existing surface water quality and designated use of any receiving streams.
- v. Down gradient groundwater uses, including:
- Water supply locations.
 - Volume of water used.
 - Estimated cones of depressions.
 - Influence of pumping on direction of flow (existing and potential water supplies).
- vi. Influence of surface water runoff and groundwater recharge on groundwater characteristics.
- vii. Estimated area of impacted groundwater (dispersion plume and mixing zone within the dispersion plume) calculated from the surface topography and known geologic conditions.
- viii. Identification of existing and potential groundwater uses within the dispersion plume.

- ix. If a wastewater discharge to a dry stream is proposed, estimated infiltration rate to groundwater during dry stream conditions and the degree of renovation expected during infiltration.
 - x. Calculation of groundwater mounding under the disposal site.
 - xi. Designation of any watershed area that is utilized for a water supply, recreation, or agricultural irrigation.
4. The Hydrogeologic Study shall establish:
- a. The projected impacts of the proposed development, based upon but not limited to the aforementioned background information, proposed development, and pump and permeability tests.
 - b. A delineation of a dispersion plume within the groundwater system in which the existing water quality will be degraded.
 - c. A delineation of a mixing zone within the dispersion plume in which chemical or biological concentrations will exceed the Federal Drinking Water Quality Standards. This must include mass balance calculations to define expected dilution of the concentrations of contaminants within the mixing zone.
 - d. A delineation of a buffer zone that shows the anticipated encroachment of the mixing zone into the plume of dispersion as the result of seasonal flow characteristics of the groundwater system. Identification of existing and potential groundwater uses in the delineated mixing zone and in the buffer zone.
 - e. That the mixing zone will not adversely affect existing or potential future groundwater uses.
 - f. That the dispersion plume discharge will meet surface water quality standards after complete mixing if groundwater mixing zones extend to surface water.
 - g. That suitable natural and artificial control exists to confine dispersion plume flow.
 - h. A delineation and calculation of mounding characteristics in the soil, parent material and underlying bedrock and a determination of the impact of this mounding on system function.

- i. Determination of the monitoring locations and method of monitoring on the perimeter of the mixing zone to test groundwater which may be affected by a non-residential facility's operation.
5. Where the study concludes that the proposed development has the potential to cause adverse affects to the groundwater resources or existing groundwater users, specific recommendations for the mitigation or elimination of adverse impacts shall be included. Relocation of proposed well(s) to mitigate or eliminate the adverse impact shall be required. In addition, the study shall include:
- a. A monitoring program for both groundwater and surface water, including responsibility for the costs of monitoring.
 - b. Authority for control of groundwater use in the mixing and buffer zones and access rights for abatement purposes should the contaminant leave control of the mixing zone.
 - c. Contingencies available to abate pollution should the contaminant leave control of the mixing zone.
 - d. Treatment capabilities of any pretreatment system components proposed to decrease contaminant levels prior to discharge to groundwater. This must include design and testing data which support claims of consistent, reliable and measurable improvements in treatment.
 - e. System design, placement and sizing recommendations based on the hydrogeologic study.
 - f. Evaluation and establishment of measures to control both present and future water usage within the mixing and buffer zones.

Section 409 Traffic Impact Study

- A. Applicability. A Traffic Impact Study shall be submitted to the Township as part of a Preliminary Plan and Final Plan for any subdivision or land development application expected to generate more than 250 new trips per day.
- B. Purpose. To identify any traffic problems likely to result from the proposed development in relation to ingress/egress, road capacities, off-site traffic flow, public transportation, and pedestrian and other non-vehicular circulation.

C. Contents.

1. A study area for the Traffic Impact Study shall be defined as mutually agreed upon by the Applicant and the Township Engineer, subject to the minimum requirements of Section 409.C.4 below.
2. The Traffic Impact Study shall enable the Township to assess the likely impacts of the proposed development on the existing transportation network of the Township and surrounding areas.
3. The Traffic Impact Study shall be prepared by a civil engineer licensed to practice in Pennsylvania with experience preparing such studies in accordance with the Institute of Transportation Engineer's (ITE) Recommended Practice *Traffic Access and Impact Studies for Site Development*, current edition, and PennDOT Publications 201 and 282, current editions.
4. The Traffic Impact Study shall include, but not necessarily be limited to, an analysis of expected traffic generation to, from, and upon surrounding roads within a radius of 2-miles from the proposed development site, particularly showing AM and PM peak hours of existing traffic flow during a normal business day, in comparison with what is anticipated after the proposed development is fully completed and, if applicable, upon the completion of each stage. Estimated peak hour trip generation shall be based on procedures set forth in the most recent edition of the ITE Trip Generation Manual. Existing traffic flows shall be based on actual counts; if these cannot be obtained, an alternative source, subject to approval by the Township, may be used.
5. The Township shall review the methodology, assumptions, findings, and recommendations of the Traffic Impact Study and may require specific improvements necessary to accommodate the impacts of the proposed development.

**ARTICLE V
DESIGN STANDARDS**

Section 500 Applications

- A. The following subdivision and land development principles, standards and requirements will be applied by the Township in evaluating plans for proposed subdivisions and land developments.
- B. The standards and requirements outlined herein are minimum standards and requirements for the promotion of the public health, safety, and general welfare.
- C. Whenever municipal or other applicable regulations contain more restrictive standards and requirements than those outlined herein, such other regulations shall control.
- D. The Township reserves the right to waive or modify any of the minimum standards set forth herein if conditions so warrant, as may be necessary in the public interest or where requested by an applicant as set forth in Section 702 hereof.

Section 501 General Standards

- A. Land shall be developed in conformance with this Ordinance, the Lower Mount Bethel Township Zoning Ordinance, Lower Mount Bethel Township Comprehensive Plan, and other ordinances, codes, and regulations in effect in Lower Mount Bethel Township.
- B. All portions of a tract being subdivided or developed shall be taken up in lots, roads, open spaces, or other proposed uses so that remnants and landlocked areas shall not be created. Reserve strips controlling access to lots, public rights-of-way, public lands or adjacent private lands are not permitted, unless specifically approved by the Township Supervisors.
- C. Land shall be developed in conformance with all pertinent statutes, regulations, rules and codes of Federal, State and County agencies concerned with subdivision, land development, construction and improvements or any activity arising out of or related thereto in any way whatsoever.
- D. Applicants shall make every effort to protect natural and cultural resources as provided in the Four Step Design Process, if applicable.
- E. Proposed subdivision and land developments shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.

- F. The standards of design in this Article shall be used to judge the adequacy of subdivision proposals. Wherever, in the opinion of the Planning Commission, the literal applications of these standards in certain cases would serve to create an undue hardship, the Planning Commission may recommend to the Board of Supervisors such modifications that will not be contrary to the public interest. The Supervisors may, at their discretion, modify or adjust the standards to permit utilization of property while securing substantial conformance with the objectives of these regulations, as provided for in Article VII of this Ordinance.

Section 502 Blocks

- A. The length, width, and shape of blocks shall be determined with due regard to:
1. The provision of adequate sites for buildings of the type proposed;
 2. The least adverse impact to topography and natural features;
 3. The need for safe and convenient vehicular and pedestrian circulation; and
 4. Thoughtful and innovative design to create an attractive community.
- B. Blocks shall have a maximum length of sixteen hundred (1600) feet and a minimum length of two hundred and fifty (250) feet. In the design of blocks longer than one thousand (1000) feet, special consideration shall be given to the requirements of satisfactory fire protection.
- C. Residential blocks shall be of sufficient depth to accommodate two tiers of lots, except where reverse frontage lots are permitted.
- D. In both commercial and residential land development areas, the block layout shall conform with the requirements of this Ordinance, with due consideration of site conditions, to the best possible layout to service the public, to permit good traffic circulation and the parking of cars, to make delivery and pick-up efficient, and to reinforce the best design of the units in the commercial or residential area.
- E. Block layout in industrial areas shall conform with the requirements of this Ordinance, with due consideration to the most efficient arrangement of space for present use and future expansion with due regard for worker and customer access and parking.

Section 503 Lots and Lot Standards

- A. General Lot Design Standards.

1. Lot areas, lot widths, setbacks, dimensions and yard requirements shall not be less than specified by applicable provisions of the Lower Mount Bethel Township Zoning Ordinance.
2. The lot design and interior space allotted shall be appropriate for the type of development and use contemplated, be sufficient to provide satisfactory space for required on-site parking, accessory uses, and comply with other applicable standards of Township resolutions, regulations, codes, policies, and ordinances. For lots intended for single-family residential use, an area of at least five thousand (5,000) square feet outside of the required setbacks shall be indicated on such lots that is capable of residential development and exclusive of any area intended for the siting of on site sewage disposal, water supply well(s) or stormwater management facilities
3. Side lot lines shall be at right angles or radial to road lines. The Township may accommodate flexibility in lot layout.
4. Side lot lines shall follow along existing streams or existing or proposed stormwater management swales.
5. Lot lines shall follow municipal boundaries rather than cross them.
6. Subdivisions shall not result in remnants of land that do not meet minimum frontage, area and bulk requirements for the applicable zoning district. All portions of a plan shall be incorporated into existing or proposed lots unless special usage for a specific piece of land is applied for, and approved by the Board of Supervisors, as part of a subdivision or land development proposal.
7. The depth of lots shall not exceed the width by more than two and one-half (2 ½) times.
8. Lot addresses and road names shall be assigned to each lot by the Township and included on the Final Plan at the time of Board of Supervisors approval, and forwarded by the Township to the Postal Authority.

B. Lot Frontage Standards.

1. All lots shall have frontage along the right-of-way of a public or private road. Each lot shall have, in addition to the minimum width at the required front yard line as specified by the zoning district, sufficient free and complete access to an existing or proposed road cartway to avoid the need to cross any portion of another lot to reach such road.

2. Lots which abut two (2) or more public roads shall have direct access only to the road of lesser functional classification.
3. Where lots are created having frontage on an arterial or major or minor collector road, as designated by the Township, any proposed residential development road pattern shall provide frontage to local roads within the subdivision (providing for so-called reverse frontage lots).
 - a. All residential reverse frontage lots (and all corner lots with a lot line along a street where reverse frontage is required) shall, in addition to the rear yard required by the Township Zoning Ordinance and immediately adjacent to the right-of-way of the arterial, major collector road or minor collector road, have a planting screen buffer area of at least twenty (20') feet in width, across which there shall be no right of access to the lot. The plantings within the screen buffer area shall provide a visual screen of sufficient height (but at least six (6') feet upon planting) to visually obscure the balance of the lot from the adjacent right-of-way of the arterial, major collector road or minor collector road within three (3) years of planting.
 - b. The planting screen may be a planting mixture of deciduous and conifer shrubs and trees and shall serve as a barrier to visibility, airborne particles, glare and noise. The screen shall run for the entire length of the lot.
 - c. The screen plantings shall be so placed that at maturity, they will not be closer than three (3') feet from any right-of-way or property line. Evergreen trees likely to grow substantially in diameter shall be planted in two or more rows or off-sets if needed to allow space for future growth.
 - d. The plantings shall be maintained permanently and plant material which does dies shall be replaced within six (6) months.
 - e. A built-up earthen berm may be incorporated in the landscaping of the reverse frontage screening as long as the following conditions are met:
 - i. It may not be located in the future street right-of-way.
 - ii. The maximum allowable slope shall be 3 to 1 (horizontal to vertical).

- iii. Landscaping shall be planted on the side of the berm that is closest to the adjacent right-of-way. Additional landscaping on the other side of the berm is permitted.
- iv. The surface of the berm shall be stabilized with grass.

C. Flag (Interior) Lots.

- 1. Lots for which the only road frontage is by an accessway (or “flag”), the sole purpose of which is to provide access from that road to the principal part of the lot, shall be permitted only if all of the following requirements are satisfied:
 - a. The Board of Supervisors grants permission based on topographical or other conditions unique to the site.
 - b. The access area (“pole” portion) of the linking the “flag lot” to the public or private road shall have a minimum width of fifty (50) feet for its entire length, and shall be held in fee simple ownership by the owner of the flag lot.
 - c. The length of the flag lot access area of a flag-shaped lot shall be a maximum of 300 feet.
 - d. No more than one (1) single-family detached dwelling occupies any flag lot.
 - e. The minimum lot area, lot width, lot depth, and setbacks of the applicable zoning district shall apply to that portion of the lot exclusive of the access area.
 - f. All structures shall be located on the main body of a flag lot (outside of the access area) so as to provide required setbacks pursuant to applicable zoning regulation should the access area portion later become a public or private road.
 - g. The flag lot shall not be a reverse frontage lot.
 - h. No more than two (2) flag lots shall be permitted in a major subdivision and no more than one (1) flag lot shall be permitted within a minor subdivision.
 - i. Flag lots, while required to have their own access area of at least fifty (50) feet, may share a common driveway access with an adjacent lot.

- j. The access area or common access drive, as applicable, for any flag lot shall be located so as to demonstrate ability to comply with all applicable driveway, sight distance, and any other applicable roadway access standards.
- k. Any approved subdivision including flag lots shall be approved on the condition that any future subdivision of any lot shall not create additional flag lots.

Section 504 Roads – General

- A. Proposed roads shall be properly related to such road plans or parts thereof as have been officially adopted by the Township, including recorded subdivision plans and shall be classified according to their function.
- B. Proposed roads shall further conform to such Township, County and State road and highway plans as have been prepared, adopted, and filed as prescribed by law.
- C. Thoughtful and imaginative design of roads and their relationship to the arrangement and shape of lots is required. Proposed road patterns shall relate to existing roads, topography and existing and planned settlement patterns in order to accomplish a smooth flow of traffic, to avoid poor sight distance, to avoid traffic congestion and to promote public safety.
- D. Local roads shall be designed to discourage excessive traffic speeds and provide for the continuation of existing or platted roads and for proper access to adjoining undeveloped tracts suitable for future subdivision or development. Further, adequate provisions for emergency vehicle access shall be made.
- E. If lots resulting from a subdivision are large enough for further subdivision or if a portion of the tract is not subdivided, adequate road rights-of-way to permit further subdivision shall be provided, as necessary, unless the remaining property is restricted from further subdivision in a manner acceptable to the Township. Remnants, reserve strips and landlocked areas shall not be created.
- F. Along the existing road on which a subdivision or land development abuts, additional right-of-way, paving or other improvements, including traffic calming measures shall be made and built to the specifications established by the Township's ordinances, resolutions, regulations, codes and policies.
- G. Dead-end roads shall be prohibited, except as stubs to permit future road extension into adjoining tracts, or when designed as cul-de-sacs. Temporary paved turnarounds shall be required.
- H. Emergency access routes shall be required. The maintenance responsibilities of the emergency access route shall be clearly defined on the plans. An easement for

the route shall be provided at a sufficient width to accommodate traffic and maintenance.

- I. New half or partial roads shall not be permitted. Only new roads meeting the requirements of this Ordinance shall be permitted. Wherever a tract to be subdivided borders an existing half or partial road, the other part of such road shall be plotted within such tract.
- J. Roads that are extensions of or in alignment with existing roads shall bear the names of the existing roads. Road names shall not duplicate or closely resemble names of any existing road or areas. All houses shall receive address numbers. All road names and address numbers shall be subject to the approval of the Township, the applicable Postmaster and the applicable Emergency Services personnel. Development names shall also be subject to approval of the Township.
- K. Where roads continue into adjoining municipalities, evidence of compatibility of design, particularly with regard to road widths, shall be submitted. The applicant shall coordinate such design with both municipalities to avoid abrupt changes in cartway width or in improvements provided.
- L. Private roads shall be designed and constructed to meet all requirements of public road standards; the recorded plan and other recorded documents, such as the deeds of conveyance of lots shown on a plan and/or independent easement and maintenance agreements, shall state the persons responsible for the cleaning, maintaining, improving and repairing of private roads, and financial guarantee or security shall be provided as required for public roads to ensure construction and maintenance of the private roads as required by this Ordinance.
- M. Traffic calming measures shall be implemented on all roads, access drives, parking and loading areas. Traffic calming measures shall be selected in consultation with the Township and shall be chosen with consideration of PennDOT's "Publication 383 - Traffic Calming Handbook," as last revised.
- N. When the results of the Traffic Impact Study required by Section 409 of this Ordinance conclude that acceleration, deceleration or turning lanes are required along any existing or proposed road, the Applicant shall install such lanes along existing and proposed roads fronting the property subject to the application under this Ordinance, consistent with the recommendations of the approved Traffic Impact Study.
- O. Specifications - The minimum requirements for road improvements shall be those in the PennDOT's Specifications (Form 408) as last revised, or those of Lower Mount Bethel Township, as the Township may specify.

Section 505 Road Standards

- A. The minimum right-of-way and cartway widths for all new roads or improved existing roads in the Township shall be as follows:

ROAD CLASSIFICATION	Right-of-Way Width (feet)	Cartway Width (feet)
Arterial	80	24
Major collector	60	22
Minor collector	60	22
Local, incl. culs-de-sac	50	20

- B. Additional and/or reductions in right-of-way and cartway widths may be required for the following purposes:

1. To promote public safety and convenience.
2. To provide or prohibit sufficient area for on-road parking.
3. To accommodate topographic circumstances which may result in cut/fill slopes extending beyond the standard right-of-way and in all circumstances to assure accessibility for maintenance operations.
4. To promote Township circulation and mobility plans for vehicular, bicycle and/or pedestrian access.
5. To minimize impervious coverage and minimize stormwater runoff.
6. To promote traffic calming.

- C. Where a subdivision or land development abuts or contains an existing road of non-compliant right-of-way width, additional right-of-way width shall be dedicated to conform to Township standards. Where a subdivision or land development abuts or contains an existing road of non-compliant cartway width, the applicant shall be required to widen and/or reconstruct the roadway to meet Township standards as set forth in this Ordinance.

- D. Where a subdivision or land development abuts or contains an existing road, the physical condition of which is non-compliant with the specifications of this Ordinance due to deterioration, wear or otherwise, the applicant shall be required to reconstruct the roadway to meet Township standards as set forth in this Ordinance.

Section 506 Road Alignment

- A. Whenever road lines are deflected in excess of five (5) degrees, connection shall be made by horizontal curves.
- B. Proper sight distances, as defined in this Ordinance, shall be provided with respect to both horizontal and vertical alignments. Measured along the centerline at a height of three and one-half (3-1/2) feet, and viewing an object two (2) feet or greater in height, the minimum sight distance shall be two hundred fifty (250) feet for local roads and five hundred (500) feet for all other roads within which no obstruction may be located or exist.
- C. To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be as follows:
 - 1. Arterial or Major Collector Road – 500 feet.
 - 2. Minor Collector Road – 275 feet.
 - 3. Local Roads – 200 feet.
- D. For all road classifications, a minimum tangent of at least one hundred (100) feet measured at the centerline radii shall be required between reverse curves.
- E. Super elevation shall be provided for Major or Minor Collector and Arterial Roads having a horizontal curve radius of less than five hundred (500) feet.
- F. The approaches to an intersection shall follow a straight course for at least fifty (50) feet as measured from the intersection of the right-of-way lines.

Section 507 Road Grades

- A. Center line grades shall not be less than one (1) percent where curbs are provided nor less than 1.5 percent where roadside swales are provided. Center line grades shall not be greater than ten (10) percent on local roads nor greater than eight (8) percent on any other road.
- B. The slope of the crown on proposed roads shall be a minimum of one-quarter (1/4) inch per foot.
- C. Vertical curves shall be used at changes of grade exceeding one (1) percent. The minimum length of vertical curves for local roads shall be thirty (30) times the algebraic difference in grade for crests and sage curves. Any road classification higher than a local road shall be designed to PennDOT standards relative to vertical curves.
- D. Where the grade of any road at the approach to an intersection exceeds four (4) percent, a leveling area shall be provided having a grade of no more than four (4)

- percent over a distance of at least seventy-five (75) feet measured from the intersecting right-of-way line.
- E. Grades within proposed intersections shall not exceed three (3) percent measured between respective right-of-way lines.
 - F. A combination of minimum radius horizontal curve and maximum longitudinal or transverse grade is not permitted.

