

MIDDLESEX TOWNSHIP
CUMBERLAND COUNTY, PENNSYLVANIA

ORDINANCE NO. 8 - 2017

AN ORDINANCE OF THE BOARD OF SUPERVISORS OF MIDDLESEX
TOWNSHIP, CUMBERLAND COUNTY, PENNSYLVANIA, ADOPTING A
SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

BE IT HEREBY ENACTED AND ORDAINED and it is hereby enacted and ordained by
the Board of Township Supervisors for Middlesex Township, Cumberland County,
Pennsylvania, as follows:

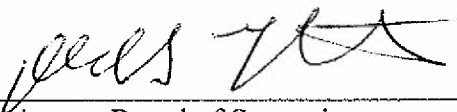
SECTION 1: In accordance with the authority and requirements of the Pennsylvania
Municipalities Planning Code, Act of July 31, 1968, P.L. 805, Act 247, as subsequently
amended, specifically Sections 501, 503 and 504 thereof, Middlesex Township hereby adopts the
Middlesex Township Subdivision and Land Development Ordinance attached hereto and
incorporated by reference herein as "Exhibit A".

SECTION 2: If any section, sub-section, provisions, regulations, limitation, restriction,
sentence, clause, phrase or word in this Ordinance or the Middlesex Township Subdivision and
Land Development Ordinance is declared by any reason to be illegal, unconstitutional, or invalid
by any court of competent jurisdiction, such decision shall not affect or impair the validity of this
Ordinance as a whole or any other section, sub-section, provisions, regulations, limitation,
restriction, sentence, clause, phrase, word or remaining portion of this Ordinance or the
Middlesex Township Subdivision and Land Development Ordinance.

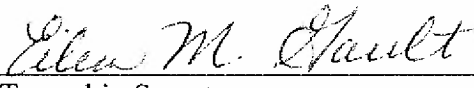
SECTION 3: This Ordinance, including the Middlesex Township Subdivision and Land Development Ordinance shall become effective upon enactment in accordance with applicable law.

DULY ENACTED AND ORDAINED this 29th day of December, 2017 by the Board of Township Supervisors in public session duly assembled.

MIDDLESEX TOWNSHIP

By: 
Chairman, Board of Supervisors

ATTEST:


Township Secretary

(Township Seal)

**Middlesex Township
Subdivision and Land Development Ordinance**

Ordinance No. 8-2017

Enacted: December 29, 2017

Effective: January 3, 2018

"EXHIBIT A"

TABLE OF CONTENTS

	PAGE
ARTICLE I – AUTHORITY, PURPOSE, TITLE, AND JURISDICTION	I-1
Section 101. Short Title	I-1
Section 102. Purpose	I-1
Section 103. Authority	I-1
Section 104. Application of Regulations	I-1
Section 105. Interpretation	I-2
Section 106. Effective Date	I-2
Section 107. Zoning Applicability	I-2
Section 108. Repealer	I-2
ARTICLE II – DEFINITION OF TERMS	II-1
Section 201. Rules of Interpretation	II-1
Section 202. Terms Defined	II-1
Section 203. List of Acronyms	II-23
ARTICLE III – GENERAL PROCEDURES AND PROCESSING REQUIREMENTS	III-1
Section 301. General Procedures and Processing Requirements	III-1
Section 302. Effects of Change in the Ordinance	III-7
Section 303. Public Hearing	III-9
Section 304. Expiration of Preliminary Plan Approval	III-9
Section 305. Effects of Preliminary Plan Approval	III-9
Section 306. Effect of Final Plan Approval	III-9
Section 307. Major and Minor Subdivision or Land Development Plans – Classification	III-10
Section 308. Additions to, and/or Consolidation of, Existing Lots	III-11
Section 309. Resubmission of Plans	III-11
Section 310. Processing of Sewage Facilities Planning Modules	III-12
Section 311. Fees and Reimbursement of Review Costs	III-13
ARTICLE IV – OPTIONAL SKETCH PLAN SUBMISSION, REVIEW, AND PRE-PRELIMINARY PLAN SUBMISSION DUE DILIGENCE	IV-1
Section 401. Sketch Plan (Option To Developer)	IV-1
Section 402. Required Information	IV-2
Section 403. Review Procedure	IV-3

TABLE OF CONTENTS

	PAGE
ARTICLE V – PRELIMINARY PLAN SPECIFICATION REQUIREMENTS	V-1
Section 501. Plan Specifications	V-1
Section 502. Conservation Design and Residential Open Space Subdivisions	V-13
Section 503. Certifications, Dedications, Reports and Other Supporting Documents	V-19
ARTICLE VI – FINAL PLAN REQUIREMENTS	VI-1
Section 601. Plan Content	VI-1
Section 602. Supporting Documentation	VI-2
ARTICLE VII – DESIGN STANDARDS	VII-1
Section 701. Intent	VII-1
Section 702. Application	VII-1
Section 703. Streets	VII-1
Section 704. Easements	VII-17
Section 705. Blocks	VII-18
Section 706. Building Lots	VII-19
Section 707. Sidewalks and Pedestrian Pathways	VII-19
Section 708. Curbing	VII-21
Section 709. Monuments and Markers	VII-22
Section 710. Recreation Areas and Fee	VII-23
Section 711. Site Lighting	VII-28
Section 712. Sewer and Water	VII-38
Section 713. Storm Water Drainage	VII-41
Section 714. Utility Construction	VII-41
Section 715. Street Signs, Pavement Markings, and Traffic Control Devices ..	VII-42
Section 716. Site Retaining Walls	VII-44
Section 717. Traffic Impact Studies	VII-45
Section 718. Environmental Impact Assessment Report	VII-51
Section 719. Landscaping Requirements	VII-58
Section 720. Conservation Subdivision Design Process and General Design Guidelines for Location of Site Improvements	VII-69
ARTICLE VIII – MOBILE HOME PARK REGULATIONS	VIII-1
Section 801. General	VIII-1
Section 802. Zoning Compliance	VIII-1
Section 803. Design Standards and Required Improvements	VIII-1

TABLE OF CONTENTS

	PAGE
ARTICLE IX – FLOODPLAIN AREA REGULATIONS.....	IX-1
Section 901. Purpose	IX-1
Section 902. Abrogation and Greater Restrictions	IX-1
Section 903. Design Standards and Improvements in Designated Flood Plain.....	IX-1
ARTICLE X – STORM WATER MANAGEMENT PLAN AND DESIGN CRITERIA	X-1
Section 1001. Requirements.....	X-1
ARTICLE XI – GRADING REQUIREMENTS	XI-1
Section 1101. General Requirements	XI-1
Section 1102. Grading.....	XI-1
Section 1103. Excavations and Fills.....	XI-2
Section 1104. Grading Plans	XI-2
ARTICLE XII – RESOURCE CONSERVATION AND OPEN SPACE DELINEATION STANDARDS.....	XII-1
Section 1201. Application	XII-1
Section 1202. Planning and Design Standards	XII-1
Section 1203. Design Process for Conservation Subdivisions.....	XII-5
Section 1204. Open Space Design Standards.....	XII-5
Section 1205. Dedication of Open Space Land for Public Use.....	XII-10
Section 1206. Resource Conservation Standards for Site Preparation and Cleanup.....	XII-11
ARTICLE XIII – IMPROVEMENT AND CONSTRUCTION ASSURANCES.....	XIII-1
Section 1301. Improvement and Maintenance Guarantee.....	XIII-1
ARTICLE XIV – IMPROVEMENT AND CONSTRUCTION REQUIREMENTS.....	XIV-1
Section 1401. Intent.....	XIV-1
Section 1402. Preconstruction Meeting Requirements	XIV-1
Section 1403. Street Construction	XIV-2
Section 1404. Curb Construction	XIV-8
Section 1405. Sidewalk Construction	XIV-9
Section 1406. Storm Sewer Construction.....	XIV-9

TABLE OF CONTENTS

	PAGE
Section 1407. Storm Water BMP Construction	XIV-10
Section 1408. Changes Following Plan Approval.....	XIV-10
Section 1409. As-Built Plans.....	XIV-11
ARTICLE XV – MODIFICATION OF REQUIREMENTS	XV-1
Section 1501. Special Conditions.....	XV-1
Section 1502. Applications for Modification	XV-1
Section 1503. Modification Action by the Board of Township Supervisors	XV-1
ARTICLE XVI – ENFORCEMENT, PENALTIES, SEVERABILITY, AMENDMENTS, AND ENACTMENT	XVI-1
Section 1601. Administration and Enforcement	XVI-1
Section 1602. Amendments.....	XVI-2
Section 1603. Publication, Advertisement and Availability of Ordinance	XVI-3
Section 1604. Penalties.....	XVI-3
Section 1605. Mediation Option	XVI-4
Section 1606. Severability.....	XVI-5
Section 1607. Enactment.....	XVI-5
APPENDICES	
APPENDIX A – EXHIBITS	
• Exhibit 1 – Subdivision and Land Development Plan Submission Checklist	
• Exhibit 2 – Letort Watershed Map	
• Exhibit 3 – Approval and Recording Blocks	
• Exhibit 4 – Professional Certifications	
• Exhibit 5 – Owner's Certification and Dedicatory Statement	
APPENDIX B – WETLAND INVESTIGATION AND DELINEATION REQUIREMENTS	
APPENDIX C – HYDRO-GEOLOGIC ANALYSIS AND WATER QUALITY TESTING REQUIREMENTS	
APPENDIX D – COMMUNITY ASSOCIATION DOCUMENTS	

LIST OF TABLES

	PAGE
Table 703.1 Minimum Street Design Standards	VII-5
Table 703.2 Intersection Design Standards.....	VII-5
Table 703.3 Street Materials	VII-6

LIST OF FIGURES

	PAGE
Figure 720.1 Landform Character	VII-73
Figure 720.2 Blending Grading into Existing Landform	VII-73
Figure 720.3 Landform Preservation.....	VII-74
Figure 720.4 Vegetation Types and Patterns.....	VII-75
Figure 720.5 Framing Views.....	VII-75
Figure 720.6 Siting of Structures	VII-76
Figure 720.7 Rural Road with Varied Setbacks	VII-77
Figure 720.8 Orient Structures to Align with Topography	VII-77
Figure 720.9 Neighborhood Conservation Configuration.....	VII-78

ARTICLE I

AUTHORITY, PURPOSE, TITLE, AND JURISDICTION

Section 101. Short Title

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

Section 102. Purpose

This Ordinance has been adopted by the Middlesex Township Board of Supervisors to protect the health, safety, and general welfare of the residents of the Township; to provide for the harmonious development of the Township by insuring equitable handling of all Subdivision Plans and Land Development Plans by providing uniform standards and procedures; to provide for the general welfare by protecting cultural facilities; and by guiding the development and growth of structures, types and locations of streets, open spaces, public grounds, recreation areas, proper traffic flows, light, and air to insure conditions favorable to the health, safety, and general welfare of the residents of the Township.

Section 103. Authority

The Planning Commission is hereby designated by the board of Township Supervisors as the agency which shall review and make recommendations on all Preliminary and Final Plans as required herein. The Board of Township Supervisors has the authority to act on all Preliminary and Final Plans as required herein for the Township of Middlesex.

Section 104. Application of Regulations

- A. No subdivision or land development of any lot, tract, or parcel of land located in Middlesex Township shall be effected; no street, sanitary sewer, storm sewer, water main or other improvements in connection therewith shall be laid out, constructed, opened, or dedicated for public use or travel or for the common use of occupants of buildings abutting thereon unless and until a final Subdivision Plan has been approved by the Board of Township Supervisors and publicly recorded in the manner prescribed herein; nor otherwise, except in strict accordance with the provisions of This Ordinance.
- B. No lot in a subdivision may be sold; no permit to erect or alter any building upon land in a subdivision or land development may be issued; and no building may be erected or altered in a subdivision or land development unless and until a final Subdivision Plan or Land Development Plan has been approved by the Board of Township Supervisors and recorded and until construction of the improvements required in connection therewith has been guaranteed in the manner prescribed herein.

Section 105. Interpretation

In interpreting and applying the provisions of This Ordinance, they shall be held to be minimum requirements for the promotion of public health, safety, comfort, convenience, and general welfare. Where provisions of a statute, other ordinance, resolution, or regulation imposes greater restrictions than This Ordinance, the provisions of such statute, resolution, ordinance, or regulation shall be controlling.

Section 106. Effective Date

This Ordinance shall become effective in accordance with applicable law and may be amended from time to time in accordance with procedure established by law.

Section 107. Zoning Applicability

Nothing contained in This Ordinance shall relieve the owner or developer from complying with the applicable provisions of the Middlesex Township Zoning Ordinance. It is the express intent of the Board of Township Supervisors that the Middlesex Township Subdivision and Land Development Ordinance and Zoning Ordinance be re-enforceable and together foster the stated planning goals and objectives of the Township.

Section 108. Repealer

Any resolution, ordinance, or part of any ordinance or resolution inconsistent herewith, and any amendment thereof, are hereby expressly repealed.

ARTICLE II DEFINITION OF TERMS

Section 201. Rules of Interpretation

For the purpose of This Ordinance, the terms and words listed in this *Article* shall have the meaning herein defined. Words not herein defined shall have the meanings given in Webster's Unabridged Dictionary and shall be interpreted so as to give This Ordinance its most reasonable application.

For the purpose of This Ordinance, the following rules of interpretation shall apply:

- A. Words in the present tense include the future tense.
- B. Words in the singular include the plural and words in the plural include the singular.
- C. The words “used” and “occupied” shall be construed to include the words “or intended, arranged, or designed to be used or to be occupied or to be offered for occupancy.”
- D. The term “such as” shall be considered as introducing a typical or illustrative designation of items and shall not be interpreted as constituting a complete list.
- E. The words “person” and “owner” shall be deemed to include a corporation, unincorporated association, a partnership, or other legal entity, as well as an individual.
- F. The words “building” and “structure” shall be construed as if followed by the phrase “or part thereof.”
- G. The word “lot” includes the words “plot” and “parcel.”
- H. The word “watercourse” includes channel, creek, ditch, dry run, spring, stream, and river.
- I. The word “erect” shall mean to build, construct, alter, repair, display, relocate, attach, hang, place, suspend, affix, or maintain any structure or building and shall also include the painting of exterior wall signs.
- J. A reference to any act, law or regulation shall refer to any amended or successor act, law or regulation.

Section 202. Terms Defined

Other terms or words used herein shall be interpreted or defined as follows.

Accelerated Erosion: The removal of the surface of the land through the combined action of man's activities and natural processes at a rate greater than would occur because of the natural processes alone.

Adjusted Tract Area: See “Tract Area, Adjusted.”

Agricultural Operations: The management and use of farming resources for the production of crops and livestock.

Alley (or service drive): A minor right-of-way, publically or privately owned, primarily for service access to the back or side of properties and not intended for general traffic circulation.

Applicant: A Landowner or Developer, as hereinafter defined, who has filed an application for subdivision or land development, including his/her heirs, personal representatives, successors, and assigns.

Application for Development: Every application, whether preliminary, tentative, or final, required to be filed and approved prior to the start of construction or development including, but not limited to, an application or a building permit for the approval of a subdivision, plat, or plan or for the approval of a Land Development Plan.

Appointing Authority: The Board of Township Supervisors.

Authority: A body politic incorporated pursuant to the Pennsylvania Municipality Authorities Act.

Berm: That portion of a street lying on either side of the cartway where the soil is stabilized as a protection for the edge of pavement or other road surfacing or a mound of earth which serves purposes such as directing the flow of surface water runoff, preventing soil erosion, or supporting plant materials to aid in screening; an earthen mound designed to create a visual and sound barrier between a use and adjoining properties.

Block: An area bounded by streets.

Board of Supervisors: The Board of Township Supervisors of the Township of Middlesex.

Buffer Strip: A strip of land at least ten feet (10') in width, in addition to the minimum setback distance, free of any principal or accessory building or required improvement other than screening.

Building: Any structure, whether temporary or permanent, having walls and a roof or other covering and designed or used for the shelter or enclosure of any person, animal, or property of any kind, including tents, awnings, or vehicles situated on private property and used for purposes stated above.

Building Set Back Line (setback): The line within a property defining the required minimum distance between any structure and any adjacent street rights-of-way, and the lines defining side and rear yards, where required.

Caliper: The diameter of a tree trunk measured six inches (6") above the ground for a tree measuring up to and including four inches (4") in diameter and twelve inches (12") above the

ground for a tree measuring more than four inches (4") in diameter. The term applies to nursery stock.

Capped Sewers: Sanitary sewerage facilities which are installed and capped where existing sanitary sewerage facilities are not accessible and available but are proposed in the Official Sewage Facilities Plan of the Township. Such facilities shall include sanitary sewers, force mains, pumping stations, and all other appurtenances necessary to serve the entire subdivision and/or land development.

Cartway or Roadway: That portion of a street or alley which is improved or intended for vehicular use, excluding the shoulders.

Centralized Sewage System: A public or private utility system designed to collect, centrally treat, and dispose of sewage from customers in compliance with Pennsylvania Department of Environmental Protection (PA DEP) regulations or regulations of the Township, whichever may be more stringent.

Centralized Water System: A public or private utility system designed to transmit potable water from a common source to customers in compliance with PA DEP regulations or regulations of the Township, whichever may be more stringent.

Certification: A signed statement appended to a plan or other document whereby the signer represents that, to the best of his/her knowledge and belief, said plan or document is true and correct and that the Township may rely upon the accuracy thereof.

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

Clear Sight Triangle: An area of unobstructed vision at street intersections. It is defined by lines of sight between points at a given distance from the intersection of the street center lines.

Clean and Green: A preferential tax assessment program that bases property taxes on use values rather than fair market value. It is a tool to encourage protection of farmland, forestland, and open spaces.

Common Facilities: All the real property and improvements, owned in common by residents within the development, which is served by the facilities. Common facilities include, without limitation, landscaped areas, buffers, Common Open Space land not included within title lines of any privately owned lot, and street rights-of-way not dedicated to the municipality.

Common Open Space: See "Open Space, Common."

Community Association: A non-profit organization comprised of homeowners or property owners, the function of which is to maintain and administer property owned in common by members of the association, or by the association, and to protect and enhance the value of the property owned individually by each of the members. Homeowners Associations and Condominium Associations are types of Community Associations.

Comprehensive Plan: The Comprehensive Plan adopted by the Board of Township Supervisors pursuant to *Article III* of the Pennsylvania Municipalities Planning Code which indicates the general locations recommended for the various functional classes of public works, places, and structures, and for the general physical development of the Township, and includes any unit or part of such plan separately adopted and any amendment to such plan or part thereof.

Conditional Use: A use permitted after approval of the Board of Supervisors in a particular zoning district pursuant to conditions of the Middlesex Township Zoning Ordinance.

Condominium: Real estate, portions of which are designated for separate ownership and the remainder of which are designated for common ownership solely by the owners of those separate portions, in accordance with the Pennsylvania Uniform Condominium Act 1980-82, as amended.

Conservation Areas, Primary (PCA): Lands upon which primary resources are located in conservation subdivisions. All PCAs are required to be located within Open Space lands.

Conservation Areas, Secondary (SCA): Lands containing secondary resources that are conserved as a part of Open Space lands.

Conservation Design: A method of subdivision design as described in Article VII of this Ordinance.

Conservation Subdivision: Lots created by the conservation design methods of subdivision design, as described in Article VII of the Ordinance.

Conservancy Lot: A large, privately owned, and privately maintained lot containing an existing dwelling, farm complex, or historic structure and comprising part of the required Open Space land in a conservation subdivision.

Constrained Land: Selected resources listed in a Zoning Ordinance, multiplied by a protection factor and totaled.

County: The County of Cumberland, Commonwealth of Pennsylvania.

County Planning Commission: The Cumberland County Planning Commission and its professional staff.

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

Cul-de-Sac: A street with access closed at one end and with a vehicular turn-around at the closed end.

Culvert: A pipe, conduit, or similar structure, including appurtenant works, which carries surface water.

Cut: An excavation; the difference between a point on the original ground and a designated point of lower elevation on the final grade; also, the material removed in excavation.

Dedication: The deliberate appropriation of land by its owner for any general and public (or limited public) use, reserving to himself no other rights than such as are compatible with the full exercise and enjoyment of the public uses to which the property has been devoted.

Design Storm: The magnitude of precipitation from a storm event measured in probability of occurrence (e.g., 50-year storm) and duration (e.g., 24-hour period) and used in computing storm water management control systems.

Detention Basin: A reservoir, formed from soil or other material, designed to retard storm water runoff by temporarily storing the runoff and releasing it at a predetermined rate into a watercourse or storm water drainage system. This basin is designed to drain completely after a storm event.

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

Development: Any man-made change to improved or unimproved real estate including, but not limited to, buildings or other structures; the placement of mobile homes, streets and other paving, utilities, mining, dredging, filling, grading, excavation, or drilling operations; and the subdivisions of land.

Development Plan: The provisions for development including a planned residential development; a plat of subdivision; all covenants relating to use; location and bulk of buildings and other structures; intensity of use or density of development; streets, ways, and parking facilities; Common Open Space; and public facilities. The phrase “provisions of the development plan” when used in This Ordinance shall mean the written and graphic materials referred to in this definition.

Diameter at Breast Height (DBH): The diameter of a tree trunk measured four and one-half feet (4.5') above the ground at the base of the tree. If a tree divides or splits into multiple trunks below four and one-half feet (4.5'), the trunk is measured at its most narrow point beneath the split. The term applies to trees in the field (not nursery stock).

Drainage: The flow of water or liquid waste and the methods of directing such flow.

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

Driveway: A private drive providing access between a public or private street and a permitted use or structure.

Drywell: A covered pit with open jointed lining through which water from roofs, basement floors, or areaways may seep or leach into the surrounding soil.

Dwelling: Any building or structure designed for living quarters for one or more families or housekeeping units, including mobile homes which are supported by a permanent foundation, but not including tents, cabins, travel trailers, boarding homes, rooming houses, convalescent homes, motels, hotels, or other accommodations used for transient occupancy.

Dwelling, Front Façade: The plane of the facade of the building closest to the street right-of-way, excluding stoops, porticos, open colonnades, and open porches.

Dwelling Unit: A structure, or entirely self-contained portion thereof, designed to be occupied for living quarters as a single housekeeping unit, including any domestic servants employed on the premises, and having no enclosed space (other than vestibules, entrance, or other hallways or porches) or cooking or sanitary facilities in common with any other “dwelling unit.” A travel trailer, a boarding or rooming house, convalescent home, fraternity or sorority house, hotel, inn, lodging, nursing or other similar home, or other similar structure shall not be deemed to constitute a dwelling unit.

Earth Disturbance: A construction or other human activity which disturbs the surface of the land including land clearing and grubbing; grading; excavations; embankments; land development; agricultural plowing or tilling; operation of animal heavy use areas; timber harvesting activities; road maintenance activities; oil and gas activities; well drilling; mineral extraction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth minerals.

Easement: The authorization by a property owner or authorized agency of a right-of-way granted, but not dedicated, for limited use of private land for a public or quasi-public purpose and within which the owner of the property shall not erect any permanent structures but shall have the right to make any other use of the land which is not inconsistent with the rights of the grantee.

Energy Dissipater: A device used to slow the velocity of storm water, particularly at points of concentrated discharge, such as pipe outlets.

Engineer, Professional: A person duly licensed as a Professional Engineer by the Commonwealth of Pennsylvania.

Engineer, Township: The Township Engineer or any consultant designated by the Board of Township Supervisors to review Subdivision and Land Development Plans and perform the duties of engineer on behalf of the Township.

Ephemeral Watercourse: See “Watercourse, Ephemeral.”

Erosion: The natural process by which the surface of the land is worn away by water, wind, or chemical actions.

Erosion and Sediment Pollution Control (E&SPC) Plan: A plan which is designed to minimize accelerated erosion and prevent sediment pollution to the waters of the Commonwealth.

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

Fill: Any act by which earth, sand, gravel or rock or any other material is placed, pushed, dumped, pulled, transported, or moved to a new location above the stripped surface and shall include the conditions resulting therefrom:

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

Final Plan: See “Plan, Final.”

Flag Lot: A lot that does not fulfill the minimum street frontage requirement for the respective zoning district but that does have sufficient lot width away from the lot’s street frontage and is configured so that access to the public street is by a narrow staff portion containing a private driveway accessing a building site. No more than two such lots may be adjacent to one another; where two lots are provided, a shared driveway may be provided for the two lots. The front yard of a flag lot is measured from the place parallel to the street where the lot width complies with the underlying zoning district for lot width. Once created, a flag lot cannot be subdivided into smaller lots.

Flood, Flooded, or Flooding: A temporary inundation by water of normally dry land areas.

Flood Fringe: That portion of the floodplain outside the floodway.

Flood of Record: The flood which has reached the highest flood elevation above mean sea level at a particular location.

Floodplain: A relatively flat or low land area adjoining a river, stream, or watercourse which is subject to partial or complete inundation in a 100-year flood.

Flood-Prone Area: see “Floodplain.”

Floodproof, Floodproofed, Floodproofing: Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water or sanitary facilities, and structures and their contents.

Floodway: The channel of a river or other watercourse and the adjacent land areas required to carry and discharge a flood of the one hundred (100)-year magnitude without increasing the water surface elevation of that flood more than one foot (1') at any point.

Forested Riparian Buffer: See “Riparian Buffer.”

Freeboard: The difference between the design flow elevation in the emergency spillway and the top of the settled embankment.

Front Façade Dwelling: See “Dwelling, Front Façade.”

Front-Loaded Garage: See “Garage, Front-Loaded.”

Frontage: The minimum distance between side property lines measured at the street right-of-way.

Future Right-of-Way:

- A. The right-of-way width required for the expansion of existing streets to accommodate anticipated future traffic loads.
- B. A right-of-way established to provide future access to or through undeveloped land.

Garage, Front-Loaded: A garage having its vehicular entry door facing the street.

Garage, Rear-Loaded: A garage having its vehicular entry door facing a rear yard.

Garage, Side-Loaded: A garage having its vehicular entry door facing the side yard.

Geologist, Professional: A person duly licensed as a Professional Geologist by the Commonwealth of Pennsylvania.

Governing Body: The Board of Township Supervisors of Middlesex Township, Cumberland County, Pennsylvania.

Grassed Waterway: A natural or man-made drainageway of parabolic, trapezoidal, or v-shaped cross section shaped to required dimensions and vegetated for safe disposal of runoff. (Also known as a “swale.”)

Greenway Land: A parcel or parcels of land and/or water within a conservation subdivision consisting of open space and set aside for the protection of natural and cultural resources. Greenway land consists of Primary and Secondary Conservation Areas and is permanently restricted against further development. The terms “greenway” and “greenway land” are synonymous.

Gross Tract Area: See “Tract Area, Gross.”

Groundwater: Water that occurs in the subsurface and fills or saturates the porous openings, fractures, and fissures of underground soils and rock units.

Groundwater Recharge: Replenishment of existing natural underground water supplies.

Guarantee, Completion: The financial security that may be accepted by the Township as a guarantee that improvements required as part of an application for subdivision and/or land development are completed to the satisfaction of the Township. Such financial security shall include, but is not limited to, performance bonds, Federal or Commonwealth chartered lending

institution irrevocable letters of credit, and restrictive or escrow accounts in such lending institutions.

Guarantee, Maintenance: The financial security that may be accepted by the Township as a guarantee that improvements required as part of an application for subdivision and/or land development will be in first-class condition, state of repair and working order for a specific period of time. Such financial security shall be similar in form or type as that accepted as a completion guarantee.

Hedgerow: A linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, along fence lines, along property lines, or between fields and may occur naturally or be specially planted (e.g., as a windbreak).

Historic Resource: Any structure or site that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed as a historic site by the Pennsylvania Historical and Museum Commission (PHMC);
- D. Individually listed on a County or local inventory of historic places in communities with historic preservation programs that have been certified either:
 - 1. By an approved State program as determined by the Secretary of the Interior or
 - 2. Directly by the Secretary of the Interior in states without an approved program; or
- E. Individually listed on the most recent inventory of the Cumberland County Historical Society Register or the Cumberland County Planning Commission inventory.

Historically Significant Site: See “Historic Resource.”

Holding Pond: A retention or detention basin.

Homeowners Association: A non-profit organization comprised of homeowners or property owners, planned and operated under negotiated and approved rules and regulations, for the purpose of administering the needs of residents through the maintenance of community-owned property. This term is synonymous with Homes Association and with Property Owners Association.

Impervious Surface (Impervious Area): A surface that prevents the percolation of water into the ground. Impervious surfaces include, but are not limited to, any roof, parking, or driveway areas

and any new streets and sidewalks. For the purpose of stormwater runoff analysis, any surface areas existing or proposed to be gravel or crushed stone shall also be assumed to be impervious surfaces.

Improvements: Those physical changes to the land necessary to produce usable and desirable lots from raw acreage including, but not limited to: grading, paving, curb, gutter, storm sewers and drains, improvements to existing watercourses, sidewalks, crosswalks, street signs, monuments, water supply facilities, and sewage disposal facilities.

Infiltration: Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolates downward to recharge groundwater.

Infiltration Structures: A structure designed to direct runoff into the ground (e.g., drywell, French drains, seepage pits, seepage trenches).

Intermittent Watercourse: See “Watercourse, Intermittent.”

Invasive Plant Species: Predominantly non-native tree, shrub, vine, or herbaceous species that grow or reproduce aggressively, usually because they have few or no natural predators, and which can so dominate that they out-compete many native plant species. Invasive plant species in Pennsylvania are listed on an inventory, as developed and updated from time to time by the Pennsylvania Department of Conservation of Natural Resources.

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, building groups, or other features.
- B. A subdivision of land.

Excluded from this definition of land development are the following:

- A. The conversion of an existing single-family detached dwelling or single-family semi-detached dwelling into not more than three residential units, unless such units are intended to be a condominium;
- B. The addition of an accessory building, including farm buildings, on a lot or lots subordinate to an existing principal building; or

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

Landowner: The legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he/she is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land.

Landscape Architect, Registered: A person duly licensed as a professional landscape architect by the Commonwealth of Pennsylvania.

Landscaping: The planting of turf, trees, shrubs, and other appropriate vegetative materials and ground cover within the open areas of a lot, other than for agricultural purposes, and including the maintenance and replacement thereof for the purposes of erosion control, retention of precipitation, protection against the elements, and promotion of human comfort and welfare.

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.

A. Corner Lot:

A lot at the junction of and abutting on two (2) or more intersections which 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 with the street lines intersect at an interior angle of less than one hundred thirty-five (135) degrees.

B. Interior Lot:

Any lot other than a corner lot.

C. Through Lot:

A lot extending between and having frontage on two streets.

Lot Addition Plan: See “Plan, Lot Addition.”

Lot Consolidation Plan: See “Plan, Lot Consolidation.”

Mediation: A voluntary negotiating process in which parties in a dispute mutually select a neutral mediator to assist in jointly exploring and settling their differences, culminating in a written agreement which the parties, themselves, create and consider acceptable.

Middlesex Township Municipal Authority or Municipal Authority: A municipal body incorporated under the provisions of the Pennsylvania Municipality Authorities Act.

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 one (1) integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy, except for minor and incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation. For floodplain management purposes the term “mobile home” includes park trailers, travel trailers, and other small vehicles placed on a site for greater than one hundred eighty (180) consecutive days.

Mobile Home Park: A parcel or contiguous parcels of land which has been so designated and improved that it contains two (2) or more mobile homes lots for the placement thereon of mobile homes.

Mobile Home Stand: That part of an individual lot which has been reserved for the placement of the mobile home, appurtenant structures, or additions.

Mobile Home Subdivision: An area designed exclusively for mobile homes and mobile dwelling units where lots are not rented, but sold.

Municipal Authority Engineer: The Municipal Authority Engineer or any registered Professional Engineer designated by the Middlesex Township Municipal Authority to perform the duties of Engineer on behalf of the Municipal Authority.

Municipality: The Township of Middlesex, Cumberland County, Pennsylvania.

Native Species: A species of plant or other organism 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.

Obstruction: Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel rectification, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, or other mater in, along, across, or projecting into any channel, watercourse, or floodplain 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 that is placed where the flow of water might carry the same downstream to cause damage to life or property.

Official Map: A map adopted by ordinance pursuant to *Article IV* of the Pennsylvania Municipalities Planning Code.

On-Site Storm Water Management: The control of runoff to allow water falling on a given site to be absorbed or retained on site to the extent that after development the peak rate of discharge leaving the site is not significantly different than if the site had remained undeveloped.

One hundred (100)-Year Flood: A flood that, on the average, is likely to occur once every one hundred (100) years (i.e., a flood that has a one percent [1%] chance of occurring each year, although the flood may occur in any year).

One hundred (100)-Year Flood Elevation: The water surface elevations of the one hundred (100)-year flood.

Open Space: A parcel or parcels of land or an area of water, or a combination of land and water, within a development site, designed and intended for the use and enjoyment by the residents of such development, and possibly the general public. Open space shall be substantially free of structures, but may contain such improvements as are in the finally approved Development Plan, and shall not include individually owned private yards, except in the case of approved conservancy lots. Open space is permanently restricted against further development. Open Space may be a combination of natural or naturalized areas (such as the Township interconnected greenway network) plus more intensely managed areas (such as lawn, recreational areas, or play fields).

Open Space, Common: A parcel or parcels of land or an area of water, including natural areas, or a combination of land and water, within a development site and designed and intended for the use or enjoyment of residents of a development, not including streets, off-street parking areas, and areas set aside for public facilities.

Open Space, Common Greens: An area of greenway land comprised of open space located internal to the developed areas and surrounded by streets on at least two (2), and often three (3) or four (4), sides around which dwellings are arranged and organized. To the maximum extent possible, dwellings shall face the green with the front façade of the dwelling. Common greens shall have a minimum area of one-tenth (0.1) acre and a maximum area of one (1.0) acre. A common green serving more than four (4) dwellings shall preferably be surrounded by roads or, at a minimum, abut a road on at least one side for a length equal to twenty-five percent (25%) of its circumference.

Open Space Land: See “Greenway Land.”

Open Space, Unified Development Area Overlay District (UDA): Land reserved, dedicated, or conserved in perpetuity for passive recreation, active recreation, multi-use trails, and rear access farm lanes used for trails, private open space, common open space, and natural areas and/or outdoor civic spaces.

Passing Sight Distance: A line of unobstructed vision from the height of a driver’s eye three and one-half feet (3.5') above the surface of a roadway to see an object on the roadway at a height of three and one-half feet (3.5') high.

Peak Discharge: The maximum rate of flow of water at a given point and time resulting from a specified storm event.

Percolation Test: A procedure to determine the absorption rate of the soil in an area proposed as the installation site for an on-lot wastewater disposal system. Such a test will be carried out

according to the requirements of Pennsylvania Department of Environmental Protection (“PA DEP”).

Perennial Watercourse: See “Watercourse, Perennial.”

Plan: The map or plat of a subdivision or land development complete with a drawing and supplementary data, whether it be sketch, preliminary, or final.

Plan, Sketch: An informal plan indicating salient existing features of a tract and its surroundings and the general layout of a proposed subdivision or land development as prepared in accordance with this Ordinance.

Plan, Preliminary: A plan of a proposed subdivision or land development, including all supplementary information required by this Ordinance, designed to obtain preliminary approval and prepared in accordance with this Ordinance.

Plan, Final: A complete and exact subdivision or land development plan, including all supplementary data, prepared in accordance with this Ordinance for official approval and recording.

Plan, Lot Addition: A complete and exact subdivision plan, including all supplementary data, prepared in accordance with this Ordinance and intended to convey a parcel of ground located immediately adjoining other property owned by the intended grantee that is being added to the grantee’s existing lot of record.

Plan, Lot Consolidation: A plan whereby the entire area of two (2) or more adjacent existing lots of record are combined or consolidated to effectually eliminate one or more original lots into one new lot.

Planned Residential Development: An area of land, controlled by a landowner, to be developed as a single entity for a number of dwelling units, or combination of residential and nonresidential uses, the development plan for which does not correspond in lot size, bulk, type of dwelling, or use, density, or intensity, lot coverage, and required Open Space to the regulations established in any one district created, from time to time, under the provisions of the Middlesex Township Zoning Ordinance.

Planning Code: The *Pennsylvania Municipalities Planning Code, Act of July 31, 1968*, P.L. 805, Act 247, as subsequently amended.

Planning Commission: Middlesex Township Planning Commission.

Planting Screen: A planting strip having a minimum width of five feet (5') and an initial height of not less than six feet (6') which shall provide a continuous visual buffer (see also “Visual Screen”).

Planting Strip: A strip of land lying between the curb line, or edge of cartway, and the sidewalk or walkway; and any area requiring a screen planting as specified in this Ordinance, the Zoning Ordinance, or any other Township ordinances, codes, regulations, plans, and maps.

Plat: See “Plan.”

Preliminary Plan: See “Plan, Preliminary.”

Professional Engineer: See “Engineer, Professional.”

Professional Geologist: See “Geologist, Professional.”

Primary Conservation Area: See “Conservation Area, Primary.”

Primary Resources: See “Resources, Primary.”

Public Grounds: Includes the following:

- A. Parks, playgrounds, trails, paths, and other recreational areas and other public areas.
- B. Sites for schools, sewage treatment, refuse disposal, and other publicly owned or operated facilities.
- C. Publicly owned or operated scenic and historic sites.

Public Hearing: A formal meeting held pursuant to public notice by the Board of Township Supervisors, Zoning Hearing Board, or Planning Commission, intended to inform and obtain public comment prior to taking action in accordance with This Ordinance.

Public Meeting: A forum held pursuant to notice under the *Act of July 3, 1986* (P.L. 388, No. 84), known as the “*Sunshine Act*.”

Public Notice: Notice published once each week for two (2) successive weeks in a newspaper of general circulation in the municipality. Such notice shall state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first (1st) publication shall not be more than thirty (30) days from the date of the hearing, and the second (2nd) publication shall not be less seven (7) days from the date of the hearing.

Rear-Loaded Garage: See “Garage, Rear-Loaded.”

Registered Design Professional: A Professional Engineer, Land Surveyor, or Professional Geologist licensed by the State Registration Board for Professional Engineers, Land Surveyors, and Geologists under the Act of May 23, 1945 (P.L. 913, No. 367), known as the “Engineer, Land Surveyor, and Geologist Registration Law”; a Landscape Architect who is licensed by the State Board of Landscape Architects under the Act of January 24, 1966 (1965 P.L. 1527, No. 535), known as the “Landscape Architect’s Registration Law”; or any corporation or association, including professional corporations, organized or registered under the Act of December 21, 1988 (P.L. 1444, No. 177), known as the “General Association Act of 1988,” practicing engineering, landscape architecture, or surveying in this Commonwealth. (The above definition was adapted from the definition of “construction design professional” in the laws of the Commonwealth of Pennsylvania (77 P.S. 25.3 et seq.) Generally, an individual who is registered or licensed to

practice his/her respective design profession as defined by the statutory requirements for the professional registration laws of the state or jurisdiction in which the project is to be constructed.

Registered Landscape Architect: See “Landscape Architect, Registered.”

Regulatory Flood Elevation: The one hundred (100)-year flood elevation plus a freeboard safety factor of one and one-half feet (1.5').

Renewable Energy Source: Any method, process, or substance whose supply is rejuvenated through natural processes and, subject to those natural processes, remains relatively constant, including, but not limited to, biomass, conversion, geothermal energy, solar and wind energy, and hydroelectric energy and excluding those sources of energy used in the fission and fusion processes.

Reserve Strip: A narrow parcel of ground separating a street from other adjacent properties.

Resources, Primary: Resources consisting of one hundred (100)-year floodplain (including the floodway), wetlands, and prohibitive steep slopes (above twenty-five percent [25%]). In a conservation subdivision, all lands containing primary resources are called Primary Conservation Areas. See a list of such features in §4.02 B.3. of the Zoning Ordinance.

Resources, Secondary: Natural or cultural features outside Primary Conservation Areas that are worthy of conservation by inclusion in greenway land. See a prioritized list of such features in §4.02 B.4 of the Zoning Ordinance. Lands containing secondary resources that are conserved are called Secondary Conservation Areas.

Retention Basin: A reservoir, formed from soil or other material, containing a permanent pool of water and designed to retard storm water runoff by temporarily storing the runoff and releasing it at a predetermined rate.

Right-of-Way: The total width of any land reserved or dedicated as a street, road, for private or public purposes.

Right-of-Way, Street: The total dedicated width of a public thoroughfare for vehicular traffic and/or pedestrian traffic, whether designated as a street, highway, thoroughfare, parkway, road, avenue, boulevard, lane, alley, or however designated.

Riparian Buffer: A riparian buffer is an area of trees and other vegetation adjacent to a watercourse that forms a transition area between the aquatic and terrestrial environment. The riparian buffer provides the following benefits:

- reduces the amount of nutrients, sediments, pesticides, and other harmful substances that reach watercourses, wetlands, and other surface water bodies;
- provides for shading of the aquatic environment to moderate temperatures and protect fish habitat;

- provides organic matter which furnishes food and habitat for bottom-dwelling organisms essential to the food chain;
- increases streambank stability;
- reduces streambank erosion and sediment production;
- conserves natural features important to land and water features (e.g., headwater areas, groundwater recharge zones, streams, prime wildlife habitat);
- conserves natural, scenic, and recreation areas; and
- promotes the functioning of interconnected natural greenway lands.

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

Runoff Characteristics: The surface components on any watershed which either individually, or in any combination thereof, directly affect the rate, amount, and direction of storm water runoff. These may include, but are not limited to: vegetation, soils, slopes, and any type of man-made landscape alterations.

Screen Buffer: A well-maintained hedge, landscaped berm, or other vegetative material which, upon planting or installation, is both of sufficient height and of sufficient density to conceal from the view of adjacent properties the structures and uses on the premise where the screening is located.

Screening: The use of plant materials, fencing, walls, earthen berms, or any combination thereof, to aid in the concealment of such features as parking areas and vehicles and to provide for privacy between two (2) or more different land uses or activities; a visual and/or sound buffer or other barrier.

Secondary Conservation Area: See “Conservation Area, Secondary.”

Secondary Resources: See “Resources, Secondary.”

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

Sediment Basin: A barrier, dam, detention basin, or retention basin designed to retain sediment.

Sediment Pollution: The placement, discharge, or any other introduction of sediment into the waters of the Commonwealth occurring from the failure to design, construct, implement, or maintain control measures and control facilities in accordance with 25 PA Code Chapter 102 (Erosion and Sediment Pollution Control).

Seepage Pit/Seepage Trench: An area of excavated earth filled with loose stone or similar material and into which surface water is directed for infiltration into the ground.

Semi-Pervious Surface: A surface such as stone, rock, concrete, or other materials which permits some vertical transmission of water.

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

Sewage Disposal System, On-Lot: Any septic system or structure designed to biochemically treat sanitary sewage within the boundaries of an individual lot.

Side-Loaded Garage: See “Garage, Side-Loaded.”

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

Sketch Plan: See “Plan, Sketch.”

Slope: The face of an embankment or cut section; any ground whose surface makes an angle with the plane of the horizon. Slopes are usually expressed in a percentage based upon vertical difference in feet per one-hundred feet (100') of horizontal distance.

Soil Percolation Test: A field test conducted to determine the absorption capacity of soil to be a specified depth in a given location for the purpose of determining suitability of soil for on-site sewage disposal.

Specimen Tree: A unique, rare, or otherwise specifically selected tree or plant considered worthy of conservation by the municipality because of its species, size, age, shape, form, historical importance, or any other significant characteristics, including listing as a Species of Special Concern by the Commonwealth of Pennsylvania. All healthy trees over twenty inches (20") DBH are considered specimen.

Stabilization: The proper placing, grading, and/or covering of soil, rock, or earth to ensure their resistance to erosion, sliding, or other movement.

Steep Slopes: Areas of land, three thousand square feet (3,000 ft²) or greater, where the grade is fifteen percent (15%) or greater. Steep slopes are divided into two (2) categories:

- A. Precautionary moderate to steep slopes are those areas of land where the grade is fifteen to twenty-five percent (15%-25%).
- B. Prohibitive steep slopes are those areas of land where the grade is greater than twenty-five percent (25%).

Slope shall be measured as the change in elevation over the horizontal distance between consecutive contour lines. Slope shall be measured over three (3) consecutive two (2)-foot contour intervals (six [6] cumulative vertical feet of slope). All slope measurements shall be determined by a topographic survey signed and sealed by a registered surveyor or engineer licensed to practice in Pennsylvania.

Stopping Sight Distance: A line of unobstructed vision from the height of a driver's eye three and one-half feet (3.5') above the surface of a roadway to see an object on the roadway at a height of one-half foot (0.5') high.

Storm Water: Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Storm Water Management: The control of runoff on a given site.

Storm Water Management Facilities: Those controls and measures (e.g., storm sewers, berms, terraces, bridges, dams, basins, infiltration systems, swales, watercourses, and floodplains) used to effect a storm water management program.

Storm Water Management Plan (SWMP): A plan for controlling surface water runoff so that it will preclude erosion or flooding and/or the adverse effects of impervious areas on surface water runoff as required by this and other Township ordinances, codes regulations, plans, and maps.

Storm Water Storage Structure: A retention or detention basin.

Street: Any street, avenue, boulevard, road, highway, freeway, parkway, lane, alley, viaduct, or any other way used or intended for use by vehicular traffic or pedestrians, whether public or private. The word "street" includes the entire right-of-way and is not limited to the cartway area.

Street Line or Street Right-of-Way Line: The dividing line between a lot and street.

Street Public: A strip of land, including the entire right-of-way intended to be dedicated for use as a means of vehicular and pedestrian circulation by the public at large.

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

Subdivider: See "Applicant" and "Developer."

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

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

Surface Drainage Plan: A plan showing all present and proposed grades and facilities for storm water drainage.

Surveyor: Professional land surveyor registered by the Commonwealth of Pennsylvania.

Swale: A low-lying stretch of land which gathers or carries surface water runoff.

Terminal Vista: The visual scene terminating the view down a road or street, as at an intersection or on the outside of a curve.

This Ordinance: The Middlesex Township Subdivision and Land Development Ordinance, any supplements, or amendments.

Tile Disposal Field: A system of open-jointed or perforated pipes laid in the upper strata of the soil for absorption.

Time of Concentration: The interval of time required for water from the most remote portion on the drainage area to reach the point in question.

Topographic Map: A map showing the elevations of the ground by contours or elevation.

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

Township: The Township of Middlesex, Cumberland County, Pennsylvania, its Board of Township Supervisors, its agents, or its authorized representatives.

Township Engineer: See "Engineer, Township."

Tract Area, Adjusted: The gross tract area minus the constrained land.

Tract Area, Gross: The total amount of land contained within the limits of the legally described property lines bounding the tract.

Trail or Pathway: An off-road cleared route with an established, permanent alignment that is open to the general public, that may or may not be paved or otherwise improved, and that is used for a variety of non-motorized forms of travel including walking, running, hiking, bicycling, cross-country skiing, or horseback riding. A trail or pathway must be located within a minimum twenty-five-foot (25') wide access easement for the benefit of the general public.

Trail or Pathway, Connector or Connecting or Link: A type of trail or pathway that is designed, constructed, and maintained as part of a connected existing or proposed trail network system that includes external destinations such as public parks, village centers, playgrounds, and public schools.

Transferable Development Rights: The attaching of development rights to specified lands which are desired by the municipality to be kept undeveloped, but permitting those rights to be

transferred from those lands so that the development potential which they represent may occur on other lands within the municipality where more intensive development is deemed by the municipality to be appropriate.

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

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

Usable Open Space: The unenclosed portion of the ground of a lot which is not devoted to driveways or parking spaces and which is free of structures of any kind, of which not more than twenty-five percent (25%) is roofed for shelter purposes only, and which is available and accessible to all occupants of the building or buildings on the said lot for the purposes of active or passive outdoor recreation.

Visual Screen: A well-maintained hedge, landscaped berm, or other vegetative materials which, upon planting or installation, is both of a minimum of height of six feet (6') and of sufficient density to conceal from the view of adjacent properties the structures and uses on the premise where the screening is located. Up to thirty percent (30%) of the screening may be accomplished by using a fence or wall.

Watercourse: A channel or conveyance of surface water (such as a stream, creek, or run) having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow. For the purposes of the Ordinance, a watercourse shall not include manmade swales constructed expressly for the purpose of storm water management.

Watercourse, Ephemeral: A stream or portion of a stream that flows only in direct response to precipitation. It receives little or no water from springs and no long-continued supply from melting snow or other sources. Its channel is, at all times, above the water table. The term may be arbitrarily restricted to streams which do not flow continuously during periods of the month.

Watercourse, Intermittent: A defined channel in which surface water is absent during a portion of the year, as groundwater levels drop below the channel bottom.

Watercourse, Perennial: A defined channel containing surface water throughout the year.

Waters of the Commonwealth: Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground waters, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth of Pennsylvania.

Watershed: The entire region or area drained by a river, creek, stream, or other body of water whether natural or artificial.

Water Supply System, On-Lot: A system for supplying and distributing potable water to a single dwelling or other building from a source located on the same lot.

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

Water Survey: An inventory of the source, quantity, yield, and use of groundwater and surface water resources within a municipality.

Wetlands: Areas that are inundated and saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas. Any area meeting the official wetland definition of the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection, as amended, shall be considered a wetland for the purposes of this Ordinance. In the event the definition of wetland accepted by the U.S. Army Corps of Engineers conflicts with the definition of a wetland accepted by the Pennsylvania Department of Environmental Protection, the more restrictive definition shall apply.

Woodlands: A tree mass or plant community in which tree species are dominant or co-dominant and the branches of the trees form a complete, or nearly complete, aerial canopy. Any area, grove, or stand of mature or largely mature trees (larger than six inches [6"] DBH) covering an area of one-quarter ($\frac{1}{4}$) acre or more, or consisting of ten (10) individual trees larger than six inches (6") DBH, shall be considered a woodland. The extent of any woodland plant community, or any part thereof, shall be measured from the outer-most drip line of all the trees in the plant community.

Yield Plan: A method of evaluating the maximum possible number of residential dwelling units that can be constructed on a property under the current zoning district regulations, as detailed in *Article IV, §4.03 B.2* of the Zoning Ordinance.

Zoning Districts: A portion of the Township or adjacent municipality(s) within which certain uniform regulations and requirements or various combinations thereof apply under the provisions of the Ordinance (or the adjacent municipality's Zoning Ordinance).

Zoning Hearing Board: The Zoning Hearing Board of and for Middlesex Township.

Zoning Map: The Zoning Map of Middlesex Township adopted under the Middlesex Township Zoning Ordinance, together with all amendments thereto subsequently adopted.

Zoning Officer: The zoning administrative officer, or his/her authorized representative, including zoning inspector(s), duly appointed by the Township Board of Supervisors.

Zoning Ordinance: The officially adopted Middlesex Township Zoning Ordinance with any and all amendments thereto.

Zoning Permits: A written statement issued by the zoning officer authorizing buildings, structures, or uses consistent with the terms of This Ordinance and the Zoning Ordinance for the purpose of carrying out and enforcing its provision.

Section 203. List of Acronyms

AASHTO: American Association of State Highway and Transportation Officials

ADA: Americans with Disabilities Act

ADT: Average Daily Traffic

ASHRAE: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

BMP: Best Management Practice

CBR: California Bearing Ratio

CCCD: Cumberland County Conservation District

CD: Compact Disk

COLDS: Community On-Lot Sewage Disposal System

DBH: Diameter at Breast Height

DCP: Dynamic Cone Penetration

E&SPC: Erosion and Sedimentation Pollution Control

EIA: Environmental Impact Assessment

ESALS: Equivalent 18-kip Single Axle Loads

FEMA: The Federal Emergency Management Agency

H&H: Hydrology and Hydraulic

HMA: Hot Mix Asphalt

HOP: Highway Occupancy Permit

IESNA: Illuminating Engineering Society of North America

IFC: International Fire Code

ITE: Institute of Transportation Engineers

LED: Light-Emitting Diode

LIDAR: Light Detection and Ranging

LOMR: Letter of Map Revision

LOS: Level of Service

mph: miles per hour

MUTCD: Manual of Uniform Traffic Control Devices

NAVD: North American Vertical Datum

NFIP: National Flood Insurance Program

NGS: National Geodetic Survey

NPDES: National Pollutant Discharge Elimination System

NRCS: Natural Resources Conservation Service

NWI: National Wetland Inventory

OS: Open Space Conservation Zoning District

PA DEP: Pennsylvania Department of Environmental Protection

PCA: Primary Conservation Areas

PennDOT: Pennsylvania Department of Transportation

PHMC: Pennsylvania Historical and Museum Commission

PNDI: Pennsylvania Statewide Natural Diversity Inventory

RF: Residential Farm Zoning District

RT: Residential Towne District

SAMD: Superpave Asphalt Mix Design

SCA: Secondary Conservation Areas

SRL: Skid Resistance Level

SWMP: Storm Water Management Plan

TND: Traditional Neighborhood Development

UDA: Unified Development Area Overlay District

USACE: United States Army Corps of Engineers

USDA: United States Department of Agriculture

USFWS: United States Fish and Wildlife Service

USGS: United States Geological Survey

ARTICLE III GENERAL PROCEDURES AND PROCESSING REQUIREMENTS

Section 301. General Procedures and Processing Requirements

The procedures established in this *Article* are intended to define the steps by which an Applicant shall make application, present plans for review, record plats, and construct improvements and by which the Township Planning Commission and the Middlesex Township Municipal Authority, if applicable, may review, and the Board of Supervisors shall approve or disapprove, plans and otherwise administer these regulations.

Copies of This Ordinance shall be available on request for the use of any person who desires information. Any prospective subdivider or land developer may meet with the Township Planning Commission and the Middlesex Township Municipal Authority, if applicable, to discuss and review tentative plans to subdivide or develop a property. This can be done by means of discussion or presentation of sketch (concept) plans, during which time the Applicant can also review provisions of This Ordinance with the Commission and, if applicable, the Middlesex Township Municipal Authority.

For all subdivision and land development applications, a Preliminary Plan and Final Plan must be submitted to the Township for review and approval. A Preliminary Plan is not required when it is classified as Minor Plan as specified by §307.A.6. It is at the discretion of the Applicant to submit either a Preliminary Plan followed by a Final Plan or a combined Preliminary/Final Plan. However, submission of the Preliminary/Final Plan excuses the Applicant from submitting a separate Preliminary Plan and stands as both a Preliminary Plan and Final Plan. All Preliminary/Final Plans must conform to all Preliminary Plan and Final Plan processing procedures and content requirements. Plans must be clearly labeled “PRELIMINARY/FINAL PLAN.” Provisions are also provided for the submission of Sketch Plans for informal review by the Township.

All officially submitted preliminary and final Subdivision or Land Development Plans shall be referred to and reviewed by the Planning Commission and, if applicable, the Middlesex Township Municipal Authority and shall be acted on by the Board of Supervisors in accordance with the procedures specified in this *Article* and in other sections of This Ordinance. Any application not processed as required herein shall be null and void unless it was made prior to the adoption of these regulations.

A. Pre-Application Meeting:

The Applicant for residential Subdivision and Land Development Plans that are located in the Residential Farm (RF) or Open Space Conservation (OS) Zoning Districts that either elect or are required to design the subdivision in accordance with the design requirements of the Conservation Design Overlay District **must** attend a Pre-Application Meeting among the Applicant, the Applicant’s consultants, Township staff and consultants, and the Planning Commission (or a properly appointed subcommittee of the

Planning Commission) before submission of a plan, particularly for proposals that involve the creation of new streets or storm water facilities. The purposes of the Pre-Application Meeting are to discuss the Applicant's objectives and to introduce the Applicant to the requirements of the RF Zoning District and design and site visit requirements of the Conservation Design Overlay District which overlays the base RF District. In addition, fees and schedules for plan submissions and formal review meetings will be provided. The Pre-Application Meeting shall not constitute the official filing of an application for plan approval, and all such meetings and/or review shall be considered informal and non-binding. The Township may require that an escrow fee be paid to cover the cost of consultants attending the meeting. All other types of subdivisions and/or Land Development Plans are exempt from this requirement. It is also recommended that the Applicant meet with the Middlesex Township Municipal Authority to discuss any concerns relative to sewer and water designs that may be impacted by Open Space Conservation Designs.

B. Qualifications of Plan Preparer:

Those design professionals that prepare preliminary and final Subdivision and Land Development Plans shall be licensed to practice civil engineering or land surveying in the Commonwealth of Pennsylvania. Said professionals shall adhere to the laws of the Commonwealth of Pennsylvania, including but not limited to the specifications set forth by the following laws, as from time to time reenacted and amended; the act of May 23, 1945, P.L.913, No.367 (63 P.S. 148 et seq.), known as the "Engineer, Land Surveyor and Geologist Registration Law", except that this requirement shall not preclude the preparation of a plat in accordance with the act of January 24, 1966, 1965 P.L.1527, No.535 (63 P.S. 901 et seq.), known as the "Landscape Architects Registration Law," when it is appropriate to prepare the plat using professional services as set forth in the definition of the "practice of landscape architecture" under *Section 2* of that *Act*. All preliminary and final plans, plats, and surveys shall bear a certification, as defined in *Article II*.

C. Pre-Application Sketch Plan:

See *Article IV*.

D. Plan Filing and Distribution Requirements:

1. The Applicant for a Subdivision Plan or Land Development Plan must submit said plans along with an Application for Subdivision and Land Development; all required supporting documentation; and the required Township, County, and Middlesex Township Municipal Authority fees to the Township Zoning Officer, Land Development Coordinator, or other designated official not less the fifteen (15) working days prior to a regularly scheduled Workshop Meeting of the Planning Commission.

2. Application:

A plan clearly labeled, as applicable, "PRELIMINARY PLAN," "PRELIMINARY/FINAL PLAN," "FINAL MINOR PLAN," or "FINAL MAJOR PLAN" complying with the requirements of *Article V* (Preliminary Plan Specifications and Requirements) and *Article VI* (Final Plan Requirements) shall be prepared for each subdivision or land development and submitted to the Township in the form of twelve (12) paper prints in sheets no greater than twenty-four by thirty-six inches (24"x36"). In addition, two (2) copies of all applicable supplementary data, plans and reports; four (4) copies of the completed Sewage Facilities Planning Module; one (1) correct and complete Application for Subdivision and Land Development Review form and Subdivision and Land Development Plan Submission Checklist as prescribed by Exhibit 1 of Appendix A herein; and the required Township filing fees and review escrows must be submitted prior to review by the Township. The Applicant shall also file with the Township, one (1) completed application form and the appropriate filing fees as required by the Cumberland County Planning Commission for review of the subdivision or land development application. All plans and accompanying information must be submitted to the Township during normal business hours no less than fifteen (15) days prior to the regularly scheduled Workshop Meeting of the Planning Commission at which it is first reviewed.

In addition to the above submission requirements, if the project proposes new sewer and water designs to service the proposed Subdivision and/or Land Development Plan, the applicant shall submit one (1) copy of the Subdivision and/or Land Development Plan to the Middlesex Township Municipal Authority for review and approval. Said submission shall be simultaneous with the Applicant's submission of the Subdivision and/or Land Development Plan to the Township as prescribed above.

3. The Township Zoning Officer, or other officially designated official, shall receive all fees on behalf of the Township and County. Middlesex Township Municipal Authority fees shall be submitted to the Authority. The Township Zoning Officer, Land Development Coordinator, or other officially designated official shall maintain a permanent log which shall indicate the following:
- a. The title of the plan.
 - b. The name of the owner or developer of the plan.
 - c. The name of the Registered Design Professional(s) in responsible charge of preparing the Plan.
 - d. The name, address, telephone number, and relationship to the owner or developer of the Plan of the person filing the Plan.
 - e. The date, time and place of the filing.

4. The Township Zoning Officer or other officially designated official shall distribute the required number of copies to the agencies concerned as provided in *Article V* and *Article VI* of This Ordinance.
5. Mobile home park plans shall be submitted in the same manner as Subdivision and Land Development Plans.
6. A copy of the Application for Subdivision and Land Development shall be forwarded by the Township Zoning Officer, Land Development Coordinator, or other designated official to the County Planning Commission for review and report together with the County's established fee.
7. If the Subdivision Plan or Land Development Plan is within the boundary of the Letort Regional Watershed or any tributary of Letort Spring Run (reference Exhibit 2 – Appendix A), the Applicant shall concurrently with the submission to the Township Secretary submit a set of plans and a copy of the Application for Subdivision and Land Development to the Letort Regional Authority for review and comment. In addition, the Applicant shall submit a review fee payable directly to the Letort Regional Authority in such amount as shall be established by Resolution by the Board of Supervisors in accordance with §311. Upon approval of the Preliminary Plan, the subdivider or land developer shall submit to the Letort Regional Authority a copy of the Final Plan concurrently with its submission to the Township Secretary. For purposes of this *Section*, the Letort Regional Authority shall be considered a professional consultant of the Township providing advisory services relating to the impact and effect of proposed development on the watershed and tributaries of Letort Spring Run.
8. If the land to be subdivided or developed lies partly in or abuts another municipality, the Applicant shall submit the plan to said municipality for review, comment, and, if necessary, approval.