Section 508 Road Intersections

- A. Roads shall be laid out to intersect at right angles whenever possible and intersections of less than sixty (60) degrees (measured at the centerline) shall not be permitted.
- B. Intersections involving the junction of more than two (2) roads shall be prohibited. Roundabouts for multiple road intersections may be permitted after consultation with the Township. Roundabouts shall follow the standards of the Pennsylvania Department of Transportation Guide to Roundabouts (Pub. 414), as amended.
- C. Roads shall not intersect on either the same or opposite side of another road at an interval between their centerlines of less than the following:
 - 1. one hundred fifty (150) feet where all intersecting roads are local roads;
 - 2. four hundred (400) feet where any intersecting road is a minor collector; and
 - 3. eight hundred (800) feet where any intersecting road is a major collector or arterial road.
- D. Curb and edge of pavement radii at intersections shall be no less than the following:
 - a. Twenty (20) feet on local roads;
 - b. Twenty-five (25) feet on minor collectors;
 - c. Thirty (30) feet on major collectors;
 - d. Thirty-five (35) feet on arterials;
 - e. Fifty-five (55) feet, where the intersecting road is providing access to an industrial district or industrial use.

- A minimum of 10 feet shall be provided between the edge of pavement and the right-of-way line.
- E. Intersections shall be designed to allow for pedestrian crossings in compliance with applicable ADA standards and otherwise in a safe manner by keeping crossing distance to a minimum and by providing crosswalks which are painted or constructed with contrasting paving materials to clearly identify crosswalk areas.
- F. Clear sight triangles shall be provided at all road intersections and shall be shown on the final subdivision plan to be recorded. Within such triangles, no vision obstructing object shall be permitted above the height of thirty (30) inches and below ten (10) feet measured from the centerline grade of intersecting public roads. Appropriate deed restrictions shall be recorded to enforce this provision. Dedication of clear sight triangles to the Township shall be free and clear of liens and encumbrances that may impact the Township's rights to the clear sight triangle. Clear sight triangles shall be measured along the centerlines of the intersecting roads to a point seventy-five (75) feet from the center of intersection where a road is controlled by a stop sign and to a point two hundred (200) feet from the center of intersection on all other roads. An additional fifty-five (55) feet shall be added to this requirement where an intersection is providing access to an industrial district or any industrial use. A clear sight triangle of seventy-five (75) feet shall also be required at the intersection of potentially dangerous or hazardous intersections of private driveways with any public road or private road.
- G. Sight distance requirements for all intersections shall be in accordance with the Pennsylvania Code, Title 67, Transportation, Chapter 441 "Access To and Occupancy of Highways by Driveways and Local Roads," latest revision. Plans shall indicate the clear sight distances. Clear sight distances and clear site triangles shall be verified in the field and be found acceptable by the Township prior to preliminary plan or preliminary/final plan approval.
- H. In the event that a road, street, driveway or access drive intersects with a PennDOT right-of-way or any stormwater improvement or other utility will cross a PennDOT right-of-way, the developer shall obtain the necessary Highway Occupancy Permit. In the event that PennDOT requires the Township to sign the Highway Occupancy Permit application or other documents relative to the required Highway Occupancy Permit, the Township shall retain sole discretion whether to sign the application or other documents. Should the Township elect to sign the application and/or other documents required by PennDOT, the developer shall enter into an indemnification agreement in a form acceptable to the Township solicitor which, among other things, will require that the developer, its successors and assigns, indemnify, defend, exonerate and hold the Township and its and its boards, committees and commissions (including the individual members thereof), their elected and appointed officers and officials and their employees, contractors, other professional consultants, engineers, solicitors, managers, representatives, advisors, predecessors, successors, agents, independent

contractors, insurers and assigns harmless from any liability pertaining to, relating to, resulting from, caused by, arising out of or sustained in connection with the Township's signing the application and/or other documents required by PennDOT and any obligation assumed by the Township by virtue of signing the application and/or documents.

1. The Township shall also retain sole discretion concerning acceptance of any road right-of-way, improvements, maintenance responsibilities, etc., which may be imposed by PennDOT relative to improvements contemplated with a PennDOT right-of-way and/or easement.

Section 509 Cul-de-sac and Loop Roads

Cul-de-sac.

- A. Dead-end or single access roads are prohibited unless designed as permanent cul-de-sac roads, or when designed as a temporary cul-de-sac for future access to adjoining properties.
- B. Cul-de-sac or single access roads permanently designed as such shall be limited to one such road per subdivision and shall provide access to not more than ten (10) dwelling units or ten (10) lots, whichever is less.
- C. Cul-de-sac roads shall be provided at the closed end with a circular turnaround with a minimum right-of-way radius of fifty (50) feet and a minimum outer paving radius of forty (40) feet.
- D. No cul-de-sac turnaround shall have a grade which exceeds five percent (5%) in any direction.
- E. All cul-de-sacs, whether permanently or temporarily designed as such, shall not be less than two hundred-fifty (250) feet nor exceed one thousand (1,000) feet in length. The length of the cul-de-sac shall be measured from the edge of paving of the nearest through road to which the cul-de-sac road is connected, and to the center point of the cul-de-sac turnaround.
- F. When required for future extension, the turnaround right-of-way shall be placed adjacent to the tract boundary with sufficient width along the boundary line to permit extension of the road at full width. The small triangle or area of land beyond the cul-de-sac to the boundary shall be so deeded, that, until the road is continued, maintenance of these corners of land will be the responsibility of the adjoining owners.
- G. Except when designed pursuant to the alternative standards of Subsection K., when a new cul-de-sac road is proposed on a subdivision or land development plan, not more than four (4) driveways serving residential lots shall be permitted

within the cul-de-sac bulb or turnaround area. Each lot which has road frontage on the cul-de-sac bulb right-of-way shall have a minimum lot width at the road line of at least fifty (50) feet.

- H. No parking shall be permitted in the turnaround.
- I. All non-through roads shall be provided with an authorized sign stating that no outlet exists.
- J. All public cul-de-sac roads shall have a snow storage easement dedicated to the Township free and clear of liens and encumbrances to facilitate snow removal in a location acceptable upon review by the Township Engineer and Roadmaster.
- K. Alternate cul-de-sac design standards: The Applicant may propose an alternate design for cul-de-sac turn around area(s) on any given project in accordance with this Section 509.K. If the Applicant desires to propose an alternate cul-de-sac design, the Applicant is encouraged to discuss this design standard with the Township during the sketch plan process. All aspects of the alternate cul-de-sac constructed under this Section 509.K. shall be owned and maintained privately. Under no circumstances shall the Township be responsible for the ownership and/or maintenance of the alternate cul-de-sac, including but not limited to the cartway itself, any stormwater system constructed therein, the open space area at the center of a cul-de-sac or any other improvements within the cul-de-sac. The Homeowners' Association, or individual lot owners if approved by the Township pursuant to Section 509.K.6., shall be responsible for snow removal from the alternate cul-de-sac.
 - 1. Permanent cul-de-sac roads must be provided with a paved turnaround having a minimum outside diameter of one hundred-sixty-six (166) feet and a minimum inside diameter of one hundred thirty-four (134) feet to each curb line and a minimum interior circular right-of-way diameter of one hundred (100) feet and having an outside minimum right-of-way diameter of two hundred (200) feet. The inside radius of the paved turnaround shall be provided with a mountable cul-de-sac island curb.
 - 2. The shape of the cul-de-sac turn-around may be oval or irregular in shape instead of circular with the following conditions:
 - a. The minimum cul-de-sac island area within the road right-of-way center island is equal to that of a cul-de-sac turn-around having the minimum required diameter specified above.
 - b. The minimum centerline radius of the cul-de-sac is not less than seventy-five (75) feet.

3. The maximum number of lots permitted to have frontage on a cul-de-sac turn-around that contains the minimum dimensions specified in Subsection K.1. above is six (6). The number of lots permitted on a cul-de-sac turn-around can be increased by one lot for every additional ninety-two (92) feet of property road line circumference that is in addition to the circumference resulting from a two hundred (200) foot diameter right-of-way. Each lot referred to above shall have the required minimum lot width at the required minimum front yard setback line.
4. An open center open space area shall be provided that is concentric with the cul-de-sac turnaround and shall have a fifty (50) foot radius and may be modified as indicated in Subsection K above.
5. PennDOT “One Way” directional signs shall be placed at the entrance of the cul-de-sac circle located eighteen inches (18”) behind the interior cul-de-sac circle curb.
6. The cul-de-sac turn-around center island shall be owned and maintained by a Homeowner’s Association. In the absence of a Homeowner’s Association based upon a waiver granted by the Township, the cul-de-sac turn-around center island shall be owned and maintained by the individual lot owners located on the cul-de-sac turn-around.
7. Cul-de-sac turn-around islands shall be graded to have a mound or a depression with appropriate drainage. The island area may be used for stormwater management and installation of “Best Management Practice” facilities. The mound shall be graded such that its highest elevation will be a maximum of three (3) feet above the average elevation of the cul-de-sac turn-around cartway elevation.
8. Turn-around islands shall be graded and/or designed to minimize snow melt from stored snow piles on the island collecting and freezing on the paved portion of the cul-de-sac circle, creating hazardous driving conditions.

Loop Roads.

- A. A loop shall not serve more than twenty-four (24) lots.
- B. The approach road that connects the loop road to an existing township street shall not be more than five-hundred (500’) feet in length.
- C. Only one (1) loop road shall be permitted per subdivision or land development plan regardless of the number of phases of the plan. A plan that combines both a subdivision and land development is likewise only permitted to have one (1) loop road.

Section 510 Road Construction Standards

All materials for the construction of roads and the methods of construction and drainage shall be in accordance with the applicable requirements of Pennsylvania Department of Transportation Publication #408, "Highway Specifications" (PennDOT # 408), latest revision thereof, and shall be supplied by vendors approved by the Pennsylvania Department of Transportation for the supply of such materials. Cross-sections shall be as described in Section 510.A.1 below. Inspection of materials and construction methods shall be as approved in Section 602 of this Ordinance.

A. Road Design.

1. Thickness of base and paving for new local Township roads shall meet the following minimum requirements:
 - a. 1.5 inches Superpave Asphalt Mixture Design, hot mix asphalt (HMA) Wearing Course; PG 64-22, 0.3 to 3 Million Equivalent Single Axle Loads (ESALS), 9.5 mm Mix, SRL-H, PG 64-22, 0.3 to 3 Million ESALS, 19 mm Mix on 4 inches.
 - b. 3 inches superpave Asphalt Mixture Design, HMA Base Course.
 - c. 2A stone sub-base course.
 - d. A tack coat per PennDOT form 408, as amended shall be applied between the wearing and base courses.
 - e. A prime coat per PennDOT form 408, as amended shall be applied between the sub-base and base courses.
 - f. Where required plain concrete curb 18" in height shall be installed. See section 513.
 - g. Where shoulders are required, use type 3 per PennDOT 408 as amended.
 - h. All materials and installation shall be in accordance with Pennsylvania Department of Transportation Publication 70 and Publication 408, both as amended.
2. The Applicant shall provide additional paving, base or sub-base materials, or geotextiles, including but not limited to geogrid material, where soil types are inferior, wet or otherwise unsuitable as indicated by the "Soil Survey of Northampton County, Pennsylvania" prepared by the U.S. Soil Conservation Service or where such conditions exist.

3. Road designs for Township collector and arterial roads shall be coordinated with the Township Engineer and shall be in compliance with PennDOT design and construction standards for collector and arterial roads.

B. Subgrade.

1. The area within the limits of the proposed road surface shall be shaped to conform to the line, grade and cross-section of the proposed road.
2. All unsuitable subgrade material shall be removed.
3. All wet or swampy areas shall be permanently drained and stabilized, subject to the approval of the Township Engineer.
4. Fills, within the roadway, shall be made with suitable materials as approved by the Township Engineer; they shall be thoroughly compacted for the full width of the cartway in uniform layers of not more than eight (8) inches thick. No more than two (2) eight-inch layers of fill shall be laid or placed between inspections by the Township Engineer.
5. The subgrade shall be thoroughly compacted by rolling with a minimum ten-ton three-wheel roller. Equivalent vibratory, sheep's foot or rubber tired rollers may be used with the approval of the Township Engineer. Subgrade shall be compacted tight and dry, to ninety-five (95) percent compaction at optimum moisture, and shall not be soft and spongy under the roller. Compaction of the subgrade shall extend the full width of the cartway, including the width to be occupied by shoulders.
6. In fill areas over three (3) feet thick, compaction tests are required in each eight (8) inch layer at one hundred fifty (150) foot intervals. A qualified geotechnical engineer licensed to practice in Pennsylvania shall test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. The tests must be performed by a certified testing laboratory and the results submitted to the Township Engineer for approval. All compaction must be ninety-five (95) percent compaction at optimum moisture. Any layer not coming up to standard will be removed or re-rolled until suitable compaction is obtained.

C. Paving.

1. Paving and base thickness and materials shall be as specified in Section 510.A.1 above.

2. The sub-base course where required shall be installed and compacted in accordance with Pennsylvania Department of Transportation specifications and shall extend a distance of seven (7) inches for base course and twelve (12) inches for stone sub-base course beyond the paving line when curbs have been waived by the Township. The area above the base course and sub-base outside the paving line (wearing course) shall be permanently stabilized with topsoil and grass.
3. Bituminous base, binder and surface courses shall be laid to the specified thickness after compaction. All bituminous courses shall be laid with a mechanical bituminous paver in accordance with specifications of the Pennsylvania Department of Transportation Specifications, Publication 408, and latest edition thereof.
4. Duplicate delivery slips for all material deliveries shall be furnished to the Township Engineer and shall become the property of the Township.
5. Failure to adhere to the above specifications shall give the Township cause to refuse, among other things, to accept roads for dedication.
6. All wearing courses shall be sealed to the concrete curb with a solid one-foot wide Class BM-1 bituminous gutter seal.

D. Grading and Shoulders.

1. Roadways shall be graded for the full width of the right of way on each side, unless modified by the Township to avoid disturbance of significant trees, historic structures, or other significant natural or cultural resources. Shoulders or berm areas, including planting strips behind curbs, shall be graded with a minimum slope of one-half (1/2) inch per foot and a maximum slope of one (1) inch per foot. Beyond the limits of this grading, banks shall be sloped to prevent erosion but this slope shall not be greater than 3:1.
2. Where concrete curbing has been waived or deferred by the Board of Supervisors and is not to be constructed, shoulders are to be constructed adjacent to the paving of the proposed road. Shoulder construction shall be accordance with the Type 3 standards set forth by the Pennsylvania Department of Transportation. The width of shoulders shall be four (4) feet along local roads, six (6) feet along major or minor collector roads and eight (8) feet along arterial roads.
3. Seeding. All unpaved areas between the road line and the curb or shoulders (as the case may be) shall be covered with not less than six (6) inches of topsoil, fertilized, seeded, and mulched in a manner and with materials approved by the Township.

- E. Underdrains shall be required to mitigate wet road conditions.
- F. Utility trench construction (storm sewer, wastewater lines, water main, gas main etc.) within existing local roads shall be backfilled with 2A stone placed and compacted in eight (8) inch lifts. The trench shall be paved with Superpave Asphalt Mixture Design, HMA Base Course, PG 64-22, 0.3 to 3 M ESALS, 25 mm mix (3" compacted depth), and the entire roadway shall be paved with a full width overlayment (edge of road to edge of road) of Superpave Asphalt Mixture Design, HMA Wearing Course, PG 64-22, 0.3 to 3 M ESALS, 9.5 mm mix, SRL-L (1.5" compacted depth). Utility trenches within proposed roads shall be backfilled with clean, dry, select material and compacted in eight (8) inch lifts to not less than one hundred (100%) percent of the dry weight density of the backfill material. Trenches within easements shall be backfilled with clean, dry, select material and compacted in twelve (12) inch lifts to not less than one hundred (100%) percent of the dry weight density of the backfill material as set forth in ASTM D 698 and Pennsylvania Department of Transportation Specifications, Publication 408, and latest edition thereof.
- G. During construction of roads, the contractor shall provide maintenance and protection of traffic meeting Pennsylvania Department of Transportation standards.

Section 511 Private Roads

- A. As a condition of subdivision approval involving private roads, any private road shall be privately owned by a single responsible party, and the Township shall have no present or future maintenance obligation with respect thereto. Maintenance of any approved private road shall be the responsibility of a single person or entity such as the owner or landlord, or a homeowner's association or a similar approved association. If an association is proposed to maintain private road(s), the formation documentation shall be submitted to the solicitor for review prior to the grant of preliminary plan approval as required by Section 402.B.5.n of this Ordinance. Among other things, the association documents shall provide that the association shall not dissolve without the prior written approval of the Township. The responsibility for maintenance and ownership of a private road shall not be fragmented among co-owners or easement right owners. A private road may be a part of a single lot with easements granted to individual lot owners. However, the area of the private road right-of-way shall not be counted as a part of the lot to which it is attached. Said lot shall otherwise meet the minimum lot area requirements for the district in which it is located.
- B. A valid and acceptable maintenance agreement for any approved private road shall be submitted in writing for review and approval by the Township Solicitor. Such approval by the Township Solicitor shall occur prior to final plan approval. A private road proposed for a commercial or industrial development shall be built

- to the same right-of-way widths with the same pavement widths and pavement thicknesses or cross sections as required for public roads.
- C. All private roads shall meet all specifications for local public roads, including but not limited to sight distance standards. The pavement width and construction specifications for private residential roads may be reduced by waiver approved by the Board of Supervisors. However, in no case shall a private residential road be paved to a cartway width of less than eighteen (18) feet with a sub-base and base course of twenty-two (22) feet and twenty (20) feet, respectively. Further, the Board of Supervisors may modify the required construction thickness for a private road so that the following minimum specifications are met:
1. a minimum subgrade as required in Section 510.B, herein; and a minimum of twelve (12) inches of compacted 2A stone sub-base constructed in two six (6) inch lifts; and
 2. a minimum three and one-half (3-1/2) inches of bituminous paving coarse comprised of two (2) inches of base coarse and a one and a half (1-1/2) inches of wearing coarse as per Section 510.A.
- D. Lots fronting on private roads shall meet the requirements of the Township Zoning Ordinance with regard to lot width and setbacks.
- E. All private roads shall have a minimum right-of-way of fifty (50) feet.
- F. A private road may be required by the Board of Supervisors in lieu of a shared driveway for providing access to more than two (2) lots.

Section 512 Driveways and Access Drives

- A. All driveways and access drives related improvements shall be located and constructed in such manner as to provide safe access to Township and State roads and not to impair the drainage or normal maintenance within road rights-of-way, to alter the stability of any roadway, subgrade, or roadway embankment, to change the drainage of adjacent areas, nor to interfere with the traveling public. Sufficient area for and access to off-road parking shall be provided for.
- B. Sight distance requirements for all driveways and access drives intersecting a state, Township or private road shall be in accordance with the Pennsylvania Code, Title 57, Transportation, Chapter 441 “Access To and Occupancy of Highways by Driveways and Local Roads”, latest edition. All sight distance obstructions, including, but not limited to, embankments and vegetation, shall be removed by the applicant to provide the required sight distance.
- C. Clear sight distances shall be verified in the field and be found acceptable by the Township prior to preliminary plan or preliminary/final plan approval.

- D. No more than three (3) lots shall be served by a private residential driveway in cases of common ownership or shared use of a private residential driveway. As a condition to final plan approval, an agreement providing for the maintenance, repair, construction and reconstruction, including drainage facility maintenance and snowplowing of the shared driveway, shall be submitted for review by the Township and, following approval, shall be recorded against the lots in question.
- E. Private residential driveways, whether individual or shared, on corner lots shall be located at least fifty (50) feet for local roads and seventy five (75) feet for collector and one hundred (100) feet for arterial roads from the centerline of driveway to the point of intersection of the nearest road right of way line. Access drives shall be located at least 125, 150, and 250 feet respectively for local, collector and arterial roads from the centerline of the access drive to the point of intersection of the nearest road right-of-way.
- F. Except for the return radius at the intersection with the road, no driveway shall be situated within five (5) feet of a side or rear property line, except where shared driveways are utilized.
- G. Where on-road parking is permitted, the layout of the curb cuts of the driveways shall be designed to maximize the number of on-road parking spaces.
- H. Adequate provisions shall be made to maintain uninterrupted parallel drainage along a public street at the point of driveway or access drive entry.
- I. Driveways and access drives shall intersect roads as nearly as possible at ninety (90) degrees, but in no case less than seventy-five (75) degrees or greater than one hundred-five (105) degrees.
- J. Where access is to a State road, a valid State Highway Occupancy Permit shall be obtained prior to plan recording. Where PennDOT standards differ from those of the Township, PennDOT regulations shall apply.
- K. All access driveways shall be paved in their entirety in accordance with design specifications of Section 523 E.
- L. Residential Driveways:
 - 1. Driveways to corner lots or lots having access to more than one road shall gain access from the road of lower classification when a corner lot is bounded by roads of two different classifications.
 - 2. Except for connections to local or private roads, driveway accesses from any given lot shall be limited to no more than one access point to a public road.