E. Completeness:

No application shall be deemed filed unless all requirements as set forth in This Ordinance have been addressed in the submission and all fees and required review escrows are paid in full. Prior to placing the plan on the Agenda for the first (1st) scheduled Planning Commission meeting (Workshop Meeting) after the plan submission deadline, the Township will notify the Applicant or Applicant's representative if the application for a Subdivision Plan or Land Development Plan is incomplete and will not be further processed. All materials submitted will be made available to be picked up by the Applicant or the Applicant's representative, and no further review will be provided. Incomplete submissions shall not be distributed for review. The Applicant is advised to study each section of this Ordinance and address the requirements of each one as applicable to the Applicant's plan (see Exhibit 1 - Appendix A, Completeness Checklist).

F. Approval of Plans:

1. No plan, either preliminary or final, will be considered by the Board of Township Supervisors for approval or disapproval unless all the following have been filed with the Township Secretary not less than seven (7) calendar days before any official meeting to be held to consider approval or disapproval of the plan:
 - a. Township Planning Commission report,
 - b. County Planning Commission report,
 - c. Township Engineer's report, and
 - d. Middlesex Township Municipal Authority report, if applicable.
2. After receipt of the Township Planning Commission's recommendations, the Board of Township Supervisors shall:
 - a. Evaluate the Applicant's submission and presentation,
 - b. Evaluate the report of the Township Planning Commission,
 - c. Evaluate the review comments of the County Planning Commission,
 - d. Evaluate the Township Engineer and/or Planning Consultant's report,
 - e. Evaluate the Middlesex Township Municipal Authority's comments,
 - f. Determine whether the plan meets the objectives and requirements of This Ordinance and other ordinances of the Township, and
 - g. Either approve, conditionally approve, or disapprove the plan.
3. The Board of Township Supervisors shall render its decision and communicate it to the Applicant not later than ninety (90) days following the date of the regular meeting of the Board or Planning Commission (whichever first reviews the application) following the date the application was filed. Should the said next regular meeting occur more than thirty (30) days following the filing of the application, the said ninety (90) day period shall be measured from the thirtieth (30th) day following the day the application was filed.
 - a. The decision of the Board shall be in writing and shall be communicated to the Applicant personally or mailed to him/her at the Applicant's last known address not later than fifteen (15) days following the decision.
 - b. When the application is not approved in terms as filed, the decision shall specify the defects found in the application and describe the requirements

which have not been met and shall, in each case, cite the provisions of the ordinance relied upon.

- c. Failure of the Board of Township Supervisors to render a decision and communicate it to the Applicant within the time and in the manner required herein shall be deemed an approval of the application in terms as presented unless the Applicant has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision, in which case, failure to meet the extended time or change in manner of presentation of communication shall have like effect.
- d. The Board of Township Supervisors shall not approve any plan until the County Planning Commission report is received or until the expiration of thirty (30) days from the date the application was forwarded to the County.

4. Conditional Approval:

In the event that the Board of Township Supervisors approves with conditions, the Applicant shall respond to the Board of Supervisors indicating acceptance or rejection of such conditions. Unless such acceptance is noted by the Applicant or Applicant's representative at a public meeting of the Board where the plan was approved with conditions, such response shall be made in writing, signed by the Applicant, and received by the Township within thirty (30) calendar days of receipt by the Applicant of the Board of Supervisors' decision to approve the plan with conditions. Approval of the plan shall be rescinded automatically upon the Applicant's failure to accept such conditions in the manner and within the time frame noted above.

G. Final Plans:

Relative to plan processing, Final Subdivision and Land Development Plans are the same as Preliminary Plans except as follows.

1. Conditions of Final Plan Approval:

- a. After all streets and improvements to be dedicated to the municipality are completed and are certified as being satisfactory by the Township Engineer, the Applicant agrees, if requested, to tender to the Township a deed of dedication in a form satisfactory to the Township Solicitor for streets and improvements thereto, including street paving, water mains, fire hydrants, storm sewers, inlets, pumping stations, and other appurtenances as shall be constructed as public improvements within the public right-of-way and are required for the promotion of public welfare. The Board of Supervisors may require that the Applicant provide a certificate from a duly licensed title insurance company certifying that the title to be conveyed is good and marketable, free of all liens and

encumbrances, except utility easements, before any property is accepted by the Township.

- b. Whenever the landowner is providing Open Space as part of the development, an easement in perpetuity restricting such Open Space against further subdivision or development shall be executed between the landowner and the Township or a conservation organization acceptable to the Township.
- c. The landowner shall submit to the Township all required approvals and/or permits, or waivers, from the requirements of the same from agencies having jurisdiction over ancillary matters necessary to effect the subdivision or land development, such as the Pennsylvania Department of Transportation (PennDOT) (i.e., Highway Occupancy Permit [HOP]), Pennsylvania Department of Environmental Protection (PA DEP) (i.e., NPDES Permit, Joint PA DEP/United States Army Corps of Engineers [USACE] Permits), Pennsylvania Public Utility Commission, Cumberland County Soil Conservation Service, or other applicable agency. Any approval by the Township shall be conditioned upon full compliance with any requirements of any regulatory agency, and no action by the Township shall be relied on in lieu of a permit issued by the appropriate agency.

2. Recording Plans and Deeds:

- a. Upon approval of a Final Plan, the Applicant shall, within ninety (90) days of such approval, record such plan in the Office of Recorder of Deeds of Cumberland County. The Recorder of Deeds shall not accept any plan for recording unless such plan officially notes approval of the Board of Township Supervisors and review by the Cumberland County Planning Commission. The Applicant shall bear any cost required to provide the Recorder of Deeds with a recordable plan.
- b. Within ten (10) days after recording, the Applicant shall furnish the Board of Township Supervisors a Recorder's Certificate upon a copy of the Plan certifying that said Plan is recorded.

Section 302. Effects of Change in the Ordinance

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

denied, any subsequent application shall be subject to the intervening change in governing regulations.

- B. When an application for approval of a plan, whether preliminary or final, has been approved without conditions or approved with the Applicant's acceptance with conditions, no subsequent change or amendment in the zoning, subdivision or other governing ordinance or plan shall be applied to affect adversely the right of the Applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five (5) years from such approval.
- C. Where final approval is preceded by preliminary approval, the aforesaid five (5)-year period shall be counted from the date of the preliminary approval. In the case of any doubt as to the terms of a preliminary approval, the terms shall be construed in the light of the provisions of the governing ordinances or plan as they stood at the time when the application for such approval was duly filed.
- D. Where the landowner has substantially completed the required improvements as depicted upon the Final Plan within the aforesaid five (5)-year limit, or any extension thereof as may be granted by the Board of Township Supervisors, no change of municipal ordinance or plan enacted subsequent to the date of filing of the Preliminary Plan shall modify or revoke any aspect of the approved Final Plan pertaining to zoning classification or density, lot, building, street, or utility location.
- E. In the case of a Preliminary Plan calling for the installation of improvements beyond the five (5)-year period, a schedule shall be filed by the landowner with the Preliminary Plan delineating all proposed phases as well as deadlines within which applications for Final Plan approval of each phase are intended to be filed. Such schedule shall be updated annually by the Applicant on or before the anniversary of the Preliminary Plan approval, until Final Plan approval of the final phase has been granted, and any modification in the aforesaid schedule shall be subject to approval of the Board of Township Supervisors in its discretion.
- F. Provided the landowner has not defaulted with regard to or violated any of the conditions of the Preliminary Plan approval, including compliance with landowner's aforesaid schedule of submission of Final Plans for the various phases, then the aforesaid protections afforded by substantially completing the improvements depicted upon the Final Plan within five (5) years shall apply and, for any phase or phases beyond the initial phase in which the required improvements have not been substantially completed within said five (5)-year period, the aforesaid protections shall apply for an additional term or terms of three (3) years from the date of Final Plan approval for each phase.
- G. Failure of landowner to adhere to the aforesaid schedule of submission of Final Plans for the various phases shall subject any such phase to any and all changes in zoning, subdivision, and other governing ordinance enacted by the Township subsequent to the date of the initial Preliminary Plan submission.

Section 303. Public Hearing

Before acting on an application, the Board of Township Supervisors may hold a public hearing thereon after public notice.

Section 304. Expiration of Preliminary Plan Approval

Preliminary Plan approval shall expire upon the expiration of five (5) years after being granted or as provided by §302.E, above.

Section 305. Effects of Preliminary Plan Approval

Approval of the Preliminary Plan constitutes approval of the proposed subdivision or land development in respect to general design, the approximate dimensions, and other planned features. Preliminary Plan approval binds the Applicant to the plan as approved. Material changes to the plan shall not be permitted once approved by the Board of Supervisors. Preliminary Plan approval permits the Applicant to begin preparation of the Final Plan. Preliminary Plan approval does not authorize the recording, sale, or transfer of lots.

Following the approval of the Preliminary Plan, including the satisfaction of all conditions of approval, the Applicant shall provide the Township with four (4) complete signed and sealed paper copies of the Preliminary Plan, one (1) reproducible Mylar copy of the same, two (2) signed and sealed copies of all approved reports for the Township's records, and two electronic copies of all of the above.

Section 306. Effect of Final Plan Approval

A. Official Map:

After a plan has been approved and recorded as provided in this *Article*, all streets and public grounds on such plan shall become a part of the Official Map of the Township (if and when adopted) without public hearing.

B. Recording shall entitle the Applicant to sell, transfer, or develop the land shown on the plan in accordance with the approved plan, subject to any conditions attached thereto. Where Final Plans are approved for only a portion, section, or phase of the entire subdivision or land development, sale, transfer, or development may proceed only on that approved portion, section, or phase.

C. When a Final Plan has been approved, no subsequent change or amendment in zoning, subdivision, or other governing ordinance shall be applied to affect adversely the right of the Applicant to commence and complete any aspect of the approved development in accordance with the terms of such approval within five (5) years from such approval. Where final approval is preceded by preliminary approval, the aforesaid five (5)-year period shall be counted from the date of the preliminary approval.

- D. When the Applicant has failed to substantially complete the required improvements set forth on the approved plan within five (5) years of the aforesaid approval date and when changes in a zoning, subdivision, or other governing ordinance have occurred which affect the design of the approved plat, the subdivision or land development shall be subject to the changes in the zoning, subdivision, or other governing ordinance.

Section 307. Major and Minor Subdivision or Land Development Plans – Classification

All applications shall be classified as either major or minor subdivision or land development as follows.

A. Minor Subdivision or Land Development:

Any Subdivision Plan or Land Development Plan in which the following conditions are met shall be considered a minor subdivision or land development.

1. No public street or access road is constructed or is required to be widened.
2. No other completion of public improvement or guarantee thereof is required other than individual on-lot storm water management systems.
3. No earthmoving activities will take place except that incidental to construction of a single-family dwelling on each lot.
4. No parcel is subdivided into more than three (3) lots.
5. All plans submitted as a Minor Plan shall include supporting documents which comply in all applicable respects with the requirements for both Preliminary and Final Plans and shall be titled Final Minor Plan. The Planning Commission shall review the plan for both Preliminary and Final requirements, thereby excusing the Applicant from submitting a separate Preliminary Plan.
6. A Minor Subdivision or Land Development Plan does not require a waiver of the requirement for a Preliminary Plan.

B. Major Subdivision or Land Development:

Any Subdivision Plan or Land Development Plan not meeting the requirements of §307.A, or any part thereof, or for any use other than single-family residential shall be considered a major subdivision or land development.

When a Subdivision Plan or Land Development Plan includes only a portion of a landowner's entire tract, or when such portion is contiguous to an adjoining tract of the landowner, the Township may require the Applicant to submit a layout showing the future potential for subdivision of all the contiguous lands belonging to the landowner so as to determine the feasibility of future subdivision planning in a manner contiguous and compatible with the plan presently placed before the Township for review and approval. The future subdivision layout must verify that the subdivision may be accomplished in

accordance with current codes and with appropriate access. Submission and review of the layout described in this *Section* shall not constitute approval of the future subdivision shown thereon.

- C. After the effective date of This Ordinance, three (3) single-family residential lots can be subdivided off the Parent Tract as a Minor Subdivision Plan. The Applicant shall be required to submit a complete Preliminary Plan for the entire tract on the subsequent application unless the size, frequency, and interrelationship of the prior subdivision clearly does not warrant such as determined by the Board of Township Supervisors upon recommendation by the Planning Commission.

Section 308. Additions to, and/or Consolidation of, Existing Lots

A Lot Addition and/or Lot Consolidation is any subdivision creating or involving a lot that is to be added to an existing contiguous lot of record and where no new building lot or land development is proposed. It is solely intended to convey a parcel of land to the owner of an adjoining property. The parcel being conveyed must be added to the adjoining lot by means of recording a new deed that has a new metes and bounds description that describes one contiguous parcel of land. These plans are processed as Minor Subdivision Plans. The subdivision qualifies as a Final Minor Lot Addition and/or Consolidation Plan provided that:

- A. The parcel to be added must be contiguous to the existing lot.
- B. The plan prepared for the addition of such parcel shall follow the procedures outlined in *Article VI – Final Plan Requirements* of This Ordinance except that the plan should be titled Final Minor Lot Addition Subdivision Plan and/or Final Minor Lot Consolidation Subdivision Plan.
- C. Any future proposal to subdivide any portion of the tracts so merged shall be in accordance with all requirements of the Middlesex Township Subdivision and Land Development Ordinance in effect at the time and the Middlesex Township Zoning Ordinance.
- D. In any subdivision creating a lot addition (including a side lot addition), the lot addition shall be required to be merged by deed into the tract to which it is being added. Any future proposal to subdivide any portion of the tracts so merged shall be in accordance with all requirements of the Pennsylvania Municipalities Planning Code (or any successor Code or Authority), this Subdivision and Land Development Ordinance, and the Middlesex Township Zoning Ordinance. A copy of the proposed deed of merger shall be submitted to the Township for review and approval as a condition of plan approval, and the requirements and conditions provided above shall appear as a note on the Subdivision Plan.

Section 309. Resubmission of Plans

When action on a plan has been tabled or postponed by the Planning Commission or Board of Supervisors due to outstanding comments, deficiencies, or other issues with the application;

tabled at the request of the Applicant; or conditionally recommended for approval by the Planning Commission subject to addressing review comments, the Applicant must resubmit a corrected application to the Township. All plans and accompanying information must be resubmitted to the Township during normal business hours no less than ten (10) working days prior to the regularly scheduled Planning Commission or Board of Supervisors meeting at which reconsideration is requested. If the revised plan is to be resubmitted to the Planning Commission for review, twelve (12) copies of all plans and two (2) copies of all reports and accompanying documents must be submitted. Otherwise, for submissions to the Board of Supervisors, six (6) copies of all plans, reports, and accompanying documents must be submitted and, in either case, must be accompanied by a formal written response sufficiently addressing, in detail, all outstanding review comments or questions. Based upon the number and significance of any remaining comments, the Zoning Officer or other designated Township official, in consultation with the Township Engineer, will determine whether a plan is complete and ready to be included on the agenda of the Planning Commission or Board of Supervisors for consideration. If a plan has been withdrawn and subsequently resubmitted, an application must be filed as an entirely new application to be further considered by the Township.

Section 310. Processing of Sewage Facilities Planning Modules

- A. All Subdivision Plans and/or Land Development Plans shall comply with *Section 5* of the *Act of January 24, 1966, P.O. 1535, No. 537*, known as the “*Pennsylvania Sewage Facilities Act*,” as amended, and the Rules and Regulations of PA DEP adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code. Such *Act* and regulations require the Township to adopt an Official Sewage Facilities Plan which provides for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes. Further, the Township shall revise said plan when it is determined that a proposed method of sewage disposal for a new subdivision or land development conforms to a comprehensive program of pollution control and water quality management.
 - a. The proposed subdivision and/or land development of a parcel of land and its associated sanitary sewage facilities shall be as described in detail by the Applicant as part of a Sewage Facilities Planning Module for Land Development. Said Planning Module shall be submitted with the Preliminary Plan or in the case of a combined submission with the Preliminary/Final Plan.
 - b. The Township and the Middlesex Township Municipal Authority, if applicable, shall review the Planning Module for the proposed subdivision and/or land development and determine if the proposed method of sewage disposal conforms to, and is included in, the approved “*Official Act 537 Plan*” of the Municipality of Middlesex Township. In addition, the Planning Module shall be accompanied by a written certification from the Middlesex Township Municipal Authority stating that capacity is available to receive sewage flows from the proposed project and that the additional wasteload will not create a hydraulic or an organic overload or a five (5)-year projected overload in the treatment facilities

- c. The Township shall review the Subdivision Plan and/or Land Development Plan described in the attached Planning Module and determine if it conforms to applicable zoning, subdivision, other Municipal Ordinances and plans and to a comprehensive program of pollution control and water quality management.
- d. The Board of Supervisors shall act upon the Planning Module in conjunction with, or after action on, the Preliminary Plan or, in the case of a combined submission, with or after action on the Preliminary/Final Plan. The Board of Supervisors, however, in its discretion and under circumstances that the Board feels warrants such action, may act on the Planning Module prior to action on the Preliminary/Final Plan.
- e. Planning Modules for subdivisions and/or land development, approved by the Board of Supervisors and PA DEP, shall continue as an amendment of the “Official Plan” until such time as:
 - 1) A Final Plan is not submitted to the Township within five (5) years of the date of approval of the Preliminary Plan unless the plan is in accordance with a previously approved and updated phasing schedule or extended in writing by the Board of Supervisors.
 - 2) The preliminary/final or final Subdivision Plan and/or Land Development Plan is withdrawn or abandoned, as indicated in writing by the Applicant.
- f. Planning Modules for subdivisions and/or land development, approved by the Board of Supervisors and PA DEP shall serve to revise the “Official Plan” for only the site-specific location referenced within the Planning Module. Sanitary sewer capacity identified within a Planning Module for a site-specific location, approved by the Board of Supervisors, shall not be transferred to or used at any other location within the Township.
- g. The approval of a Planning Module by the Board of Supervisors does not obligate the Township to provide building permits and/or sanitary sewer connection permits. The availability of such permits may be limited by PA DEP and/or the operators of treatment plants receiving Township sanitary sewage.

Section 311. Fees and Reimbursement of Review Costs

- A. The Board of Township Supervisors shall set fees, payable in advance, for review of plans. Fees shall be based upon a schedule adopted by Resolution of the Board of Township Supervisors, or as such schedule may be amended. A copy of said fee schedule shall be available for review at the Township Office. The Applicant is advised to contact the Middlesex Township Municipal Authority for information regarding review fees.

- B. The Applicant shall reimburse the Township for costs that the Township has incurred by the Township Engineer and/or Professional Consultant(s) that the Township, in its sole discretion, deems necessary in order to adequately and properly review a plan and supporting data and to report the findings to the Township. The hourly rates of the Township Engineer and the Township Engineer's staff shall be established by resolution of the Board of Supervisors.
- C. Upon submittal of the Subdivision Plan or Land Development Plan, the Township shall collect a review fee from the Applicant. Said fee shall be placed in escrow to be drawn from by the Township for reimbursement of the Township Engineer's and/or Township-designated Professional Consultant's review fee. The escrow shall be restored from time to time to cover ongoing plan reviews and/or reviews of plans with numerous unresolved issues. In the event that this situation would occur, the Township will notify the Applicant that the original escrowed amount must be restored in full prior to accepting the plan resubmission and/or reviews of the resubmitted plan by the Township Engineer or designated Professional Consultant. The Township reserves the right to request the amount of the restored escrow to exceed the original escrowed amount based on the magnitude, complexity, and degree to which the previous submission is out of compliance with of the plan.
- D. The Township shall advise the Applicant of the reimbursement amount required within thirty (30) days of being billed by the Township Engineer and/or other Professional Consultant(s). The Applicant shall reimburse the Township within thirty (30) days of receipt of the Township's notice of payment due. Failure to do so shall cause the plan to be officially withdrawn. The Township has the right to pursue collection by any legal means necessary to collect the unpaid amount.
- E. **Dispute Over Fees:**
 - 1. In the event the Applicant disputes the amount of any such review fee, the Applicant shall, within fifteen (15) days of the receipt of the notice of payment due, notify the Township that such fees are disputed, in which case the Township shall not delay or disapprove a plan submission due to the Applicant's fee dispute. If no fees are disputed, the Township may condition the approval of plan submissions upon the Township having received full payment as stated in the notice of payment due.
 - 2. If, within forty-five (45) days of the notice of payment due, the Applicant and Township cannot agree on the amount of expenses incurred by the Township, the Applicant and Township shall jointly, by mutual agreement, appoint another Professional Engineer or Professional Consultant of the same profession or discipline as the Township Engineer or Professional Consultant whose fees are being disputed to make a determination as to the amount thereof which is reasonable and necessary.
 - 3. In the event the municipality and the Applicant cannot agree upon the Professional Engineer or Professional Consultant to be appointed, then, upon

application of either party, the President Judge of the Court of Common Pleas of Cumberland County shall appoint such Professional Engineer or Professional Consultant, who, in that case, shall be neither the Township Engineer or Professional Consultant nor any Professional Engineer or consultant who has been retained by, or performed services for, the Township or the Applicant within the preceding five (5) years.

4. The Professional Engineer or Professional Consultant appointed, either by mutual agreement of the Township and Applicant or by the President Judge of the Court of Common Pleas, shall hear such evidence and shall review such documentation as the Professional Engineer or Professional Consultant, in his/her sole opinion, deems necessary and render a decision within thirty (30) days of appointment. Such decision shall be final and binding upon both the Township and the Applicant. The Applicant shall be required to pay the entire amount determined in the decision within ten (10) days of such decision.
5. The fee of the appointed Professional Engineer or Professional Consultant for determining the reasonable and necessary expense shall be paid by the Applicant if the amount of payment required in the decision is equal to or greater than the original bill. If the amount of payment required in the decision is less than the original bill by one thousand dollars (\$1,000.00) or more, the Township shall pay the fee of the Professional Engineer or Professional Consultant, but otherwise the Township and the Applicant shall each pay one-half (½) of the fee of the appointed Professional Engineer or Professional Consultant.

F. Mediation Option:

The Township may offer a mediation option as an aid in completing proceedings required by this *Section*. In exercising such as an option, the Township and mediating parties shall meet the stipulations and follow the procedures set forth in *Article XV* of This Ordinance.

ARTICLE IV
OPTIONAL SKETCH PLAN SUBMISSION, REVIEW, AND PRE-PRELIMINARY
PLAN SUBMISSION DUE DILIGENCE

Section 401. Sketch Plan (Option To Developer)

- A. Prior to the submission of a Preliminary Plan, the developer may submit a Sketch Plan directly to the Planning Commission for advice on the requirements necessary to achieve conformity to the standards of these regulations as well as to alert the developer to factors which must be considered in the design of the subdivision or land development such as pertinent elements of any County or municipal land use, thoroughfare, and community facilities. This will enable the Planning Commission to review the proposal and to make any suggestions or discuss with the developer any proposed plans or factors that may affect the developer's subdivision.
- B. The Sketch Plan submission is encouraged as a way of helping the Applicant and Township Officials develop a better understanding of the property and to help establish an overall design approach that respects its special noteworthy features while providing for the density permitted under the Township Zoning Ordinance, particularly in the case of proposed Open Space Residential Development in the Residential Towne (RT) District or proposed Conservation Subdivision Design in the Conservation Design District within the underlying base Residential Farm (RF) Zoning District.
- C. Ten (10) working days prior to the meeting of the Planning Commission, at which review of the Sketch Plan is desired, the developer/Applicant shall file with the Zoning Officer ten (10) copies of a Sketch Plan of the proposed subdivision or land development and other applicable maps, information, and data. The Township staff, Township Engineer, County Planning Commission, and other departments or agencies will not provide a formal review of the plan and/or issue written comments but will merely provide a general overview and provide commentary at the Planning Commission meeting at which the plan is being discussed. A Sketch Plan shall not constitute the filing of an application for plan approval, and all review by Township staff or the Planning Commission shall be considered informal and non-binding.
- D. Sufficient information should be included in the Sketch Plan to clearly indicate the character and extent of the proposed subdivision or land development and its relationship to existing conditions and facilities within the area in which the same is to be located.
- E. Prospective developers should consult with the Township Sewage Enforcement Officer and/or Pennsylvania Department of Environmental Protection (PA DEP) concerning soil suitability when on-site sewage disposal facilities are proposed. Prospective developers should also consult with the Cumberland County Conservation District (CCCD) representative concerning erosion and sediment control and the effect of soil and geologic conditions on the proposed development. At the same time, a determination should be made as to whether or not any flood hazards either exist or will be created as a result of the subdivision or development.

- F. Prospective developers should review the requirements for submission of a Traffic Impact Study (*Article VII §717*) and/or an Environmental Impact Assessment (EIA) Report (*Article VII §718*).
- G. Where a proposed subdivision or land development meets the criteria for submission of a Traffic Impact Study (*Article VII §717*) and/or an EIA Report (*Article VII §718*), or where other provisions of This Ordinance are considered inapplicable to the proposal, the developer may submit a request for modification of one or more requirements of This Ordinance. Such request for modification shall be reviewed in accordance with the requirements of *Article XX* of This Ordinance.
- H. Submission and review of a Sketch Plan shall not constitute official submission of a plan to the Township.
- I. Sketch plans should be accompanied by a letter of transmittal and a project narrative necessary to explain existing or proposed site conditions which are not self-explanatory on the actual sketch.

Section 402. Required Information

- A. To provide a full understanding of the site's potential and to facilitate the most effective exchange with the Planning Commission, the Sketch Plan shall include the information listed below:
 - 1. Plan designated "Sketch Plan," drawn at a scale not smaller than one inch to two hundred feet (1"=200').
 - 2. Approximate key map showing the generalized location of the tract and adjacent streets.
 - 3. Tract boundaries with approximate dimensions.
 - 4. Schematic layout indicating a general concept for land conservation, if applicable (Conservation Design Subdivisions), and development.
 - 5. North point, topography, swales, major tree stands, and other significant existing site features.
 - 6. Proposed street and lot layout with information as to the kinds of uses contemplated.
 - 7. Proposed location of buildings and major structures, parking areas, and other improvements.
 - 8. General description of proposed method of water supply, sewage disposal, storm water management, and provisions for other utilities.
 - 9. Name of the property owner and date.

- B. If applicable, submission of the Conservation Analysis per requirements of *Article V §502.D.2*, except that the required Existing Resources Inventory Mapping as required by *Article V §502.D.2.a* may use existing and proposed contours based on an interpolation of existing United States Geological Survey (USGS) or Light Detection and Ranging (LIDAR) topographic maps instead of from field run survey data.
- C. Where a request for modification is included as part of the Sketch Plan submission, sufficient information shall be provided to enable the Planning Commission, Township Engineer, and Board of Supervisors to provide unofficial suggestions and comments relative to the same.

Section 403. Review Procedure

- A. The Planning Commission may review the Sketch Plan in accordance with the criteria contained in This Ordinance and with other applicable Ordinances of the Township. Their review will include an informal discussion with the developer about the nuances of the proposed subdivision or land development and how it may or may not conform to the relevant standards of This Ordinance. The Planning Commission may suggest possible plan modifications that would increase its degree of conformance. Their review may include but is not limited to:
 - 1. The location of all areas proposed for land disturbance (streets, yards, septic disposal systems, storm water management areas, etc.) with respect to notable features of natural or cultural significance as identified in, if applicable, the Applicant's Conservation Analysis and on the Municipality's Map of Primary Conservation Areas (available if and when it is published from time to time by the Township) or alternatively in The Middlesex Township Comprehensive Plan, enacted February 5, 2003, and as revised from time to time.
 - 2. When Open Space is provided:
 - a. The potential for Open Space connections with existing or potential Open Space on adjoining parcels.
 - b. The relationship of buildings to Open Space.
 - c. Pedestrian access to Open Space.
 - d. Compliance with the design standards in *Article XII*, if applicable.
 - 3. The potential for street connections with existing streets, other proposed streets, or potential developments on adjoining parcels.
 - 4. The location of proposed access points along the existing road network.
 - 5. The proposed building density and impervious coverage.

6. The compatibility of the proposal with respect to the objectives and policy recommendations of the Middlesex Township Comprehensive Plan.
 7. Consistency with the Zoning Ordinance.
- B. The Planning Commission may submit either its written comments or approved meeting minutes pertaining to the Sketch Plan to the developer, the Board of Supervisors, and other relevant planning or review agencies.
- C. The Planning Commission may suggest that the Applicant submit additional drafts of the Sketch Plan if the Applicant feels the need for additional guidance and to see if their comments can be incorporated into the Applicant's vision of the development plan.

ARTICLE V
PRELIMINARY PLAN SPECIFICATION REQUIREMENTS

Section 501. Plan Specifications

Subdivision and Land Development Plans fall into three categories:

- **Conventional Subdivision and/or Land Development:**
Plan specification requirements can be found in §501.A and §501.B or §501.C of this *Article*.
- **Conservation Design Residential Subdivision Plan:**
Plan specification requirements can be found in §501.A and §502 of this *Article*.
Design guidelines can be found in *Article VII*, §720.
- **Open Space Residential Subdivision:**
Standards for Open Space Residential Subdivision are found in the Middlesex Township Zoning Ordinance - Ordinance No. 1-2003, which amended *Article II* and all provisions of *Article XXII*, RT-Residential Towne District, of that Ordinance. Plan specification and design requirements are included in §501.A and §502 of this *Article*.

A. Basic Preliminary Plan Content Requirements Common to All Subdivision and Land Development Categories:

1. Submittal requirements:

Refer to *Article III* for submittal requirements.

2. Plan size and scale:

Plans shall be on sheet sizes no larger than twenty-four by thirty-six inches (24"x36") and drawn to a scale not smaller than one inch to one hundred feet (1"=100'). To provide better detail and clarity, a larger scale may be required, in which case presentation of the Plan may require more than one sheet. In this case, individual plan sheets shall not exceed one inch to fifty feet (1"=50'). If multiple plan sheets are used, match lines and a key map shall be provided indicating the sheet orientation and view with respect to the subject property for each plan sheet. The minimum text size shall be of sufficient size to provide a clear and readable drawing. A sheet layout index shall be provided.