3. The driveway within the legal right-of-way of the public road, or for a distance of at least twenty (20) feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of four (4) percent. At no point shall the maximum grade of any driveway exceed twelve (12) percent.
 4. For driveways exceeding 250 feet in length and where the grade of a driveway, at any point, exceeds eight (8) percent, a minimum of one (1) off-road parking space shall be required. The off-road parking space shall be located before the grade of the driveway at any point exceeds eight (8) percent and shall be outside the driveway access aisle and outside the public right-of-way. Such off road parking spaces shall be a minimum of nine (9) feet by eighteen (18) feet.
 5. For driveways serving single residential units, the minimum width shall be twelve (12) feet. Width of shared driveways shall be a minimum of fifteen (15) feet. Pullover areas shall be required to provide safe passage of two (2) vehicles.
 6. New driveways shall provide for a safe turnaround area outside of the road right-of-way so that vehicles will not be required to back into the adjoining road. Safe turnaround areas shall in all cases be required where driveways access arterial or major collector roads.
 7. The driveway shall be constructed with a base of stone compacted to six (6) inches and a surface of a minimum of one and one-half (1½) inch superpave bituminous wearing course or approved equal. Driveway material standards shall apply to driveways for a minimum of twenty (20) feet from the edge of the cartway or curb. The use of pervious pavement is encouraged to minimize stormwater runoff.
- M. Access Drives:
1. The access drive within the legal right-of-way of the public road, or for a distance of at least twenty (20) feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of four (4) percent. The grade of any access drive shall not exceed ten (10) percent.
 2. Access drive entrances into all non-residential and non-agricultural use properties shall be no less than twenty-four (24) feet in width, shall not exceed thirty-six (36) feet in width at the road line, unless provided with a median divider, and shall be clearly defined by curbing. The curbs of these driveway entrances shall be rounded with a minimum radius of twenty (20) feet from where they intersect a road.

3. Access drives shall be paved in their entirety. The specifications for such paving shall be approved by the Township as applicable for the specific use proposed in accordance with Section 523.E. Alternate dust-free, all weather surfaces for access may be permitted by the Township where appropriate.
 4. To the greatest extent practicable, access to new individual uses shall be by way of internal access drives. Access drives shall be limited to one (1) along the frontage of any single major collector or arterial road and two (2) along the frontage of any other single road. Where two access drives are permitted, their centerlines shall be spaced a minimum of two hundred fifty (250) feet apart.
- N. Concrete aprons shall be provided for all access drives with concrete sidewalks. Concrete aprons shall be a minimum of six (6) inches of Class AA concrete (a twenty-eight (28) day minimum compressive strength of 3,500 psi and six (6) percent air entrainment by volume) and shall be structurally reinforced with 6” x 6’9 gauge welded wire fabric on 4” 2A aggregate.

Section 513 Curbs

- A. Concrete curbs shall be required at roads, private and public and are required along heavily traveled roads, at intersections and where road grades require them for proper drainage. Curbs shall be Plain Concrete Curb (18” height) in accordance with “Pennsylvania Department of Transportation Publication 72 – Standards for Roadway Construction”, as last revised. Rolled curb may be permitted at the discretion of the Township.
- B. Curbs shall be provided on all parking areas within a land development.
- C. All curbs shall conform to the specifications for Class A concrete, as specified by the Pennsylvania Department of Transportation Publication 408, last revised, with a minimum compressive strength of three thousand (3,000) psi after twenty-eight (28) days.
- D. Final curb height, above the wearing course, shall be seven (7) inches.
- E. Curb constructing methods shall be in accordance with Pennsylvania Department of Transportation Publication 408, last revised.
- F. Where a curb ties into an inlet, two (2) #5 reinforced bars twelve (12) inches long shall be used to connect the curb to the inlet. Driveway curb depressions shall be reinforced with two (2) #5 reinforced bars in accordance with Pennsylvania Department of Transportation Publication 72 M – Standards for Roadway Construction.

- G. Depressed curbs at driveways shall be no higher than one and one-half (1-½) inches above the finished road surface. The length of this depressed curb shall not exceed thirty-five (35) feet without a safety island. This safety island shall not be less than fifteen (15) feet in length. Pipes, grates or other constructions shall not be placed in the gutter to form a driveway ramp. The depressed curb at handicapped ramps shall be flush with the paving surface.
- H. New curb cuts for driveways and parking areas shall be limited along collector and arterial roads.
- I. Excavations shall be made to the required depth and the material upon which the curb is to be constructed shall be compacted to a firm even surface to ninety-five (95) percent of the maximum dry weight density of the soil.
- J. Where it is necessary to replace existing vertical curbs with depressed curbing, two (2) ten (10) foot long sections of existing curb shall be removed down to the subgrade without disturbing the adjacent cartway paving. Any portions of the cartway disturbed during curbing removal or installation will be repaired to new condition.
- K. Curbing shall be constructed in ten (10) foot lengths. A pre-molded bituminous impregnated expansion joint having a minimum thickness of one-fourth (1/4) inch shall be placed between sections of curved curb and at intervals of not more than fifty (50) feet. Intermediate joints between ten (10) foot sections shall be saw cut. However, wherever a driveway enters a road, the driveway shall not have a curb joint nor be constructed in lengths longer than twenty (20) feet.
- L. All curb depressions must comply with the requirements of the Americans with Disabilities Act and the Pennsylvania Universal Accessibility Act, as applicable.

Section 514 Guide Rails

- A. The applicability and use of guide rails shall be determined in consultation with the Township Engineer and in reference to PennDOT's Design Manual, Part 2, Publication 13 M, as amended.
- B. Construction standards for guide rails shall be pursuant to PennDOT's Publications 72 M - RC standards, and 408 – Specifications, as amended.

Section 515 Road Signs

- A. Road nameplates shall be put at all intersections, naming all roads at each intersection, and shall be visible from both directions when approaching an intersection. The sign shall be parallel to the road that it is identifying.
- B. Road nameplates shall match existing road nameplates as currently used by the Township.
 - 1. Road nameplates shall be mounted on a heavy gage, steel U-channel post painted green of sufficient length to allow the bottom of the sign to be eight (8) feet from the curb or ground final grade and long enough to allow at least three (3) feet being embedded in a hole at least twelve (12) inches in diameter, three (3) feet deep, and shall rest on a steel plate or flat stone at the bottom of the hole and have at least two and one-half (2-1/2) feet of concrete poured around it and firmly tamped, taking care that the post is plumb and is adequately braced while the concrete sets so that the post will be permanently plumb.
 - 2. The remaining six (6) inches above the concrete shall be back filled with dirt and tamped.
 - 3. The post shall be equipped with such standard rust proofed hardware as to hold the nameplates rigidly in a proper and permanent position and to prevent their swaying in the wind.
 - 4. The signs shall be of rustproof materials, such as aluminum, and the proper thickness and properly reinforced at the edge to have rigidity and stiffness. If they are of a material other than aluminum, such as steel or cast iron, they shall be adequately rust proofed by bonderizing or other acceptable methods, prior to final painting. The backgrounds shall be white and the letters green or other acceptable contrasting colors. The finish shall be equivalent to a baked enamel and the letters shall be of the spacing and proportions as recommended in one of the alphabets used by the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) U.S. Bureau of Public Roads. Lettering on ground-mounted Road Name signs should be at least six (6) inch high in capital letters, or six (6) inch upper-case letters with four and one-half (4.5) inch lower-case letters. For local roads with speed limits of 25 mph or less, the lettering height may be a minimum of four (4) inches. The letters shall have a minimum height of three and one-half (3-1/2) inches. All signs shall be of a reflecting type per the standards of the FHWA.
 - 5. The signs shall be located with a view to making them seen at all times with a minimum of effort by both pedestrian and vehicular traffic, and as close to the side of the cartway or curb as practical, but no part of the name plate shall be permitted to overhang any part of the cartway or curb.

6. Types and samples of road name plates, standards and installation and location shall be submitted for the inspection and approval of the Township prior to installation.
- C. Road signs, including stop and speed limit signs, shall be erected prior to occupancy of the first dwelling on the road.
- D. Road signs shall be consistent in design and construction standards with those in general use by Lower Mount Bethel Township.
- E. All signs shall be high-grade reflectivity signage in accordance with current PennDOT and FHWA standards.

Section 516 Sidewalks and Trails

A. Sidewalks.

Sidewalks shall be provided on both sides of all existing and proposed roads, within parking areas, and to establish pedestrian connections to parking areas and green spaces or through blocks.

B. Trails.

For all major subdivisions, a system of bicycle, equestrian, and/or pedestrian trails for public use shall be established and secured by dedication or easement. No such system is required for minor subdivisions.

1. Provisions for the continued use, and any necessary improvement, of existing trail(s) shall be made.
2. Existing trails may be relocated where the points at which such trails enter and exit the subject tract remain largely unchanged and/or where a connection with a trail on an adjoining property is thereby established.
3. New Trail(s) may be required to provide for internal circulation within the subject tract or to facilitate provision of an interconnected trail network within and beyond the Township.

C. Maintenance of Sidewalks and Trails.

1. All sidewalks and trails shall be maintained so as to preserve the applicable design parameters set forth herein.
2. Maintenance of sidewalks and trails, whether located within a public right-of-way or not, shall be the responsibility of the owner of the property

encompassing or directly adjacent to the sidewalk or trail or by homeowners association if applicable. The Township at its sole discretion may assume maintenance responsibility for trails. Note(s) shall be added to the record plan indicating the maintenance responsibilities for all sidewalks and trails. If a homeowners' association is responsible for trail maintenance, such obligation shall be included in the formation documents.

3. Sidewalks or trails which are damaged or deteriorating and present a hazard to public safety shall be repaired at the expense of the party responsible for maintenance.
4. The maintenance obligation for sidewalks and trails shall include an obligation to regularly clean up and collect trash, rubbish and refuse which accumulates along the sidewalk and/or trail.

D. Design Standards for Sidewalks.

1. The minimum width of all sidewalks shall be four (4) feet and a minimum three (3) foot wide planting strip between the curb and sidewalk shall be provided. If no curb is present (by waiver of the applicable regulation or otherwise), a minimum five (5') foot wide planting strip between the edge of shoulder and sidewalk shall be provided. Where a sidewalk exists on an adjoining property, the dimensions may be modified to transition to the existing conditions provided the sidewalk is located within the road right-of-way.
2. The grades and paving of sidewalks shall be continuous across driveways.
3. Sidewalks shall be laterally pitched at a slope of not less than three-eighths (3/8) inch per foot to provide for adequate surface drainage.
4. Handicap ramps shall be provided at all intersections. All sidewalks and sidewalk ramps must meet the requirements of the Americans with Disabilities Act and the Pennsylvania Universal Accessibility Act. Where the grade of any handicap ramp exceeds five (5) percent, a non-slip surface texture shall be used.
5. All sidewalks shall conform to the specifications for Class AA concrete, as specified by Pennsylvania Department of Transportation, with a minimum compression strength of 3,500 psi after twenty-eight (28) days.
6. Where sidewalks abut the curb and a building, wall or other permanent structure, a pre-molded expansion joint one-fourth (1/4) inch in thickness shall be placed between curb and the sidewalk for the full length of such structure. Sidewalks shall be constructed in separate slabs thirty (30) feet

in length except for closures. The slabs between expansion joints shall be divided into blocks five (5) feet in length by scoring transversely.

7. Sidewalks shall have a minimum thickness of four (4) inches when used solely for pedestrian traffic; a minimum thickness of six (6) inches at all residential driveways; and eight (8) inches for all non-residential driveways. Welded wire fabric (6/6-10/10) shall be provided in all sidewalks constructed at driveways. Upon approval of the Township Engineer, fiber reinforced concrete may be used as an alternative.
 8. Excavation shall be made to the required depth whereupon a layer of four (4) inch base of 2A aggregate shall be placed and thoroughly compacted prior to laying the sidewalks when used solely for pedestrian traffic with a minimum thickness of a six (6) inch base of 2A aggregate at all driveways.
- E. Design Standards for Trails.
1. Trails shall be designed to accommodate the intended use (multi-use, pedestrian, bicycles, equestrian or other non-motorized traffic).
 2. Trails shall be designed with adequate visibility and sight distances, and augmented by accessory features where appropriate, to effectively notify trail users of conditions such as, but not limited to, road crossings, other potentially hazardous locations, or usage limitations. Such features may include signage, bollards, fencing, gates, striping or other trail surface treatment.
 3. Trails shall be located so as to minimize disturbance of environmental features while permitting observation of such features.
 4. Adequate separation (e.g., existing or new landscaping, berms, fencing) shall be provided for trail rights-of-way where generally paralleling the rear or side lot lines of proposed residential lots.
 - a. A full, one hundred percent visual screening of trails is not required. When new landscaping is proposed as a part of the separation required by this section, only native species of vegetation shall be included in the landscape buffering. When landscaping is proposed to provide the visual separation, the buffer area shall include dense plantings of trees, shrubs or other plant materials. Complete plans showing the arrangement of all buffers and the placement, species, and size of all plant materials and the placement, size, materials, and type of all fences to be placed in such buffer shall be submitted to the Township for review.

- b. The plantings shall be maintained permanently and plant material which does dies shall be replaced within six (6) months.
 - c. The plantings shall be placed so that, at maturity, they will not be closer than three (3) feet from any trail, street or property line.
 5. Trails shall cross roadways and parking lots at a ninety (90)-degree angle.
 6. No trail shall be designed to nor be constructed to accommodate motorized vehicles.
 7. The following minimum spatial criteria shall be utilized for all trails.
 - a. A vertical clearance of no less than ten (10) feet; and
 - b. A minimum of eight (8) feet in width.
 8. Where a trail is a principal means of access, including but not limited to a school bus stop, but excluding primitive or natural surface trails, the following standards shall apply:
 - a. Cross Slope. The cross slope shall not exceed 1:20 maximum.
 - b. Running slope. Running slope of trail segments shall comply with one or more of the provisions of this section. No more than thirty (30) percent of the total trail length shall exceed a running slope of 1:12.
 - i. Running slope may be 1:20 or less for any distance.
 - ii. Running slope shall be 1:10 maximum for two hundred (200) feet maximum. Resting intervals shall be provided at distances no greater than two hundred (200) feet apart.
 - iii. Running slope shall be 1:10 maximum for thirty (30) feet maximum. Resting intervals shall be provided at distances no greater than thirty (30) feet apart.
 - iv. Running slope shall be 1:8 maximum for ten (10) feet maximum. Resting intervals shall be provided at distances no greater than ten (10) feet apart.
 - c. Resting intervals shall be sixty (60) inches minimum in length, shall have a width at least as wide as the widest portion of the trail segment leading to the resting interval and have a slope not exceeding 1:20 in any direction. Resting intervals shall be

incorporated as required by applicable law or regulation, including but not limited to the Americans with Disabilities Act of 1990, as may be amended from time to time.

9. Trails surfaces shall be as follows:
 - a. Naturalized trails shall consist of an unpaved, durable surface subjected to approval by the Township (e.g., mowed grass path, crushed stone or dirt path, boardwalk); or,
 - b. Paved trails shall conform to the following:
 - i. Trail excavations shall be made to the required depth and a Class 4, Type B Geotextile fabric shall be placed over the compacted subgrade. A sub-base layer of crushed stone, PennDOT 2A, not less than six (6) inches thick shall be placed and thoroughly compacted prior to laying the trail (this may be achieved in one lift). The base course shall extend out a distance of one (1) foot from the paved width on either side of the trail before tapering to subgrade.
 - ii. Trail paving shall consist of a Bituminous Concrete Binder Course having a compacted depth of two (2) inches and a Wearing Course having a compacted depth of one and a half (1½) inches. A tack coat shall be applied between the two courses and any joints must be sealed.
 - iii. The use of pervious paving is required for any paved trail with a slope less than six (6%) percent. Maintenance obligations for the trail shall include vacuum sweeping and removal of debris from the pervious pavement to allow stormwater infiltration as designed. Trails with slopes in excess of six percent (6%) shall be constructed in accordance with Section 9.a above.
10. Trails shall be constructed with appropriate drainage swales and surface pitch or crowning so that water flows off the trail in a perpendicular sheet flow.

F. Timing of Trail Planning, Construction, and/or Improvement.

1. An applicant shall propose at the earliest possible stage in the Township's subdivision and land development review process (i.e., sketch plan, where applicable, or preliminary plan, if sketch plan is not applicable) the locations of trails on the land subject to the application.

2. All trails indicated on approved subdivision or land development plans shall be fully constructed or improved pursuant to the requirements of this Section when infrastructure construction within the subdivision occurs (e.g., stormwater management structures, roads, etc.).
 3. The existence and specific location(s) of all publicly-accessible trails within any subdivision shall be indicated on the recorded subdivision or land development plans and shall be specifically referenced in any applicable homeowners' association documentation and in the recorded deeds to all individual lots within the subdivision.
 4. All prospective owners of lots within a subdivision shall be notified, in writing at the time of lot purchase, of the existence of all publicly-accessible trails within the subdivision. Proof of such notification must be provided to the Township prior to receipt of a building permit for the home to be constructed on the lot, or if such home is to be constructed as a spec home, such notification must be provided to the Township prior to the issuance of a certificate of occupancy for the home.
- G. Trail Easements and Rights-of-Way. Trails shall be placed in easements or rights-of-way with a minimum width of twenty (20) feet and shall be offered for dedication to the Township. The Township shall not be obligated to accept dedication or maintenance responsibility to any trail or portion thereof.

Section 517 Easements

- A. Easements with a minimum width of twenty (20') feet shall be provided for all utilities. Additional width may be required for access and maintenance to ensure that at least ten (10') feet of easement area is provided on either side of the utility facility, line, etc. Where necessary for construction, permanent or temporary construction easements shall be required.
- B. Easements shall be centered on or adjacent to rear or side lot lines.
- C. Nothing shall be permitted to be placed, planted, set or put within the area of an easement unless necessary for the purpose(s) of the easement and expressly provided for in the easement documentation. By way of example but not limitation, fences, trees, decorative landscaping beds, sheds and other structures are not permitted within easements.
- D. Drainage easements shall be required along water courses, both intermittent and perennial. The easements shall be of variable width depending on the size of the water course, with the boundary of the easement being twenty five (25') feet from the top of the embankment of each side of the water course.

- E. Easements shall be required along existing trails which are to remain in the width required by Section 516.G. Such easements may be offered for dedicated to the Township for public use. The Township may accept the offer of dedication in its sole and absolute discretion, with no obligation to do so.
- F. The Township may accept dedication of easements prior to the final dedication of improvements to enforce such easements during construction or prior to the completion of all improvements, all at the sole and absolute discretion of the Township. Offering easements by deeds of dedication to the Township shall in no way affect the Applicant's obligations under this Ordinance.
- G. Metes and bounds legal descriptions and plot plans shall be provided for all easements.
- H. The applicant shall provide a method of physically delineating easements for emergency access, pedestrian access or other utilization across private lots. Such method may include shrubbery, trees, fence, markers, or other method acceptable to the Township.
- I. Any easement or right-of-way required herein shall be made part of the deeds to all affected properties. Any error found in a deed shall be immediately corrected and re-recorded in the Northampton County Recorder of Deeds office at the sole expense of the applicant. The applicant shall be solely responsible to the buyer and the Township for any failure to record an easement or right-of-way shown on the approved plan. Failure to record an easement or right-of-way shown on the approved plan shall not prevent its intended use from being utilized nor shall such failure affect the validity of the easement shown on a recorded plan. All easements and rights-of-way shown on the final plan of record shall be deemed to be incorporated in the appropriate deed.

Section 518 Water Supply & Fire Protection

- A. Each dwelling unit, commercial or industrial building in all subdivisions and land developments hereafter granted approval shall have an adequate supply of potable water for domestic use and an adequate supply of water for fire protection.
- B. Where the Applicant proposes that individual on-site water supply systems shall be utilized, the Applicant shall be responsible either to install such facilities or to guarantee (by deed restriction or otherwise), as a condition of the sale of each lot or parcel within the subdivision, that the facilities can be installed by the purchaser of such lot or parcel. The proposed locations of wells shall be shown on the preliminary plan for each lot; existing wells on the property or on adjoining properties must also be shown. Isolation distances (a circular area whose radius conforms to PADEP regulations) from on-site sewage systems, where proposed, must also be indicated on the plan. Individual water supply systems shall be designed and installed in accordance with all applicable standards of the PADEP

- and the Township's regulations concerning installation of such systems, including but not limited to the Township's Well Construction Standards Ordinance.
- C. Where water is to be provided by means other than by private wells owned and maintained by the individual owners of lots within the subdivision or land development, the applicant shall present evidence to the Township that the subdivision or land development is to be supplied by a certificated public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority, or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence. Such evidence shall be provided prior to recording of the final plan.
- D. The design and installation of any central (public or community) water supply system shall be subject to the approval of the Township, the PADEP and other regulatory bodies having jurisdiction. Any such system shall be further subject to satisfactory provisions for the maintenance thereof. Standards and materials for the construction of any central water supply system shall meet or exceed those requirements described in the "Public Water Supply Manual of the Pennsylvania Department of Environmental Protection" and shall be subject to the approval of the Township.
- E. In all subdivisions and land developments served by a central water system, the following water pressure and gallonage requirements shall apply:
1. Residential use – minimum working pressure of 30 pounds per/square inch shall be provided at each house to be connected to the water supply main with sufficient capacity to supply a minimum of 300 gallons of water per residential unit per day.
 2. Commercial or industrial use – a minimum working pressure of 30 pounds per square inch shall be provided at each commercial or industrial building connected to the water supply main. When a building wishes to connect to a central water system, a study shall be made to determine if there is adequate water supply in the system to supply the building and use.
- F. In all subdivisions and land developments served by a central water system, the following fire protection standards shall apply to the design and construction of the water system:
1. Fire hydrants suitable for the coupling of equipment serving the Township shall be installed as specified by the Insurance Services Office of Pennsylvania and shall comply with applicable fire company standards. Location of hydrants shall be approved by the Township.

2. All fire hydrants will be located on an eight (8) inch line or a looped six (6) inch line. Where a dead-end line contains a fire hydrant, the portion of the line between the main loop and the hydrant shall be an 8 inch minimum diameter.
3. Fire hydrants shall be spaced so that all proposed building(s) will be no more than six hundred (600) feet from a hydrant measured along travel ways (driveways, roads, etc.).
4. All hydrant locations shall be marked by the installation of raised pavement markers, subjected to the approval of the Township. The raised pavement markers shall be installed after the final pavement wearing surface has been placed and shall be two-way, blue snow plowable markers.
5. Residential Use.
 - a. For purposes of fire protection of residential uses, the system shall be capable of providing fire flow water for a minimum of two (2) hours of not less than one thousand (1,000) gallons per minute for one (1)- and two (2)-family dwellings having a fire-flow calculation area not in excess of three thousand six hundred (3,600) sq. ft. Fire flow and flow duration for dwellings having a fire-flow calculation area in excess of three thousand six hundred (3,600) sq. ft. shall not be less than that specified in the then-current edition of the Pennsylvania Uniform Construction Code.
 - b. A reduction in the required fire flow of fifty (50) percent may be permitted when all buildings within a development are required to be provided with approved automatic sprinkler systems in accordance with the International Fire Code as adopted by the Pennsylvania Uniform Construction Code, as amended from time to time.
6. Commercial or Industrial Use.
 - a. For purposes of fire protection in commercial and industrial uses, the system shall be capable of providing fire flow and flow duration based on the type of use, hazard, and construction as specified in the Pennsylvania Uniform Construction Code as amended from time to time; however, the fire flow shall not be less than one thousand five hundred (1,500) gallons per minute.
 - b. A reduction in the required fire flow by fifty (50) percent may be permitted when all buildings within a development are provided with an approved automatic sprinkler system in accordance with

the International Fire Code as adopted by the Pennsylvania Uniform Construction Code as amended.

- G. Any applicant proposing a central water supply system shall submit a “Proposed Water Supply Study” evidencing sufficient water supply quality and quantity. This study shall include those specific items described in the Public Water Supply Manual of the Pennsylvania Department of Environmental Protection. Where the water supply system occurs under the jurisdiction of the Pennsylvania Public Utility Commission, the water supply study also shall include those items of information required by the PUC. Where a water supply system occurs within the jurisdiction of the Delaware River Basin Commission the design and permitting of the system shall comply with the rules and regulations of DRBC.
1. The applicant, landowner, or developer shall submit with the Preliminary Subdivision Plan, five (5) copies of documentation, which shall be designated as “proposed water supply study.”
 2. The water supply study shall contain the name, address and telephone number of the proposed water supplier (the company, water company, public utility or association) proposed by the applicant to supply water to the subdivision or land development. In addition there shall be provided a complete description of the source of the water supply, the quantity of water available from the source or sources, the capacity of existing or proposed reservoirs and their locations, and other pertinent data.
 3. If wells are to be utilized as a part of the proposed water supply system, the number of wells, the pumping capacity of each well, the number of hours per day that each well pump operates, the depth of each well, depth of water table in each well, diameter of well casing, draw down rated capacity of each well, the maximum sustained yield from the well test together with a copy of the well test data all shall be supplied with the proposed study.
 4. The study shall outline the size of proposed water mains to be utilized for the subdivision or land development, and the number and location of proposed fire hydrants within or near the development. Further, the study shall contain the number of residential customers on the existing system (if any), the number of proposed new residential, commercial or industrial customers, and the estimated number of gallons required to service both and existing (if any) and proposed system when the subdivision or land development plan is completed.
 5. Within the study a description shall be provided outlining the service area of customers to be provided and if the utility is regulated by the Public Utilities Commission of the Commonwealth of Pennsylvania, notations shall be made as to whether the proposed subdivision or land development

falls within the supplier's approved franchised area. If it is necessary to obtain PUC approval to extend a franchise area to the site to be covered, such approval shall become a condition precedent to the recording of a final subdivision or land development plan.

6. The proposed public water supply study submitted by the applicant shall be reviewed by the Township Engineer in conjunction with the subdivision or land development plan. The Township Engineer shall provide commentary to the Township with respect to the Applicant's compliance with this section of this Ordinance. The Township reserves the right in its sole discretion to require a further independent engineering study as to the adequacy of the proposed water supply system in the event the Township Engineer does not approve the study submitted. The applicant, landowner, or developer must bear the cost of such confirming independent engineering study. A Final Plan will not be approved unless all of the above requirements and the following requirements listed below are fully met.
7. With regard to minimum water supply requirements, each new residential dwelling shall be provided with a minimum domestic pressure of thirty (30) pounds per square inch at the house connection and each such dwelling shall be provided with a minimum of three hundred (300) gallons of water per residential unit per day. For any new commercial or industrial use, a minimum pressure of thirty (30) pounds per square inch shall be provided which shall meet all potable water supply requirements for the intended use in addition to providing fire flow water requirements for a minimum duration of two (2) hours of not less than five-hundred (500) gallons per minute at residual pressures of thirty (30) pounds per square inch. Fire hydrants for either residential, commercial, or industrial development shall be spaced every six hundred (600) feet within the proposed development.
8. The water supply study shall demonstrate that all potable water required for the subject subdivisions and/or land developments shall meet the water quality standards as established by the U.S. Environmental Protection Agency, originally listed as the National Interim Primary Drinking Water Regulations, EPA Document No. 570/9-76-003, and as further amended in the Federal Register, Wednesday, December 24, 1975 through Wednesday, August 27, 1980 and including the National Secondary Drinking Water Regulations as listed in the Federal Register, Thursday, July 19, 1979. In addition, any known carcinogens which have been identified as of the date of this Ordinance and which might be identified after the date of this Ordinance, shall be identified in any and all testing procedures of the proposed public water supply and water supplies exceeding the established carcinogenic levels shall not be utilized for domestic purposes.

- H. Any applicant proposing a central water supply system shall further submit a “Business Plan” pursuant to applicable regulations, manuals or guidelines of the Pennsylvania Department of Environmental Protection. The business plan shall demonstrate that the fees assessed to the end users shall cover the operational, maintenance and capital replacement costs affiliated with the operation of the entire system. Further, the fees assessed shall be reasonable compared to other central water supply systems. Further the estimated monthly or quarterly fees shall be disclosed to all potential buyers within the area served by the central water supply system.

In addition, the applicant shall, prior to recording of a Final Plan for subdivision or land development, post security in a form acceptable to the Township, in an amount sufficient to pay for a period of five (5) years the cost of operation, maintenance, repair and personnel necessary to operate the system in the event that the system owner fails to properly staff, maintain and operate the system within permit standards. Following completion of construction and expiration of applicable maintenance periods hereunder, when the system is turned over to the homeowners’ association or lot owners for maintenance, the security shall be replaced with security provided by the homeowners’ association and/or lot owners in a form acceptable to the Township, in an amount sufficient to pay for a period of five (5) years the cost of operation, maintenance, repair and personnel necessary to operate the system in the event that the system owner fails to properly staff, maintain and operate the system within permit standards. The security shall remain in effect for the length of time the system remains in operation.

I. Construction Standards.

1. Distribution mains of the overall system shall be connected into loops so that the supply may be brought to the consumer from more than one direction.
2. In balancing loops in the design, the Hardy-Cross, or an equivalent, method shall be used.
3. Dead-end lines shall be permitted within the design of a looped system provided that there is a maximum of twenty (20) dwelling units (or 50 dwelling units temporarily) on a dead-end line. When dead-end lines are used, they shall be provided with a hydrant or blow off at the terminus as a means of flushing. For dead-end lines to be approved on a temporary basis, the remainder of the looped system must be secured to the Township pursuant to Article VI of this Ordinance.
4. Water mains shall be configured to form a loop system to enhance the continual supply of fresh water. When dead ends occur on new mains, they

shall all be closed with cast iron plugs and caps, with a blowoff valve, with a concrete anchor, or fire hydrant. Concrete anchors (thrust blocks) shall be provided at all vertical and horizontal bends. Water mains shall be installed 10' from the centerline of the cartway.

5. There shall be no physical connection between a public or private potable water supply system and a sewer which will permit the passage of any sewage or polluted water into the potable water supply.
6. Blowoffs shall not be connected to any sanitary sewer or be submerged in any manner that will permit back siphonage in the distribution system.
7. Valves, except on a permitted dead-end, shall be located on distribution mains so that no more than one hydrant would be out of service as a result of a single water main break. They shall be located in all small branches off larger mains and, where eight (8)-inch or larger main lines intersect, a valve shall be located in each branch. At street intersections, valves shall be located near pipe intersections for ease in finding in the event of a water-main break.
8. In addition to the above requirements, water mains shall be valved so that not more than one-fifth (1/5) of a mile will be affected by a single water main break. Geared valves on sixteen (16)-inch mains or larger shall be furnished.
9. Gate valves shall be cast-iron body with double-disc gates, bronze mounted conforming to AWWA C500 or resilient-seated wedge, non-rising stem mechanical joint conforming to AWWA C509.
10. Butterfly valves shall conform to AWWA C504. The type of valve to be used shall be specified by the Township.
11. Valve interior openings shall be full size, and valves on sixteen (16)-inch mains or larger shall be geared and have suitable bypasses.
12. Valve boxes shall be of the adjustable type with the cover marked (WATER) and the direction of the valve operation indicated.
13. No pipe shall be placed on private property unless the owner of the land is to own or operate the pipe, or an easement deeded to the Township is obtained by the Applicant and dedicated to the Township.
14. All easements shall be a minimum of ten (10') feet wide unless depths of pipe, soil conditions, or additional utilities require wider easements.

15. A building service connection shall consist of a corporation stop at the main, a curb stop, and a water meter.
16. When the meter is located outside a building, an additional shut-off valve shall be installed on the discharge side of the meter. When the meter is located inside a building, a valving shall be in accordance with the Plumbing Subcode of the PA Uniform Construction Code.
17. Curb stops and water meters shall be located as specified by the public or private water supplier.
18. Common water service connections shall be permitted where allowed by the Plumbing Subcode of the Uniform Construction Code.
19. Where water system extensions are constructed by a developer and meter fees are not paid by the developer, the water meter(s) shall be furnished by the developer and shall be of a manufacture and type approved by the Township. The meter(s) shall read in volume units as determined by the Township. Where meter fees are paid by the developer, the meter(s) shall be furnished by the municipality or water authority.
20. Pipe size shall comply with the following requirements:
 - a. Water mains shall be a minimum diameter of eight (8) inches except at the end of a permanent cul-de-sac, unless another size is required for fire flow or other criteria. A six (6)-inch main may be used when it serves not more than twenty (20) dwelling units and only one (1) fire hydrant.
 - b. Building service connection pipe shall have a minimum diameter of three-quarters (3/4) of an inch.
 - c. The design capacity of water mains shall be such as to maintain a minimum pressure of 20 pounds per square inch (psi) at street level under all flow conditions.
21. Pipe material used in the construction of water mains shall be cement-lined ductile iron pipe, prestressed concrete cylinder pipe, reinforced concrete pressure pipe, or PVC pipe. All pipe and appurtenances shall comply with the applicable AWWA standards in effect at the time of application.
 - a. Ductile iron pipe, appurtenances, and fittings shall comply with the following standards:
 - i. ANSI/AWWA C110/A21.10 (fittings)

- ii. C111/A21.11 (gasket joints)
 - iii. C115/A21.15 (flanged joints)
 - iv. C151/A21.51 (pipe)
 - v. Thickness shall be designed in accordance with ANSI/AWWA C1150/A21.50.
 - vi. Ductile iron pipe shall be cement mortar-lined in accordance with ANSI/AWWA C104/A21.4.
 - vii. Joints shall be gasketed, push-on joints or mechanical iron pipe shall be covered with an asphaltic, epoxy-type coating. In aggressive soils, ductile iron pipe wrapped in polyethylene in accordance with ANSI/AWWA C105/A21.5 shall be used.
- b. Prestressed concrete cylinder pipe with rubber and steel joints shall conform to ANSI/AWWA C301.
- i. Reinforced concrete pressure pipe (steel cylinder) type shall meet ANSI/AWWA C300.
 - ii. Concrete pressure pipe (bar-wrapped steel cylinder type) shall meet ANSI/AWWA C303.
- c. PVC pipe, appurtenances, and fittings shall conform to ANSI/AWWA C900 or AWWA C909 for pipe sizes four (4) inches to twelve (12) inches and shall conform to AWWA C905 for sizes fourteen (14) inches through thirty-six (36) inches.
- i. Joints shall be elastomeric-gasket couplings of a corresponding size. Laboratory performance requirements, as specified in ASTM D3139, shall be met. Solvent-cement coupling shall not be permitted.
 - ii. PVC pipe installations shall be provided with a metallic locator tape.
- d. Where transitions to flanged fittings are made, adapters approved by the Township shall be used.

- e. Building service connection pipe shall be type K copper or polyethylene (PE) pressure pipe that complies with ANSI/AWWA C901.
 - f. Ductile iron pipe shall be used at all locations where water lines cross sewer lines and are separated by less than twelve (12) inches vertically. At these locations a twenty (20)-foot section of ductile iron pipe shall be installed centered on the sanitary sewer line.
 - g. Ductile iron pipe shall also be used any time a water line crosses a stream or active drainage-way. The ductile iron pipe should extend for a distance of twenty (20) feet on either side of the stream bank.
22. Pipe bedding and backfill shall be installed in accordance with the pipe manufacturer's recommendations.
23. To avoid settlement under paved roadways, PennDOT 2A stone shall be used to backfill waterline trenches when they pass under paved roadways.
- J. Approvals/reviews. No construction of any water distribution system shall commence prior to written approvals and/or comments from the Department of Environmental Protection, the fire marshal, DRBC, and the Township.
- K. If the proposed subdivision or land development will utilize groundwater as the source of potable water, a Hydrogeology Study prepared pursuant to Section 408 of this Ordinance shall accompany the Preliminary Plan.
- L. Testing and Inspections
- 1. All newly installed water mains shall be inspected by Township personnel and be pressure tested and disinfected in accordance with AWWA Standards AWWA C600 and AWWA C651 respectively. Testing shall include programs for adequate flushing, disinfection and microbiological testing of all water mains. At least one satisfactory bacteriological sample must be obtained from the water main and analyzed by a certified laboratory, with acceptable test results, before the main is placed into service.
 - 2. All testing, disinfection, and laboratory analysis required shall be arranged for and paid by the Applicant/Developer.
 - 3. Any deficiencies encountered shall be corrected by the Applicant/Developer and any required follow up testing shall be conducted and found acceptable before the system is placed into service.

- M. As-built drawings prior to acceptance of the completed work. As-built drawings shall be submitted by the contractor. The plans shall be prepared by a licensed surveyor. The as-built plan shall reflect the install location, sizes and depths, as applicable, of the waterline, laterals, valves, blowoffs, and fire hydrants. All easements shall be shown and shall be fully described by metes and bounds and accompanied with plot plan(s).

Section 519 Sewage Disposal

Each lot in a subdivision or land development shall have a permitted sewage disposal facility in accordance with the rules and regulations of the PADEP and the Township's Act 537 Sewage Facilities Plan.

- A. Documented approval of the Sewage Facilities Planning Module for Land Development by the PADEP shall be required prior to recording of the final plan.
- B. Sewage facilities shall be designed and constructed in strict accordance with the applicable requirements and specifications of the Township and the PADEP.
- C. A copy of the approval from all applicable agencies and all required permits shall be submitted prior to recording of the Final Plan.
- D. Sanitary sewers shall not be used to convey stormwater nor shall floor drains or sump pumps be connected to the sanitary sewer.
- E. Prior to the issuance of any permit for construction in any subdivision or land development, temporary toilet facilities shall be installed for the builders, contractors and subcontractors, unless the applicant or applicant's agent shows, to the satisfaction of the Township, that other suitable toilet facilities will be available during construction. The cost of the temporary facilities shall be the responsibility of the applicant.
- F. Wherever a public sewer system is available and when consistent with the Township's Act 537 Sewage Facilities Plan, sanitary sewers and lateral connections to each building in a subdivision or land development shall be installed at the expense of the applicant. If public sewer service is not available but is planned for the area in question, a system of sewers, together with all necessary laterals extending from the sewer to the road right-of-way line, shall be installed and capped.
- G. Individual On-site Sewage Systems.
 - 1. All lots shall be provided with a tested primary and secondary on-site sanitary sewage disposal system compliant with the standards of Title 25, Chapter 73, Rules and Regulations of the PADEP, or such successor provisions as may be adopted from time to time, and Township standards.

2. Prior to any action on the Preliminary Plan by the Planning Commission, the Applicant shall document that all lots in subdivisions proposing on-site sewage disposal contain a suitable area as tested by the Township SEO in accord with PADEP requirements and this Ordinance; or, that all lots are already served by an adequate existing sewage disposal system.
3. Should the Applicant propose the use of individual systems which do not require soil testing, documentation shall be provided that the affected lots are suitable for the proposed system. In addition, a note shall be placed on the Preliminary Plan and Final Plan detailing the type of system(s) proposed and stating that the affected lots have not been tested for a soil-based system.

H. Community Sanitary Sewage Disposal Systems.

1. The design, installation, and operation of any Community Sanitary Sewage Disposal Systems shall be subject to the approval of the Township Engineer and PADEP, and may be subject to review and approval by the Delaware River Basin Commission if required by applicable law. All planning modules, agreements, construction permits, and security must be approved and/or in place prior to the construction of the system.
2. Any applicant proposing a community sanitary sewage disposal system shall submit a “Business Plan” pursuant to applicable regulations, manuals or guidelines of the Pennsylvania Department of Environmental Protection. The business plan shall demonstrate that the fees assessed to the end users shall fully cover the operational, maintenance, and capital replacement costs affiliated with the entire system. Further the estimated monthly or quarterly fees shall be disclosed to all potential buyers within the area served by the community sanitary sewage disposal system.
3. Approval of a community sanitary sewage disposal system shall require satisfactory provisions for the maintenance thereof and for inspection by the Township at any time. In addition, the applicant shall, prior to recording of a Final Plan for subdivision or land development, post security in a form acceptable to the Township, in an amount sufficient to pay for a period of five (5) years the cost of operation, maintenance, repair and personnel necessary to operate the system in the event that the system owner fails to properly staff, maintain and operate the system within permit standards. Following completion of construction and expiration of applicable maintenance periods hereunder, when the system is turned over to the homeowners’ association or lot owners for maintenance, the security shall be replaced with security provided by the homeowners’ association and/or lot owners in a form acceptable to the Township, in an amount sufficient to pay for a period of five (5) years the cost of

operation, maintenance, repair and personnel necessary to operate the system in the event that the system owner fails to properly staff, maintain and operate the system within permit standards. The security shall remain in effect for the length of time the system remains in operation.