- a. Upon recommendation of the Township Engineer and Township Planning Commission, the Board of Township Supervisors may require Final Plans at a scale larger than one inch to fifty feet (1"=50') to assure legibility in cases warranted by the complexity of the proposed plan.

3. Proposed project name and municipality or municipalities in which the project is located.
4. Township and County Signature blocks per Exhibit 3 in Appendix A.
5. Names(s) and address(es) of record owner(s) certifying concurrence with the plan.
6. Location map at a scale not smaller than one inch to one thousand feet (1"=1,000') showing the location of the proposed subdivision or land development in relation to named streets, boundaries, previous subdivisions, and other prominent features.
7. Professional certifications of the plan preparer in accordance with Exhibit 4 in Appendix A.
8. List of requested waivers/modifications of requirements with reference to the section(s) of This Ordinance that applies.
9. Title block:
 - a. Identification of the plan as required by §301.D and §307 of This Ordinance.
 - b. Name of the subdivision or development.
 - c. Township and County Name.
 - d. Name, address, and telephone number of the legal and/or equitable owner(s) or authorized agent(s), as applicable.
 - e. Name, address, and telephone number of the plan preparer (design professionals) responsible for preparation of the plan.
 - f. Date of plan preparation and date(s) of all subsequent revisions.
10. North arrow and graphic and written scales on all plan sheets.
11. All dimensions shall be in feet and in decimal format.
12. A Plan Sheet Index shall be provided
13. Each plan sheet shall be numbered.
14. Each plan sheet shall provide an adequate legend indicating clearly which features are existing and which are proposed.

15. Table of Site Data containing:
 - a. Total acreage of the Parent Tract.
 - b. Total number of proposed lots which shall include, if applicable, the residual lot; if phasing is proposed, the number of proposed lots in each phase of the proposed subdivision.
 - c. Water supply: Type of proposed (well or public – existing or proposed).
 - d. Sewage disposal: Type of proposed (On-Lot – existing or proposed, individual, or community; or Public).
 - e. Source of title:
 - 1) Deed instrument number or other recording reference used by the Cumberland County office of the Recorder of Deeds.
 - 2) Name of Grantor and Grantee.
 - 3) Reference(s) to prior recorded Subdivision Plans.
 - f. Property/site address, if available.
 - g. Tax parcel number.
16. The plan shall contain a statement indicating that the Applicant shall comply with all Township regulations in effect at the time of the filing of the Preliminary Plan.
17. The plan shall contain a statement indicating that the Applicant will be responsible for paying for the installation of all street and traffic control signs and devices required for the project as deemed necessary by Middlesex Township.
18. The plan shall note any deed restrictions or covenants which may be a condition of the sale of the property. This includes Clean and Green properties.
19. Names of adjoining property owners and their respective deeds and, if applicable, subdivision recording reference(s) and lot numbers. The identity of property owners shall reflect ownership as they exist currently or no earlier than one (1) year prior to plan submittal.
20. No plan which will require access to a highway under the jurisdiction of the Pennsylvania Department of Transportation (PennDOT) shall be finally approved unless said plan contains a notice that a Highway Occupancy Permit (HOP) is required pursuant to *Section 420 of the Act of June 1, 1945 (P.L. 1241, No 428)*, known as the “*State Highway Law*,” before driveway access to a state highway is permitted. The Subdivision Plan or Land Development Plan shall be noted as such to indicate that access to the state highway shall be only as authorized by a

PennDOT HOP and that Middlesex Township shall not be held liable for damages to persons or property arising out of the issuance or denial of a driveway permit by PennDOT. Plan approval does not represent any guarantee or assurance by Middlesex Township that a HOP will be issued by PennDOT for any lot shown hereon. A HOP from PennDOT shall be required prior to the issuance of a building permit by Middlesex Township.

21. Zoning requirements shall be included in the Table of Site Data as follows:
 - a. Zoning District in which the property is located.
 - b. Proposed Use:

A statement of intended use or purpose for all proposed subdivision lots and proposed land development sites.
 - c. Lot Area, both the minimum required and the proposed lot area.
 - d. Lot width, both the minimum required and the proposed lot width.
 - e. Required and provided front, rear, and side yard setbacks.
 - f. Maximum allowable building height both required and proposed.
 - g. Maximum allowable lot coverage and proposed lot coverage.
 - h. Maximum allowable impervious area and proposed impervious area.
 - i. Maximum allowable density and proposed density (dwelling units per acre).
 - j. Minimum parking spaces required and parking spaces proposed (include required formula per Township Zoning Ordinance for determination of minimum required).
 - k. Linear feet of new streets.
22. Zoning changes requested by the Applicant shall be clearly identified by heading, including date of application for change; docket number; whether the request was granted, granted with conditions, or denied; and the date of said action.
23. Zoning Districts:

The location of all zoning districts and zoning district lines must be prominently labeled on the plan.

24. Boundary Survey Plan showing bearings and distances around the perimeter of the parent tract:

If the size of the Parent Tract relative to the proposed subdivided lot(s) or lot(s) to be developed cannot be shown on one plan sheet, a Key Plan may be required showing the proposed subdivided lot(s) or the lot(s) to be developed in relation to the Parent Tract boundaries.

25. All existing natural features on the property must be shown and shall include, but not be limited to, the following:

- a. Watercourses.
- b. Wetlands (ref. Appendix B).
- c. Marshes.
- d. Floodplains.
- e. Rock outcrops.
- f. Sinkholes.
- g. Vegetated areas.
- h. Wooded areas.
- i. Location(s) of outstanding, rare, threatened, and endangered species and historic trees.
- j. Other significant natural features.

26. All existing and man-made structures on the property and extending a minimum of one hundred feet (100') beyond the property's boundary shall include, but not be limited to, the following:

- a. Buildings.
- b. Structures.
- c. Roadways and rights-of-way.
- d. Driveways.
- e. Sanitary and storm sewers.
- f. Manholes.
- g. Septic systems.

- h. Existing well and or any potential wells as designated by the Middlesex Township Municipal Authority Groundwater Availability and Well Siting Study of September 1999 prepared by ARM Group Inc.
- i. Water mains.
- j. Culverts.
- k. Fire hydrants.
- l. Utility poles.
- m. Overhead and/or underground electric, cable, and communication lines.
- n. Gas, oil, and other transmission mains.
- o. Other significant man-made features on and adjacent to the tract.

All utility lines, storm drainage facilities, and structures shall be identified as to size, depth, material type, and top and invert elevations.

- 27. The location of easements (recorded and/or non-recorded) and rights-of-way shall include the purpose for which they have been established, other restrictions, and any protective covenants running with the land which exist at the time of the filing of the plan. In addition, the plan shall contain a certifiable statement indicating that all easements and rights-of-way have been shown on the plan and that all utilities have been contacted. A current Pennsylvania One Call listing of all utility information and appropriate serial number(s) must also be included.

- 28. Existing contours:

If on-site improvements are proposed, other than a single-family residence, subsurface sewage disposal and on-site well contours shall be determined by an actual field survey; otherwise, contours can be based on interpolation of United States Geological Survey (USGS) mapping or other acceptable mapping of record. Contours shall extend a minimum of one hundred feet (100') beyond the property's boundary. Contours shall be at two-foot (2') intervals. Spot elevations shall also be provided where additional detail is required. Reference information for all elevations must be based upon the National Geodetic Survey (NGS), North American Vertical Datum (NAVD) 1988 or current version. One (1) permanent on-site benchmark must also be provided and referenced.

B. Preliminary Conventional Subdivision Plans:

In addition to requirements of §501.A, the Subdivision Plan shall contain the following.

1. All proposed lots shall be depicted indicating lot numbers and lot area in square feet or acres. Approximate dimensions for all proposed lot lines and curves are acceptable for Preliminary Plans only.
2. Parcels of land intended to be dedicated or reserved for schools; parks; playgrounds; parking areas; Common Open Space; or other public, semi-public, or community purpose. All parcels to be dedicated shall designate the time or the development stage at which the dedication will occur and the entity to which dedication shall be made. Reservations or dedications, if any, by the Applicant of any area designated for use as public grounds shall be suitable in size and location for their designated purposes and shall also indicate the type, location, and specifications for any equipment or planned facilities. The Applicant should consult the Middlesex Township Comprehensive Plan to determine applicability to the proposed subdivision site.
3. If construction is planned to occur in phases, a phasing plan and schedule indicating when each final phase will be filed with Middlesex Township.
4. For lots utilizing on-lot sewage disposal systems, the existing (if applicable) and proposed on-lot well and sewage disposal system locations, both primary and replacement, as well as soil probe and percolation test locations (passed and failed).
5. Where Community On-Lot Sewage Disposal System(s) (COLDS) is proposed, the layout of the proposed sewage system(s) shall include, but not be limited to, the designated locations of sewer mains and sewage treatment facilities.
6. Plan view locations of all sanitary and storm sewers, water mains, and fire hydrants.
7. When on-site water supply is proposed, the exact location of existing well sites and the approximate location of all proposed well sites.

For lots to be served by on-site sewage disposal systems, a one hundred-foot (100') radial well isolation distance between the proposed sewage disposal system and proposed well must be shown.
8. Where a private central water service is proposed, the layout of the distribution system including mains, fire hydrants, and storage tanks, including the locations of supply wells or other water sources.

9. Street (existing and proposed) and lot layout:
- a. Street name.
 - b. Street right-of-way width, both existing, if applicable, and proposed.
 - c. Street cartway width, both existing and proposed.
 - d. Street shoulder type and width.
 - e. Street curb-line and sidewalk.
 - f. Roadside drainage channels.
 - g. Typical proposed new street cross section.

Street cross sections shall include the entire right-of-way width and depict all relevant design information including, but not limited to, existing (if applicable) and proposed pavement sections, shoulders, curbing, sidewalks, base drains, cross slopes, roadside gutters, and/or drainage channels and related information required for construction. Where the Township believes that one typical section will not adequately provide sufficient information for review and construction purposes, multiple cross sections shall be provided, as directed.

- h. Typical existing street cross section with proposed improvements, if applicable and/or required.

The cross section shall contain all information as specified in §501.B.9.g) above.

- i. Existing and proposed lane configurations and pavement markings.
- j. Street centerline curve data radii.
- k. Street right-of-way curve data.
- l. Street intersection curve data at curb returns and rights-of-way.
- m. Required and provided sight distances at all intersections and driveways.
- n. Clear sight triangles along the centerlines of all intersecting streets and driveways shall also be provided.
- o. Street lighting plan per *Article 7 §711*.
- p. The location, size, and use of all existing buildings.

- q. Building setback lines with dimensions as specified in the Township Zoning Ordinance.
- r. Finish grade contours for lots (that are not part of a proposed development with internal streets) on existing road frontage shall be required when lot grading is required for design and construction of on-site improvements (for example, storm water management facilities).
- s. Finish grade contours are required for lots fronting new proposed internal streets.
- t. Although a one-foot (1') contour interval is preferred and required for Final Plans, proposed contours on only Preliminary Plans can be provided at a two-foot (2') contour interval for grading and/or construction activities that change the grade and elevation of the existing ground, which includes drainage channels crossing and/or traversing lots. The proposed finished floor elevation of all buildings and structures shall also be shown. Spot elevations shall also be provided where additional clarification is required.
- u. Elevations of top of grate, bottom of box, and invert(s) in and out of all storm water inlets must be shown on all drawing sheets depicting a plan view of a proposed storm sewer system in addition to all profile views.
- v. All storm water management Best Management Practices (BMPs) shall be shown with spot elevations at pertinent locations on BMPs as needed to provide clarity to the design.
- w. Storm sewer conveyance pipe size and material.
- x. Storm sewer manholes: top of rim, bottom, and invert(s) in and out.
- y. Vertical and horizontal alignment (profiles) for each proposed street, sanitary and storm sewerage systems, under drains, water distribution system, and other utilities, above or below grade, as applicable. All street profiles shall be drawn at a minimum scale of one inch to fifty feet (1"=50') horizontal and one inch to five feet (1"=5') vertical and shall show, at a minimum, the existing centerline profile, the proposed grade at the centerline, and all proposed vertical curve data for streets, including sight distance information. The profiles shall also include all storm sewer information, sanitary sewers, utility lines, and other information for those items located within the roadway right-of-way. Where storm or sanitary sewerage facilities are located outside of the street right-of-way or cannot be easily and accurately superimposed on the street profiles, separate profiles shall be provided.
- z. All water distribution, storm sewer, and sanitary sewer systems shall provide all hydrant locations, structure and pipe locations, pipe size, slope

and type of material, top and invert elevations of all structures, lateral locations, and other related information.

- aa. The size, type, location, and beneficiary of all existing and proposed easements, rights-of-way, watercourses, and natural and proposed drainageways shall be shown on the plan. All easements shall have a defined width, as prescribed in other applicable sections of This Ordinance. In order to provide clarity to drawings, use of separate drawing sheets, appropriately titled, should be considered and may be required by the Township Engineer for said easement descriptions (metes and bounds).
- bb. Designs and Construction details for all proposed improvements.
- cc. Other specifics or clarifications as deemed necessary by the Township to complete the plan.

C. Preliminary Land Development Plans:

In addition to requirements of §501.A, the Land Development Plan shall contain the following:

- 1. Existing contours and topographic mapping:
 - a. A topographic map shall be submitted. Two-foot (2') contour interval shall be allowed only for Preliminary Plans (see *Article VI, §601.G* for Final Plan requirements).
 - b. Spot elevations shall also be provided where additional clarification and detail is required.
 - c. The location of all existing buildings and structures including existing floor elevations.
 - d. If applicable, existing and proposed on-lot well and sewage disposal system locations, as well as soil probe and percolation test locations for all proposed on-lot sewage disposal systems.
- 2. Buildings/Structures:
 - a. Identify existing buildings/structures and indicate if they are to remain or be raised.
 - b. Location size and use of all proposed buildings.
 - c. Building setback lines as prescribed for the applicable zoning district within which the development project is located.

- d. Other structures as defined in this and any other Middlesex Township Ordinance.
 - e. Proposed retaining walls.
- 3. Proposed Curbing, sidewalk and other forms of pedestrian walkways.
- 4. Parking areas, access drives, and parking aisles accompanied with dimensions.
- 5. Drainage and Storm Water Management BMPs/facilities.
- 6. Proposed utilities (sewer, water, gas, electric, cable, telephone, fiber optic, etc.).
- 7. Site lighting in accordance with *Article VII, §711* of This Ordinance.
- 8. Site landscaping per *Article VII, §719* of This Ordinance.
- 9. All other significant planned facilities on the property shall be shown.
- 10. Proposed contours and grade elevations shall be provided:
 - a. Although a one-foot (1') contour interval is preferred and required for Final Plans, proposed contours on only Preliminary Plans can be provided at a two-foot (2') contour interval for grading and/or construction activities that change the grade and elevation of the existing ground, which includes drainage channels crossing and/or traversing lots.
 - b. Finish floor elevations of all buildings and structures shall also be shown. Spot elevations shall also be provided where additional clarification is required.
 - c. Elevations of top of grate, bottom of box, invert(s) in and out of all storm water inlets must be shown on all drawing sheets depicting a plan view of a proposed storm sewer system in addition to all profile views.
 - d. Elevations of top of rim, bottom, and invert(s) in and out for all storm sewer manholes.
 - e. All storm water management BMPs shall be shown with spot elevations at pertinent locations on BMPs as needed to provide clarity to the design and ease of construction.
- 11. Storm sewer conveyance pipe size and material.
- 12. Vertical and horizontal alignment (profiles) for each proposed street, sanitary sewer and storm sewerage systems, under drains, water distribution system, and other utilities, above or below grade, as applicable. All street profiles shall be drawn at a minimum scale of one inch to fifty feet (1"=50') horizontal and one

inch to five feet (1"=5') vertical and shall show, at a minimum, the existing centerline profile, the proposed grade at the centerline, all proposed vertical curve data for streets including sight distance information. The profiles shall also indicate all storm sewer information, inlets, sanitary sewers and manholes, utility lines, and other information for those items located within the roadway right-of-way. Where storm or sanitary sewerage facilities are located outside of the street right-of-way or cannot be easily and accurately superimposed on the street profiles, separate profiles shall be provided.

13. All water distribution, storm sewer and sanitary sewer systems shall provide all hydrant locations, structure and pipe locations, pipe size, slope and type of material, top and invert elevations of all structures, lateral locations, and other related information.
14. Abutting existing streets or roads including:
 - a. Street Name.
 - b. Street – Right-of-Way width: existing and, if applicable, proposed.
 - c. Street cartway width and lane configurations (existing and proposed) with dimensioned widths.
 - d. Street curb-line and sidewalks.
 - e. Existing and proposed road shoulders and roadside drainage channels.
 - f. Typical existing street cross section with proposed improvements, if applicable and/or required.
 - g. Street cross sections shall include the entire right-of-way width and depict all relevant design information including, but not limited to, existing and proposed pavement section, shoulders, curbing, sidewalks, base drain, cross slopes, roadside drainage gutters and/or channels, and related information required for construction. Where the Township believes that one typical section will not adequately provide sufficient information for review and construction purposes, multiple cross sections shall be provided as directed.
 - h. Street right-of-way curve data.
 - i. Curve data at curb returns and right-of-way of street/road and access drive(s) intersections into proposed development site.
 - j. Existing markings and proposed lane configurations and pavement markings.

15. Required and provided sight distances at all access drive intersections with existing streets/roads. Clear sight triangles shall also be provided at these locations.
16. Location and description of all existing and proposed survey monuments or markers.
17. The size, location, pavement markings and signage for fire lanes in accordance with the requirements of the Township Director of Emergency Services and the current International Fire Code (IFC).
18. Construction details for all proposed improvements.
19. The size, type, location and beneficiary of all existing and proposed easements, rights-of-way, watercourses, natural and proposed drainageways shall be shown on the plan. All easements shall have a defined width, as prescribed in other applicable sections of This Ordinance. In order to provide clarity to drawings, use of separate drawing sheets appropriately titled should be considered and may be required by the Township Engineer for said easement descriptions (metes and bounds).
20. Other specifics or clarifications as deemed necessary by the Township to complete the plan.

Section 502. Conservation Design and Residential Open Space Subdivisions

A. Required Pre-Application Meeting:

The Applicant for a Conservation Design Subdivision shall be bound by the Pre-Application requirements of *Article III §301.A* of This Ordinance.

B. Submittal and Completeness Requirements:

The Applicant for a Conservation Design Subdivision shall be bound by the Submittal and Completeness requirements *Article III* of This Ordinance.

C. Optional Sketch Plan:

The Applicant for a Conservation Design Subdivision has the option to submit a Sketch Plan in accordance with *Article IV* of This Ordinance. Regardless, the Applicant is strongly encouraged to pre-plan preliminary designs based on an analysis of a Site Context Map (§502.D.1) and Conservation Analysis (§502.D.2). The Township's review of the quality and compliance with the intent of This Ordinance shall be based on proposed conservation of natural resources as required and identified by these design support documents.

D. Plan Content Requirements:

The Applicant for a Conservation Design Subdivision shall at a minimum be bound by the Plan Content requirements *Article V §501.A* and *§501.B* of This Ordinance and *Article IV, §402* of the Middlesex Township Zoning Ordinance. The applicant for an Open Space Residential Subdivision shall, at a minimum, be bound by *Article XXII, §22.07* of the Middlesex Township Zoning Ordinance. In addition, Conservation Design and Open Space Residential Subdivision Plans shall contain the following:

1. A Site Context Map:

A Site Context Map is required for all residential subdivision and land development applications, if the proposed development is in the Residential Farm (RF) Zoning District and the Conservation Design Option is proposed or if the residential subdivision and land development is in the Residential Towne Zoning District or Open Space Zoning Overlay District and the Residential Open Space Option is proposed. The Site Context Map specifications and contents shall be as follows:

- a. A map or maps showing the location of the proposed subdivision within its neighborhood context.
- b. For sites under one hundred (100) acres in area, such maps shall be at a scale not less than one inch to two hundred feet (1"=200'); for sites of one hundred (100) acres or more, the scale shall be one inch to four hundred feet (1"=400').
- c. For sites less than one hundred (100) acres the map(s) shall show the relationship of the subject property to natural and man-made features existing within one thousand feet (1,000') of the site. For sites over one hundred (100) acres, the maps shall show natural and man-made features existing within two thousand feet (2,000') of the site. Features that shall be shown on the Site Context Map include:
 - 1) Stream valleys.
 - 2) Wetland complexes:
 - a) For areas beyond the limits of the proposed subdivision wetland locations may be determined by publications of the United States Fish and Wildlife Service (USFWS) or the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), National Wetland Inventory (NWI) or other acceptable published mapping.

- b) For areas within the bounds of the proposed subdivision, wetland locations shall be mapped as specified in Appendix B This Ordinance.
- 3) Woodlands over one-half (1/2) acre in area mapped from:
 - a) If beyond the limits of proposed subdivision, from aerial photographs.
 - b) If within the bounds of the proposed subdivision from field run topographic survey.
- 4) Ridge lines.
- 5) Public roads and trails.
- 6) Public land.
- 7) Land protected under conservation easements.

2. Conservation Analysis:

A Conservation Analysis of existing on-site sensitive natural features is required for all residential subdivision and land development applications, if the proposed development is in the RF Zoning District and the Conservation Design Option is proposed or if the residential subdivision and land development is in the Residential Towne Zoning District or Open Space Zoning Overlay District and the Residential Open Space Option is proposed. With the exception of minor subdivisions all applicable subdivisions shall consist of:

a. Existing Resources Inventory Mapping:

The Existing Resources Inventory Maps shall provide the developer and the municipality with a comprehensive analysis of existing conditions, both on the proposed development site and within one hundred feet (100') of the site. The existing resources inventory map(s) shall include:

- 1) An Aerial Photograph, taken in the last five (5) years, enlarged to a scale not less than one inch to four hundred feet (1"=400') with site boundaries of the proposed subdivision/land development shall be clearly shown.
- 2) Resources and conditions beyond the boundaries of the subject property may be described on the basis of existing published data available from governmental agencies, and from aerial photographs taken in the past five (5) years.

- 3) Map scale options shall include one inch to fifty feet (1"=50'), one inch to one hundred feet (1"=100'), and one inch to two hundred feet (1"=200').
- 4) Maps shall show lands with conservation value, including but not limited to the following:
 - a) Existing (from field data) contours of the site at vertical intervals of two feet (2') for areas with an average slope of ten percent (10%) or less and at intervals of five feet (5') for areas with an average slope exceeding ten percent (10%).
 - b) Slope Mapping:

Slopes shall be shaded and identified as follows:

 - (1) 0-5% (flat-mild).
 - (2) 5-10% (mild to mildly steep).
 - (3) 10-15% (mildly to moderately steep).
 - (4) 15-25% (moderately steep).
 - (5) <25%+ (steep).
 - c) The location and delineation of ponds, streams, ditches, drains, natural or artificial drainage swales, and drainage courses/ways/draws located on or within two hundred feet (200') of the subject property. Streams shall be classified as either perennial or intermittent.
 - d) Existing one hundred (100)-year floodplains for all streams including but not limited to only Federal Emergency Management Agency (FEMA)-defined streams, channels, and natural draws as defined by:
 - (1) An existing detailed FEMA Study or if not available.
 - (2) A Hydrology and Hydraulic (H&H) Study prepared by a licensed professional civil engineer with experience in preparing said studies.
 - (3) An alternate method may be proposed and used if properly justified and approved by the Township Engineer.

- e) Wetlands:
 - (1) For areas within the bounds of the proposed subdivision, wetland locations shall be mapped as specified in Appendix B of This Ordinance.
 - (2) For areas beyond the limits of the proposed subdivision, wetland locations may be determined by publications of the USFWS or the USDA NRCS, NWI or other acceptable published mapping.
- f) Natural forest, woodlands and tree cover shall be shown as a circumferential line around all forest and tree stands.
 - (1) Individual trees with a caliper equal to or greater than thirty-six inches (36") shall be located on the inventory map.
 - (2) Hedgerows shall be located on the inventory map.
- 5) Class I, II, and III soils shall be delineated and shown as mapped by the USDA NRCS in the most recent published soil survey for Cumberland County.
- 6) Erodible soils (based on k factor) on slopes over twenty-five percent (25%).
- 7) Geologic formations on the proposed development parcel, including rock outcroppings, cliffs, sinkholes, and fault lines, based on available published information or more detailed data obtained by the Applicant.
- 8) All existing man-made features shall be shown including but not limited to streets, driveways, farm roads, woods roads, buildings, foundations, walls, wells, drainage fields, tanks (aboveground or underground), dumps, utilities, fire hydrants, and storm and sanitary sewers. Those man-made features that are proposed to be demolished and removed shall be so labeled.
- 9) Locations of all historically significant sites or structures on the tract, including but not limited to buildings, cellar holes, stone walls, earthworks, and graves.
- 10) Locations of trails that have been in public use (pedestrian, equestrian, bicycle, etc.).

- 11) All easements and other encumbrances of the property, which are or have been filed of record with the Recorder of Deeds of Cumberland County, shall be shown on the plan.
- 12) For Conservation Subdivisions, the total acreage of the property tract, the Adjusted Tract Area and the constrained land area with detailed supporting calculations (see *Article IV §4.02* of the Zoning Ordinance).

b. Site Analysis Report:

- 1) A report shall be prepared to categorize the impacts of the proposed activities and physical alterations on those resources shown on the Existing Resource Inventory Mapping. The report shall take into consideration all factors, items, data, natural resources, studies and those item and/or topics otherwise required to be studied as described in §502.D.2.a above. Impacts of the proposed subdivision/development on existing resources and measures taken to minimize and control such impacts both during and post development shall be discussed. Said Report should contain conclusions drawn and proposed recommendations for developing the project site in the Conservation Design fashion (style). Said report shall be used by the Applicant to design the project to avoid negative impacts to said items, features and topics studied.
- 2) Woodlands Evaluation Report shall be included in the Site Analysis Report prepared by a forester, landscape architect, horticulturist or another qualified professional acceptable to Middlesex Township Board of Supervisors. At a minimum the report shall include:
 - a) One or more maps indicating boundaries and conditions of woodland areas.
 - b) A description of the present conditions (i.e., stocking, health and species composition of the woodland).
 - c) A description of the ecological functions of the woodland (i.e., in protecting steep slopes, erodible soils, maintaining stream quality and providing for wildlife habitats).
 - d) A description of the proposed impact to the woodlands (i.e., approximate acreage of wooded area to be disturbed).
 - e) The relationship of the on-site woodlands to woodlands on adjoining and nearby properties and the ecological need

and potential for maintaining continuous woodland areas from property to property.

3. Preliminary Open Space Ownership and Management Plan.

For conservation subdivisions and other development with designated Open Space, the Applicant shall submit a preliminary Open Space ownership and management plan. The preliminary Open Space ownership and management plan shall detail approximate boundaries, approximate acreage and proposed ownership of all proposed Open Space areas, describe the entities responsible for maintaining various elements of the property and describe management objectives and techniques for each part of the property. Such management plans shall be consistent with the requirements of the Zoning Ordinance §4.03 H.2.

Section 503. Certifications, Dedications, Reports and Other Supporting Documents

A. Conventional Subdivision and Land Development Plans:

1. Signature(s) and certification(s) of ownership of the legal and/or equitable owner(s) certifying concurrence with the Plan and dedicatory statement as outlined in Exhibit A5 shall be signed by the property owner(s) verifying ownership and acceptance of the plan.
2. A certification statement in Exhibit A4 (Appendix A) as applicable, in a form as shown in Paragraphs A, B, and C, as applicable, signed and wet sealed by the professional responsible for preparation of the plan verifying the accuracy of the engineering and survey information contained on the plan.
3. A completed "Sewage Facilities Planning Module for Land Development" or other equivalent documentation submitted to the Township and ready for submission to the Pennsylvania Department of Environmental Protection (PA DEP) in compliance with the requirements of the Pennsylvania *Sewage Facilities Act* and Title 25, Chapter 71 of the Pennsylvania Code (also reference *Article III §310* of This Ordinance).
4. A Wetlands Delineation Report as specified in Appendix B is required for all subdivisions and land developments, the Applicant must determine if regulatory wetlands exist on the property containing the proposed subdivision or land development. The Applicant must also determine if any wetlands will be impacted off-site from the property if off-site construction activities are proposed.
5. On land subject to flooding, the Applicant shall submit information as set forth in *Article IX* of This Ordinance relative to Floodplain Area Regulations.
6. A Hydro-Geologic Study and Water Quality Testing Report in accordance with requirements as set forth in Appendix C shall be required prior to the approval of any Subdivision Plan or Land Development Plan representing more than ten (10)

dwelling units, or a non-residential use or uses which individually or collectively have an anticipated daily water usage demand of four thousand (4,000) gallons per day or more, which proposes to utilize an on-site community public water supply system or individual private wells. However, this requirement will not apply to any single-family residential development where individual lots are larger than one (1) acre.

7. A Storm Water Management Plan (SWMP) addressing the requirements of *Article X* and the Middlesex Township Storm Water Management Ordinance.
8. A listing of all Local, State, Federal and other outside agency permits and approvals which are ultimately required for Final Plan approval and construction.
9. In the event that the plan proposes the extension of water and/or sewer service into the project from existing sewerage facilities owned and maintained by the Middlesex Township Municipal Authority or a neighboring Authority, a report from the Middlesex Township Municipal Authority or neighboring Authority indicating that the proposed design which has been reviewed and is sufficient to meet the technical requirements of the Middlesex Township Municipal Authority or neighboring Authority and that either of said Authorities have the capacity and ability to serve the project in accordance with their rules and regulations.
10. A Preliminary Traffic Impact Study, where required herein (Reference *Article VII §717*).
11. A Preliminary Environmental Impact Assessment (EIA) Report, as required by This Ordinance (Reference *Article VII §718*).
12. Plan review comments and or a report from the Letort Regional Authority, if applicable (ref. *Article III, §301.D.7*)
13. A geotechnical study and report prepared by a Pennsylvania registered Professional Civil/Geo-Technical Engineer is required, when:
 - a. It is determined that the developer cannot avoid building on soils with severe limitations and there are concerns with respect to structural safety and/or environmental degradation.
 - b. The report will provide more detail of soils and geologic characteristics in order to determine and/or otherwise verify that soils can support development using suitable engineering measures to mitigate poor structural qualities of insitu soils.
14. Other engineering or related data and information that the Township may reasonably require in order to review, evaluate, and understand the Subdivision Plan or Land Development Plan application.