4. Operation of the system shall at all times be under the supervision of an operator duly licensed by the Commonwealth of Pennsylvania.
5. Copies of all annual reports required by the permitting agencies shall be submitted to the Township at the same time as they are submitted to the regulating agencies. Any correspondence from the regulating agencies indicating a deficiency or violation shall be immediately forwarded to the Township. Responses by the managing entity to the violation or deficiency notice(s) shall be forwarded to the Township in a timely fashion.

I. Sanitary Sewerage System Design Standards.

1. Plans and Specifications - Construction drawings, prepared by a licensed professional engineer, must be prepared for all facilities and shall include:
 - a. An overall plan view of the collection and conveyance system showing the location of all sewers and manholes together with manhole numbers, the identification of all pumping stations and related appurtenances, all existing and proposed buildings with elevations of finished floor and basement floor (if applicable) and all existing and proposed sewer laterals. All other utilities that may pose a potential conflict shall also be delineated on the overall plan.
 - b. Profile view of all existing and proposed sewer mains, including ground, rim and invert elevations, grade of all existing and proposed sewer mains and force mains, complete with pipe lengths, size, and type of material. All other utilities that may pose a potential conflict shall also be delineated on the profile plan(s).
 - c. All lots without basement service shall be clearly noted on the plan(s).
 - d. Drawings shall contain notes indicating that all construction of sanitary sewers shall be in accordance with the standards and specifications as amended and adopted by the Township.
 - e. All elevations shall be based on USGS datum with bench marks noted and described and shall be tied into any bench marks established by the Township.

- f. Shop drawings of all material shall be submitted to the Township for review and approval prior to the start of construction.
- g. Erosion and sedimentation control plans shall be submitted wherever sewers are being constructed through land not covered by the overall erosion and sedimentation plan.

2. Sewer Main Design Criteria

- a. Minimum sewer diameter shall be eight (8) inches and the minimum slope shall be one-half (½) percent.
- b. Minimum cover over the top of the sewer shall be four and one-half (4½) feet unless special construction precautions such as cast-iron pipe or concrete encasement are specified and approved.
- c. Maximum depth of sewer shall be:
14' for SDR-35
18' for SDR-26
20' for SDR-21
- d. Sewer mains shall be placed on six (6) inches of AASHTO #8 stone bedding and within all roads, backfilled completely with AASHTO #8 stone. In lawn areas, the main shall be backfilled with a minimum of twelve (12) inches of AASHTO #8 stone with the remaining fill material made up of clean fill with stones no greater than 4 inches in diameter.
- e. When sewers are designed with a grade in excess of twenty (20) percent, steep slope anchors shall be installed.
- f. Sewer easements outside of public rights-of-way shall be a minimum of twenty (20) feet with a temporary construction easement of ten (10) feet.
- g. When a sewer crosses a stream or ditch, the design shall be in accordance with PADEP rules and regulations.
- h. Sewers shall be located a minimum of ten (10) feet horizontally from any obstruction such as a building. Sewers must be a minimum of ten (10) feet from a water main or eighteen (18) inches (measured from top of sewer to bottom of water main) under the same. When a sanitary sewer line crosses above or under any other pipeline with separation of less than eighteen (18)

inches, the sanitary line will be provided with concrete encasement that extends ten (10) feet on either side of the pipe being crossed.

- i. Material: All gravity sewer mains shall be:
 - i. Ductile iron pipe and shall conform to ASTM A764.
 - ii. Polyvinyl chloride (PVC) SDR 35 pipe for up to 14 feet depth; SDR 26 for up to 18 feet depth; SDR 21 for up to 20 feet depth, and shall conform to ASTM D3034.

J. Sewer Manhole Design Criteria.

1. Manholes between gravity sewers shall be placed at all changes in grade, pipe size or alignment, and at intervals of not greater than three hundred fifty (350) feet.
2. Manholes shall not be located in or near the gutter line of the road where they will be exposed to surface flooding.
3. Manholes shall have a drop of two-tenths (0.2) feet between the inlet and outlet.
4. Manhole cones shall be a minimum of three (3) feet in height.
5. Watertight lids shall be used and noted on the plans when the manhole is within a one-hundred-year floodplain or has the potential to become submerged. Top of manholes shall be set 1-1/2 feet above the base flood elevation where identified.
6. In all manholes, the pipes entering and leaving the structure shall be oriented so that the flow angle is no more than 90 degrees.
7. When connecting to an existing manhole which contains an existing pipe of larger diameter, the contractor shall match elevations of the tops of both pipes.
8. Material:
 - a. Manholes shall consist of precast sections conforming to ASTM C-478, latest edition, and shall be of watertight construction. All internal and external surfaces shall be coated or lined.
 - b. Precast base and barrel sections shall have tongue and groove joints with round rubber gaskets set in specially provided indentations conforming to ASTM C-443 or butyl base joint

- sealant that permits installation in temperatures from -20°F to 120°F, and complies with Federal Specification SS-S-00210.
- c. Pipe to manhole joints shall be Lock-Joint flexible manhole sleeve, Kor-N-Seal joint sleeve, or equivalent.
 - d. Damp proofing for concrete shall be semi-mastic type Horn “Dehydratine #4,” “RIW Marine Emulsified Liquid” by Toch Bros., Inc.,” “Hydrocide 600” by Sonneborn, or equivalent.
 - e. Manhole rungs, when required, shall be of five-eighths (5/8)-inch diameter, aluminum safety type steps. Rungs shall be placed twelve (12) inches on center in concrete and shall not be subjected to any loads for a minimum of seven (7) days. Copolymer polypropylene steps reinforced with three-eighths (3/8)-inch Grade 60 steel rebar throughout may be used in place of aluminum.
 - f. Concrete manholes shall have a channel passing through the bottom which corresponds in shape with the lower two-thirds of the pipe. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius. The top of the shelf shall slope to drain towards the main channel.
 - g. All manhole surfaces shall be damp-proofed and shall be clean, smooth, dry, and free from loose material. Damp-proofing shall be brushed onto the outside concrete surface and shall fill all voids. Damp-proofing shall be applied by the manufacturer in two (2) coats and conform to the covering capacity of the material used in strict accordance with the manufacturer's recommendations and directions. Where necessary to repair any damaged surfaces, an additional coat shall be applied by the Contractor in the field. Damp-proofing shall not be applied in freezing or wet weather.
 - h. Iron castings for manhole frames and covers shall conform to ASTM A 48 and shall be Class 30.
 - i. Manhole frames and covers shall be tough gray iron free from cracks, holes, swells, and cold shuts. The quality shall be such that a blow from a hammer will produce an indentation on an edge of the casting without flaking the metal. Frames and covers shall be machine seated so as to provide a tight, even fit.
 - j. Manhole frames shall be six (6) inches to eight (8) inches high and shall be approximately thirty-five (35) inches in diameter with a minimum opening of twenty-two (22) inches and a maximum

opening of forty-four (44) inches. Manhole covers shall be solid and shall have the words "SANITARY SEWER" (three (3) inches high) cast on the top. The approximate total weight of frame and cover shall be three hundred ninety five (395) pounds. Covers shall have two (2) concealed pickholes.

- k. Casting shall be given one (1) coat of cold-tar pitch varnish at the factory before shipment and said coating shall be smooth and tough and not brittle.
- l. Frames shall be set concentric with the top of the masonry and in a full bed of mortar so that the space between the top of the manhole masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around and on top of the bottom flange. Mortar shall be smoothly finished and have a slight slope to shed water away from the frame.

K. Sewer Lateral Design Criteria.

- 1. Lateral connections to each lot shown on the approved final plan shall be installed to the right-of-way line of the road prior to road paving. All laterals and cleanouts shall be capped and sealed to prevent the infiltration of any liquid. No underground water from springs or basements shall be permitted to enter any sanitary sewer line. Capped sewers shall be so installed as to avoid placing connections under any paved areas or driveways.
- 2. Each building shall have a separate connection (lateral) to the sewer main.
- 3. Existing lateral lines may be utilized for new connections provided that they pass necessary tests, as required by the Township.
- 4. Minimum lateral diameter shall be four (4) inches and minimum slope shall be two (2) percent.
- 5. Maximum length of a lateral shall be one hundred and fifty (150) feet.
- 6. The minimum cover shall be four (4) feet to prevent crushing and freezing.
- 7. A straight horizontal alignment shall be maintained where feasible.
- 8. Clean-outs shall be provided at:

- a. Intervals of not greater than fifty (50) feet for 4” diameter laterals and 100’ for 6” diameter laterals.
 - b. All horizontal bends of 45 degrees or greater.
 - c. Within ten (10) feet of building foundations.
9. An interceptor trap shall be placed between the curb line and the building. The trap shall be cast iron or PVC single running trap with vent. The riser and vent shall be on the building side of the trap.
 10. Material - All laterals shall be cast iron, ductile iron or PVC pipe. Under driveways, parking lots or where directed by the Township, cast iron, ductile iron, or Schedule 40 PVC pipe shall be used with pipe bedding and backfill as required within Township roads. PVC pipe in non-paved areas shall be SDR 35 (ASTM D3034) or Schedule 40 PVC (ASTM D1785) solid wall pipe.

L. Testing and Inspections.

1. All sewers, including mains, laterals and manholes, shall be subjected to inspections by the Township and tested for leakage in accordance with the requirements of the Township. The applicant shall be responsible for furnishing all necessary material and equipment for testing.
2. Air Testing of all sewers shall be in accordance with ASTM C828.
3. If determined necessary by the Township, a closed circuit television (CCTV) inspection shall be performed on the sections or portions of the sewer, as directed. Video tapes in DVD format and a written report of all television inspections shall be provided to the Township. The form of the report and type and format of the video tape shall be approved by the Township. Fees and costs connected with television inspections shall be paid for by the developer or owner.
 - a. All dips, cracks, leaks, improperly sealed joints, and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe.
 - b. All defects and corrective work required as the result of CCTV inspections shall be performed by the developer without delay. Upon completion thereof, the sewer shall be retested and such further inspection made as warranted.

M. Pump Station Design Criteria.

1. Pump Station designs shall follow the “Ten State Standards,” published by Health Research, Inc., Health Education Services Division (Most Current Edition) or as recommended by Domestic Wastewater Facilities Manual, published by PA-DEP.
 2. All public pump stations (to be dedicated to the Township) shall be reviewed and permitted by the Department of Environmental Protection.
 3. Private pump stations shall be reviewed and approved by the Township using the references cited in M 1 above.
 4. Force main pipe criteria shall meet the standards established in section M 1 above.
- N. Low Pressure Sewer System Design Criteria.
1. Low pressure sewer systems shall be designed in accordance with “Environmental One Low Pressure Sewer System’s Design Manual”.
 2. All low pressure sewer systems shall incorporate a prevention preparedness and contingency plan, PPC.
- O. As-built drawings. Prior to acceptance of the completed work, copies of as-built drawings shall be submitted by the contractor. As-built drawings are copies of the approved construction drawings. Existing design numbers (top and invert elevations, pipe lengths and slopes) shall be crossed out with one line so that the original numbers can still be determined. As-built numbers shall be indicated below the crossed out numbers. The plans shall be prepared by a licensed surveyor and show as-built locations of all lateral stubs. All easements shall be shown and shall be fully described by metes and bounds and plot plans.

Section 520 Other Utilities

- A. All other utility lines, including but not limited to electric, gas and telephone, shall be placed underground. Installation of all utilities shall be in strict accordance with the engineering standards and specifications of the Township and of the public utility concerned.
- B. Underground utilities shall be installed before the roads are constructed.
- C. Easements shall be required pursuant to Section 517 to facilitate the maintenance and repair of utility lines. Facilities shall be located within a right-of-way or in the center of an easement not less than twenty (20) feet wide.

- D. All proposed utility locations shall be coordinated so as not to conflict with landscaping requirements.
- E. In accordance with the provisions of the Pennsylvania Utility Line Protection Act, Act 287 of 1974, as amended (Act 199 of 2004), an applicant shall contact all applicable utilities and accurately determine the locations and depths of all underground utilities within the boundaries of the tract proposed for development prior to excavation. A list of the applicant's utilities and each utility's phone numbers shall appear on the plans submitted for review, and proof of contact shall be presented in the form of the Pennsylvania One Call System serial number.
- F. All private utility line locations requiring an easement shall be made by deed of dedication and shall include a metes and bounds description and plot plan(s). All instruments describing the utility, its location and maintenance obligation shall be recorded.

Section 521 Monuments and Markers

- A. Monuments shall be placed at sufficient locations to define the exact location of all roads and to enable the re-establishment of all road lines. Monuments shall be set on the road line on one side of the road at the beginning and ending of all curves and at those points on the curve at road intersections necessary to establish the actual intersection. Monuments shall be placed at the tract perimeter where no markers exist.
- B. Markers shall be placed at all points where lot lines intersect road lines or other lot lines and at all angle points in lot lines, except where concrete monuments are required.
- C. Monuments shall be concrete with a minimum top width of four (4) inches by four (4) inches and a bottom width of six (6) inches by six (6) inches. The minimum height shall be twenty-four (24) inches. The concrete monument shall be composed of ferrous or other material detectable by an electromagnetic locator.
- D. Markers shall be steel bars at least twenty-four (24) inches long and not less than five-eighth (5/8) inches in diameter.
- E. Dedicated utility easements shall be monumented at their beginning, their end, and at all directed changes. The monumentations shall be placed in the ground after final grading is completed. The monumentation shall be either a concrete monument or marker.
- F. All monuments and markers shall be certified for accuracy by the developer's surveyor or engineer. Accuracy of monuments and markers shall be within three-hundredths (3/100) of a foot.

- G. In cases where it is impossible to set a monument or where the permanency of a monument may be better ensured by off-setting the monument with a reference monument(s), the Township may authorize such procedure, provided that proper instrument sights may be obtained and complete offset data is designated on the record plan. In such instances, two reference monuments shall be set on the boundary line(s) that intersect the corner.

Section 522 Landscaping, Screening, and Street Trees

- A. General Landscaping Requirement. Any part or portion of any lot or tract which is not occupied by buildings or structures or used for loading, parking spaces and aisles, pedestrian circulation, designated storage areas, or other permitted impervious or semi-pervious surfaces shall be landscaped and continuously maintained according to a Landscape Plan approved by the Township or shall be left in its pre-existing condition or natural state (e.g., forest, meadow or hedgerow). Existing native vegetation, natural features and historic resources shall be preserved wherever practicable and incorporated into the Landscape Plan. The Landscape Plan shall be submitted as part of both Preliminary and Final Plan submissions and shall clearly identify all landscaped areas, all areas subject to vegetation disturbance and replacement pursuant to Section 530, Natural Resource Conservation, and any areas to be left in a natural state. The Landscape Plan shall comply with this Ordinance, the applicable section(s) of the Lower Mount Bethel Township Zoning Ordinance relative to landscaping, and as set forth below. No Landscape Plan is required when a submission is subject to the CAPZO provisions of the Township Zoning Ordinance.
- B. Buffering and Screening. Wherever applicable, landscape screening or buffering shall be included within the Landscape Plan consistent with the applicable section(s) of the Lower Mount Bethel Township Zoning Ordinance.
- C. Parking Lot Landscaping.
1. Except where entrance and exit drives cross street lines, all parking areas for any purpose other than single family detached and single family semi-detached residences shall be physically separated from any public or private street by a raised curb or landscaped berm and shall not be less than five (5) feet from the future right-of-way lines, if applicable. This buffer shall be permanently landscaped as shown on the approved plan and maintained by the property owner.
 2. Unless there is an internal road system delineated from the parking area by a planting strip, any lot that contains more than thirty (30) parking spaces shall provide landscaped areas within the paved parking area. No more than twenty (20) parking spaces shall be permitted in a continuous row without being interrupted by a landscaped island with a width equal to one parking space.

3. Where parking is provided in more than one bay, each served by a separate aisle, there shall be a landscaped island between bays with a width of ten (10) feet.
4. One (1) deciduous tree shall be required for every ten (10) required off-street spaces and shall be planted in the internal and peripheral landscaped islands required by this Ordinance. Such tree plantings shall meet the requirements for street trees set forth in Section 522.D.3 and all parking lot landscaping shall conform to the plant material standards set forth in Section 522.E.

D. Street Trees.

1. All subdivisions or land developments shall provide street trees of varying species along the entire length of any existing or proposed public or private road that forms a property boundary and on both sides of any newly proposed road within the subdivision or land development, except where the frontage abuts an agricultural use that is intended to remain or land which is permanent dedicated to open space whether by preservation easement, declaration of covenant or other means.
2. One of the following road tree planting concepts shall be used:
 - a. Formal Allee of Street trees
 - i. Use uniform road tree variety.
 - ii. Coordinate new plantings with existing road tree plantings, where applicable, to obtain a uniform canopy from both sides of the road.
 - iii. Street trees shall be located within the right-of-way four (4) to ten (10) feet from the curb line. Where street trees are planted between the sidewalk and curb, the width of the tree lawn (the planted area between the sidewalk and the curb) shall be no less than eight (8) feet.
 - iv. Street trees shall be planted at regular thirty five (35) foot intervals on each side of the road along road frontage.
 - b. Naturalized Road Tree Planting
 - i. Varying road tree varieties spaced three (3) to fifteen (15) feet from the curb line.

- ii. An average of one road tree shall be planted on each side of the road for every thirty five (35) feet of road frontage.
 - iii. Planting design shall accentuate views and integrate important landscape elements.
3. Street trees shall meet the following standards:
- a. Minimum Size – two (2) to two and one-half (2½) inches caliper.
 - b. Branching Height - The height of branching shall depend upon the size and species of tree; those trees selected for street tree usage shall have a minimum clearance height of seven (7) feet above grade before branching begins.
 - c. All trees shall be balled and burlapped in accordance with the standards of the following publications: "American or U.S.A. Standard for Nursery Stock," ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. The ball depth shall be not less than sixty (60) percent of the ball diameter and in all cases contain the maximum of the fibrous roots of the tree. Bare root material is not acceptable. The following standards shall apply:

Caliper	Minimum Ball Diameter
2 to 2½ inches	26 inches
2½ to 3½ inches	34 inches
3½ to 5 inches	44 inches
5 to 6 inches	54 inches

- d. Excavated plant pits shall be two (2) feet wider than the ball size.
- e. Backfill mix for the excavated plant pit shall be composed of top soil, compost, or other Township approved material.
- f. Tree Guying
 - i. Three (3) No. 12 galvanized steel wires shall be spaced equally around the tree and be so connected to the tree with rubber hoses that the wire does not come in contact with the tree.
 - ii. For trees up to and including three and one-half (3½) inch caliper, three (3) oak rough-sawed stakes, two (2) inches x two (2) inches x eight (8) feet, shall be used.

- iii. For trees over three and one-half inches (3½)inch caliper, three (3) ground anchor stakes, two (2) inches x two (2) inches x two and one-half (2½) feet driven flush with grade shall be used.
- g. Tree wrapping paper the entire length of the tree trunk from the top of ball to the start of lateral branching shall be provided tied on with natural twine.
- h. All tree guying material shall be removed one (1) year after planting.
- i. All plantings shall be mulched to a depth of three (3) inches in a six (6) foot diameter ring around the base of each tree or continuous beds, if trees or shrubs are less than six (6) feet apart.
- j. Pruning - Each plant shall be pruned to preserve the natural character of the plant in a manner appropriate to the particular plant. Branches shall be thinned by approximately twenty-five (25) percent by the removal of crossing, damaged or competing limbs back to the major crotch. The leader shall be left intact.

E. Plant Material.

- 1. Existing native vegetation shall be preserved wherever practicable and incorporated into the Landscape Plan.
- 2. Landscape plantings shall use native plants selected to minimize maintenance requirements. Recommended plantings appear in “Landscaping with Native Plants” as published by PA Department of Conservation and Natural Resources. If a planting is not listed within this publication, it is not permitted by this Ordinance.
- 3. Selected street trees, at maturity, shall provide adequate summer shade. Selected street tree species shall be of the non-grafted type. Tap-rooted species shall be required in locations proximate to roads or sidewalks.
- 4. Plantings and their measurement shall conform to the standards of the following publications: "American or U.S.A. Standard for Nursery Stock", ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material shall have been grown within the same USDA hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless the Township approves of transplanting of trees to partially fulfill the requirements of this Section.

- F. Landscape Guarantee. All replacement plantings shall be guaranteed and maintained in a healthy and/or sound condition for at least twenty four (24) months or be replaced.

Section 523 Off-Street Parking & Loading

- A. General Requirements. The standards herein shall apply to any parking or loading area except where otherwise specifically provided.
1. The number of required parking and loading spaces shall be as set forth in the Lower Mount Bethel Township Zoning Ordinance.
 2. Every parking or loading facility shall be designed so that its use does not constitute a nuisance, hazard or unreasonable impediment to traffic.
 3. Every parking area shall be arranged for orderly, safe movement. Parking areas containing thirty (30) or more parking spaces shall have a curbed internal road system with a landscaped island or strip of a minimum width equal to one parking space separating the road system from the parking area to provide safe and orderly movement of traffic and discouragement of cross-aisle driving. The internal road system shall be designed to minimize the need for cross-pedestrian traffic.
 4. In no case shall parking areas for four (4) or more vehicles or any loading area be designed to require or encourage cars to back into a public or private street in order to leave a lot.
 5. Every parking area shall be designed so that each motor vehicle may proceed to and from the parking space provided for it without requiring the moving of any other motor vehicle, except on-site parking associated with a single family dwelling.
 6. All parking areas for four (4) or more vehicles shall include clearly defined and marked traffic patterns, with the utmost care taken to provide for safe internal traffic movement and to avoid conflicts between vehicles and pedestrians.
 7. All off-street parking spaces shall be marked to indicate their location and use.
 8. Common parking lots serving multifamily dwellings, commercial and business uses, and other recreational uses shall provide parking for the physically disabled in accordance with the requirements of the Americans with Disabilities Act (Public Law 101-336), and local, State, and Federal codes which implement the Act.
- B. Parking Spaces and Aisles.

Parking space and aisle dimensions shall be no less than those listed in the following table:

Angle of Parking	Parking Width	Stall (Space) Depth	Aisle Width	
			One Way	Two Way
90	10'	18'	20'	24'
60	10'	21'	18'	not permitted
45	10'	20'	13'	not permitted
30	10'	18'	12'	not permitted
Parallel	8'	22'	12'	18'

C. Access Drives.

Access drives shall comply with the provisions of Section 512 of this Ordinance.

D. Grading, Surface Drainage.

1. Except for areas that are landscaped and so maintained, all portions of required parking and loading facilities shall be graded, surfaced with asphalt, and drained to the extent necessary to prevent dust, erosion, or excessive water flow across streets or adjoining properties.
2. Where the Township engineer agrees appropriate, and where appropriate maintenance is guaranteed to the satisfaction of the Township engineer and solicitor, use of pervious paving is encouraged.

E. Parking Lot Paving Standards.

Off-street parking areas and perimeter travel lanes shall be designed with pavement sections as specified below, as a function of anticipated traffic loads defined as follows.

1. Light Load Lots: Parking lots subject to 500 or less ESAL's (equivalent 18-kip single axle loads) during a 25-year design period. Small step delivery vehicles having 2 axles with single-axle loads up to 6,000 lbs. may have regular access to these lots. However, these lots are not approved for access by tri-axle delivery or other large service vehicles, including moving vans. Construction vehicles shall not access finished surfaces on lots intended for light loads.
2. Moderate Load Lots: Parking lots subject to 1500 or less ESAL's during a 25-year design period. Step delivery vehicles and service vehicles having 2 axles with single-axle loads up to 8,000 lbs. may have regular access to these lots. However, these lots are not approved for larger single-unit service vehicles and semi-tractor trailer trucks, including moving vans.

Construction vehicles may be permitted to access the base course pavement on these lots, where permitted upon the recommendation of the Township Engineer.

3. Moderately Heavy Load Lots: Parking lots subject to 6,000 or less ESALs during a 25-year design period. Step delivery vehicles and service vehicles having single-axle loads up to 16,000 lbs. may have regular access to these lots. However, these lots are not approved for regular access by semi-tractor trailer trucks, including moving vans. Construction vehicles may be permitted to access the base course pavement on these lots, where permitted upon the recommendation of the Township Engineer.
4. Heavy Load Lots and Access Drives: Parking lots subject to more than 6,000 ESAL's during a 25-year design period and access drives expected to handle regular access by semi-tractor trailer trucks. Construction vehicles may access the base course pavement on these lots.
5. The applicant shall provide computations documenting expected axle loads for parking areas to support the pavement section selected.

Layer Designation	Layer Description	Anticipated Load			
		Light	Moderate	Moderately Heavy	Heavy
A - Wearing Course	Bituminous	2.5	1.5	1.5	1.5
B - Base Course	Bituminous or Concrete	none	3.0	3.5	4.5
C - Structural Base	Granular (stone)	4.0	4.0	6.0	6.0

F. Parking Lot Setbacks.

All parking spaces and public or private drives shall comply with the setback requirements of the Township Zoning Ordinance.

G. Parking Lot Landscaping.

Parking lot landscaping shall conform to the provisions of Section 522.

H. Lighting of Parking and Loading Areas.

Parking and loading areas shall conform to the outdoor lighting provisions of the Lower Mount Bethel Township Zoning Ordinance.

I. Off-Street Loading.

Off-street loading facilities shall be designed to conform to the following specifications:

1. Each off-street loading and unloading space shall be either (a) at least fourteen (14) feet in width by forty (40) feet in depth or (b) at least ten (10) feet in width by sixty (60) feet in depth.
2. Each space shall have sufficient maneuvering room separate from other parking and loading spaces to eliminate traffic conflicts within off-street loading and parking areas.
3. Each space shall be located entirely on the lot being served and be so located that each space and all maneuvering room is outside of the required buffer areas, yard areas and rights-of-way.
4. All off-street loading and unloading spaces, maneuvering areas, driveways and entranceways shall be graded, surfaced with asphalt and drained to the extent necessary to prevent nuisances of dust, erosion or excessive water flow across public ways and to protect adjoining property.
5. No such facilities shall be designed or used in any manner so as to constitute a nuisance, a hazard or an unreasonable impediment to traffic.
6. All such facilities shall comply with the landscaping requirements of Section 522 and the lighting requirements of the Lower Mount Bethel Township Zoning Ordinance.

Section 524 Outdoor Lighting

All subdivisions and land developments shall provide for outdoor lighting consistent with the provisions of the Lower Mount Bethel Township Zoning Ordinance. A plan demonstrating compliance with the requirements of the Zoning Ordinance shall be submitted to the Township for review.

Section 525 Dedication of Land, or Payment in Lieu of Fees Thereof, for Parks, Recreation, or Open Space Uses

- A. Purpose. The purpose of this Section is to facilitate provision for a variety of active and passive open space lands and facilities to serve the varied recreational needs of the Township's residents, businesses and industry, consistent with the Township's applicable open space or recreation plan as may be amended from time to time.
- B. General Requirement.

All subdivisions or land developments shall make provision for reservation, dedication, and/or development of suitable areas and facilities for parks,

playgrounds, trails or other active and passive recreation areas or uses pursuant to this section.

- C. Amount of recreational land and facilities required. The minimum set-aside of land and the provision of recreation facilities within the tract proposed for subdivision or land development shall be calculated as follows:
1. For residential subdivisions, one level net acre per ten (10) dwelling units or proportional equivalent. The amount of land so calculated shall be suitably located and configured to accommodate recreational facilities pursuant to Section 525.E below.
 2. For all non-residential developments, 1,000 square feet for each 1,000 square feet of gross floor area, or ten (10) percent of the gross area of the lot or tract subject to development, whichever is greater.
 3. The type and extent of recreation facilities required shall be as determined consistent with the Township's then-current open space, parks, or recreation plan as may be amended.
 4. The Board may, at its sole discretion and upon recommendation of the Township Planning Commission, agree to accept a lesser amount of land than the minimum acreage otherwise required, where the Applicant agrees to provide a fully developed active recreation facility within the open space that addresses a recreational need of particular importance to the Township in that location and that is particularly appropriate to the prospective residents of the development.
 5. Land or facilities provided for recreation purposes need not be part of the subject land development or subdivision, where at the sole discretion of the Board of Supervisors, an alternative site or sites is or are deemed appropriate to satisfy the requirements of this Section.
- D. Fee-in-lieu of recreational land or facilities.
1. If the Board of Supervisors determines in its discretion that no land within a particular subdivision or land development proposal is suitable for active and passive recreational use in conformance with Section 525.E below, or determines in its discretion that recreational use would not be practical in a particular case, or if the applicant demonstrates to the satisfaction of the Board of Supervisors that the reservation of recreational lands or development of recreational facilities is not practical or not in the best interest of the proposed land development or of the Township in general, the Board may agree to accept fees-in-lieu of recreational land or facilities. Fees-in-lieu of recreational land or facilities shall be paid to the Township prior to plan recording.

2. The amount of any fee in-lieu of recreational land and the amount of any fee in-lieu of recreational facilities shall be Three Thousand Dollars (\$3,000.00) per new residential building lot approved under this Ordinance and Seventy Two Cents (\$0.72) per square foot of gross floor area of non-residential land development approved under this Ordinance.
3. The Board of Supervisors, at its sole discretion, may accept a combination of land, facilities, and fee where that arrangement best meets the purposes of this section and the needs of the residents of the Township.

E. Land Characteristics and Design Standards.

The recreational lands and/or development of recreational facilities shall comply with the following standards.

1. The area(s) or facilities shall be generally consistent with the Township's then-current Recreation, Park or Open Space Plan and Comprehensive Plan or any other open space, park or recreational facilities plan existing or subsequently adopted by the Township, or by Northampton County;
2. The area(s) or facilities shall be suitable for active recreational uses in their entirety without interfering with adjacent dwelling units, parking, driveways, and roads. Consistent with the primary objective of providing active recreation areas, recreational lands shall be substantially free of wetlands and surface water, and not characterized by floodplain, hydric soils, or steep slopes;
3. The recreational lands shall be comprised of areas not less than two (2) acres of contiguous area and not less than seventy-five (75) feet in width, except where a narrower area of linear open space is serving solely as a connecting access area between larger open space parcels or as a portion of a trail system or pathway network. The configuration of the recreation land must be able to accommodate the intended recreational facilities or activities. Land proposed for active recreational uses shall have a slope not to exceed six (6%) percent. If less than two (2) acres of recreation land would be required for any given project, fees in lieu of land shall be offered pursuant to Section 525.D;
4. The recreational lands shall be interconnected with recreational lands or common open space areas on adjoining parcels where ever possible, including provision for trails for general public use;
5. The recreational lands and facilities shall be provided with sufficient perimeter parking when necessary, and with safe and convenient access by adjoining public street frontage or other right of way easements capable of

accommodating pedestrian, bicycle, maintenance and vehicle traffic and containing appropriate access movements;

6. The recreational lands shall be subject to approval of a Landscape Plan submitted in accordance with Section 522.
7. The linkage of erosion and sediment control or stormwater control facilities with recreation facilities may be permitted if the presence of such facilities does not conflict with proposed activities or detract from the aesthetic values associated with the recreational facility.
8. Detention facilities and those areas included within drainage easements shall not be included in any open space or recreational land calculations.

Section 526 Green Design Standards

- A. Purpose. It is the purpose of this Section to promote the siting, design, construction and maintenance of buildings and landscapes so as to promote the conservation of energy and the effective utilization of renewable energy sources and to improve the efficiency and longevity of building systems by encouraging:
 1. Orientation, massing, and siting of building envelopes to maximize solar responsive daylighting, natural cooling design, and the potential for renewable energy use.
 2. Building with integrated photovoltaic (BIPV) systems taking advantage of available solar resources.
 3. Landscaping, including retention of existing vegetation, to enhance natural ventilation and provide winter wind breaks while not interfering with access solar energy.
 4. Use of geothermal heating and cooling.
 5. Incorporating the redevelopment and reuse of previously developed sites and structures.
 6. Developing stormwater and wastewater treatment facilities with efficient and innovative on-lot approaches to treatment and reuse, which support water conservation and maintain local watershed balance, such as green roofs and rainwater harvesting systems, and including the utilization of land application and beneficial reuse of wastewater and/or stormwater.
 7. Energy efficient designs not specifically addressed by this Ordinance which may become feasible in the future due to advancement in technology.

Section 527 Carbonate Geology

All subdivision or land developments, or portions thereof, located within, or within two hundred (200) feet of areas identified as having carbonate geologic features shall be subject to the following requirements in addition to all other requirements set forth in this Ordinance and in the Zoning Ordinance.

- A. Stormwater Management. In addition to other applicable requirements, the following requirements shall apply:
1. No stormwater management facility other than piping shall be located closer than one hundred (100) feet from any feature identified pursuant to Section 404.C.1 of this Ordinance.
 2. For the location of any stormwater management basins, the applicant shall determine the strike of the rock and undertake the following:
 - a. The applicant shall establish two trenches perpendicular to the strike of the bedrock. The trenches shall be ten (10) feet from the top of the berm elevation of the facing sides of the proposed basin, and both ends of each trench shall extend five (5) feet beyond the top of berm elevation of the proposed detention basin. The dimension of the proposed basin between the parallel trenches shall not exceed one hundred (100) feet measured from the top of berm elevation of one side to the top of berm elevation of the other side. Trenching shall be dug to a depth of two (2) feet below the intended floor of the basin.
 - b. The applicant shall notify the Township engineer at least forty-eight hours before the trenching activity and the applicant shall not begin trenching until the Township engineer is present to observe the trenching.
 3. Stormwater management basins shall not be located in an area where subsurface pinnacles are encountered during trenching tests.
 4. Outflow from a stormwater management basin shall not empty into or be directed to any of the carbonate features identified pursuant to Section 404.C.1 of this Ordinance and shall be directed away from such features.
 5. Stormwater management basins shall be designed consistent with the Township's applicable stormwater management ordinance.
- B. Grading. Grading on a site underlain by carbonate geology must be kept to a minimum.

1. Existing drainage patterns shall be maintained to the greatest extent practicable.
2. French drains shall be prohibited near existing surface drainage channels.
3. Surface drainage channels shall not be materially affected by grading for and construction of roadways, driveways, structures, stormwater management basins or other development improvements.

C. Location of Structures, Roads, Driveways and Parking Areas.

1. No structures of any kind shall be constructed within one hundred (100) feet of any feature identified pursuant to Section 404.C.1 of this Ordinance.
2. Roads, driveways and parking areas shall be located so as to minimize the extent to which they are within one hundred (100) feet of any feature identified pursuant to Section 404.C.1 of this Ordinance and, where so located, shall be subject to the approval of the Township engineer.

D. Location of Underground Transmission Lines and Pipelines.

1. Auger borings (four (4) inch minimum) must be made along proposed underground conduit utility lines, wastewater lines, pipelines and stormwater and sanitary sewer lines at an interval of 50 feet. These borings must be drilled to a minimum of 2 feet below the proposed pipe or conduit invert. Pipelines and conduit shall be laid out so that they do not intersect rock surface pinnacles, sinkholes, fissures, lineaments, faults, fracture traces or caverns.
2. A dike of clay or other suitable material shall be constructed across the width of the trench at intervals of twenty (20) feet or less along all underground conduits, utility lines, wastewater lines, pipelines and stormwater and sanitary sewer lines.

E. Storage of Hazardous Materials. Storage of fuels and other hazardous materials shall not be underground or in surface impoundments in areas underlain by carbonate geology features. Fuels or other hazardous materials in above-ground facilities stored in areas underlain by carbonate geological formations shall have impermeable surfaces such as seamless concrete, or other impervious material under the storage and handling areas to prevent groundwater contamination. Impervious diking shall be constructed which would be sufficient to totally contain the volume of any material to be contained at maximum capacity.

- F. Ghost Lakes (Closed Depressions). Ghost lakes (closed depressions) shall not be disturbed. They shall not be regraded, nor shall new construction or excavation be permitted within one hundred (100) feet of them.
- G. Disclaimer. The following disclaimer shall be added to the plan. “Whereas the exact occurrence of sinkholes is not predictable, the administration of these regulations shall create no liability on behalf of the Township, the Township engineer, Township employees or consultants, or Township agencies as to damages which may be associated with sinkhole formation. That is, compliance with these regulations represents no warranty, finding, guarantee, or assurance that a sinkhole will not occur on an approved property. The Township, its agencies, consultants and employees assume no liability for any financial or other damages which may result from sinkhole activity.”
- H. Qualifications. A licensed professional geologist or licensed professional civil engineer with expertise in geotechnical engineering shall review aerial photographs, soils, geologic and other related data available to him or her, as the data relates to the subject property in preparation of the Carbonate (Karst Geology) Study required by Section 404 of this Ordinance. The professional shall also conduct a site inspection of the property.

Section 528 Stormwater Management

All subdivisions and land developments shall provide for stormwater management consistent with the provisions of the Lower Mount Bethel Township Stormwater Management Ordinance as the same may be amended and/or re-adopted from time to time.

Section 529 Grading and Erosion & Sedimentation Control

- A. Earth Disturbance Activities shall conform to all applicable requirements set forth in the Lower Mount Bethel Township Act 167 Stormwater Management Ordinance and the Lower Mount Bethel Township Grading Ordinance, all as may be amended from time to time.
- B. All Best Management Practices (BMPs) shall conform to the State Water Quality Requirements or any more stringent requirements which are applicable.
- C. Post-construction water quality protection and the operation and maintenance of permanent stormwater BMPs shall be addressed as required by Article VI hereof.
- D. Erosion and Sediment Control During Earth Disturbance Activities.
 - 1. No Earth Disturbance Activity shall commence until approval by the Township of an Erosion and Sediment Control Plan and preliminary plan with security provided or a pre-security agreement signed by the Applicant

as required by Article VI of this Ordinance. The Erosion and Sediment Control Plan shall comply with the following reference publications, as amended.

- a. 25 PA Code, Chapter 102, Erosion and Sediment Control, Section 102.4(b)(5).
 - b. PADEP Erosion and Sediment Pollution Control Program Manual, March 2000, as amended from time to time.
2. The Erosion and Sediment Control Plan shall be prepared by a qualified professional, trained and experienced in erosion and sediment control methods and techniques.
 3. A copy of the Erosion and Sediment Control Plan and any required permit shall be available at the project site at all times.
 4. Evidence of any necessary permit(s) for Regulated Earth Disturbance Activity from the regional PADEP office or Northampton County Conservation District must be provided to the Township prior to the commencement of any Earth Disturbance Activity for which any such permit may be required, where not provided prior to or at the time of final plan approval.
 5. All graded or earth disturbance shall be stabilized, whether temporary or permanent, within ten (10) days of the initial ground breaking and, weather permitting, shall be watered, tended and maintained until growth is well established.
 6. Erosion and Sediment Controls must be constructed, stabilized, and functional before site disturbance begins within the affected tributary.
- E. Until the site is 70% stabilized, all erosion and sediment BMPs must remain in place and be maintained properly as determined by the Township. Maintenance must include inspections of all erosion and sediment BMPs after each runoff event and otherwise on a weekly basis. All preventive and remedial work, including cleanout, repair, replacement, regrading, reseeding, remulching, and renetting must be performed immediately. If erosion and sediment control BMPs fail to perform as expected, then immediate replacement BMPs or modifications of those controls previously installed is required.
- F. All proposed earth disturbances shall comply with the following standards related to grading and earthwork:
1. Natural and/or existing slopes exceeding one (1) vertical unit to four (4) horizontal units shall be benched or continuously stepped into competent

materials prior to placing all classes of fill. Cut slopes shall not exceed one (1) vertical unit to three (3) horizontal units.

2. Fills toeing out on natural slopes steeper than one (1) vertical unit to three (3) horizontal units shall not be made unless approved by the Township after receipt of a report by a soils engineer certifying that he/she has investigated the property and made soil tests and that in his/her opinion such steeper slopes will safely support the proposed fill.
3. Fill areas shall be properly prepared prior to the placement of any new material. If excessive wetness, springs, or other seepage of water can be observed, drainage must be provided before placement of fill is undertaken. Under no circumstances shall fill be placed upon frozen ground or ground underlain by tree stumps, branches, or other vegetative material subject to rot or decomposition.
4. Fill shall begin at the lowest section of the area and spread in six-inch layers prior to compaction.
5. Each layer of fill shall be inspected prior to compaction. All roots, vegetation or debris must be removed and stones larger than six (6) inches in diameter must be removed or broken.
6. Each layer of compacted fill shall be tested to determine its dry density as per ASTM D1556, including its latest revisions. The density of each layer shall be not less than ninety-five percent (95) percent of maximum dry density as determined by ASTM D1557. The moisture content of the compacted layer shall be not more than four (4) percent less or two (2) percent greater than the optimum moisture content as determined by ASTM D1557.
7. A qualified geotechnical engineer, or certified testing agency shall be required to inspect and certify all fill operations, as required by this Ordinance. A written report, by the geotechnical engineer or certified agency, shall be prepared and submitted to the Township detailing his, her or its findings respecting the fill operations and compliance with the terms of this Ordinance.
8. The top or bottom edge of filled or cut slopes shall be at least three (3) feet from property or right-of-way lines of roads in order to permit the normal rounding of the edge without encroaching on the abutting property or right-of-way line.
9. Adequate provisions shall be made for dust control.