B. Conservation and Open Space Residential Design Subdivisions:

In addition to requirements of §501.A and §501.B, the following shall be required certifications, dedications, reports and other supporting documents for Conservation and Open Space Residential Subdivisions.

1. A Resource Impact and Conservation Plan shall be submitted to demonstrate consistency of the proposed development plan with the Site Analysis Report and related mapping as required by §502.D.2.b of This Ordinance. The plan may be an overlay type map that lays the proposed site designs over the items and features studied. All proposed improvements, including but not necessarily limited to grading, fill, streets, buildings, utilities, storm water BMP facilities, as proposed in the Preliminary Plan documents, shall be taken into account in preparing the Resource Impact and Conservation Plan, which shall clearly demonstrate, by illustration, not only that the Applicant has minimized site disturbance to the greatest extent practicable but has also preserved and/or conserved the natural resources and features disclosed in the Site Analysis Report including measures taken to minimize and control impacts during and post development.
2. Preliminary Community Association Documents (a.k.a., Homeowners Association or Condominium Association documents), when the Applicant proposes lands or facilities that are not deeded to the Township that are to be used or owned in common by all or a portion of the residents of the subdivision or land development. The elements of the Community Association Document shall include, but shall not necessarily be limited to the following:
 - a. A description of all lands and facilities to be owned by the Community Association. This description shall include a map of the proposal highlighting the precise location of those lands and facilities.
 - b. Statements setting forth the powers, duties, and responsibilities of the Community Association, including the services to be provided.
 - c. A Declaration of Covenants, Conditions, and Restrictions, giving perpetual easement to the lands and facilities owned by the Community Association. The Declaration shall be a legal document, which also provides for automatic Association membership for all owners in the subdivision or land development and shall describe the mechanism by which owners participate in the Association, including voting, elections, and meetings. Furthermore, it shall give power to the Association to own and maintain the common property and to make and enforce rules.
 - d. Statements prescribing the process by which Community Association decisions are reached and setting forth the authority to act.

- e. Statements requiring each owner within the subdivision or land development to become a member of the Community Association.
- f. Statements setting cross covenants or contractual terms binding each owner to all other owners for mutual benefit and enforcement.
- g. Requirements for all owners to provide a pro rata share of the cost of the operations of the Community Association.
- h. A process of collection and enforcement to obtain funds from owners who fail to comply.
- i. A process for transition of control of the Community Association from the developer to the unit owners.
- j. Statements describing how the lands and facilities of the Community Association will be insured, including limit of liability.
- k. Provisions for the dissolution of the Community Association, in the event such dissolution should become inevitable.

ARTICLE VI FINAL PLAN REQUIREMENTS

Section 601. Plan Content

Final Plans shall meet all requirements of *Article V* of This Ordinance. All dimensions and locations of but not limited to lots, buildings and site improvements shall be finalized (approximations are prohibited). In addition Final Plans shall contain:

- A. All information required by *Article V* of This Ordinance in final format.
- B. The printed name, signature, address, telephone number registration number, seal and certification of the Registered Design Professional(s) responsible for preparation of the plan.
- C. Professional certifications in accordance with Exhibit 4 of Appendix A.
- D. The Plan shall bear the designation, Final Plan and date submitted as required by *Article III* of This Ordinance.
- E. Boundary survey Plan showing proposed and existing tract boundary lines, right-of-way lines of streets, easements, and other rights-of-way and property lines of residential lots and other sites with accurate dimensions, bearings, or internal angles, and radii, arcs, and deflection angles.

The error of closure shall not be more than one part in ten thousand (1:10,000). All surveys must be on the Pennsylvania State Plane Coordinate System, South Zone. At least two primary survey control points must be identified, with coordinates provided.

- F. Location and description of all existing and required survey monuments and markers.
- G. Topographic survey at one (1)-foot contour intervals. The proposed finished floor elevation of all buildings and structures shall be shown. Spot elevations shall also be provided where additional clarification is required.
- H. A Final Plan of all easements (existing and proposed) defined by metes and bounds. In order to provide clarity to drawings, use of separate drawing sheets appropriately titled should be considered and may be required by the township Engineer for said easement descriptions.
- I. A statement by owner offering dedication of streets, rights-of-way and any sites for public uses which are to be dedicated.
- J. A notarized certificate of ownership.

K. Signature blocks and date spaces for recommendation/approval by the following in accordance with Exhibit 3 of Appendix A:

1. Township Planning Commission.
2. Board of Township Supervisors.
3. Middlesex Township Municipal Authority (when required).
4. Cumberland County Planning Commission.

Section 602. Supporting Documentation

All preliminary supporting documentation required by *Article V* shall be finalized and submitted with the Final Plan. In addition, the following shall be submitted:

- A. Whenever any improvements are proposed in connection with a subdivision or land development it shall be the responsibility of the Applicant to provide adequate engineering and related designs, details construction specifications performance guarantees, and ownership and maintenance responsibilities in accordance with the standards and requirements set forth in This Ordinance, as applicable.
- B. If water is to be supplied by means other than on-site wells, maintained and operated by individual lot owners, a copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such, a cooperative agreement or commitment must accompany the Plan as evidence that the proposed development will be supplied with an adequate, reliable and safe water supply.
- C. A Final Storm Water Management Plan (SWMP) approved by the Township Engineer.
- D. A Final Landscape Plan in accordance with §719 of This Ordinance.
- E. An Erosion and Sedimentation Pollution Control (E&SPC) Plan for review by the Township and for review and approval by the Cumberland County Conservation District (CCCD). The E&SPC Plan must be approved by the CCCD.
- F. An NPDES permit, when required.
- G. A notation on the Plan relating to the conformance with the requirement for a Highway Occupancy Permit (HOP) from the Pennsylvania Department of Transportation (PennDOT) pursuant to *Section 420 of the Act of June 1, 1945 (P.L. 1241, No. 428)* known as the “State Highway Law.”
- H. Suitable documentation that the applicable plans are in conformity with ordinances and regulations governing the extension of utility services.
- I. Final approval of Final Sewer and Water designs by the Middlesex Township Municipal Authority and/or if applicable, other neighboring authority.

- J. For conservation subdivisions and other subdivisions or developments with designated Open Space, a Final Open Space Ownership and Management Plan. The final Open Space ownership and management plan shall detail exact boundaries described by metes and bounds descriptions, exact acreages and proposed ownership of all proposed Open Space areas, describe the entities responsible for maintaining various elements of the property and describe management objectives and techniques for each part of the property. Such management plans shall be consistent with the requirements of Zoning Ordinance §4.03 H.2.
- K. Where applicable, Final Community Association Documents in accordance with specifications in Appendix D.
- L. Other specifics or clarifications as deemed necessary by the Township to complete the plan.
- M. Such other certificates, affidavits, endorsements, or dedications as may be required by the Board of Township Supervisors in the enforcement of these regulations.

ARTICLE VII DESIGN STANDARDS

Section 701. Intent

The design standards established in This Ordinance are intended to be fundamental requirements to be applied with professional skill in the subdividing and planning of land so as to produce attractive and harmonious neighborhoods, convenient and safe streets, and economical layouts of residential and other land development. The design standards are further intended to encourage and promote flexibility and ingenuity in the layout and design of subdivisions and land developments, in accordance with modern and evolving principles of site planning and development.

Section 702. Application

The following principles, standards, and requirements will be applied by the Board of Supervisors and Planning Commission in their review and evaluation of all Subdivision and Land Development Plan applications:

- A. The standards and requirements contained herein shall be considered the minimum for the promotion of the public health, safety, convenience, and general welfare.
- B. Where literal compliance with the standards and requirements contained herein is clearly impractical, the Board of Supervisors may modify or waive such standards through the modification of requirements process set forth in This Ordinance.
- C. Subdivision and Land Development Plans shall give due consideration to the Comprehensive Plan of the Township, Cumberland County region, or to such parts thereof as may be adopted pursuant to statute.
- D. Proposed land uses shall conform to the Middlesex Township Zoning Ordinance, as amended.
- E. Land subject to hazards to life, health, or property, such as may arise from fire, flood, disease, or other causes, shall not be planned for development purposes unless such hazards have been eliminated or unless the plan shall show adequate safeguards against them, which shall be approved by the Township and/or appropriate regulatory agencies.

Section 703. Streets

- A. General Standards:
 - 1. Proposed streets shall be properly related to such street plans or parts thereof as have been officially adopted by Middlesex Township and shall be coordinated with existing or proposed streets in adjoining subdivisions or land developments. Further, proposed streets shall be properly related to county, regional or state transportation plans as have been prepared and adopted as prescribed by law.

2. Streets shall be laid out to preserve the integrity of their design. Local access streets shall be laid out to discourage their use by through traffic and, where possible, collector and arterial streets shall be designed for use by through traffic.
3. Streets shall be related to the topography so as to establish usable and desirable lots and satisfactory street grades.
4. Proposed street arrangements shall make provisions for continuation of existing streets in adjoining areas; the proper projection of streets into adjoining undeveloped or unplanned areas; and the continuation of proposed streets to the boundaries of the tract being subdivided.
5. Whenever a subdivision or land development plat or plan is submitted which sets forth new streets or other ways of ingress and egress other than a single cul-de-sac street, two separate points of ingress to and egress from the land affected, or any significant portion thereof, must be designated thereon. Such points of ingress and egress must be designed and built to conform to the design and construction requirements of Middlesex Township for public streets. An Applicant may request a modification of this requirement and shall in support thereof, present evidence that due to topography, site distance, wetlands, environmental constraints, configuration of land, distance between intersections or other unique factors not created by the Applicant, it is impractical to have a second (2nd) way of ingress and egress. Upon due consideration of these factors, the Board of Supervisors, at their sole discretion, may grant the request for said modification.
6. New half or partial streets shall be prohibited except where essential to the reasonable subdivision of a tract in conformance with the other requirements and standards of these regulations and where, in addition, satisfactory assurance for dedication of the remaining part of the street can be obtained; a cul-de-sac shall be constructed at the end of such half street which shall be of a permanent nature, unless a temporary cul-de-sac is approved.
7. Names of new streets shall not duplicate or conflict with existing or planned street names, or approximate such names by the use of suffixes. Cognizance should be given to existing or planned street names within the postal delivery district served by the local post office. New streets shall bear the same name or number of any continuation of alignment with an existing or planned street.
8. Proposed private streets (streets not offered for dedication to the Township) are prohibited, unless they meet the design standards of This Ordinance and unless they are set within a private-right-of-way meeting the minimum width requirements of This Ordinance.
9. Streets in and bordering a Subdivision Plan and/or Land Development Plan shall be coordinated with, and be of such widths and grades and at such locations so as to accommodate prospective traffic and facilitate fire and police protection.

10. Whenever a subdivision or land development abuts a street which does not meet Township design criteria, the street shall be improved to meet such criteria, including dedication of additional right-of-way. The roadway shall also be provided with curbing, sidewalks, and drainage facilities as prescribed herein.
11. Where a lot has more than one side of street frontage and there is a driveway on one side, if it is necessary to determine which side of the lot fronts for purposes of This Ordinance, the lot shall be considered to front on the street on which the driveway exists. In all other cases, the lot shall be considered to front on the street which the lot has the greatest frontage. If the lot frontage and driveway are not determinative, the lot shall be considered to front on the predominant street bordering the lot.

B. Street Classification:

Six (6) functional classifications of streets and roadways are defined by the Middlesex Township Comprehensive Plan to include Interstate, Freeway, Principal and Minor Arterials, Collectors and Local streets. Of these classifications, Freeways do not exist in the Township and Interstates are not addressed by this *Article* given that these roadways are under the jurisdiction of the Pennsylvania Department of Transportation (PennDOT) and do not typically involve design activities associated with subdivision and land development applications. Also, for purposes of This Ordinance, Local streets shall also be referred to as Minor streets.

The following classifications represent roadways within the Township that are regulated by the provisions of This Ordinance:

1. Arterial:

This classification includes highways which provide intra-county or inter-municipal traffic with volumes greater than five thousand (5,000) vehicles per day. Generally, these highways should accommodate design speeds of fifty-five miles per hour (55 mph).

2. Collector:

This classification is intended to include those highways which connect minor streets to arterial highways and serve as traffic corridors connecting residential areas with commercial, industrial, shopping and other services. They may also penetrate residential areas. Generally, these highways experience traffic volumes between one thousand (1,000) and five thousand (5,000) vehicles per day and shall be designed to accommodate design speeds of thirty-five miles per hour (35 mph).

3. Minor:

This classification is intended to include streets and roads that provide direct access to abutting land and connections to higher classes of roadways. Traffic

volumes are less than one thousand (1,000) vehicles per day and travel distance is generally short. These streets and roads shall be designed for speeds of twenty-five miles per hour (25 mph). For purposes of This Ordinance, all roadways not classified as Collector, Arterial or above are classified as Minor streets. Newly planned streets meeting this classification shall be designed to meet Minor street design criteria.

C. Street Width:

1. Minimum street right-of-way and cartway widths shall be required as presented in Table 703.1. Alternate street design types may be entertained at the sole discretion of the Township under the Modification of Requirements procedure based upon the type and intensity of the development proposed, the merits of the proposed alternative and a complete technical evaluation of all relevant information.
2. Provisions for additional street width (cartway and right-of-way) including for private streets may be required when determined to be necessary by the Board of Supervisors in specific cases for:
 - a. Public safety and convenience.
 - b. Parking in commercial and industrial areas and in areas of high-density development.
3. Non-curbed local access streets shall be designed with shoulders and roadside channels to accommodate roadside parking and drainage. Shoulders shall have a minimum width of four (4) feet. Additional width may be required at the discretion of the Township Engineer and as specified in PennDOT Publication 70, Guidelines for the Design of Local Roads and Streets.
4. Parking is prohibited on arterial and collector streets

Table 703.1
Minimum Street Design Standards

Street Type	Arterials*	Collectors	Local Access Streets	Cul-de-Sacs ²	Marginal Access	Service Drives
Minimum Right-of-Way Width	*	60'	50'	50'	35-50'	22'
Minimum Pavement Width (does not include shoulder)	*	36'	36' ^(c) 24' ^(nc)	30' ^(c) 22' ^(nc)	26' ^(c) 22' ^(nc)	18-22'
Maximum Grade	6% ³ *	8% ⁴	8% ⁴	8% ⁴	8% ⁴	10% ⁴
Minimum Grade	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Minimum Radius of Curve at Center Line ¹	500'	300'	200'	100'	100'	---
Minimum Tangent Length Between Curves	*	100'	---	---	---	---
* Subject to PennDOT review and concurrence. (1) Where street lines deflect from each other more than ten degrees (10°). (2) Cul-de-sac streets may not exceed five hundred feet (500') in length. They must be provided with a paved turnaround with a minimum diameter of one hundred feet (100') to the outside edge of the pavement and one hundred twenty feet (120') to the legal right-of-way. The minimum length of cul-de-sac shall be two hundred fifty feet (250'), measured from the intersecting street right-of-way line. (3) May be increased by one percent (1%) for grades not more than three hundred feet (300') long. (4) May be increased by two percent (2%) for grades not more than one hundred fifty feet (150') long. (c) Minimum width where curbs are to be installed. (nc) Minimum width where curbs are not to be installed.						

Table 703.2
Intersection Design Standards

Intersection Type	Arterial* with Arterial	Arterial* with Collector	Collector with Collector	Collector with Local Access	Local Access ¹ with Local Access
Maximum Number of Intersecting Streets at Each Junction	2	2	2	2	2
Minimum Center Line Offset at Intersections Opening at Opposite Sides of an Existing or Proposed Street	*	400'	250'	125'	125'
Angle of Intersection of Street Center Lines	90°	90°	90°	(Shall not deviate more than 15° from perpendicular)	
Minimum Length (feet) and Maximum Grade of Approaches to Intersections Where General Grade is 6% or More	*	100/4%	75/4%	75/4%	50/4%
Minimum Radius of Curbs at Intersection of Streets	50'	50'	35'	35'	35'
Intersection Clear Sight Triangle – Each Center Line Leg	*	150'	75'	75'	75'
* Subject to PennDOT review and concurrence. (1) Marginal access streets have same requirements as local access streets.					

**Table 703.3
Street Materials**

Street Classification	Material Specifications	
	Base Material	Surface Material
Arterial Streets	As determined by the Board of Supervisors after consultation with the Township Engineer and PennDOT	
Collector Streets	SAMD HMA Base Course, PG 64-22, 0.3 to <3 million ESALS, 25.0 mm Mix, 5" depth –AND– Base (No. 2A Crushed Aggregate), 6" depth –OR– Base (PA No. 4 Crushed Aggregate-Dusted), 8" depth*†	SAMD HMA Wearing Course, PG 64-22, 0.3 to <3 million ESALS, 9.5 mm Mix, 1½" depth, SRL –AND– SAMD HMA Binder Course PG 64-22, 0.3 to <3 million ESALS, 19.0 mm Mix, 2" depth
Minor Streets (Industrial/Commercial Use)	Same as Collector Streets	Same as Collector Streets
Minor Streets (Residential Use)	SAMD HMA Base Course, PG 64-22, 0.3 to <3 million ESALS, 25.0 mm Mix, 3" depth –AND– Base (No. 2A Crushed Aggregate), 6" depth –OR– Base (PA No. 4 Crushed Aggregate-Dusted), 8" depth*†	SAMD HMA Wearing Course, PG 64-22, 0.3 to <3 million ESALS, 9.5 mm Mix, 1½" depth, SRL –AND– SAMD HMA Binder Course PG 64-22, 0.3 to <3 million ESALS, 19.0 mm Mix, 2" depth
Turn-Around of Cul-De-Sac (Diameter)	Same as Street Classification	Same as Street Classification
* In areas of the Township with karst soils † As required by soil conditions and consultation with the Township Engineer		

Average Daily Traffic	SRL	Alternates
20,000 and Above	E	None
5,000 to 20,000	H	E, H, Blend of E/M, Blend of E/G
3,000 to 5,000	G	E, H, G, Blend of H/L, Blend of E/L
1,000 to 3,000	M	E, H, G, M, Blend of H/L, Blend of G/L, Blend of E/L
1,000 and Below	L	Any
Note: All blends are fifty percent (50%) by weight and shall be accomplished by an approved method. ESALS – Equivalent 18-kip Single Axle Loads HMA – Hot Mix Asphalt SAMD – Superpave Asphalt Mix Design SRL – Skid Resistance Level Determination		

D. Street Pavement Construction and Drainage:

1. All streets shall be designed and constructed in accordance with the latest edition of PennDOT Publication 408, Specifications and PennDOT Publication 72M, Standards for Roadway Construction. Reference is made to *Article XIV*, Improvement and Construction Requirements of This Ordinance for additional requirements.
2. All street pavement structures shall be constructed using SAMD HMA paving materials to the minimum thicknesses and proportions as shown in Table 703.3 herein, subject however to the provisions contained in §703.D.3 below. For collector and arterial streets, applicants shall be required to submit estimates of average daily traffic (ADT) volumes for both site generated traffic and for estimated pass-through traffic from adjacent developed and undeveloped land in order to determine the roadway classification and SRL designation. Alternate pavement types such as concrete, brick pavers and the like may be approved by the Township under the Modification of Requirements process, either in part or in its entirety, based upon a thorough technical review of the proposed alternative as submitted by the Applicant.
3. A pavement design, in accordance with the current edition of PennDOT Publication 242, Pavement Policy Manual, shall be required for all new and improved roadways that will accommodate a total of one hundred (100) or more Equivalent 18-kip Single Axle Loads (ESALS) in a given weekday in all directions. The pavement design parameters will be determined by the Applicant's consultant and approved by the Township Engineer and shall take into account the supporting road networks' capacity to handle additional heavy vehicle loading. No proposed pavement section determined by the pavement design may be less than the minimum requirements contained in Table 703.3 of this *Article*.
4. If poor subgrade soils are present, the Township may require that the Applicant conduct a subgrade soils evaluation for new, reconstructed and widened streets. This evaluation shall include, at a minimum:
 - a. Gradation test to determine the percent of given particle sizes of the different soil types of the project. Gradation test results shall be used to determine the Unified Soils Classification for the subgrade material.
 - b. In-place moisture content and optimum moisture content.
 - c. In-place density and dry mass density.
 - d. California Bearing Ratio (CBR).

These tests shall be performed on the existing subgrade material (in-situ soils) upon which the proposed streets will be built. Select borrow materials placed as part of the street construction must also be tested prior to the placement of the

pavement. Stabilization measures will be required as part of the project if the tested CBR values are equal to or less than five (5). Under no circumstances will in-situ subgrade soils or select borrow materials with a CBR equal to or less than three (3) to be used for street construction.

The exact number of tests required will be determined at the discretion of the Township Engineer, given the size of the proposed project, the location of the proposed street system and existing soil conditions. At a minimum three (3) representative tests will be required. All test locations must be approved by the Township Engineer and must be documented by the Applicant.

5. Where a new subdivision or land development proposes a street system that ties into an existing street with a substandard pavement section, cross slope or exhibits rutting, cracking, base failure or other poor qualities, the Township may require the Applicant to apply remedial measures to the streets within and bordering the subject property in order to provide proper access to the site and to accommodate prospective traffic. Required remedial measures may include, but shall not be limited to, milling and overlaying, placement of HMA scratch or leveling courses, crack sealing or crack repair, select base repair, sawcutting and pavement replacement or even pavement reconstruction. At the time of filing the Preliminary Plan, or in the absence of a Preliminary Plan, then the Final Plan, the Applicant shall evaluate the condition of the existing pavement and the Township shall determine the need for any remedial work.
6. All streets shall be provided with a complete storm sewer collection and conveyance system designed in accordance with the provisions of the Middlesex Township Storm Water Management Ordinance.
7. Pavement base drains shall be designed and installed on all new, reconstructed, and widened streets to drain subsurface water beneath the pavement structure. Pavement base drains shall comply with the construction requirements as contained in *Article XIV* of This Ordinance. Combination Storm Sewer/underdrain may be used in lieu of base drain wherever a conflict exist between the proposed base drain and proposed storm sewer system.

E. Off-Street Parking:

1. Private parking lots and associated access drives for commercial, institutional, and industrial uses and for multi-family residential facilities shall be paved in accordance with the following minimum standard:
 - a. One and one-half-inch (1½") depth, SAMD HMA Wearing Course.
 - b. Five-inch (5") depth, SAMD HMA Binder Course.
 - c. Six-inch (6") depth, PennDOT No. 2A Crushed Aggregate Base Course.

Engineering judgment shall be applied in all instances in determining the required pavement thickness based upon traffic volumes, vehicle loadings, and soil conditions specific to the site being developed.

2. Alternate designs with an equal or greater structural number will be considered by the Township.
3. Any and all portions of driveways within the public right-of-way accessing parking areas shall conform to the construction standards required for the adjacent classification of street as listed herein.

F. Cul-de-Sac or Dead-End Streets:

1. Dead-end streets are prohibited unless designed as cul-de-sac streets or for future access to adjoining properties.
2. Any dead-end street, for access to any adjoining property or because of an authorized phased development, shall be provided with a temporary cul-de-sac, within the subdivision or land development; and shall be provided with a temporary easement guaranteed for public use until such time as the street is extended and dedicated to the Township for public use. Temporary cul-de-sacs shall be paved with a minimum of six inches (6") of PennDOT No. 2A subbase material and two inches (2") of HMA binder. The minimum diameter of temporary cul-de-sacs shall be eighty feet (80').
3. The maximum length of a dead end street or cul-de-sac shall be no more than five hundred feet (500'), except as provided for in §703.F.13, and shall not furnish access to more than twenty (20) residential dwelling units.
4. The minimum length of a cul-de-sac street shall be two hundred fifty feet (250').
5. The length of a cul-de-sac shall be measured from the face of the curb of the nearest intersecting street at the open end of the cul-de-sac street to the center point of the bulb of the cul-de-sac.
6. Cul-de-sacs shall be fully paved to Township standards for the respective street classification.
7. "Eyebrow" protrusions and "hammerhead" type turnarounds are prohibited on all streets as a type of cul-de-sac.
8. A second (2nd) cul-de-sac shall not branch off of or intersect from a cul-de-sac street.
9. Unless future extension is clearly impractical or undesirable, the turnaround right-of-way shall be placed adjacent to the tract boundary with sufficient additional width provided along the boundary line to permit extension of the street at full width.

10. A minimum of two (2) locations, evenly spaced around the cul-de-sac-bulb shall be signed as no parking areas to allow for snow storage. The restricted areas shall be a minimum of thirty feet (30') in length and generally opposite from the entrance portion of the cul-de-sac and shall extend from the curb line of the cul-de-sac to the right-of-way line. The areas shall be kept free of driveways, mailboxes, landscaping, light standards, fire hydrants and other features that would be adversely impacted by the plowing and accumulation of snow and ice. Said restriction areas shall be clearly labeled and noted on the plan.
11. Drainage of cul-de-sac streets shall preferably be towards the open end. If drainage is toward the closed end it shall be collected and piped away in an underground storm sewer system. Provision shall also be made for the overland conveyance of storm water from storm events of less frequency for that which the storm sewer system has been designed.
12. The centerline grade on the approach to a cul-de-sac street shall not exceed ten percent (10%) and the grade of the diameter of the turnaround portion of the cul-de-sac shall not exceed five percent (5%). The minimum grade of the cul-de-sac bulb shall be one percent (1%) along both the centerline and curb line.
13. Cul-de-sac streets serving commercial and/or industrial uses shall be adequate for the type of use to be serviced as approved by the Township Engineer but, in no case, shall exceed eight hundred feet (800') in length.

G. Alleyways:

Alleyways shall not be permitted as an acceptable form of street within the Township unless specifically authorized by the Board of Supervisors in conjunction with the design and approval of a Traditional Neighborhood Development (TND). In those instances, alleyways shall be privately owned and maintained; be located within an easement or right-of-way having a minimum width of twenty feet (20'); have a minimum cartway width of fifteen feet (15'); meet the paving standards for Minor Streets as contained herein; and be reviewed and approved by the Township Engineer regarding all other design aspects.

H. Street Alignment:

1. Streets shall be logically related to the terrain and topography so as to produce usable roads with reasonable alignments and grades.
2. Horizontal street alignments shall be measured along the centerline. Horizontal circular curves shall be used for all changes in direction and shall have minimum centerline radii as shown in the following table for each street classification:

Street Classification	Minimum Horizontal Centerline Radius
Arterial	As required by PennDOT Design Standards
Collector	350'
Minor or Private Street	150'

3. Straight portions of the street must be tangent to the beginning or ending of curves and there must be a tangent length of at least fifty feet (50') at all intersections unless the street is superelevated in which case then sufficient separation must be provided for proper superelevation transition. For curves on arterials and collector streets, proper superelevation must be provided as required by the Township and the PennDOT. Broken-back and compound curves shall be prohibited.
4. Proper stopping sight distance must be provided with respect to horizontal and vertical alignment, measured along the centerline, from the height of the driver's eye (three and one-half feet [3.5'] above grade) to the height of an object on the roadway (two feet [2.0']). K values shall be used when designing streets in accordance with §703.L.2. See the following table for the minimum stopping sight distances which must be maintained along a roadway alignment:

Design Speed (Miles Per Hour)	Minimum Stopping Sight Distance
60	570'
55	495'
50	425'
45	360'
40	305'
35	250'
30	200'
25	155'

I. Driveways.

1. Private driveways on corner lots shall be located at least forty feet (40') from the nearest edge of the driveway to the point of intersection of the nearest street right-of-way line.
2. Driveways shall intersect streets (public and private) only at right angles.
3. Driveways shall not be located closer than five feet (5') from an inlet or fire hydrant.
4. Where driveways access a curbed street, the driveway opening shall contain a depressed curb with a minimum of one-and-one-half-inch (1½") curb reveal across the required width of the driveway. At each end of the driveway opening a two-foot (2') curb transition to full height curbing shall be provided.
5. All driveways shall be located, designed and constructed in such a manner as not to interfere or be inconsistent with the design, maintenance and drainage of streets or the safe and convenient passage of traffic. The number of driveways shall be kept to a minimum necessary to serve the intended use. Multiple driveways for

one lot shall be prohibited unless it can be demonstrated that such arrangement is necessary for safe and efficient traffic flow, capacity or unless multiple driveways are necessary to comply with other provisions of This Ordinance.

6. No single private driveway shall serve more than six (6) single-family residential units. A parking lot may serve more than six (6) residential units; however, any parking lot that serves more than twenty-four (24) residential units shall have a minimum of two (2) points of access to a public street. The two (2) points of access must, at a minimum, be constructed to a width of twenty-four feet (24') with radii designed to accommodate the largest anticipated vehicles.
7. No shared driveways shall be approved except where governed by a recorded easement agreement at a minimum setting forth maintenance requirements, cross access provisions, cost sharing, and the like. Said easements must also be reflected graphically on an approved Subdivision Plan or Land Development Plan. Shared driveways shall have a minimum width of eighteen feet (18') and a maximum width of twenty-four feet (24').
8. All new private driveways must be paved for a minimum distance of fifty feet (50') from the street right-of-way line with a bituminous surface material, concrete, brick pavers or other material acceptable to the Township. Stone, gravel, sand, dirt or other similar type driveways shall be prohibited. The minimum paving standard for bituminous driveways shall be six inches (6") of PennDOT No. 2A subbase material and two and one-half inches (2½") of HMA wearing course. The minimum paving standard for concrete driveways shall be six inches (6") of PennDOT No. 2A subbase material and six inches (6") of concrete. Driveways within the right-of-way area must be paved to meet Township street paving requirements for the adjoining street classification.
9. Residential driveways shall not be less than twelve feet (12') in width or more than twenty-four feet (24') in width within fifteen feet (15') of the street right-of-way line.
10. Driveways shall not exceed a slope of twenty percent (20%) and shall have a leveling area adjacent to the street sufficient to accommodate the change of grade. Driveways that serve properties which are lower than the adjacent roadway must be provided with a vertical alignment that prohibits the collection of storm water from the street into the driveway and property area.
11. Where driveways enter a property through an embankment condition, a retaining wall of adequate design shall be provided, or in lieu thereof, the side slopes of the cut slope shall be graded to no more than one foot (1') vertical to two feet (2') horizontal. Grading in the vicinity of the adjacent street shall be such that required sight distance is provided. Lot and driveway grading shall be conducted such that storm drainage and soil erosion do not adversely impact adjacent streets.