10. All graded surfaces shall be seeded, sodded and/or planted or otherwise protected from erosion as soon as practicable and shall be watered, tended and maintained until growth is well-established at the time of completion and final inspection.
11. Fills shall not encroach onto drainage and utility easements unless approval is obtained from all impacted parties, including but not limited to the Township and utilities which occupy the easement.

Section 530 Natural Resources Conservation

A. General Applicability of Conservation Standards.

1. The standards of this Section 530 shall apply to any major subdivision or land development application, except for those which are subject to Township Ordinance 2010-05, known as the Comprehensive Agricultural Protection Zoning Ordinance (CAPZO) which are exempted from this Section 530. Minor subdivisions are also exempt from Section 530.
2. It shall be a violation of this Section to re-grade, fill, pipe, divert, channel, build upon, or otherwise alter or disturb a natural resource protected by this Section prior to the submission, review, and approval of any applicable subdivision or land development plan(s)
3. In the event that the provisions of this Section and any other applicable Township regulation are in conflict, the more restrictive provisions shall apply.
4. In the event that two or more natural resource areas identified in this Section occur on the same lot or tract, disturbance limitations shall be measured separately. Where such resource areas overlap, the most restrictive standard (meaning the least amount of permitted alteration, re-grading, clearing, or building) shall apply to the area of overlap.
5. Limitations to the disturbance of resources shall apply before, during, and after construction on a site.
6. The disturbance limitations established by this Section 530 apply to the amount of disturbance permitted of a particular resource on the entirety of any tract or any lot. In addition to applying disturbance limitations to resource areas found on the entire tract, the disturbance limitations found in this Section 530 shall also apply to each discrete resource area that is one (1) acre or more. A discrete resource area is the entirety of any single contiguous area comprising any one resource regulated by the provisions of this Section with any area of resource overlap being measured as part of the contiguous resource area with the most restrictive disturbance

limitation being applicable. If a discrete resource area measuring one (1) acre or more is present on the tract, the percentage disturbance limitation applicable to the particular feature shall apply to each discrete resource area which is one (1) acre or more, in addition to applying to the entire tract or lot. For example, this Ordinance permits a developer to disturb up to 25% of moderately steep slopes on a tract. The limitation on disturbance of moderately steep slopes shall apply to limit the overall disturbance of all moderately steep slopes on the entire tract or lot. Additionally, for each discrete area of moderately steep slopes measuring one (1) acre or more in size, only 25% of that particular, discrete moderately steep slope area may be disturbed. In applying the disturbance limitation to each discrete resource area measuring one (1) acre or more, the end result may be that less than the maximum disturbance otherwise permitted on the entire tract is allowed. This result is intended by the Township.

7. Disturbance limitations shall be applied based on the occurrence of identified resource areas at the time of adoption of this Ordinance. Disturbance permitted over time in multiple applications on the same lot or tract shall be measured against the same overall limitations established at the time of the first application after the adoption of this Ordinance. For example, if applicable disturbance limitations for a particular resource permit two acres of disturbance, and one acre of disturbance is permitted upon the first application after the adoption of this Ordinance, then only one acre shall remain to be permitted for future disturbance of the applicable resource regardless of the total number of applications over the years. Each submission for a particular tract or lot shall include information relative to prior disturbances of the applicable resource, the amount of the disturbance proposed with the current application and any remaining, future disturbance permitted under this Section 530.
8. Information submitted to demonstrate compliance with this Section shall be verified as correct by the Township Engineer or other qualified professional designated by the Township.

B. Step Slope Conservation.

1. Steep slope areas shall be preserved in their natural state, allowing only for construction of roads, buildings, driveways, or infrastructure, the installation of which within steep slope areas cannot be avoided. Disturbance shall be kept to the minimum necessary and, in no case, shall it exceed the following permitted disturbance limits:
 - a. Moderately Steep Slopes - No more than twenty-five (25) percent of moderately steep slopes shall be regraded, cleared, built upon,

or otherwise altered or subject to land disturbance or woodland disturbance.

- b. Steep Slope Margins - No more than twenty-five (25) percent of steep slope margins shall be regraded, cleared, built upon, or otherwise altered or subject to land disturbance or woodland disturbance.
 - c. Very Steep Slopes - No more than ten (10) percent of very steep slopes shall be regraded, cleared, built upon, or otherwise altered or subject to land disturbance or woodland disturbance. In addition, disturbance permitted on very steep slopes shall be limited to the following activities:
 - i. Grading for the minimum portion of a driveway necessary for access to the permitted principal use and sewer, water, and other utility lines when no other routing is practicable without disturbance of very steep slopes. Notwithstanding the foregoing, sewage disposal systems are not permitted within very steep slopes.
 - ii. Trail(s) of minimum adequate width(s), where developed so as to minimize potential erosion, following existing topographic contours, and where using unpaved surfaces to the maximum practicable extent.
2. All permitted buildings or structures shall be constructed in such a manner as to provide for the least alteration necessary of the existing grade, vegetation, and natural soils condition.
 3. New roads and improvements to existing roads shall be designed within the existing contours of the land and strive for compatibility with the character of rural roads.
 4. Any stockpile(s) of earth intended to be stored for more than twenty-one (21) days shall be seeded or otherwise stabilized to the satisfaction of the Township Engineer. Any disturbed areas of Very Steep Slope and any cut and fill resulting in slopes of greater than twenty (20) percent shall be protected with an erosion control blanket.

C. Wetlands Conservation

1. Any applicant proposing a use, activity, or improvement which would entail the regrading or placement of fill in wetlands shall provide the Township with proof that the Pennsylvania Department of Environmental Protection (Bureau of Dams and Waterway Safety and Bureau of Water

Quality Management) and the U.S. Army Corps of Engineers have been contacted to determine the applicability of state and federal wetland regulations. Any applicant contacted by the Pennsylvania Department of Environmental Protection or the U.S. Army Corps of Engineers in regard to wetlands shall provide to the Township a copy of such correspondence within five (5) business days of receipt by the applicant. Copies of all relevant applications, submissions, re-submissions, review letters, responses, correspondences, etc., between the applicant and the DEP or Army Corps of Engineers, as applicable, shall be submitted to the Township either concurrently with the submission thereof to a governmental agency or copies thereof sent to the Township within five (5) business days of receipt from either agency.

2. Where permitted subject to applicable regulation and as otherwise provided herein, sewers or other liquid transport pipelines shall only be permitted to cross wetlands on the minimum traversal distance. Precautions shall be taken to prevent leaks from the pipelines into the wetlands and to prevent any possible draining of the wetland (e.g., water flowing through or along any pipe or trench). At the expense of the applicant, the Township may require inspection of applicable systems and facilities, including but not limited to x-ray of steel welds and pressure testing of pipelines.
3. Where wetland disturbance is permitted subject to applicable regulation on any lot or tract, any disturbance to or loss of natural wetlands shall be mitigated in a manner approved by the Pennsylvania Department of Environmental Protection or the U.S. Army Corps of Engineers in accordance with the applicant's receipt of the necessary state or federal permit to disturb the wetlands.
4. Where required to comply with state or federal regulation, any applicant also shall provide the Township with a full wetland delineation report conducted by a qualified wetland biologist, soil scientist, or environmental professional of demonstrated qualifications, subject to the following:
 - a. Where there is any question as to the accuracy of the wetland delineation report, the Township may hire a qualified consultant to review the delineation and recommend revisions at the applicant's expense.
 - b. Such a professional shall certify that the methods used correctly reflect the currently accepted technical concepts, including identification and analysis of wetland vegetation, hydric soils, and hydrologic indicators. Methods used in the delineation report shall be acceptable to the Township Engineer or other qualified consultant hired by the Township.

- c. The wetland report submitted to the Township shall include a determination of whether wetlands are present on the site and a full delineation, area measurement (in square feet), and description of any wetlands determined to be present.

D. Riparian Buffer Conservation.

1. Zone One – Inner Riparian Buffer – Except to provide for those uses or activities listed below, no land disturbance or woodland disturbance shall be permitted within the Zone One Riparian Buffer:
 - a. Regulated activities permitted by the Commonwealth (i.e. permitted stream or wetland crossing).
 - b. Provision for trail and trail access where approved by the Township with minimum disturbance to existing woodland vegetation;
 - c. Selective removal of hazardous or invasive vegetation or debris, including gravel bars which have accumulated; or
 - d. Vegetation management in accordance with an approved landscape plan or forested land clearing plan.
2. Zone Two – Outer Riparian Buffer - Except for the following activities, no more than fifteen (15) percent of a Zone Two Riparian Buffer shall be regraded, filled, built upon, or otherwise altered or subject to land disturbance or woodland disturbance:
 - a. Activities permitted in the Zone One Riparian Buffer.
 - b. Where approved by the Township, level spreading devices for stormwater management.

E. Conservation of Heritage Trees.

No Heritage Tree(s) shall be removed except where shown on the forested land clearing plan approved by the Township where the Applicant has adequately demonstrated:

1. that such removal is essential to eliminate hazardous condition(s); or
2. that the proximity of the subject tree(s) within 100 feet of existing residence(s) or other structures may constitute a future hazard.

In consideration of any such need for tree removal, the Township may engage the services of an arborist, reasonable costs therefore to be borne by the Applicant.

**ARTICLE VI
IMPROVEMENT GUARANTEES AND ACCEPTANCE**

Section 600 Construction of Improvements

- A. The Applicant shall construct and be responsible for (at no cost to the Township) all roads, streets, lanes or alleys, together with all other improvements, including grading, paving, curbs, gutters, sidewalks, trails, street lights, fire hydrants, water mains, street signs, shade trees, stormwater management facilities, sanitary sewers, landscaping, traffic control devices, open space and recreation areas, and erosion and sediment control measures in conformance with the final plan as approved, the applicable specifications and regulations of the Township, PennDOT and PADEP, and any other applicable regulations.

- B. No occupancy permits for any building or buildings to be erected shall be issued by the Township Building Code Official until the Township Engineer provides written documentation that:
 - 1. The roads, streets, or lanes providing access to and from existing public roads to such building or buildings have been improved to a mud-free, permanently passable condition; and
 - 2. That all other improvements depicted on the approved final plan, either upon the lot or lots or beyond the lot or lots in question and necessary for the reasonable use of or occupancy of any such building or buildings have been completed.

Section 601 Improvement Guarantee Requirements and Agreements

- A. Before the Board of Supervisors shall approve final plans of any subdivision or land development and, as a requirement for approval thereof, the Applicant and developer shall either complete the improvements as required by Section 509(a) of the MPC or enter into a written agreement or agreements in the manner and form set forth by the Township, to guarantee the construction, installation and maintenance of all improvements required by this Ordinance at the Applicant's expense. The agreement(s) shall specify the following where applicable:
 - 1. That the Applicant agrees that it will lay out, construct and maintain, at its expense, all roads, streets, lanes or alleys, together with all other improvements, including grading, paving, curbs, gutters, sidewalks, trails, street lights, fire hydrants, water mains, street signs, shade trees, stormwater management facilities, sanitary sewers, landscaping, traffic control devices, open space and recreation areas, and erosion and sediment control measures in conformance with the final plan as approved, the applicable specifications and regulations of the Township, PennDOT and

PADEP, and any other applicable regulations, and that it shall complete these improvements within the time or times specified by the Board of Supervisors;

2. That the Applicant guarantees completion of all public improvements by posting security in the form permitted by the MPC and in an amount established pursuant to Section 601.C herein;
3. That the Applicant agrees to tender a deed or deeds of dedication to the Township for such street easements and for easements for sanitary and storm sewers (including pipes, detention basins and swales), sidewalks, trails, manholes, inlets, pumping stations, and other appurtenances as shall be constructed as public improvements provided that the Township shall not accept dedication of such improvements until the Township Engineer provides written documentation that such improvements have been satisfactorily completed and satisfactorily maintained by the Applicant for the duration of the maintenance period required by the MPC. All streets, easements and other public improvements offered for dedication shall be accompanied by a metes and bounds description and plot plan prepared by the Applicant. The Applicant shall also provide a deed or deeds of dedication to the Township to permit access to privately owned and maintained improvements to permit the Township to undertake maintenance of such improvements (without any obligation on behalf of the Township to do so) should the Applicant or responsible party fail to adequately maintain such improvements. The Board of Supervisors shall not accept any deed of dedication until the opinion of record title or title insurance policy required by Section 304.D(5)(c)(iii) is provided and accepted by the Township.
4. That the Applicant agrees to establish a covenant that runs with the land addressing the perpetual maintenance responsibilities of stormwater management BMPs per PA DEP Title 25 Chapter 102 Section 102.8(m), as amended from time to time, and providing for access easements to allow the Township to inspect and monitor the maintenance of stormwater management BMPs. The covenant shall be in a form prepared by the Township Solicitor. The Board of Supervisors shall not accept the covenant until the opinion of record title or title insurance policy required by Section 304.D(5)(c)(iii) is provided and accepted by the Township.
5. That the Applicant agrees to correct, remedy, repair, refurbish, reconstruct, reinstall, maintain, replace and perform such maintenance to the improvements as may be necessary, in the sole and absolute discretion of the Township based on the condition of the improvements which may arise or exist during the maintenance period described in Section 601.G. The Applicant shall post with the Township security in the amount described in Section 601.G for the entire maintenance period prior to the

release of any remaining balance of the security posted to guarantee the installation/completion of the improvements.

6. That the Applicant shall exonerate, indemnify, defend (through legal counsel of the Township's choice) and hold harmless the Township and the Township representatives of and from each and every claim arising out of, resulting from, caused by or relating to:

- a. Any failure of the Applicant to perform or observe any term, provision, covenant or condition of the agreements, the plan and/or the resolution of approval for the project;
- b. Any material inaccuracy and/or any misrepresentation or breach of warranty (express or implied) made by the Applicant or its agents;
- c. Any injury (including but not limited to death) or damage to any person, entity or property from any cause whatsoever arising out of, resulting from, caused by or related to the design, installation, construction, maintenance, quality of or failure of the improvements and/or any work performed at the property or land of others and any conditions created by the aforesaid design, installation, construction, etc., of the improvements; or
- d. Any discharge of surface water on to land of others from or through the property and other areas encompassed by the plan, the resolution approving the project and/or the agreements.

7. That the Applicant, before any permit is issued to the Applicant and before the Applicant or any of its agents enter upon the property to conduct any earth moving activities, construction activities or perform any other site improvement activities, the Applicant shall carry insurance coverage in amounts and with companies acceptable to the Township Solicitor. Such insurance shall include, at a minimum, commercial general liability insurance, workers' compensation and employers' liability insurance and commercial motor vehicle insurance coverage.

B. The form and type of financial security shall be approved by the Township Solicitor and shall be consistent with the Township's policy concerning financial security as may be adopted from time to time by resolution of the Board of Supervisors. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the Applicant posting the financial security, provided that the bonding company or lending institution is authorized to conduct business within the Commonwealth of Pennsylvania.

- C. The amount of financial security to be posted for completion of the required improvements shall be equal to one hundred-ten (110) percent of the cost of completion of the required improvements based upon the Township's cost to construct and install the improvements (including prevailing wage rates), estimated as of ninety (90) days following the date scheduled for completion by the Applicant, plus an additional ten (10%) percent for contingencies above the estimated hard costs, the estimated cost to prepare the as-built plans required by Section 603 and any fees which are to be paid to the Township following recording of the plan, such as recreation fees, capital improvements fees, highway capital improvements fees, etc, which are not paid prior to recording of the plan. The cost estimate also includes a separate line item for the estimated inspection fees of the Township Engineer inspecting the improvements. The estimated cost of completion of the required improvements shall be submitted by the Applicant for review and approval by the Township Engineer and prepared by a professional engineer licensed as such in the Commonwealth of Pennsylvania and documented to the satisfaction of the Township Engineer by such engineer to be a fair and reasonable estimate of such cost. Upon the recommendation of the Township Engineer based on his/her review, the Township may refuse to accept such estimate. If the Applicant and the Township are unable to agree upon an estimate, the procedures set forth in the Section 509(g) of the MPC shall be followed. No final plan shall be approved until the estimated scheduled date for subdivision or land development construction completion is explicitly set forth on its cover sheet.
- D. If the Applicant requires more than one year from the date of posting of the financial security to complete the required improvements, the Township may require that the amount of financial security be increased by an additional ten (10) percent for each one year period beyond the first anniversary date from posting of financial security or to an amount not exceeding one hundred-ten (110) percent of the cost of completing the required improvements, based upon the Township's cost to construct and install the improvements (including prevailing wage rates), as re-established on or about the expiration of the preceding one year period by using the above procedure for estimating the cost of completion of the required improvements.
- E. Where development is projected over a period of years, the Board of Supervisors may authorize submission of final plans by section or stages of development subject to such requirements or guarantees as to improvements in future stages of development as it finds essential for the protection of any finally approved section of the development.
- F. As the work of installing the required improvements proceeds, the Applicant may request that the Township release, from time to time, such portions of the financial security necessary for payment to the contractor performing the work. Any such request shall be in writing, addressed to Lower Mount Bethel Township, and the Board of Supervisors shall have forty-five (45) days from

- receipt of such request within which to allow the Township Engineer to provide written documentation to the Board of Supervisors that the improvements have been completed in accordance with the approved plan. This request by the applicant shall include a list of quantities of improvements installed as part of this specific request. If the Township fails to act within the forty-five (45) day period, the Township shall be deemed to have approved the release of funds as requested. The Township may, prior to final release at the time of receipt of written documentation from the Township Engineer that the improvements have been completed satisfactorily, require retention of ten (10) percent of the estimated cost of the aforesaid improvements. This 10% retainer shall not be released until the financial security for the maintenance period referenced in subsection G below has been posted.
- G. Where the Township accepts dedication of all or some of the required improvements following satisfactory completion on the basis of review and recommendation by the Township Engineer, the Township may require the posting of additional financial security to secure the structural integrity of the improvements as well as the functioning of said improvements in accordance with the design and specifications in the final plan for a term not to exceed eighteen (18) months from the date of acceptance of dedication. The amount of this additional financial security shall be equal to fifteen (15) percent of the actual cost of installation of the improvements. The eighteen (18) month maintenance period shall not begin until the final inspection, approval and, where applicable, acceptance by the Township of all improvements required by this Ordinance and other applicable Township ordinances, rules, regulations, resolutions, etc., within the subdivision and/or land development.
- H. Where adequate financial security has been provided as set forth above and in Section 705.D regarding cost of inspections, testing and maintenance, where applicable, the Township shall not unreasonably withhold the issuance of building, grading or other permits relating to the construction of the improvements, including buildings, upon the lots or land as depicted on the final plan. Moreover, where adequate financial security has been provided and the Applicant complies with Section 600.B, occupancy permits for any building or buildings to be erected shall not be withheld following the Township Engineer's certification provided in accordance with Section 604 herein.
- I. If the Applicant desires to begin construction of the improvements prior to recording the final plan, signing the necessary agreement(s) and posting the required security, the Applicant shall sign a Pre-Security Agreement in the form prepared by the Township solicitor which provides, among other things, for the Applicant's responsibility for all inspections costs incurred by the Township while inspecting the Applicant's construction of the improvements, insurance and indemnification as required by Section 601.A (6 and 7) and an acknowledgment by the Applicant that it agrees that it is proceeding at its own risk if it proceeds to perform work with respect to any governmental approvals and permits it must still

obtain, including but not limited to, any permits which the Applicant must obtain from the Pennsylvania Department of Transportation.

Section 602 Inspections

A. The construction or installation of all improvements shall at all times be subject to inspections by the Township Engineer and/or representatives of the Township. If such inspection reveals that work is not in accordance with approved plans, specifications and/or this Ordinance, that construction is not being done in a good, workman-like manner, or that erosion and sediment controls are failing to prevent acceleration erosion or water borne sediment from leaving the site of construction, the Township Engineer or Township representative shall immediately notify the Township Secretary or Zoning Officer of the violations or infractions. The Township Secretary, the Zoning Officer or other duly authorized representative of the Township is empowered to require corrections to be made and/or order the suspension of subdivision approval and to issue a cease and desist order which may include any or all of the following sanctions:

1. That no lot in the subdivision shall be conveyed;
2. That all construction on any lots for which a building permit has been issued shall cease;
3. That no further building permits or certificates of occupancy for any lot shall be issued.

The Township Secretary, Building Code Official or Zoning Officer shall promptly inform the Township Board of Supervisors of any ordered suspension of subdivision approval or cease and desist order issued.

- B. Any cease and desist order may be terminated upon the determination of the Township Engineer that the said defects or deviations from plan requirements have been corrected.
- C. It shall be the responsibility of the Applicant, subdivider, developer, builder, or contractor to notify the Township Secretary, who in turn will notify the Township Engineer or other duly authorized person, a minimum of two working days in advance of the commencement of any construction or installation of any improvement, facility or utility required by this Ordinance or by the approved subdivision or land development plan in order that provisions may be made for inspection by the Township.
- D. In addition to the advance notice required in subsection C, above, it shall be the responsibility of the Applicant, subdivider, developer, builder, or contractor to call, at a minimum, for the following specific inspections, by notifying the

Township Secretary, who in turn will notify the Township Engineer or other duly authorized person, a minimum of two working days in advance of the time anticipated for the required inspection of the installation of all improvements pursuant to submitted final plans, including but not limited to the following:

1. Key trench for stormwater management basins following excavation but prior to the placement of any backfill.
2. Underground stormwater management facility prior to excavation.
3. All pipe work, including outlet pipe and anti-seep collars in stormwater management basins, storm drains, and utilities, before backfill begins.
4. All stormwater management BMP's
5. All sanitary treatment facilities
6. All sanitary sewer lines
7. All sanitary sewer pumping station and related facilities
8. Utility work within existing roadways prior to road opening or saw-cutting of roadway.
9. Landscaping
10. Lighting
11. Traffic signals
12. Trails
13. Public water systems
14. Culvert and/or bridge structures
15. Footings for structures following excavation but prior to the commencement of any further construction work on the structure.
16. Fill placement in existing or future Township right-of-ways prior to placement.
17. Road subgrade when completed, but before the start of installation of curbs or stone base course.

18. Curbs and/or sidewalks, when stone base is in place, and during the subsequent concrete pours.
 19. Crushed aggregate base course during its installation.
 20. Bituminous surface binder course during its installation.
 21. Bituminous surface wearing course during its installation.
 22. Erosion and sedimentation control facilities removal, including conversion of sediment basins / traps to permanent, prior to conversion.
 23. Final inspection.
- E. The Township Engineer is authorized to make periodic physical inspections of all subdivisions and land developments under construction in Lower Mount Bethel Township. In addition, the Township Engineer shall be responsible for reviewing and approving field construction or any special requirements which may be imposed by the Board of Supervisors at the time of approval of a land development and/or a subdivision plan. The Township Engineer shall report to the Board of Supervisors in writing periodically as to the status of construction and as to the status of any maintenance or bonding responsibilities, which extend beyond the completion date for any subdivision and/or land development.

Section 603 As-built Plans

- A. Each Applicant shall be required to file with the Township an As-built Plan following completion of the development, prior to the Township's release of the maintenance security.
- B. The As-built Plan shall be a corrected copy of the approved subdivision/land development plan showing actual dimensions and conditions of roads and all other improvements, including but not limited to:
 1. Concrete monuments and lot pins.
 2. Roads/Streets: Cartway edges and centerline, location and elevations.
 3. Sanitary sewer mains, manholes, cleanouts and laterals.
 4. Storm sewers, inlets, manholes, and culverts.
 5. Water mains, valves and hydrants.
 6. Street lights and utility poles.

7. All known utilities including gas, electric, cable and telephone.
 8. Stormwater Management facilities.
 9. Sidewalks, Trails and Landscaping.
 10. Easements
 11. Certification of the accuracy of the plan by the Applicant's engineer or surveyor.
- C. In addition, the As-built Plan shall indicate that the resultant grading, drainage structures and/or drainage systems and erosion and sediment control practices, including vegetative measures, are in substantial conformance with the previously approved drawings and specification. The Plan shall note all deviations from previously approved drawings. Two (2) copies of the As-built Plan shall be submitted to the Board of Supervisors for distribution to the Township Engineer and for the Township file.
- D. For major subdivisions, in addition to the paper plan submission, the Township may require a digital electronic submission meeting drafting standards, data layer separation requirements and in the format specified by the Township Engineer which shall remain electronically accessible for a minimum period of ten (10) years thereafter.

Section 604 Release from Performance Guarantee

- A. When the Applicant has completed all of the required improvements, and has submitted the As-built Plan in accordance with Sections 603.A through D. above, it shall notify the Board of Supervisors in writing by Certified or Registered Mail of the completion of the improvements, and shall send a copy to the Township Engineer. The Township shall, within ten (10) days after receipt of such notice, direct and authorize the Township Engineer to inspect all of the Applicant's subdivision or land development improvements. The Township Engineer shall promptly file a report with the Board of Supervisors and shall mail a copy 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 authorization from the Township. This report shall indicate approval or rejection of the improvements, either in whole or in part, and if the improvements, or any portion thereof, shall not be approved or shall be rejected by the Township Engineer, the report shall contain a statement of reasons for such non-approval or rejection.
- B. The Board shall, within fifteen (15) days of receipt of the Township Engineer's report, notify the Applicant by Certified or Registered Mail of its actions in response to the Township Engineer's review of improvements.

- C. If the Board of Supervisors or the Township Engineer fails to comply with the time limitations set forth in Section 604.A or 604.B, all improvements identified in the Applicant's request will be deemed to have been approved and the Applicant shall be released from all liability pursuant to its performance guarantee, bond, or other security agreement as to those improvements contained in the Applicant's request.
- D. If any portion of the said improvements shall not be approved or shall be rejected by the Board, the Applicant shall proceed to complete the same and upon completion, the same procedure of notification, as outlined herein, shall be followed.
- E. The Applicant's security may be released in stages as construction of a significant portion of streets, and all other public improvements, are completed and approved by the Board. Escrow releases must be signed and approved by the Township Engineer who shall be responsible for determination of the amount of escrow to be released. No such amount shall be released, however, until approved by the Board.
- F. The Applicant shall be responsible for maintenance of all public improvements until such improvements are offered for dedication and are accepted by the Township. The Township is under no obligation, however, to accept dedication of improvements.
- G. In the event any improvements which may be required have not been installed as provided in this Ordinance or in accordance with the approved final plan, the Board of Supervisors has the power to enforce any escrow, corporate bond or other security by appropriate legal and equitable remedies. If proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all improvements covered by said security, the Board may, at its option, install all or part of the remainder of such improvements covered by said security, and may institute appropriate legal or equitable action to recover any monies spent in the installation thereof and any additional monies necessary to complete the remainder of the improvements. All the proceeds, whether resulting from the security, or from any legal or equitable action brought against the Applicant, shall be used solely for the installation of the improvements covered by such security and not for any other purpose.
- H. Nothing herein, however, shall be construed in limitation of the Applicant's right to question or contest, by legal proceedings, any determination of the Board.

Section 605 Dedication and Acceptance of Improvements

- A. Upon completion of any public improvements shown on an approved final plan the Board of Supervisors may require that an Applicant offer such public improvements for dedication. In such a case, the Township Solicitor shall prepare

- a deed(s) of dedication or bill(s) of sale, as appropriate. Public improvements may be accepted by resolution of the Board at a regular meeting thereof. No roads or streets in any approved subdivision or development will be accepted as the responsibility of the Township until such time as fifty (50) percent of the lots in any approved subdivision or development have dwellings or other principal buildings erected thereon and certificates of occupancy for such dwellings or principal buildings have been issued. Should the above mentioned road or streets, even though constructed according to these specifications, deteriorate before the necessary fifty (50) percent of the lots have buildings erected thereon, such roads or streets shall be repaired in a manner acceptable to the Board of Supervisors before being accepted by the Township.
- B. The Board may require that any or all improvements, including but not limited to roads and storm water management facilities, remain in private ownership, with the maintenance responsibility placed on individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out such maintenance responsibilities.
- C. Where maintenance of improvements is to be the responsibility of individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out maintenance responsibilities, the Board shall require that a segregated capital improvements and maintenance fund (“Maintenance Fund”), or multiple funds in the case of individual lot owners being responsible for maintenance of the improvements on a lot, be established in an amount approved by the Township Engineer based upon the estimated annual maintenance cost of all of the improvements, including a capital reserve for major repairs and improvements, and that maintenance responsibilities be set forth in perpetual covenants or deed restrictions binding on the landowner’s successors in interest, which shall be submitted to the Township Solicitor for review and approval.
- D. The Maintenance Fund shall be in addition to any construction or maintenance security required by this Ordinance. Use of the Maintenance Fund shall be limited to maintenance of the improvements and no other purpose. The Township must approve of any withdrawals from the Maintenance Fund. The party responsible for maintenance shall provide annual audits to the Township within forty-five (45) days of the close of the responsible party’s fiscal year. In the case of a Maintenance Fund created for an individual lot owner, copies of bank statements of the Maintenance Fund shall be sufficient and shall be provided to the Township no later than February 15 of each calendar year. These requirements shall be incorporated into the declaration for any homeowners association and the covenants/deed restrictions for individual lot owners.

If a homeowners’ association or similar entity is established, the association formation documents (i.e., the declaration) shall be provided to the Township Solicitor for review and approval prior to recording. The formation documents must clearly describe the maintenance and funding mechanism relative to the

- perpetual maintenance of the improvements. The association formation documents shall also include provisions requiring the establishment of the Maintenance Fund. The Township shall be given the right to access the Maintenance Fund to perform maintenance in the event that the responsible party fails to do so. In the event any portion of the Maintenance Fund is expended, the association or similar entity shall replenish the Maintenance Fund by all means available to it, including but not limited to special assessment if required, within sixty (60) days of expending any portion of the Maintenance Fund. Until the association's Maintenance Fund is adequately funded, as determined by the Township in its sole discretion, the applicant shall provide security to the Township in the form of an irrevocable letter of credit to cover anticipated maintenance costs.
- E. A required maintenance program to be assumed by the lot owner(s) must be approved by the Township. The Township reserves the right, in its sole discretion, not to approve of maintenance programs which are proposed to be assigned to four (4) lot owners or less. If maintenance is proposed by individual lot owners, the Applicant shall post financial security in accordance with this Ordinance for the full amount of the Maintenance Fund until the Maintenance Fund is adequately funded.
- F. The Maintenance Fund amount shall be determined as follows:
1. The Applicant shall submit an estimated annual maintenance cost to the Township Engineer for review and approval in connection with the Final Plan submission. In addition to the annual maintenance costs, reserves sufficient for major repairs and capital improvements shall be included in both the estimate and Maintenance Fund. The Maintenance Fund shall cover the estimated costs for maintenance of the improvements in perpetuity.
 2. The approved cost estimate amount shall then be converted to present worth utilizing an anticipated rate of return of two (2%) percent.
 3. The Maintenance Fund shall be established or security therefor provided prior to the recording of any record plan of subdivision or land development submitted by the Applicant which involves private maintenance of infrastructure improvements.
 4. If the approved annual estimate of the maintenance costs is less than Five Hundred (\$500.00) Dollars, the Maintenance Fund shall not be required.
- G. The party responsible for the perpetual maintenance of the facilities shall provide the Township with an annual inspection report prepared by a civil engineer licensed to practice in Pennsylvania.

- H. Failure to Maintain. In the event the responsible party fails to perform any duty or maintenance obligation as required under this Ordinance, the Township shall have the right to require the responsible party to perform such obligation by notifying the responsible party in writing. In the event the responsible party shall fail to undertake such performance within thirty (30) days of receipt of the aforesaid notice from the Township, the Township shall have the right to undertake such performance and charge the responsible party therefore; provided, however, that the Township shall not be obligated to wait for the expiration of such thirty (30) day period if the Township determines that an emergency exists. No action taken by the Township shall be deemed in any way to relieve the responsible party from the performance of its obligations under this Ordinance, to obligate the Township to perform such service on a regular basis, and/or to be deemed an acceptance by the Township of such improvements.
1. If an association or other entity is responsible for maintenance, payment for such services or repairs shall be made to the Township from any funds under the control of the association for any purpose.
 2. In the event the responsible party fails to reimburse the Township within thirty (30) days of receipt of a written bill for such assessment or if funds received from the responsible party are insufficient to fully reimburse the Township, the Township shall have the right, after first providing written notice to the lot owner(s) or association, to assess the lot owner(s) or association, including the members directly in accordance with their respective percentage interests, for their proportionate share of such cost or deficiency. In the event of maintenance by an association, each such assessment shall be an assessment and shall entitle the Township to the same enforcement rights and remedies afforded to the association for delinquent and unpaid assessments, including, without limitation, the right to record a lien upon the unit against which such assessment is made. Each such assessment or delinquency, together with interest and the cost of collection thereof (including but not limited to reasonable fees for legal counsel and court costs), in addition to a fee of up to twenty percent (20%) of the maintenance expenses incurred by the Township as an administrative fee, shall also be the joint and several personal obligations of the owners of the unit at the time the assessment fell due.

ARTICLE VII

ADMINISTRATION

Section 700 General Administration

All provisions of this Ordinance shall be administered by the Board of Township Supervisors of Lower Mount Bethel Township, or by the Township Secretary, Township Zoning Officer, or other Township official as designated by the Board. All plans, applications, correspondence, complaints, requests for waivers, or appeals shall be delivered to the Township municipal office.

Section 701 Amendments

Any amendment to this Ordinance shall be in accordance with the provisions set forth in the Pennsylvania Municipalities Planning Code.

- A. Power of Amendment. The Board of Supervisors may, from time to time, amend or repeal this Ordinance. When doing so, the Board shall proceed in accordance with applicable law.
- B. Sources of Amendment. Proposals for an amendment to this Ordinance may be initiated by the Board of Supervisors on its own motion, by the Planning Commission, or by any landowner of land within the Township, as follows:
 1. Proposals originated by the Board of Supervisors. The Board shall refer every proposed amendment originated by said Board to the Township Planning Commission and the Lehigh Valley Planning Commission. The Township Planning Commission shall have at least thirty (30) days prior to a public hearing scheduled to discuss the amendment to submit to the Board of Supervisors a report containing its recommendations, including any additions or modifications to the original proposal, all as provided for in the MPC.
 2. Proposals originated by the Planning Commission. The Township Planning Commission may, at any time, transmit to the Board of Supervisors any proposal for the amendment or repeal of this Ordinance.
 3. Proposals originated by a Landowner. If a landowner desires to request the Township to amend this Ordinance, it shall do so by submitting the required forms, fees and escrow deposits with the Township as may be established by resolution from time to time. The Board may refer the proposal to the Planning Commission for consideration or may take no action on the request.

- C. Hearings. Before voting on the enactment of any amendment, the Board of Supervisors shall hold a public hearing thereon with notice as required by law.

Section 702 Modifications or Waivers

- A. While this Ordinance contains the minimum standards for the protection of the public welfare, the Township may modify the minimum standards as necessary to serve the public interest of the Township and its citizens.
- B. If the literal enforcement of any provision of this Ordinance will exact undue hardship because of peculiar conditions pertaining to applicant's land or the nature of the application, the Township may grant a modification or waiver in writing to such applicant provided that such modification or waiver will not be contrary to the public interest and the purpose and intent of this Ordinance is observed.
- C. All requests for modifications or waivers shall be in writing, be signed by the applicant and shall accompany and be a part of the application for development. The request shall state in full the grounds and facts upon which the request is based, the provision or provisions of the ordinance involved, and the minimum modification necessary. Additionally, the applicant shall provide a cost estimate for those improvements required by this Ordinance from which a modification or wavier is sought. Any request for modification or waiver may be referred to the Planning Commission for advisory comments.
- D. In granting modifications or waivers, the Township may impose such conditions as will, in its judgment, substantially secure the objectives of the standards or requirements so modified or waived. In the event that the Township grants waivers for street trees, buffer landscape plantings, or other landscaping/screening required by this Ordinance, the Township may require alternate plantings or plantings at other locations within the development.
- E. The Township shall keep a written record of its actions on all requests for modifications or waivers.
1. If a modification or waiver is granted, it shall be referenced in the conditions of approval of the plan and shall apply only to the subject application.
 2. A listing of any modifications or waivers granted shall be placed on the final plan prior to recording by the Township.

Section 703 Revisions to Recorded Plans

If, during the course of construction or completion of a subdivision or land development, minor changes, alterations or modification of a Final Plan become necessary, such

changes may be approved only after written acceptance by the Township Engineer. Substantial revisions to any such Final Plan may be approved only after written acceptance by the Township Engineer and written approval of the Board of Supervisors. If approved, substantial revisions to any Final Plan shall cause the re-recording of the Final Plan after such approvals are obtained and the Final Plan is revised to reflect the approved changes.

Section 704 Records

The Township shall assign a subdivision application number to all applications, and all matters referring to each such plan submitted by the applicant and its professional consultants shall be identified with and filed with reference to the subdivision number. The Township shall keep a record of its findings, decisions and recommendations relative to all subdivision or land development applications filed for review.

Section 705 Fees

- A. Any application for sketch plan review, any application for preliminary approval and any application for final plan approval shall not be deemed to be administratively complete and will not be substantively reviewed until the fee and escrow deposits, in accordance with Article III and as set forth below, shall have been paid.
- B. A subdivision or land development application fee (non-refundable) shall be submitted with any application for sketch plan review and with any application for preliminary or final plan approval the amount(s) of which shall be fixed from time to time by the Board of Supervisors by resolution.
- C. A subdivision or land development escrow deposit shall also be submitted with any application for sketch plan review and with any application for preliminary or final plan approval to cover the reasonable costs of plan review and process. The escrowed funds shall be used to reimburse the Township for actual expenditures incurred to review and processing, including but not limited to the fees of the Township Engineer, Township solicitor, other Township consultants, and other reviews authorized by the MPC or this Ordinance. If the Township uses the funds on deposit with the Township, the Applicant shall promptly replenish the escrow deposit account to the amount required by the Township's deposit schedule such that sufficient funds shall be available to pay the fees of the Township's professional consultants. Failure of the Applicant to replenish the escrow account within seven (7) days of written notification, and as appropriate in other circumstances, shall be sufficient reason for the Township to cause the solicitor to prepare a resolution denying the application, at the applicant's expense. No application will be placed on an agenda for consideration, review, vote or discussion, except for possible denial of the plan, if an escrow account is not current. Any unexpended balance in the subdivision or land development escrow deposit shall become part of the second deposit required in Section 705.D., below,

except that in the case of an escrow established at the time of preliminary plan application, any unexpended balance upon approval of the preliminary plan shall first become part of the escrow deposit submitted with the subsequent final plan application to the extent applicable. Charges for professional consultants of the Township that are to be paid by the Applicant shall be viewed in the broadest possible sense allowable by applicable law to ensure that the Applicant, and not Township taxpayers, is responsible for fees and expenses arising because of the submission of the application.

- D. As a condition of final plan approval, following the establishment of any required performance guarantee, a second escrow deposit shall be required to cover the cost of: (i) inspections of improvements and construction; (ii) materials or site testing; (iii) engineering and legal fees incurred by the Township; and (iv) maintenance costs (e.g., snow removal, stormwater management, etc.) prior to the approval or acceptance of the improvements by the Township, as applicable, all as set forth in an agreement to be signed by the applicant and Township in accordance with Article VI. Any unexpended balance in the escrow deposit following approval or acceptance of improvements by the Township shall be returned to the applicant in accordance with the agreement to be signed by the applicant and Township in accordance with Article VI. The amount of this second escrow deposit shall be based upon the recommendation of the Township Engineer.

Section 706 Penalties

- A. It shall be unlawful to record any subdivision plan in any public office, unless the same shall evidence thereon, by endorsement or otherwise, the approval of the Board of Supervisors following application to the Township as required by this Ordinance.
- B. The Township shall have all of the remedies provided by law to enforce compliance with the provisions of this Ordinance including but not limited to those remedies provided in Sections 511, 515.1 and 515.3 of the MPC as the same may, from time to time, be revised, or any successor legislation thereto.
- C. Any owner, or agent of the owner, of any land located within the Township who sells or transfers any land by reference to, or exhibition of or by other use of, a plan of a subdivision before the same has been finally approved by the Board of Supervisors and recorded within the Office of the Recorder of Deeds in and for Northampton County shall be subject to the sanctions and penalties herein set forth. The Board of Supervisors may also enjoin such transfer or sale by injunction.
- D. In addition to any 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.
- E. As an additional condition for issuance of a permit or the granting of an approval to any such owner, current owner, vendee (buyer) or lessee (renter) 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.
- F. Nothing 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 707 Appeals

Appeals from the actions of the Board of Supervisors with respect to any application for subdivision or land development approval shall be governed by the provisions of the MPC, as they may be amended from time to time, or any successor legislation thereto.