J. Street Intersections:

1. Streets shall be laid out to intersect at right angles.
2. Intersections involving the junction of more than two (2) streets are prohibited.
3. Boulevard type streets or intersections having a center landscaped island, traffic separators, traffic calming devices or other style medians shall be prohibited unless a perpetual maintenance agreement is provided and implemented which shall, to the satisfaction of the Township, provide a guarantee for maintenance and replacement of all such areas.
4. Intersections shall be approached on all sides by a straight leveling area, the grade of which shall not exceed four percent (4%) percent within sixty feet (60') of the intersection of the nearest street right-of-way line.
5. Unless required to accommodate larger vehicles, the curb or edge of pavement radii at the intersections of streets shall not be less than the following:

Intersection	Minimum Simple Curve Radii
Collector with Collector Street	35'
Collector with Minor Street	25'
Minor Street with Minor Street	20'

Radius corners must be provided on the property lines concentric with the curb radius.

6. Where required to accommodate turning movements for larger vehicles, three centered compound curves along curb lines shall be permitted upon review and approval of the Township Engineer. In the design of compound curves, the ratio of the flatter radius to the sharper radius should not exceed 1.50. Sudden changes between curves of widely different radii shall be prohibited.
7. Curb cuts and sidewalk ramps must be provided at all corners of intersections, access to building sites and at other locations deemed appropriate by the Township in order to provide accessibility in accordance with the current adopted Middlesex Township Building Code, as amended.
8. Where required by the Township, the Applicant may be required to provide a turning analysis, turning templates or other similar efforts to demonstrate that street and driveway intersections have been properly designed to accommodate larger and/or emergency vehicles.

K. Intersection Sight Distance and Clear Sight Triangles:

1. Adequate intersection stopping sight distance shall be provided at all intersections of streets, and for driveways intersecting a street. All intersections shall be

designed to provide required sight distance with regard to both horizontal and vertical alignment in accordance with A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), current edition. Applicants shall provide field measured available sight distances at all proposed intersections onto existing roadways for all turning movements and provide a report documenting the method of computation and the available and required sight distance at all locations. Said analysis and report must be certified by a Professional Engineer. For purposes of analysis and design, the posted speed limit of the intersecting street shall be used in the computation of required sight distance unless operating speeds exceed posted speeds by greater than ten miles per hour (10 mph), at which time the operating speed (85th percentile speed) shall be used. Based upon traffic patterns and roadway operations, the Township may require the Applicant to conduct a speed study to document the 85th percentile speed if in the opinion of the Township a study is required.

2. If the minimum required intersection sight distance cannot be achieved, the Applicant shall be responsible for either relocating the site's access point to provide adequate sight distance, restricting turning movements, if applicable, or by making improvements such as regrading, roadway reconstruction or similar measures in order to provide adequate sight distance in order to meet the requirements of This Ordinance.
3. Adequate clear sight triangles (areas of unobstructed view) shall be provided at all intersections of streets, and for driveways (except single-family residential driveways) intersecting a street. The sight triangle shall be formed by measuring along the centerline of the cartway or driveway, from the point of intersection of the two streets, a distance as shown in the following table for the respective classification of the street, forming each leg of the triangle. The sight triangle is then formed by connecting the endpoints. No part of a clear sight triangle shall extend beyond a property line of an adjacent property without consent from the adjoining property owner. Said consent shall be in the form of a recorded easement. Structures, vegetation, grading and other obstructions in excess of twenty-four inches (24") in height shall be prohibited within the clear sight triangle. Clear sight triangles shall be depicted on all Subdivision and Land Development Plans for all street and driveway intersections.

Intersecting Street Classification	Clear Sight Triangle Leg
Arterial or Collector	150'
Minor, Private or Driveway	75'

4. If the minimum sight distance can only be achieved by a line of sight across lands which are not public street right-of-way, a clear sight easement shall be established on the plan and/or recorded on each deed for all affected properties. The easement shall prohibit the placement or existence of structures, vegetation or change of grade, in excess of twenty-four inches (24") in height within the clear

sight zone. The easement shall establish the right of the Township to enter onto the property to clear obstructions, to trim or otherwise restore the area to meet the required sight distance at the property owner's expense if after being notified by the Township to remove obstructions, the property owner has failed to respond in a timely fashion.

L. Street Grades:

1. The centerline grades of streets shall be as specified in Table 703.1.
2. Vertical curves shall be provided at all changes in grade and shall be designed in relation to the extent of the grade change and to provide the proper minimum stopping sight distance with respect to vertical alignment by using the following minimum K values as shown in the table below. The minimum length of the vertical curve shall be determined by multiplying the algebraic difference in grades by the appropriate K value, with an absolute minimum length of vertical curve of fifty feet (50').

Design Speed	K Value*	
	Crest	Sag
60	151	136
55	114	115
50	84	96
45	61	79
40	44	64
35	29	49
30	19	37
25	12	26
* Values based on sight distance measured along the centerline, from the height of the driver's eye (three and one-half feet [3.5']) to the height of an object on the roadway (two feet [2.0']).		

3. On minor or private streets, continuous grades of ten percent (10%) shall not be more than four hundred feet (400') in length.
4. Cross slope: The cross slope or the crown on streets shall be at least one-quarter inch (1/4") per foot but not more than three-eighths inch (3/8") per foot as directed by the Township Engineer. This applies only to straight or tangent sections of the roadway. Where a horizontal curve is required to be superelevated to reduce lateral vehicular acceleration as required by the design speed of the roadway, the crown requirement shall be eliminated and the roadway provided with a superelevation design acceptable to the Township Engineer.

M. Designs within Street Right-of-Way:

1. Where curb and sidewalks are required, streets shall have a planting strip located between the curb and the sidewalk.
2. Street right-of-way areas, which are not part of the paved cartway or shoulder, shall be graded to have a slope of two percent (2%) from the top of the curb or shoulder upward to a point two feet (2') beyond the right-of-way line.
3. The portion of the right-of-way which is not provided with a shoulder, paving, curbing or sidewalks shall be provided with a minimum of four inches (4") of topsoil and seeded with PennDOT Formula B seed mixture to establish a good stand of lawn type grass or be sodded with a similar turf mixture.
 - a. Slopes of Banks along Streets. The slope of banks along streets measured perpendicular to the street centerline shall be no steeper than the following:
 - 1) One foot (1') of vertical measurement for three feet (3') of horizontal measurement for fills. Fill slopes shall begin a minimum distance of two feet (2') behind the right-of-way line to allow for the proper placement of the shoulder or sidewalk and for rounding of the slope.
 - 2) One foot (1') of vertical measurement for two feet (2') of horizontal measurement for cuts. Cut slopes shall begin a minimum distance of two feet (2') behind the right-of-way line to allow for the proper placement of the shoulder or sidewalk and for rounding of the slope. Where site drainage conditions dictate, additional area behind the right-of-way line shall be provided to accommodate the placement of drainage facilities (inlets, swales, etc.) as may be required to prevent excessive amounts of site runoff from draining across the verge area.

N. Traditional Neighborhood Development (TND) Design Standards:

Where a subdivision or land development application proposes the design of a community meeting the requirements of a TND, the Township may grant a modification of certain street design standards contained herein to allow for alternate designs consistent with TND principles. For consideration of a modification of street design standards, the Applicant shall provide a design for the Township Engineer's review and approval generally meeting the design guidelines as contained in the current edition of the Institute of Transportation Engineers (ITE), Traditional Neighborhood Development Street Design Guidelines, ITE Transportation Planning Council Committee 5 P-8.

Section 704. Easements

Easements shall be provided for storm drainage facilities, storm water management areas, Best Management Practice (BMP) areas, sanitary sewer and water facilities, natural features areas, access ways, overhead or underground public or private utility facilities, and other special purpose easements in consultation with the Township Engineer, the Middlesex Township Municipal Authority, and the various utility companies. All easements must connect to a public street in order to provide access to said easement area.

- A. The minimum width of such drainage easements shall be twenty feet (20') and shall be centered over the drainage or storm sewer facilities. Additional width may be required by the Township depending on the location, purpose, depth of facilities and use of the easement. Easement areas shall be graded to allow for traversable and unobstructed access by maintenance vehicles and equipment.
- B. Easements for storm water management facilities, BMP areas and similar structures shall encompass the formal facility to a point ten feet (10') beyond the high water elevation, toe of slope, or other logical line of demarcation to allow proper operation and maintenance of the facility.
- C. Municipal sanitary sewer and water easements shall have a minimum width of thirty feet (30') unless otherwise approved by the Middlesex Township Municipal Authority.
- D. Easements for the preservation of natural features areas as required herein shall be of a sufficient size to encompass the areas to provide for the long-term protection of said natural features.
- E. Access easements shall have a minimum width of twenty feet (20') and shall be designed to accommodate the ingress, egress, and regress for the intended purpose.
- F. Utility easements shall be provided as prescribed by the individual utility company depending upon the purpose and use of the easement. Where an existing utility easement exists within a subdivision or land development and construction activity is proposed within said easement, the Applicant shall obtain written approval from the utility owner authorizing the construction activity as proposed.
- G. Utility and drainage easements shall be centered on the side or rear lot lines of properties.
- H. No buildings or other structures, fences, landscaping, walls or obstructions shall be permitted within easement areas. Additionally, no change of grade beyond that approved by the Township shall occur within the easement area.
- I. Where a subdivision and/or land development is traversed by a watercourse, drainageway, channel or stream, there shall be provided a drainage easement, to a width to be approved by the Township Engineer, conforming substantially with the line of such watercourse, for the purpose of maintaining the unimpeded natural flow, widening, deepening, relocating, improving or protecting such drainage facilities or for the purpose of installing drainage facilities. Under no circumstances shall the easement be less than

twenty feet (20') in width and shall extend outward a minimum of ten feet (10') from the top of each bank.

- J. All easements shall be graphically depicted on the Subdivision or Land Development Plans and shall clearly indicate the location, width, purpose and beneficiary of the proposed easement. Easements that will be conveyed to the Township and/or the Middlesex Township Municipal Authority shall be provided with metes and bounds descriptions tied to the property lines of the property which is encumbered by said easement.
- K. Where drainage easements are depicted on private property for the benefit of Middlesex Township, it shall be construed to mean, and shall be noted on the Subdivision/Land Development Plan, that said easement is for access to and maintenance of said facility only in the event that the landowner fails to maintain said easement and the operation of the facility contained within said easement area is malfunctioning, is adversely effecting adjacent or downstream properties or is crucial for the overall public safety and welfare of the residents of the Township. The Township will not own or maintain storm water or other facilities unless otherwise specifically governed by operation of an agreement.

Section 705. Blocks

- A. The length, width, shape, and design of blocks shall be determined with due regard to the provision of adequate sites for buildings of the type proposed, to the land use and/or zoning requirements of the Township, the topography of the land being subdivided or developed, and the requirements for safe and convenient vehicular and pedestrian circulation.
- B. Blocks shall not exceed one thousand six hundred feet (1,600') in length, nor be less than three hundred feet (300') in length as measured between the centerlines of the intersecting streets.
- C. Residential blocks shall generally be of sufficient depth to accommodate two (2) tiers of lots, except where reverse frontage lots bordering an arterial or collector street are used or, where due to the contour of the land or the necessary layout of the subdivision, there is insufficient depth between intersecting streets for such two (2)-tier design.
- D. Blocks for commercial and industrial areas may vary from the elements of design contained in this *Section* if the nature of the use requires other treatment. In such cases, off-street parking for employees and customers shall be provided along with safe and convenient limited access to the street system. Space for off-street loading shall also be provided with limited access to the street system. Extension of streets, railroad access rights-of-way, and utilities shall be provided as necessary.

Section 706. Building Lots

A. General Standards:

1. The size, depth, width and orientation of lots shall conform to applicable zoning regulations of Middlesex Township.
2. Side lot lines shall, in so far as practical, run perpendicular or radial from the street right-of-way line.
3. Where feasible, lot lines should follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
4. All building lots shall be provided with either on-lot sewage disposal and well or sewer and water service either public or private in accordance with Township zoning requirements for the applicable zoning district and for lot size requirements.
5. If, after subdividing, remnants of land exist, they shall be either:
 - a. Incorporated in existing or proposed lots; or
 - b. Legally dedicated to public use, if acceptable to the Township, or dedicated to a homeowner's association or similar entity.
6. Lot Frontage:
 - a. All building lots shall abut an existing or proposed public street or a private street or right-of-way of a width required for public streets as specified in This Ordinance.
 - b. Double or reverse frontage lots shall be prohibited except where required to provide separation of residential development from collector or arterial streets or to overcome specific disadvantages of topography or orientation.
 - c. No residential lots shall be created which front upon a limited access highway. Furthermore, no major subdivision and/or land developments shall be created which front upon an arterial street.

Section 707. Sidewalks and Pedestrian Pathways

A. Requirements:

1. Sidewalks must be installed along both sides of all new interior streets in all residential, commercial and industrial subdivisions and land developments within the Township unless otherwise waived by the Township. Sidewalks must also be constructed along the side of all exterior streets upon which the subdivision or land development fronts. Where sidewalks are required to be installed, curbing, street widening and drainage improvements must also be provided. However, the

Board of Township Supervisors may waive such a requirement in the case of subdivisions or land developments that are not adjacent to an area where sidewalks have previously been constructed. A grant of such a waiver shall be recorded in the minutes of a public meeting of the Board of Township Supervisors and shall require that the following language be shown on the Final Plan:

“The owners of these lots, upon notification by Middlesex Township, shall be responsible for the construction of sidewalks to Township specification within six (6) months of the date of such notification.”

2. Sidewalks shall not be waived where, in the Township’s opinion, it is desirable to link sidewalks in existing, adjoining or proposed developments or where it would be desirable to continue sidewalks that are existing to provide access to community facilities such as schools, bus stops, shopping areas, and recreation areas.
3. The Township may, in its sole discretion, waive the requirements for sidewalks on one (1) or both sides of the street where alternative, private pedestrian interior pathways located off of the street right-of-way are planned and provided or where, in the judgment of the Township, there are unique circumstances, other hardships or where the absence of sidewalks better serves the particular needs of the subdivision or land development.

B. Placement:

1. All sidewalks must be constructed no closer than four inches (4") to the street right-of-way line and extend toward the curb line. A grass planting strip shall be provided between the curb and the sidewalk.
2. Maintenance of sidewalks within the street right-of-way shall be the responsibility of the property owner whose property abuts the sidewalk.

C. Pedestrian Pathways and Greenways

1. If the Applicant requests a waiver of the sidewalk requirement in favor of private pedestrian pathways or if proposed as part of an Open Space or Conservation Subdivision then the Applicant must provide a plan indicating the layout and arrangement of the proposed pathways. This provision shall not be construed as a mechanism for developers to merely parallel street right-of-way lines with pedestrian pathways, but shall be applied where, owing to unique physical constraints, development theme or building placement, an on-site pathway is more advantageous to the Township than a formal sidewalk system. In such cases, the pedestrian pathway must meet the following general criteria:
2. Pathways must be located within a minimum twenty-five-foot (25') wide access easement for the benefit of the general public. Access to the public street system must be provided at regular intervals throughout the development not exceeding eight hundred feet (800').

3. Pathways must be a minimum width of six feet (6') wide and have a paved travel surface. The material requirements of the travel surface for pedestrian paths shall be a minimum of six inches (6") of PennDOT No. 2A subbase material and two inches (2") of bituminous wearing surface or an equivalent design approved at the discretion of the Township Engineer. The surface must be graded to provide positive drainage at a maximum cross slope of two percent (2%). Longitudinal slopes shall be designed in accordance with good engineering practice such that acceptable access by pedestrians of all types can easily traverse the pathway.
4. Pathways must be privately owned and routinely maintained under a reliable arrangement acceptable to the Township. Routine maintenance shall include, but not be limited to, trimming, mowing, snow and ice removal, overlayment or reconstruction as required.
5. Pathways must be designed to provide the required handicapped accessibility along the pathway and at all points of intersection with public streets.

Section 708. Curbing

A. Requirements:

Curb shall be constructed in all subdivision or land developments unless the requirement is waived by the Board of Township Supervisors. A grant of such a waiver shall be recorded in the minutes of a public meeting of the Board of Township Supervisors and shall require that the following language be shown on the Final Plan:

“The owners of these lots, upon notification by Middlesex Township, shall be responsible for the construction of concrete curbs to Township specification within six (6) months of the date of such notification.”

- B. Curbing must be installed along both sides of all new interior streets to the proper street width in all residential, commercial and industrial subdivisions and land developments within the Township. Curbing, including pavement widening and drainage improvements must also be constructed along all exterior streets upon which the property fronts.
- C. The Township may waive the requirements for curbing and widening along frontage roadways either in part or in full where, in the judgment of the Township, there are unique circumstances or other physical hardships where the absence of curbing and widening better serves the particular needs of the subdivision or land development.
- D. Where curbing and sidewalk is required at intersections, curb cut ramps shall be installed to provide access to building sites and at other locations deemed appropriate by the Township accessibility in accordance with the current adopted Middlesex Township Building Code, as amended.

- E. In areas where curbing is not required to be constructed, suitable shoulders, gutters, swales or ditches must be installed to avoid erosion and must be of sufficient cross section to permit the proper flow of storm water.
- F. All curbing shall be designed and constructed in accordance PennDOT Standards and Specifications.

Section 709. Monuments and Markers

A. Material and Size:

Monuments and makers shall be constructed as follows or an alternate approved by the Township Engineer.

	Construction	Minimum Size
Monument	Concrete or Stone	4" x4" x36"
Marker	Iron Pipes or Iron or Steel Bars	24" x ¾" diameter

B. Placement; Marking:

Monuments and markers must be placed by a registered engineer or surveyor so that the scored or marked point coincides exactly with the point of intersection of the lines being monumental. They must be set so that the top of the monument or marker is level with the surface of the surrounding ground. Monuments must be marked on top with a copper or brass dowel.

C. Location of Monuments:

Monuments must be set at:

1. Two (2) corners of a lot or two (2) points on a line within a subdivision, or at one (1) predominant intersection of a street and a property line of a lot in a subdivision comprised of not more than five (5) contiguous lots or parcels.

In all instances, a minimum of two (2) monuments must be set.

2. At least three (3) predominant line intersections or line angles in subdivisions of more the five (5) lots or parcels.

When any program of development and/or subdivision encompasses more than twenty (20) acres, the Township Supervisors and/or the Township Engineer may require additional monuments at designated points.

3. Such other points as may be required by the Township Engineer and Township Supervisors when unusual conditions may create sight problems or cause unusual deviation from normal surveying practice.

D. Location of Markers:

Markers must be set:

1. At the beginning and ending of curves along street property lines if not monumented.
2. At points where lot lines intersect curves, whether front or rear.
3. At angles in property lines of lots.
4. At all other lot corners.

E. Removal:

Any monuments or markers that are removed must be replaced by a Professional Engineer or Professional Land Surveyor at the expense of the person removing them.

Section 710. Recreation Areas and Fee

An Applicant or Developer of a subdivision or land development plan shall plan for, provide, and dedicate to Middlesex Township a suitable and adequate park or recreation area to serve the needs of future residents or occupants of the subdivision or land development or, in the alternative, upon agreement with Middlesex Township, construct and/or improve existing Township park or recreation areas, pay a fee in lieu of dedicating park or recreation areas, guarantee the private reservation and maintenance of park or recreation areas, or provide for any combination of the foregoing, all in accordance with the provisions of this *Section*.

A. Criteria for Proposed Park or Recreation Areas

1. General Criteria

The proposed park or recreation areas, whether offered for dedication to Middlesex Township or proposed to become part of a private reservation of land, shall comply with and be subject to the following criteria:

- a. Be easily and safely accessible, have good ingress and egress, and have direct access to a public roadway

However, no public roadways shall traverse the site(s).
- b. Be contiguous and regular in shape
- c. Have suitable topography and soil conditions for use and development as a park or recreation area
- d. A minimum of seventy-five percent (75%) of the required area shall have a maximum slope of seven percent (7%)

- e. A twenty-five percent (25%) maximum of the required area may be within floodplain or wetland areas, as defined by the U. S. Department of Housing and Urban Development's Flood Insurance Rate Maps
- f. Be easily accessible to all essential utilities, such as water, sewer, and electric
- g. Be suitable for development as a particular type of park or recreation area, as categorized by the latest edition of the National Recreation and Park Association's National Park, Recreation, and Open Space Standards and Guidelines
- h. Be compatible with the objectives, guidelines, and recommendations as set forth in the latest Middlesex Township Comprehensive Park, Recreation, and Open Space Plan.

2. Specific Criteria Applicable to the Private Reservation of Land

Proposed park or recreation areas proposed as part of the private reservation of land shall be subject to the following requirements:

- a. Be designed and developed according to the latest standards established by the National Recreation and Park Association.
- b. Actual size, number, placement, and other specifications of park or recreation areas to be developed shall be recommended by the Middlesex Township Recreation Advisory Board to the Planning Commission and Board of Supervisors after discussions with the developers
- c. Final subdivision and/or development plans shall indicate the location and specifications of all park and recreation areas to be constructed and shall set forth metes, bounds, and acreage(s) of the park and recreation area(s)
- d. Park and recreation areas shall be bonded and have improvement guarantees posted or deposited with the Township, as with any other subdivision or land development improvements

3. Land Area Dedication Requirements

The area of any land either dedicated to Middlesex Township or proposed as part of a private reservation of land shall be determined as follows:

a. Residential Land

Middlesex Township has developed a goal of providing ten (10) acres of park or recreation land for each one thousand (1,000) residents. The average size of a household in Middlesex Township, as determined by the 2010 United States Census, is two and forty-seven one-hundredths (2.47). To derive a per unit calculation, the one thousand (1,000) population

figure is divided by the average household size, resulting in the following calculation:

$$1,000 / 2.47 \text{ persons per dwelling unit} = 405 \text{ dwellings}$$

Dividing this number of dwellings by the desired ten (10) acres per one thousand (1,000) residents goal yields the following amount of land:

$$10 \text{ acres} / 405 \text{ dwellings} = 0.025$$

Accordingly, twenty-five one thousandths (0.025) acre of land for each proposed dwelling unit shall determine the minimum total land area to be dedicated. This land area, as calculated by the above formula, shall be subject to change by Resolution of the Board of Supervisors.

b. Non-residential Subdivision or Land Development

The Board of Supervisors recognizes that the use and development of land for non-residential purposes, in most instances, results in concentrations of persons on the subject property substantially in excess of any residential concentrations of persons. Further, such non-residential uses of property result in an influx of business invitees, employees, and others who, due to the proximity and availability of Township park and recreation facilities, utilize and will in the future utilize such facilities. Accordingly, non-residential developments shall dedicate a minimum of ten percent (10%) of gross land area for park or recreation use.

B. Dedication of Land to Middlesex Township

1. All or part of park or recreation areas may be offered for dedication to the Middlesex Township, but the Township shall not be obligated to accept same.
2. Such area dedicated to the Township for public use shall be suitable for park or recreational purposes by reasons of size, shape, location, topography, and access and shall meet all other criteria set forth in this *Section*.
3. Park or recreation areas of less than three (3) acres shall not be accepted by the Township unless the Board of Supervisors, after recommendation by the Middlesex Township Recreation Advisory Board and the Planning Commission, find that conditions exist unique to the subject property which make acceptance of dedication in the best interest of the Township.
4. The Board of Supervisors, after receiving recommendation from the Middlesex Township Recreation Advisory Board and the Planning Commission, may determine dedication to be impractical because of the size, shape, location, access, topography, drainage, or other physical features of the land, or that such dedication would adversely affect the subdivision or land development and its future residents or occupants, or that there is no other land area within the

proposed subdivision or land development which is practical for dedication to the public because of size, access, topography, or other physical characteristics. In such event, the Applicant or Developer, upon agreement with the Township, shall provide a private reservation of land for park or recreational purposes, pay a fee in lieu of dedication, or construct or improve existing park or recreation facilities, each in accordance with the requirements of this *Section*.

5. When the Board of Supervisors deems it to be in the public interest to accept title to dedicated land, such acceptance shall be by means of a signed resolution to which the property description; lot plan with metes, bounds, and acreage; and a fee simple title deed with general warranty free of any liens, encumbrances, or easements on and to the dedicated recreation area, shall be attached.
6. All approved park and recreation areas shall be completed and dedicated before fifty percent (50%) occupancy has been reached in any applicable residential subdivision. Withholding of building permits may occur to insure compliance with this provision. With respect to non-residential subdivisions or land development, all approved park and recreation areas shall be completed prior to the substantial completion of all other improvements required by ordinance or law to be secured or guaranteed. This paragraph shall be applicable to any park and recreation areas proposed as a private reservation of land for park or recreation purposes.

C. Private Reservation of Land for Park or Recreation Purposes

All park and recreation areas offered but not accepted by the Township or not offered but proposed to be a private reservation of land as park and recreation area for use of the residents or occupants of the land subject of the subdivision or land development shall, upon recommendation of the Middlesex Township Recreation Advisory Board and the Planning Commission, and, upon agreement of the Board of Supervisors, be irrevocably conveyed to a duly incorporated property owner's association which shall be responsible to properly maintain perpetually all of such park and recreation areas, pay all taxes assessed to the land as well as any improvements thereon, and supervise all activities conducted thereon. The Township shall have no obligation whatsoever in connection with such park or recreation areas other than the normal municipal services provided to the public in general.

The deed of conveyance of such park and recreation areas shall contain a restrictive covenant limiting such land and improvements to the common use of the property owners within the development for the purposes initially approved by the Township. Said deeds shall also contain a restriction that said lands and improvements may not be sold or disposed of by the association, except to another organization formed to own and maintain said recreation areas, without first offering to dedicate the land and improvements to the Township.

D. Constructing or Improving Existing Park or Recreation Facilities

As an alternative to dedicating land to the Township, the private reservation of land, or payment of a fee in lieu of dedication, the Applicant or Developer, upon agreement with the Board of Supervisors and after recommendation by the Middlesex Township Recreation Advisory Board and Planning Commission, can construct or improve park or recreation facilities on Township land upon such terms and conditions as shall be approved by the Board of Supervisors.

E. Fee in Lieu of Dedication

1. In lieu of dedicating park or recreation land to the Township, the Applicant or Developer may pay to the Township the after-developed fair market value of the land which would have been otherwise required for dedication. The after-developed fair market value shall be determined on the basis that the land has access to a public roadway and the availability of all utilities and shall not reflect a value of the land in a raw condition or state.

This fair market value shall be submitted as part of the preliminary plan submission by the Applicant or Developer at the Applicant's or Developer's expense and shall be determined by a Member of the Appraisal Institute of the American Institute of Real Estate Appraisers (MAI) and shall include any documentation used to derive the land's after-development fair market value.

The Board of Supervisors shall have the right to reject any appraisal and select another appraiser, at the expense of the Applicant or Developer, which will establish the fee to be paid based upon the after-development fair market value of the land.

2. The Applicant or Developer may, at their option, elect not to submit an appraisal as set forth in the preceding paragraph. In such event, the fee to be paid in lieu of dedication for either residential or non-residential subdivisions and land developments shall be established by the Board of Supervisors by resolution. All amounts established shall remain in effect until a succeeding resolution establishing other fees is adopted.
 - a. With respect to residential subdivisions and land development, the fee to be paid in lieu of dedication shall be based upon an amount established by resolution on a per-dwelling unit basis.
 - b. With respect to non-residential subdivisions and land developments, the fee to be paid in lieu of dedication shall be based upon an amount of one thousand dollars (\$1,000) per disturbed acre, or part thereof.
3. All fees paid hereunder shall be due, and payable in full, upon approval of the final subdivision or land development plan or phase or section thereof and shall be paid prior to the release of any plan for recording.

4. All monies paid to the Township pursuant to §710.E hereof shall be deposited and utilized in accordance with the provisions and requirements of the Pennsylvania Municipalities Planning Code.

Section 711. Site Lighting

A. Purpose:

The purpose of this *Section* is to require and set minimum standards for outdoor lighting to:

1. Provide for and control lighting in outdoor public places where public health, safety and welfare are potential concerns.
2. Protect drivers and pedestrians from the glare of non-vehicular light sources.
3. Protect persons, the environment and the night sky from nuisance glare and light trespass from improperly selected, placed, aimed, applied, maintained or shielded light sources.
4. Promote energy efficient lighting design and operation.
5. Protect and retain the intended visual character of various scenic venues throughout Middlesex Township.

B. Applicability:

1. The provisions of this *Section* shall apply to all lighting associated with, required or proposed with any action that constitutes land development or subdivision within Middlesex Township where there is interior or exterior lighting viewable from outside, including, but not limited to, residential, commercial, industrial, public and private recreational/sports and institutional uses, and sign, billboard, architectural and landscape lighting applications.
2. The glare-control requirements herein contained apply to outdoor lighting in all uses, applications and locations.
3. Emergency lighting, as may be required by any public agency while engaged in the performance of their duties, or for illumination of the path of egress during an emergency as described in NFPA 75 and NFPA 101, is exempt from the requirements of this *Section*.
4. Temporary seasonal decorative lighting is exempt from all but the glare-control requirements of this *Section*.

C. Definitions:

The following words or terms as used in this *Section* shall be defined as follows:

1. Footcandle

Unit of light density incident on a plane (assumed to be horizontal unless otherwise specified), and measurable with an illuminance meter, a.k.a. light meter.

2. Full Cutoff

Attribute of a lighting fixture from which no light is emitted at or above a horizontal plane drawn through the bottom of the fixture and no more than ten percent (10%) of the lamp's intensity is emitted at or above an angle ten degrees (10°) below that horizontal plane, at all lateral angles around the fixture.

3. Fully Shielded

Attribute of a lighting fixture provided with internal and/or external shields and louvers to prevent brightness from lamps, reflectors, refractors and lenses from causing glare at normal viewing angles.

4. Glare

Excessive brightness in the field of view that is sufficiently greater than the brightness to which the eyes are adapted, to cause annoyance or loss in visual performance and visibility, so as to jeopardize health, safety or welfare.

5. Illuminance

Quantity of light, measured in footcandles.

6. Light Trespass

Light emitted by a lighting fixture or installation, which is cast beyond the boundaries of the property on which the lighting installation is sited.

7. Lumen

As used in the context of this *Section*, the light-output rating of a lamp (light bulb).

D. Criteria:

1. Illumination Levels:

Lighting, where required by This Ordinance, or otherwise required or permitted by the Board of Supervisors, shall have intensities, uniformities and glare control

in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA), unless otherwise directed by the Board of Supervisors.

2. Lighting shall conform to the currently adopted Middlesex Township Building Codes, including the currently adopted International Energy Conservation Code published by the International Code Council, and the standards referenced therein for required Exterior Lighting Power Densities and Exterior Lighting Power Allowances, as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) and IESNA 90.1 Standard.
3. Lighting Fixture Design:
 - a. Fixtures shall be of a type and design appropriate to the lighting application.
 - b. For the lighting of predominantly horizontal surfaces such as, but not limited to parking areas, roadways, vehicular and pedestrian passage areas, merchandising and storage areas, automotive-fuel dispensing facilities, automotive sales areas, loading docks, cul-de-sacs, active and passive recreational areas, building entrances, sidewalks, bicycle and pedestrian paths, and site entrances, fixtures shall be aimed straight down and shall meet IESNA full-cutoff criteria. Fixtures, except those containing directional lamps, with an aggregate rated lamp output not exceeding five hundred (500) lumens, e.g., the rated output of a standard non-directional forty (40) watt incandescent or ten (10) watt compact fluorescent lamp, are exempt from the requirements of this paragraph. In the case of decorative street lighting, the Board of Supervisors may approve the use of luminaires that are fully shielded or comply with IESNA cutoff criteria.
 - c. For the lighting of predominantly non-horizontal surfaces such as, but not limited to, facades, landscaping, signs, billboards, fountains, displays and statuary, fixtures shall be fully shielded and shall be installed and aimed so as to not project their output into the windows of residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway. Fixtures, except those containing directional lamps, with an aggregate rated lamp output not exceeding five hundred (500) lumens, e.g., the rated output of a standard non-directional forty (40) watt incandescent or ten (10) watt compact fluorescent lamp, are exempt from the requirements of this paragraph.
4. Control of Glare:
 - a. All lighting shall be aimed, located, designed, fitted and maintained so as not to present a hazard to drivers or pedestrians by impairing their ability to safely traverse roadways and so as not to create a nuisance by projecting or reflecting objectionable light, including excessive

illumination, glare, light pollution and light trespass, onto another use or property.

- b. Directional fixtures such as floodlights and spotlights shall be so shielded, installed and aimed that they do not project their output into the windows of residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway or pedestrian way. Floodlights, when installed on a building, pole or otherwise installed above grade on residential properties, except when motion-sensor actuated, shall not be aimed out more than forty-five degrees (45°) from straight down. When a floodlight creates glare as viewed from residential property, the floodlight shall be required to be re-aimed and/or fitted with a shielding device to block the view of the glare source from that property.
- c. Exterior lighting fixture types, commonly called “barn lights,” “dusk-to-dawn lights,” or “yard lights,” when a source of glare as viewed from another property, shall not be permitted unless effectively shielded as viewed from that property.
- d. Parking facility and vehicular and pedestrian-way lighting (except for safety and security applications and all-night business operations), for commercial, industrial and institutional uses shall be automatically extinguished no later than one-half (½) hour after the close of business or facility operation. When safety or security lighting is proposed for after-hours illumination, it shall not be in excess of twenty-five percent (25%) of the number of fixtures or illumination level required or permitted for illumination during regular business hours. When it can be demonstrated to the satisfaction of the Board of Supervisors that an elevated security risk exists, e.g., a history of relevant crime, an appropriate increase above the twenty-five percent (25%) limit may be permitted.
- e. Vegetation screens shall not be employed to serve as the primary means for controlling glare. Rather, glare control shall be achieved primarily through the use of such means as full cutoff fixtures, shields and baffles, and appropriate application of fixture mounting height, wattage, aiming angle and fixture placement.
- f. The illumination projected from any use onto a residential use shall at no time exceed one-tenth (0.1) footcandle, measured line-of-sight from any point on the receiving residential property. Any illumination projected onto a residential use shall have a color temperature of 3,000° K or less.
- g. The illumination projected from any property onto a non-residential use shall at no time exceed one (1.0) footcandle, measured line-of-sight from any point on the receiving property.
- h. Only the United States and the state flag shall be illuminated from dusk till dawn. All other flags shall not be illuminated between 11:00 P.M. and

dawn. Flag lighting sources shall not exceed seven thousand (7,000) lamp lumens per flagpole. The light source shall have a beam spread no greater than necessary to illuminate the flag and shall be adequately shielded so that it is not visible at normal viewing angles.

- i. Lighting for use underneath canopies for such applications as gas/service stations, hotel/theater marquees, fast-food/bank/drugstore drive-ups, shall be accomplished using flat-lens full-cutoff fixtures aimed straight down and shielded in such a manner that the lowest opaque edge of the fixture shall be below the light source at all lateral angles. The average illumination in the area directly below the canopy shall not exceed twenty (20) footcandles and the maximum shall not exceed thirty (30) footcandles.
- j. The use of white strobe lighting for tall structures such as smokestacks, chimneys and radio/communications/television towers is prohibited during hours of darkness, except as specifically required by FAA.
- k. Except as permitted for certain recreational lighting and permitted elsewhere in this paragraph, fixtures shall not be mounted in excess of twenty feet (20') above finished grade of the surface being illuminated. Mounting height shall be defined as the distance from the finished grade of the surface being illuminated to the optical center of the luminaire. For uses in all commercial and industrial districts having contiguous paved parking and maneuvering areas in excess of thirty thousand square feet (30,000 ft²), at the sole discretion of the Board of Supervisors, Middlesex Township may permit the use of a mounting height not to exceed twenty-five feet (25') for fixtures meeting IESNA full-cutoff criteria when it can be demonstrated to the Board of Supervisors that light trespass and glare control requirements in this *Section* have been met. For recreational lighting maximum mounting height requirements, refer to the Middlesex Township Subdivision and Land Development Ordinance section under "Recreational Uses."
- l. Illumination of all building facades and/or surrounding landscapes for decorative, advertising or aesthetic purposes serving businesses, shall be extinguished automatically no later than 11:00 P.M. until dawn, except that such illumination for businesses that remain open past 11:00 P.M. is permitted while the establishment is actually open for business, and until one-half (½) hour after closing.
- m. Illumination of Signs and Billboards – The lighting of new or relighting of existing billboards and signs shall require a Building Permit, which shall be granted when the Township is satisfied that excessive illumination, glare, light pollution and light trespass have been adequately mitigated, and shall be subject to the following requirements:

- 1) The illumination of billboards shall be limited to CH, LI and IG zoning districts and the illumination of billboards within one thousand feet (1,000') of a residential use or district shall not be permitted.
- 2) Illumination by Light-Emitting Diode (LED) Type Lighting- Illumination of all signs (excluding billboards) by LED type lighting shall only be permitted in the VC, CH, LI and IG districts and shall be static. Illumination of all billboards by LED type lighting shall be static. The LED output shall be automatically reduced to a brightness level that does not create glare during hours of darkness.
- 3) Illumination of all signs and billboards serving businesses, shall be extinguished automatically no later than 11:00 P.M. and remain extinguished until dawn, except that illumination of all signs (excluding billboards), for businesses that remain open past 11:00 P.M. is permitted while the establishment is actually open for business, and until one-half (½) hour after closing.
- 4) Externally illuminated signs and billboards shall have fixtures mounted at the top of the billboard or sign and aimed downward. The fixtures shall be designed, fitted and aimed to shield the source from off-site view and to place the light output onto and not beyond the sign or billboard. Lighting shall be by linear fluorescent or LED unless it can be demonstrated to the satisfaction of the Board of Supervisors that such a mounting arrangement is not possible. At no point on the face of the sign or billboard and at no time shall the illumination exceed thirty (30) footcandles during hours of darkness.
- 5) Internally illuminated signs and billboards shall have a dark field and light message. The aggregate output of the light sources shall not exceed five hundred (500) lumens per square foot of sign face per side.
- 6) The use of highly reflective signage that creates nuisance glare or a safety hazard shall not be permitted.
- 7) Rotating, traveling, pulsing, flashing or oscillating light sources, lasers, beacons, searchlights or strobe lighting shall not be permitted.

5. Installation:

- a. Electrical feeds for lighting standards shall be run underground, not overhead and shall be in accordance with the currently adopted Middlesex Township Building Codes.

- b. Poles supporting lighting fixtures for the illumination of parking areas and located directly behind parking spaces, or where they could be hit by snow plows or wide-swinging vehicles, shall be placed a minimum of five feet (5') outside paved area or tire stops, or placed on concrete pedestals at least thirty inches (30") high above the pavement, or suitably protected by other methods approved by Middlesex Township.
- c. Pole mounted fixtures for lighting horizontal tasks shall be aimed straight down and poles shall be plumb/vertical.
- d. Poles and brackets for supporting lighting fixtures shall be those specifically manufactured for that purpose and shall be designed and rated for the weights and wind loads involved.
- e. Pole foundations shall be designed consistent with the wind loads and local soil conditions involved.

6. Maintenance:

Lighting fixtures and ancillary equipment shall be maintained so as to always meet the requirements of this *Section*.

E. Plan Submission:

Where site lighting is required by This Ordinance, is otherwise required by the Board of Supervisors or is proposed by Applicant, lighting plans shall be submitted to Middlesex Township for review and approval for all Building Permit, Subdivision and Land Development, Conditional Use, Special Exception and Variance applications. The submitted information shall contain the following:

- 1. A plan or plans of the site, complete with all existing and proposed structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), existing and proposed trees and adjacent uses that might be adversely impacted by the lighting. The lighting plan shall contain a layout of all existing and proposed exterior lighting fixtures, including but not limited to area, architectural, building entrance, canopy, soffit, landscape, flag, sign, etc., by location, orientation, aiming direction, mounting height, lamp, photometry and type.
- 2. A ten-foot by ten-foot (10'x10') illuminance grid (point-by-point) plot of maintained horizontal footcandles overlaid on the site plan, plotted out to zero-point-zero (0.0) footcandles, which demonstrates compliance with the light trespass, illuminance and uniformity requirements as set forth in This Ordinance or as otherwise required by the Board of Supervisors. When the scale of the plan, as judged by the Board of Supervisors, makes a ten-foot by ten-foot (10'x10') grid plot illegible, a larger grid spacing may be permitted.

3. The maintenance (light-loss) factors, IES candela test-filename, lamp-lumen ratings and specific lamp manufacturer's lamp ordering nomenclature, used in calculating the presented illuminance levels.
4. Description of the proposed equipment, including fixture catalog cuts, photometrics, glare reduction devices, lamps, on/off control devices, mounting heights, pole foundation details, pole protection means and mounting methods.
5. When landscaping plans are involved, they shall contain the lighting fixture locations and shall demonstrate that the site lighting and landscaping have been coordinated to minimize conflict between vegetation and intended light distribution, both initially and at vegetation maturity.
6. When requested by the Township, Applicant shall also submit a visual-impact plan that demonstrates appropriate steps have been taken to mitigate the potential consequences of on-site and off-site glare. This plan may require the inclusion of footcandle values at specific off-site venues, e.g., bedroom windows of adjacent residential uses.
7. Plan Notes:

The following notes shall appear on the Lighting Plan:

- a. Post-approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to Middlesex Township for review and approval. Requests for substitutions shall be accompanied by catalog cuts of the proposed equipment and lighting plans, including a point-by-point plot, as required above, that demonstrate full compliance with the plan previously approved by Middlesex Township.
- b. The Township reserves the right to conduct post-installation inspections to verify compliance with the Ordinance requirements and approved Lighting Plan commitments, and if deemed appropriate by the Board of Supervisors, to require remedial action at no expense to the Township.
- c. All exterior lighting shall meet IESNA full-cutoff criteria unless otherwise specifically approved by the Board of Supervisors.
- d. Installer shall notify Middlesex Township to arrange for inspection and approval of all exterior lighting, including building-mounted lighting, prior to its installation.

F. Residential Development Fixture Placement:

1. For residential developments where lot sizes are or average less than twenty thousand square feet (20,000 ft²), street lighting shall be provided at the following locations:

- a. Intersections of public roads with entrance roads to the proposed development.
 - b. Intersections involving proposed public or non-public major thoroughfares, including collector and arterial roads within or immediately adjacent to the proposed development.
 - c. The apex of the curve of any major-thoroughfare road, public or non-public, within the proposed development, having a radius of three hundred feet (300') or less.
 - d. Cul-de-sac bulbs.
 - e. Terminal ends of center median islands having concrete structure curbing, trees and/or other fixed objects not having breakaway design for speeds of twenty-five miles per hour (25 mph) or greater.
 - f. Defined pedestrian crossings located within the development.
 - g. Other locations along the street as deemed necessary by the Board of Supervisors, but in no case shall lighting fixtures be spaced more than five hundred feet (500') apart.
- 2. Where lot size limits the parking of less than two (2) vehicles on the residential lot, thereby necessitating on-street parking, street lighting may be required along the length of the street.
 - 3. In multi-family developments, common parking areas of five (5) spaces or greater shall be illuminated.
 - 4. In residential developments with lots of less than twenty thousand square feet (20,000 ft²), where five (5) or more common contiguous parking spaces are proposed, such spaces shall be illuminated.

G. Recreational Uses:

The nighttime illumination of outdoor recreational facilities for such aerial sports as baseball, basketball, soccer, tennis, track and field, and football typically necessitate higher than normally allowed fixture mounting heights and aiming angles; utilize very high-wattage lamps; and potentially produce unacceptable levels of light trespass and glare when located near residential properties. Permission to illuminate such facilities shall be granted only when the Board of Supervisors is satisfied that the health, safety, and welfare rights of nearby property owners, and the Township as a whole, have been properly protected. When recreational uses are specifically permitted by the Board of Supervisors for operation during hours of darkness, the following requirements shall apply.

1. Race tracks and such recreational venues as golf driving ranges and trap-shooting facilities shall not be permitted to be artificially illuminated unless it can be demonstrated to the Board of Supervisors that such lighting will not create a nuisance; shine on or into any residential properties; or be visible to traffic on any nearby streets, roads, or institutional or commercial parking lots. In any case, illumination shall not be accomplished by using any horizontally aimed fixture or floodlights, nor shall these fixtures be aimed at an angle greater than forty-five degrees (45°) from the vertical.
2. Recreational facilities for basketball, baseball, football, soccer, miniature golf, tennis, or track shall not be illuminated if located within a residential district or sited on a nonresidential property located within one thousand feet (1,000') of a property containing a residential use.
3. Sporting events at all recreational facilities shall be timed to end at such time that all lighting in the sports facility, other than lighting for safe exit of spectators and participants, shall be extinguished by 11:00 P.M., regardless of occurrences such as extra innings or overtimes.
4. Maximum mounting heights for recreational lighting shall be in accordance with the following:

Activity	Maximum Mounting Height for Recreational Lighting
Basketball	20'
Football	70'
Soccer	70'
Little League Baseball: 200' Radius 300' Radius	60' 70'
Miniature Golf	20'
Swimming Pool Aprons	20'
Tennis	30'
Track	20'

5. To assist the Board of Supervisors in determining whether lighting will be permitted, applications for illuminating recreational facilities shall be accompanied not only with the information required by this section of the Ordinance but also by a Visual Impact Plan that contains the following:
 - a. Plan views containing a layout of the recreational facility and showing pole locations and the location of residences on adjoining properties.
 - b. Elevations containing pole and fixture mounting heights, horizontal and vertical aiming angles, and fixture arrays for each pole location.

- c. Elevations containing illuminance plots at the boundary of the site, taken at a height of five feet (5') line-of-sight.
- d. Elevations containing illuminance plots on the windowed facades of all residences facing and adjacent to the recreational facility. Such plots shall demonstrate compliance with the light trespass and glare control requirements of This Ordinance.
- e. Proposed frequency of use of the facility during hours of darkness on a month-by-month basis and proposed time when the sports lighting will be extinguished.
- f. A narrative describing the measures proposed to achieve minimum off-site disturbance.

H. Street Lighting Dedication:

- 1. When street lighting is proposed to be dedicated to the Township, the Applicant shall be responsible for all costs involved in the lighting of streets and street intersections until such time as the streets and street lighting are accepted by the Township for dedication.
- 2. Prior to dedication and acceptance of any street lighting by the Township, in the event of the formation of a homeowners' association or other ownership association, the Board of Supervisors shall require the declarant and/or association to enter into an agreement for the payment of and guaranty of the payment of all costs associated with street lighting to be dedicated. Such costs shall include, but not be limited to, the Township's administrative costs; collection costs; insurance costs; electrical utility charges; and maintenance, repair, and replacement costs for fixtures, standards, poles, and associated equipment. The agreement shall include a provision allowing the Township to assess the declarant, the association, and/or each individual property, as the case may be necessary and appropriate, to collect all of the above-referenced costs and expenses. All costs associated with the establishment of the agreement and the establishment of any lighting district necessary to implement the provisions of this paragraph shall be paid by the Applicant, declarant, or association, as the case may be.

Section 712. Sewer and Water

- A. The Middlesex Township Municipal Authority shall have the responsibility to ensure that all requirements of This Ordinance that pertain to public water and/or sanitary sewerage facilities are complied with. Whenever This Ordinance refers to the Township Engineer, this shall be construed as the Middlesex Township Municipal Authority Engineer whenever public water and/or sanitary sewerage facilities are involved.

B. Sewerage Facilities – Standards and Permits:

1. Whenever possible, all properties shall be connected to a municipal sanitary sewer system as required by Middlesex Township Ordinance. The minimum sewerage facility that shall be provided for any dwelling, building, commercial, or industrial enterprise shall be of materials, design, and function in accordance with standards and regulations as determined by the Pennsylvania Department of Environmental Protection (PA DEP).
2. Where a public sewerage system is within one-thousand feet (1,000') of, or where the Township's Official Sewage Plan (*Act 537*) provides for the installation of such public sewerage facilities within five (5) years, the subdivider shall provide the subdivision with a complete sanitary sewer system to be connected to the existing or proposed public sewerage system if, in the Supervisors' opinion, it is feasible. The design and installation shall be in accordance with §712.B.4 below and other applicable Township Specifications.
3. Where a private community sewerage system is proposed, such a system shall be subject to approval of PA DEP before approval by the Township. As a condition of Township approval, the Board may establish terms for future acceptance of such system on behalf of the Middlesex Township Municipal Authority, which may include a deferral of acceptance or a refusal to accept. Ownership and maintenance responsibility for all private community sewerage systems shall be clearly established as a condition of Final Plan approval.
4. In addition to satisfying all requirements under *Subsections 1, 2, and 3* above, the subdivider or developer shall provide the subdivision or development with a complete sanitary collection system, including a collector main installed in the street bed or approved right-of-way and laterals installed from the collector main building line. The collector main shall be of a material and design approved by the Middlesex Township Municipal Authority and shall conform in all respects to the standards and requirements as published in the Sewage Manual by PA DEP. Where the potential exists for future extension of service beyond the proposed subdivision or land development, the developer may be required by the Middlesex Township Municipal Authority to install oversize facilities to accommodate such future growth. The lateral to the building line shall be of a material and design approved by the Middlesex Township Municipal Authority and, for residences, shall be of a minimum inside diameter of six inches (6") between the collector main and the right-of-way of the street or highway. Laterals for buildings other than single-family residences shall be commensurately larger and as approved by the Middlesex Township Municipal Authority Engineer. The sewage collector mains and laterals shall be plugged water-tight pending connection with a public sewer system. All sewage collector mains and laterals shall be designed and inspected by the Middlesex Township Municipal Authority Engineer at the cost and expense of the subdivider or developer.

5. Where the installation of a sanitary sewer system is not required, the subdivider or owner of the lot shall provide for each lot, at the time improvements are erected thereon, a private sewage disposal system consisting of a septic tank and tile absorption field or other approved sewage disposal system. All such individual sewage disposal systems shall be constructed in accordance with the "Rules and Regulations of PA DEP."
6. Unless otherwise provided in the *Pennsylvania Sewage Facilities Act* and regulations thereunder, all installations of sewage facilities within the Township shall be in accordance with a permit issued by the Township.
7. The subdivider or developer shall also provide, at his/her expense, the information and a sufficient number of copies to properly amend Township's Sewage Facilities (Act 537) Plan in accordance with the requirements of PA DEP. This amendment shall be required for either subsurface disposal units or sewer installations.
8. Upon proper cause, the Supervisors, at an open meeting, may waive, modify, alter, or suspend the requirement of §712.B.4.

C. Water Facilities – Standards and Permits:

1. Wherever possible, all properties shall be connected to a municipal water supply system as required by Middlesex Township Ordinance.
2. Where a water main supply system is within one-thousand feet (1,000') of, or where plans approved by the Township provide for the installation of such public water facilities, the subdivider shall provide the subdivision with a complete water main supply system to be connected to the existing or proposed water main supply system if, in the supervisor's opinion, it is feasible. The design and installation shall be in accordance with Township specifications or the requirements of the agency or entity having jurisdiction as a condition of Township approval. Proof that the supplier is capable of providing the proposed development with an adequate supply of safe drinking water is required as part of supporting documentation for the Final Plan.
3. Where a private community water system is proposed, such system shall be subject to the application approval for PA DEP before approval by the Township. As a condition of Township approval, the Board may establish terms for future acceptance of such system on behalf of the Middlesex Township Municipal Authority, which may include a deferral of acceptance or a permanent refusal to accept. Ownership and maintenance responsibility for all private community water systems shall be clearly established as a condition of Final Plan approval.
4. Where installation of a public water main supply system is not required, the subdivider or owner of the lot shall provide for each lot, at the time improvements are erected thereon, an individual water supply approval, when applicable by PA DEP, as to source, installation, and quality of water.

5. Fire hydrants shall be installed as an integral part of any common water system; placement of hydrants shall be as required by the agency supplying water. Fire hydrants shall be located so that the distance from any building frontage to a fire hydrant is not more than six hundred feet (600') measured along the curb.
- D. Installation of these sewers, water mains, street lights, manholes, and other utilities shall be in strict accordance with the engineering standards and specifications of the Middlesex Township Municipal Authority or other public utility concerned.
- E. Following the installation of any public water distribution system, and/or the sewer collection system(s), the Applicant shall provide the Township with as-built drawings showing the location and depth of all water lines, valves, and appurtenances and the size, location, length, and depth of all sanitary sewer lines, including house lateral locations. All descriptions and drawings shall include bearings and distances. The As-Built Plans shall be prepared by a Professional Engineer or Professional Land Surveyor.

Section 713. Storm Water Drainage

A. Storm Water Drainage Facilities:

Facilities to accommodate storm water drainage as a result of the proposed development of any tract of land under This Ordinance must conform to the requirements of *Article X* herein as well as any construction and materials specifications as are, or shall be, adopted by the Board of Township Supervisors.

B. Existing Drainageways:

Where a subdivision is traversed by a watercourse, drainageway, channel, or stream, there shall be provided a drainage easement conforming substantially with the line of such watercourse, drainageway, channel, or stream. The easement to be provided shall not be less than twenty feet (20') wide, or as such greater width as will be adequate to preserve the unimpeded flow or natural drainage or for the purpose of widening, deepening, relocating, improving, or protecting such drainage facilities, or for the purpose of installing a storm water sewer.

Section 714. Utility Construction

A. Underground Wiring:

1. All electric, telephone, cable television, and other communication facilities, both main and service lines servicing new subdivisions or land developments, shall be provided by underground wiring within utility easements or within dedicated public rights-of-way unless special conditions require otherwise. Utilities shall be installed in accordance with the prevailing standards and practices of the utility or other companies providing such services.
2. Lots which abut existing easements or public rights-of-way where overhead electric or telephone distribution supply lines and service connections have been

previously installed may be supplied with electric and telephone service from those overhead lines, but any new service connections from the overhead utility lines shall be installed underground. In the case of existing overhead utilities, should an extension of service, or other such condition, occur as a result of the subdivision and necessitate the replacement or relocation of such utilities, such replacement or relocation shall be underground where practicable.

3. Where overhead lines are permitted as the exception, the placement and alignment of poles shall be designed to lessen the visual impact of overhead lines as follows.
 - a. Alignments and pole locations shall be carefully routed to avoid locations along horizons.
 - b. Clearing swaths through tree areas shall be avoided by selective cutting and a staggered alignment.
 - c. Trees shall be planted in open areas and at key locations to minimize the view of the poles and the alignments.
 - d. Alignments shall follow rear lot lines and the rear of buildings and other similar alignments where possible.
4. Where such utilities lie under the proposed right-of-way or cartway, said utilities, or provisions for accommodating said utilities (i.e., conduits, duct banks, manholes, junction boxes, etc.), shall be installed prior to construction of the roadway. Utility systems must also be operational before any person is permitted to occupy any building to be served by such utility.

B. Underground Utility Notifications:

In accordance with the provisions of *PA Act 38*, as amended, all Applicants proposing construction activities shall contact all applicable utilities and accurately determine, by field surveying means, the location, type, size, and approximate depths of all existing underground utilities within and adjacent to the tract proposed for development and in the vicinity of any proposed off-site improvement. A list of the applicable utilities, their telephone numbers, and the PA One Call Serial Number shall appear on the Subdivision or Land Development Plans submitted for review.

Section 715. Street Signs, Pavement Markings, and Traffic Control Devices

A. General:

1. All subdivision or land developments shall be provided with stop signs, street name signs, speed limit signs, no parking signs (if applicable), and other regulatory and/or advisory signs as may be required by the Township.
2. Street name and other traffic-control signs located within public rights-of-way shall be owned and maintained by Middlesex Township. Signs located on private

property shall be owned and maintained in good operating condition by the landowner.

3. Signs and other traffic-control devices within proposed public street rights-of-way will be provided and installed by the Township and paid for by the Applicant. The estimated cost of the signs shall be required to be included in the financial security for the project as described in This Ordinance.
4. All required street and other traffic-control signs shall be erected prior to any street being passable and opened for vehicular use.
5. All street signs shall be placed and constructed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), United States Department of Transportation, Federal Highway Administration, latest edition, and the most current requirements of PennDOT.

B. Street Name Signs:

The subdivision or land development shall be provided with street name signs at all intersections of public streets within the development. Street names shall be selected in accordance with prescribed Township, United States Postal Service, or other regulatory agency procedures and shall not conflict with existing street names or create confusion to the traveling public. The Township shall review and, if acceptable, approve all street names as proposed by the Applicant.

C. Stop, Speed Limit, No Parking, and other Regulatory Signs:

Stop signs, speed limit signs, no parking signs, and other regulatory and/or advisory signs shall be placed within the subdivision or land development as required by the Township. The location of all required signs shall be depicted on the approved Subdivision Plan or Land Development Plan.

D. Traffic Signalization:

Where a subdivision or land development requires the modification of an existing traffic signal or the installation of a new traffic signal and related appurtenances to control the flow of traffic, the Applicant shall prepare all required traffic studies and analyses, traffic signal warrant reports, traffic signal permit and construction plans, and traffic signal permit applications for review and approval by the Township. All traffic signal design and construction shall be in accordance with the current requirements of PennDOT Publication 149 (Traffic Signal Design Handbook) and Publication 148 (Traffic Standards – Signals); TC-7800. Additionally, the design and construction requirements as contained in *Article XIV* of This Ordinance shall be adhered to for the design and/or modification of all traffic signal facilities.

E. Pavement Markings:

Where pavement markings are required for the proper channelization, control, and proper operation of traffic, the Applicant shall provide pavement markings on the plan for review and approval by the Township. Pavement markings shall include, but not be limited to, center and edge lines, stop bars, pedestrian crosswalks, through and turn arrows, and the like. Pavement markings for stop bars, crosswalks, and directional arrows shall be thermoplastic. All pavement markings shall conform to the latest requirements of PennDOT and the Township.

Section 716. Site Retaining Walls

- A. When retaining walls are required to accommodate grade changes as part of a Subdivision Plan or Land Development Plan, said plan shall contain details relating to the design and construction of the proposed site retaining walls. Details shall include, but not be limited to, a layout and grading plan and a site adapted typical design section or sections showing all construction requirements.
- B. Design calculations must be provided for all design conditions, and such wall design shall be prepared and certified by a Professional Engineer in the Commonwealth of Pennsylvania experienced in structural design and geotechnical engineering principles. Design calculations must include existing soils information; lateral soil pressure and all loading conditions; an analysis for overturning, sliding, and foundation bearing pressure; global stability analysis; and the design of all structural components, including the use of appropriate factors of safety. An exemption from this requirement shall include small landscaping, garden, or similar type walls less than four feet (4') in height and which do not support buildings, parking facilities, or other structurally significant site features.
- C. Retaining walls near or adjacent to street right-of-way lines shall be placed a minimum distance from the right-of-way line that would allow the angle of repose of the retained soil material to not encroach on the right-of-way and affect the roadway, right-of-way, or public infrastructure contained therein if the retaining wall should fail or be removed for any reason. No portion of any wall, such as foundations, reinforcing materials, railing, and the like, shall be located in any public right-of way to be owned or maintained by the Township.
- D. Retaining walls attached to, and substantially part of, buildings shall be reviewed by the Township as part of the building permit application review process.
- E. Any retaining wall greater than four feet (4') in height and subject to pedestrian traffic in the vicinity of the top of the wall shall be provided with fencing, railing, or other protective measures to the satisfaction of the Township and in accordance with any applicable building codes.
- F. Plans containing retaining walls located on or affecting multiple properties must provide adequate provisions for private access, maintenance, and repair.

Section 717. Traffic Impact Studies

A. Intent:

The intent of a traffic impact study is to identify and plan for safe means of ingress and egress for proposed developments; understand the adequacy of the existing transportation network for the intended use; identify any potential transportation impacts of the proposed subdivision and/or land development; and determine any roadway or traffic signalization improvements necessary to mitigate any impacts resulting from the planned development.

B. General Provisions:

1. A traffic impact study shall be submitted for subdivision and land developments which meet the following criteria:
 - a. Residential: Involving forty (40) or more dwelling units, either singularly or cumulatively.
 - b. Commercial: Involving fifty thousand (50,000) or more square feet of gross floor area, either singularly or cumulatively.
 - c. Industrial: Involving seventy-five thousand (75,000) or more square feet of gross floor area, either singularly or cumulatively.
 - d. Other: Whenever the Township finds that there is a reasonable ground to believe that the existing transportation network may be inadequate to handle the volume or character of traffic that is likely to result from the proposed subdivision or land development.
2. The study shall be prepared, signed, and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania with sufficient prior traffic study and traffic engineering experience to qualify the engineer to perform the study and render any opinions and recommendations set forth therein.
3. Study area boundaries shall be determined in accordance with the publication referenced in §717.C below and through discussions with the Township Engineer. At a minimum, the study area shall include any intersection that experiences an increase of fifty (50) peak hour directional trips attributed to the development and other intersections which, in the opinion of the Township, warrant inclusion in the study. A pre-study conference between the Applicant's Traffic Engineer and the Township is required prior to undertaking the traffic impact study. Where a subdivision or land development project requires access to a state highway and meets the requirements of the PennDOT for a traffic study, PennDOT shall also be consulted regarding the scope of the study prior to proceeding with the work.

C. Contents:

The study shall be prepared in accordance with the ITE *Traffic Engineering Handbook* and ITE's *Transportation Impact Analyses for Site Development*, current editions and PennDOT Publications 212 and 282, current editions and the requirements contained herein.

1. General Site Description:

The site description shall include the size, location, existing and proposed land uses, current zoning, construction phasing, and completion date of the proposed land development. Any residual land which, when developed, will utilize the proposed improvements shall be planned for as the highest and best use for the residual property and shall be included in the study. A brief description of other major existing and proposed land developments within the study area shall be provided.

2. Transportation Facilities Description:

a. Proposed Internal Transportation System:

Describe the proposed vehicular bicycle and pedestrian circulation, ingress and egress locations, existing or proposed internal roadways (including the widths of cartways and rights-of-way), parking conditions, traffic channelization, and any other traffic-control devices within the site of the subdivision or land development.

b. External Transportation System:

Describe the entire external roadway system within the study area for the proposed subdivision or land development including major intersections; traffic-control devices; parking conditions; widths of cartways and rights-of-way; and vehicular, bicycle, and pedestrian circulation. Key intersections in the study area shall be identified and described. Current photographs of the study intersections depicting all approaches shall be included in the study. All planned or programmed public and/or private highway improvements, including proposed roadway construction and traffic signalization, shall be noted. Any proposed roadway improvements planned and approved from surrounding developments shall also be recorded.

3. Existing Traffic Conditions:

Existing traffic conditions shall be determined for all roadways and intersections in the study area. Existing traffic volumes for ADT, peak highway hour(s) traffic, and peak development-generated hour(s) traffic shall be collected. Manual traffic counts at key intersections in the study area shall be conducted, encompassing the peak highway and development-generated hour(s). A volume capacity analysis

based on existing volumes shall be performed during the peak highway hour(s) and the peak development-generated hour(s) for all roadways and key intersections in the study area using the methodologies presented in the current edition of the Transportation Research Board's *Highway Capacity Manual*, current edition. Levels of service shall be determined for all roadways and key intersections. Traffic signal warrant analyses shall be conducted for all unsignalized intersections in accordance with PennDOT Publication 212. Gap studies and queue length analysis shall also be completed for all key intersections. The analysis of the existing road network will be based on the current geometric condition and traffic conditions.

4. Future Trip Projections:

- a. Estimation of vehicular trips to result from the proposed development shall be completed for the average daily, peak highway hour(s), and peak development-generated hour(s). Vehicular trip generation rates to be used for this calculation shall be based on *ITE's Trip General Manual* and *ITE's Trip Generation Handbook*, current editions, and/or data collected from sites with similar trip generation characteristics. These existing data shall be collected in conformance with the guidelines presented in the *ITE Trip Generation Handbook*. Also, provide an estimate of anticipated truck volumes in the study. These development-generated traffic volumes shall be provided for the in-bound and out-bound traffic movements, and the reference source(s) and methodology followed shall be documented. All turning movements shall be calculated. These generated volumes shall be logically distributed to the study area and assigned to the existing roadways and key intersections throughout the study area. The methodology used to distribute trips shall be documented and approved by the Township Engineer.
- b. Provide a detailed distribution and assignment of any pass-by trips. Document all assumptions used in the distribution and assignment phase in a manner which permits the duplication of these calculations. Pedestrian volumes shall also be calculated, if applicable. If school crossings are to be used, pedestrian volumes shall be assigned to each crossing. Any characteristics of the site that will cause particular trip generation problems shall be noted.
- c. Background growth using the latest edition of the PennDOT Publication entitled "Pennsylvania Traffic Data" and projected traffic from approved, but not yet built, subdivisions or land developments which are proximate to and will have an impact on the study points shall be included in the projection of future traffic.
- d. All future analyses shall be conducted based on a full buildout in the planned opening year plus a ten (10)-year horizon period. For phased

projects, the entire project shall be assumed to be built out in the opening year plus the aforementioned ten (10)-year horizon period.

5. Transportation Impacts:

- a. The study area roadway network is to be analyzed for safety and capacity sufficiency for future network conditions without the proposed development and future network conditions with the proposed development. For each of these conditions, the following analyses shall be completed.
 - 1) Mainline ADT volumes and turning movement volumes for all key intersections within the study area shall be determined for the A.M. peak hours, P.M. peak hours, and proposed development peak hours (if other than either the A.M. or P.M. peak hours of the network). Commercial development shall also provide a Saturday peak hour analysis.
 - 2) The effectiveness of the traffic signal control at all key intersections shall be evaluated by approach in terms of vehicle stops and delays.
 - 3) Gap studies will be conducted at the proposed site access points to evaluate the need for signal control, turn prohibition, or additional site access points to reduce the left volume from the site driveway(s).
 - 4) Queue length studies using ninety-five percent (95%) *Highway Capacity Manual* methodologies shall be completed to evaluate the potential for a backup of traffic from controlled intersections which could impact other intersections including access points to the proposed development.
 - 5) An analysis of the volume and capacity of the network and all key intersections shall be conducted utilizing the most current *Highway Capacity Manual* procedures. Levels of service will be determined and documented.
- b. The analysis of the future conditions without the proposed development will document the adequacy of the study area network to accommodate the traffic in the design year(s) without the proposed development. This analysis must include a full consideration of all committed roadway improvements to the study area network when determining the expected levels of service.
- c. The analysis of the future conditions with the proposed development will document the impacts created as a result of the development.

6. Conclusions and Recommended Improvements:

Levels of service for all street segments and key intersections shall be presented in tabular and graphic form. All street segments and key intersections showing a Level of Service (LOS) below LOS D for street segments and signalized intersections and below LOS E for street segments and unsignalized intersections shall be considered deficient, and specific recommendations for the elimination of these deficiencies shall be listed. This listing of recommended improvements shall include, but not be limited to, the following elements:

- a. Internal circulation design.
- b. Site access location and design.
- c. External street and intersection design and improvements.
- d. Traffic signal installation and operation, including signal timing.
- e. Transit design improvements.

All newly signalized intersections shall be designed to provide LOS D or better for all approaches for the horizon year. All unsignalized intersections shall be designed to provide LOS E or better for all approaches in the horizon year. All physical on-site improvements shall be shown on the Subdivision Plan and/or Land Development Plan and approved by the Township Engineer prior to any plan approval by the Board of Supervisors. Any future phased improvements shall also be planned and represented by a phasing schedule outlining the timeframe or threshold for implementation along with the responsible party. For each recommended off-site improvement, provide a schematic drawing of existing and proposed conditions as well as a narrative description of the improvement, including the estimated cost of the improvements. All recommended improvements shall be clearly feasible from an engineering and construction perspective. Costs shall be separated for any recommended off-site improvements and any required on-site improvements.

D. Final Report:

A final report shall be prepared to document the results of the traffic study and the recommended improvements to accommodate the projected traffic due to the proposed development. Include an executive summary which provides a concise description of the study area, results of the traffic analyses, and any recommended improvements. The presentation of data and analyses results should be accomplished on either schematic diagram of the study area or through the use of charts and/or tables. All sources of data and methodologies which were used in the study (including computer programs) must be properly referenced and documented. Any waiver requests to the referenced procedures must be properly documented to enable a review of the appropriateness of the modification. Provide all computer output and calculations in appendices.

E. Responsibility for Improvements:

Where the traffic impact study indicates that on-site improvements are necessary or advisable to existing Township and/or state streets and intersections in order to:

- assure adequate, safe and convenient access to each lot and structure and parking compound proposed as part of the development of the subject tract;
- accommodate the traffic due to the proposed development;
- provide for an acceptable LOS and delay for the design year, or years for phased projects, with the development which is at least equivalent to the projected LOS and delay for the design year(s) without the proposed subdivision or development; and
- preserve the existing convenience of access to or ability to exit from abutting lots which gain access from the existing street.

The Applicant shall install all such indicated on-site improvements. The Applicant shall install additional traffic lanes, traffic dividers, traffic-control devices, traffic signals, and other measures as appropriate to ensure that the development of the subject tract does not adversely impact the existing street system and access to or the ability to exit from lots gaining access from an affected street. If the traffic impact study indicates that on-site improvements must be made to a state roadway, the Applicant shall also take all action necessary to obtain any PennDOT permits and approvals to install the necessary street widening, traffic signals, or traffic-control devices. If the traffic impact study recommends installation of traffic signals or traffic signal modifications as part of the on-site improvements, the Applicant shall prepare all plans and studies and submit all necessary applications to enable the installation of the traffic signal or modifications and shall install the traffic signal or modifications at the Applicant's cost and expense. If the traffic impact study indicates that traffic-control devices or regulations, including but not limited to stop intersections, speed limit reductions, or parking prohibitions, are required as part of the on-site improvements, the Applicant shall prepare all traffic studies necessary to justify imposition of such regulations in accordance with PennDOT regulations and shall pay all costs associated with the preparation and enactment of an ordinance to establish such regulations.

1. The Applicant shall bear all costs and expenses in connection with the on-site improvements required by this *Article*. If the Applicant requires the Township to submit any permit applications or requests for approvals in the name of the Township, the Applicant shall reimburse the Township for all costs and expenses incurred by the Township in connection with its review of the application and submission of the application to PennDOT or any other governmental agency.
2. When the Township determines that a portion or all of the required on-site improvements or that a portion or all of any agreed-to off-site improvements are not feasible or appropriate at the present time, the Applicant shall enter into an Applicant's Agreement with the Township and deposit financial security with the

Township until such time that the improvements are satisfactorily installed by the Applicant and accepted by the Township in accordance with other provisions of This Ordinance.

F. Modified Study:

Whenever a study is required solely because of the findings of the Planning Commission or Board of Township Supervisors or if the Board of Township Supervisors concludes, after a developer request for modification of requirements under this section, that certain of the required information, analyses, or conclusions are unnecessary for an identification of the traffic problems or finding solutions therefor, the Board of Township Supervisors shall delineate the scope and contents of the study so as to include only those matters that it deems appropriate to aid in the identification and solution of the problems envisaged.

Section 718. Environmental Impact Assessment Report

A. Purpose:

In order to provide the Board of Township Supervisors with an opportunity to more effectively evaluate subdivision and/or land development proposals, the Applicant shall be required to disclose the environmental consequences of effects of such proposals through the submission of an Environmental Impact Assessment (EIA) Report.

B. When Required:

An EIA report shall be submitted with the Preliminary Plan for subdivisions and land developments which meet the following criteria:

1. Residential – Involving forty (40) or more dwelling units, either singularly or cumulatively.
2. Commercial – Involving fifty thousand (50,000) or more feet of gross floor space, either singularly or cumulatively.
3. Industrial – Involving seventy-five thousand (75,000) or more square feet of gross floor space, either singularly or cumulatively.
4. Other – In Karst regions of the Township and whenever the Planning Commission or Board of Township Supervisors shall find that there is a reasonable ground to believe that an adverse environmental impact is likely to result from the proposed subdivision or land development.

An updated EIA report shall accompany and form a part of the Final Plan for any of the above.

C. By Whom Prepared:

The study shall be prepared by a qualified consultant who shall be mutually agreed upon by the developer and the Township. The study preparer shall have sufficient documented

prior environmental study experience to qualify him/her to perform the study and render any opinions and recommendations set forth therein. The cost to prepare the study will be borne entirely by the developer. The EIA Report shall be certified as correct by the preparer.

D. Contents:

Twelve (12) copies of the EIA Report shall be submitted in accordance with the format and content specified below. Within the EIA Report, specific emphasis shall be directed toward the proposed project's effects on and relationship to applicable site, neighborhood (including areas in adjacent municipalities, where applicable), and township-wide resources, conditions, or characteristic. Where required information is contained in other plans and supporting documentations, said information can be cited by reference to said plans and supporting documentation. The EIA Report shall include text, tables, maps, and analyses for the purpose of describing the project site, proposed use(s), environmental characteristics, and environmental effects of the proposal as follows:

1. An identification of the site location and area through the use of allocation map drawn at a scale of not more than one inch to two thousand feet (1"=2,000').

The location map shall depict all streets, adjoining properties, zoning district boundaries, and municipal boundaries within three thousand feet (3,000') of any part of the tract. In the case of development of the entire tract, the location map shall also show the relationship of the section to the entire tract.

2. An identification of the site character and appearance through the presentation of black and white photographs or copies thereof.

Such photographs shall provide a representation of what the site looks like from the ground. Photographs should be properly identified or captioned and shall be keyed to a map of the site.

3. An identification of the nature of the proposals through the presentation of the following:

- a. A site development plan including notes pertaining to the number and type of lots or units, the square footage and/or acreage of the tract, and depiction of the features which are proposed, such as streets, driveways, parking areas, buildings and other structures, and all impervious surfaces.

The plan shall be drawn at a scale of not more than one inch to one hundred feet (1"=100') and may be submitted as an attachment to the report. The plan shall reflect all the information required for a Preliminary Plan.

- b. Plans and elevations depicting the proposed size, square footage, height, number of rooms (where applicable) of building and/or other structures.

- c. A statement indicating the existing and proposed ownership of the tract and, where applicable, the type of ownership, operation, and maintenance proposed for areas devoted to Open Space or otherwise not under the control of a signal lot owner.
 - d. A statement indicating the proposed staging or phasing of the project.
 - e. A map depicting the boundaries of each stage of phase of the project superimposed on a version of the site development plan.
4. An identification of physical resources associated with the natural environment of the tract including such features as geology, topography, soils, hydrology, and the like.

The identification of physical resources shall include a narrative description of the qualitative and quantitative aspects of each of the resources mentioned above. In addition, these resources shall be mapped at a scale of not more than one inch to one hundred feet (1"=100') as specified below and may either be incorporated into the EIA Report or be submitted as attachments to the report.

- a. A map depicting the geological characteristics of the tract.

Such map shall define the location and boundaries of the rock formations at or influencing the tract and features such as faults and/or fractures.
- b. A map depicting the topographical characteristics of the tract.

Such map shall contain contours with at least two-foot (2') intervals and shall depict slopes from zero to four percent (0%-4%), four to ten percent (4%-10%), ten to fifteen percent (10%-15%), fifteen to twenty-five percent (15%-25%), and greater than twenty-five percent (25%).
- c. A map depicting the soil characteristics of the tract.

Such map shall depict all soil types and shall include a table identifying soil characteristics pertinent to the proposed subdivision and/or land development such as depth of bedrock, depth of water table, flood hazard potential, and limitations for septic tank filter fields.
- d. A map depicting the hydrological characteristics of the tract.

Such map shall depict surface water resources, their drainage characteristics, watersheds and floodplains, and groundwater resources. Surface water resources include features such as creeks, runs, and other streams; ponds; other natural bodies of water; springs; wetlands; and any man-made impoundments. Groundwater resources include features such as aquifers and aquifer recharge areas.

5. An identification of biological resources associated with the natural environment of the tract including such features as vegetation and wildlife.

The identification of biological resources shall include a narrative description of each of the resources mentioned above. Any protected and/or endangered species shall be noted. In addition, these resources shall be mapped at a scale of not more than one inch to one hundred feet (1"=100'), as specified below, and may be either incorporated into the EIS Report or submitted as attachments to the report.

- a. A map depicting the vegetation characteristics of the tract.

Such map shall define the locations and boundaries of the wooded areas of the tract and shall note the types of vegetation associations which exist in terms of their species types and sizes. In addition, all trees twelve inches (12") in diameter at breast height (DBH) or greater shall be accurately located on the map either as free-standing trees or as tree masses.

- b. A map depicting characteristics associated with wildlife habitats.

Such map may draw upon the vegetation, hydrology, and soil maps in order to express habitat characteristics associated with terrestrial and aquatic wildlife on the tract and the relationship of the overall habitat(s).

6. An identification of the land use conditions and characteristics associated with the tract, such as current and past use, land cover, and encumbrances and the relationship of these to adjacent tracts.

The identification of land use conditions and characteristics shall include a narrative description of the above. In addition, the following maps drawn at a scale of not more than one inch to one hundred feet (1"=100'), unless otherwise noted, shall be incorporated into the EIA Report or submitted as attachments to it:

- a. A map depicting the land cover characteristics of the tract.

Such map shall define existing features, including paved or other impervious surfaces, wooded areas, cultivated areas, pastures, old fields, lawns and landscaped areas, and the like.

- b. A map depicting any encumbrances to the tract.

Such map shall define easements and other areas where certain use privileges exist.

- c. A map depicting the land uses adjacent to the proposed tract.

Such map may be at the same scale as the location map.

7. An identification of the historic resources associated with the tract such as areas, structures, and/or routes and trails which are significant.

Area structures and/or routes and trails included on the National Register of Historic Places, the Pennsylvania Inventory of Historic Places and the Historic American Building Survey, those identified in the Comprehensive Plan, and any structure erected prior to 1890 shall be identified. The identification of historic resources shall include a narrative description of the above. In addition, a map drawn at a scale of not more than one inch to one hundred feet (1"=100') depicting historic resources shall be incorporated into the EIA Report or submitted as an attachment to the report.

8. An identification of the visual resources associated with the tract, such as areas which have a particular amenity value and areas which offer interest in viewing the tract.

The identification of visual resources shall include a narrative description of the above. In addition, a map drawn at a scale of not more than one inch to one hundred feet (1"=100') depicting visual resources shall be incorporated into the EIA Report or submitted as an attachment to the report.

9. An identification of the community facility needs associated with the user and/or resident of the proposed subdivision and/or land development.

The community facility need assessment shall indicate, in narrative form, the type of services which will be in demand. Where applicable, community facilities (such as schools, park and recreation areas, libraries, hospitals and other health care facilities, fire protection, police protection, ambulance and rescue service, and postal services) shall be discussed in terms of the ability of existing facilities and services to accommodate the demands of future users and/or residents of the lots and/or tract and the need for additional or expanded community facilities.

10. An identification of the utility needs associated with the user and/or resident of the proposed subdivision and/or land development.

The utility needs assessment shall indicate, in narrative form, the type of installations which will be in demand. Utilities (such as those used for water supply, sewage disposal, refuse disposal, storm drainage, communications, and electrical transmission) shall be discussed in terms of the ability of existing utility installations to accommodate the demands of the future users and/or residents of the lots and/or tract, the need for additional expanded utility installations, the ability to achieve an adequate quantity of potable water whenever individual wells are proposed, the ability to achieve an adequate system for on-site sewage disposal whenever such a system is proposed, and the ability to achieve an adequate system for storm drainage and storm water management.

11. An identification of the relationship of the transportation and circulation system needs of the proposed subdivision and/or land development to the existing street or highway network.

A discussion of this relationship shall be in narrative form and shall indicate factors such as methods to be used for traffic control within the tract, and at points of ingress to and egress from it, and expected traffic volumes generated from the subdivision and/or land development including their relationship to existing traffic volumes on existing streets for both peak-hour and nonpeak-hour traffic conditions. In addition, there shall be a discussion of the physical condition of existing streets which will service the proposed subdivision and/or land development and what improvements are proposed to remedy any physical deficiencies.

12. An identification of the anticipated population characteristics related to the proposed subdivision and/or land development.

The characteristics which shall be present in narrative form shall include a profile of the future users and/or residents of the lot and/or tract including information such as the number of people expected. Such information shall be related to initial and completed subdivision and/or land development conditions.

13. An identification of the economic and fiscal characteristics related to the proposed subdivision and/or land development.

The characteristics, which shall be presented in narrative form, shall include a profile of the Township, County, and school district revenues which the proposal may generate and the Township, County, and school district costs it may create. Such information shall be related to initial and complete subdivision and land development conditions.

14. An identification of characteristics and conditions associated with existing, construction-related, and future water quality, light and noise levels, vibration, toxic materials, electrical interference, odor, glare and heat, fire and explosion, smoke, dust, fumes, vapors and gases, and/or radioactive materials.

15. The implication of the proposed subdivision and land development in terms of the type of beneficial or adverse effects which may result from it and the duration of these effects in terms of their short-term or long-term nature.

To indicate such effects, there shall be a discussion of the implications of the proposed subdivision and/or land development to the resources, conditions, and characteristics described in *Subsections (4) through (14)* above. In addition to a narrative presentation of implications, the Applicant shall display where the subdivision and/or land development adversely affects the tract's resources, conditions, or characteristics through the use of a map drawn at a scale of not more than one inch to one hundred feet (1"=100'), wherein the areas adversely affected from proposed development are highlighted. Such map may be either incorporated into the EIA Report or submitted as an attachment to the report. Further, the Applicant must demonstrate and specify in the EIA Report how and where the findings in the EIA Report and its attachments are reflected in the Subdivision Plan and/or Land Development Plan.

16. Alternatives to the proposed subdivision and/or land development.

To indicate such alternatives, the Applicant shall submit exhibits or diagrams which depict the type of alternatives described in narrative form. The Applicant shall comment on how alternatives such as revised location, redesign, layout or sitting of buildings, roads and other structures, alternate methods for sewage disposal and water supply, reduction in the size of proposed structures or number of structures, and the like would preclude, reduce, or lessen potential adverse impacts or produce beneficial effects.

17. Probable adverse effects which cannot be precluded.

In indicating such effects, a discussion shall be presented regarding whether they will have primary or secondary implications (that is, whether the adverse effects will have direct or indirect influence on a particular resource, condition, or characteristic).

18. Measures to mitigate adverse effects.

To indicate such measures, the Applicant shall submit exhibits or diagrams which will depict the type of remedial, protective, and mitigative measures described in narrative form. These resources shall include those required through existing procedures and standards and those unique to a specific project, as follows:

- a. Mitigation measures which pertain to existing procedures and standards are those related to current requirements of the state, county and/or township for remedial or protective action, such as sedimentation and erosion control, storm water runoff control, water quality control, air quality control, and the like.
- b. Mitigation measures related to impacts which may be unique to a specific subdivision and/or land development are those related to efforts such as revegetation, screening, fencing, emission control, traffic control, noise control, relocation of people and/or businesses, land acquisition, and the like.

19. Any irreversible environmental changes which would occur due to the proposed subdivision and/or land development, should it be implemented.

To indicate such changes, the use of non-renewable resources during the initial and continued phases of the subdivision and/or land development shall be discussed. Further, the loss of environmental resources shall be indicated through a presentation of the quantity of loss and related qualitative effects.

- E. In making its evaluation, the Board of Township Supervisors and/or the Planning Commission may request any additional information it deems necessary to adequately assess potential environmental impacts. Further, whenever any information requested in §718.D above is not applicable to the proposed subdivision and/or land development.

The Board of Township Supervisors may waive any or all of the requirements to address such information upon a finding of such inapplicability. A written request for a modification shall be made by the Applicant and shall be submitted at the time when a Sketch Plan is submitted or an application for subdivision and/or land development is made.

Section 719. Landscaping Requirements

A. Purpose:

The intent of this *Section* is to promote practical and attractive development within Middlesex Township by:

1. Minimizing erosion and sedimentation and stimulating groundwater recharge.
2. Minimizing glare and heat on proposed hard surfaces and reducing noise pollution.
3. Stimulating air purification and oxygen regeneration.
4. Maintaining existing, healthy vegetation.
5. Providing harmonious development on properties adjacent to incongruous zoning districts or uses by providing minimum landscaping requirements.

B. Scope:

A Landscape Plan shall be required for each Land Development Plan at both the Preliminary and Final Plan submittals. In addition to other plan requirements set forth in This Ordinance, the following is required for submission:

1. Preliminary Landscape Plan:

The Preliminary Landscape Plan shall be drawn at a scale of not less than one inch to fifty feet (1"=50'). It shall be coordinated with the overall site plan and contain the following:

- a. Building and paved area layout.
- b. Location of all outside storage and trash receptacle areas.
- c. Existing and proposed underground and aboveground utilities (such as sewer, water, site lighting, transformers, hydrants, manholes, etc.) and their related easements.
- d. Preliminary grading plan delineating areas with slopes in excess of three feet (3') horizontal to one foot (1') vertical (3:1).
- e. Fences and walls.

- f. Existing wooded areas, existing wooded areas to remain, and existing and proposed water bodies.
- g. Species of proposed trees, shrubs, groundcover, and grass.
- h. Areas to be planted with proposed species other than grass.

2. Final Landscape Plan:

The Final Landscape Plan shall be drawn in greater detail and shall contain the following:

- a. All plan elements required for the Preliminary Plan.
- b. Plant schedule, indicating the botanical and common names, height or spread, caliper, and quantity of all proposed plant material.
- c. Details for the planting and staking of trees.
- d. Existing trees with trunks twenty inches (20") in diameter at breast height or greater, existing wooded areas, and existing and proposed water bodies.
- e. Location and spacing of all proposed plant material.

3. Final Landscape Plans shall be certified by a Landscape Architect registered by the Commonwealth of Pennsylvania. These plans shall also be reviewed by the Township Engineer and the Planning Commission and approved by the Board of Township Supervisors.

C. Landscape Requirements:

- 1. The requirements of this *Section* are used to judge the adequacy of subdivision and land development proposals.
- 2. The locations, dimensions, and spacing of required plantings should be adequate for their proper growth and maintenance, taking into account the sizes of such plantings at maturity and their present and future environmental requirements, such as wind, moisture, and sunlight.
- 3. The type(s) of plantings shall be limited or carefully selected for locations where they will not be disturbed or contribute to conditions hazardous to the public safety. Such locations include, but shall not be limited to, public street rights-of-way, underground and aboveground utilities, and sight triangle areas required for unobstructed views at street intersections.

4. Obstructions to Vision:

No bushes or shrubs exceeding thirty inches (30") in height, or at such lesser height which due to ground elevations would obstruct the vision of motorists,

shall be permitted within any required clear sight-triangle nor within ten feet (10') of the right-of-way line adjacent to access drives. All street trees shall be kept free of branches and foliage from the ground level to a height of at least six feet (6').

5. All plant materials used shall, at the time of planting, meet the requirements as stated in §719.D of This Ordinance.
6. Street Trees:
 - a. When required, street trees shall be planted for any subdivision or land development, where suitable street trees do not exist, as part of the design and construction of:
 - 1) New streets.
 - 2) New sidewalks or pedestrian ways.
 - 3) Existing streets, sidewalks, pedestrian ways, highways, bicycle trails, or pathways when they abut or lie within the subdivision or land development.
 - 4) Access driveways to residential developments serving more than four (4) dwelling units.
 - b. Spacing:

Street trees shall be planted no closer than forty feet (40') on center for each side of the street. The number of street trees to be provided shall be based on providing at least one tree for every eighty feet (80') of distance along the right-of-way line.
 - c. Setback:

Street trees shall be planted a minimum distance of five feet (5') outside and parallel to the right-of-way line unless otherwise approved by the Board of Supervisors. Trees located at intersections shall respect the clear sight triangles.
 - d. Existing trees along a street which are suitable as street trees can be counted toward the street tree requirement if they are of a suitable species as listed in §719.D of This Ordinance, are over six inches (6") in diameter at breast height (DBH) and are located a maximum distance of ten feet (10') outside and parallel to the right-of-way line.
 - e. All street trees shall be a minimum of fifteen feet (15') in height when planted. Street trees shall be selected and planted so that, at maturity, they will provide adequate shade during the summer along the public street(s).

- f. All street trees shall have a minimum two-and-one-half-inch (2.5") caliper when planted.
- 7. Existing Trees:

Existing trees shall be protected to prevent unnecessary destruction.

 - a. At least twenty-five percent (25%) of the number of trees (minimum trunk diameter at breast height) that exist at the time of plan submission shall be maintained or replaced immediately following construction. Replacement trees shall have a minimum trunk caliper of two-and-one-half inches (2.5") at a height of six inches (6") above finished grade.
 - b. Existing trees as described below shall not be removed without the express approval of the Board of Township Supervisors, upon recommendation of the Township Planning Commission:
 - 1) All trees having a diameter of thirty inches (30") in diameter at breast height (DBH) or greater or any tree identified as a national, state, or county "champion tree" – designated by the Pennsylvania Forestry Association as "outstanding trees."
 - 2) Trees, shrubs, or plants identified on the list of rare, threatened, and endangered species of the United States Fish and Wildlife Service (USFWS) – designated as "rare, threatened, and endangered species."
 - 3) Trees that are part of a historic site or associated with a historic structure – designated as "trees of historic significance."
- 8. Where on-lot sewage disposal systems are proposed, trees shall not be placed over top of the area where the proposed septic tank and drain field are to be constructed and shall be isolated from all portions of the on-lot sewage disposal system as required by PA DEP regulations.
- 9. Where sewer and water easements are existing or proposed, trees, shrubbery, and any other form of landscaping (other than grass) shall be prohibited.
- 10. All shrubbery and plants shall have a normal habit of growth and shall be sound, healthy, vigorous, and free of disease, insects, insect eggs, and larvae.
- 11. All trees shall have a minimum trunk diameter of two and one-half inches (2.5") at a height of six inches (6") above finished grade.
- 12. All plantings shall be performed in conformance with good nursery and landscape practices and in accordance with other standards that are established by the Township.

13. Requirements for the measurement, branching, grading, quality, and burlapping of all shrubbery shall follow the code of standards recommended by the American Association of Nurserymen, Inc. in the American Standard Nursery Stock, ANSIZ60, 1-1973, as amended.
14. Screen Buffer:
 - a. Screen buffers are required, but not limited to, the occurrence of the following conditions:
 - 1) Where a proposed commercial, industrial, or institutional use abuts an existing residential use or residential district.
 - 2) Where any proposed multi-family residential use abuts an existing single-family detached, single-family semi-detached, or two-family detached dwelling.
 - 3) Where residential uses abut any railroad or limited access highway, or any other arterial highway in the case of reverse frontage or where marginal or rear access is provided.
 - 4) Around all open sides of any common utility yard and outdoor equipment or refuse storage area in multi-family residential developments.
 - 5) All service, delivery, loading, and outdoor storage and trash disposal areas shall be screened from all residential districts, public streets, parking lots, and pedestrian walkways. These areas shall be totally screened from the above-listed places by the use of fences, walls, berms, evergreen plant material, or a combination of these, not less than six feet (6') in height.
 - 6) All mechanical equipment not enclosed in a structure shall be fully and completely screened in a manner compatible with the architectural and landscaping style of the remainder of the lot. Such screening shall be subject to Land Development Plan and architectural review by the Board of Supervisors.
 - 7) Water towers, storage tanks, processing equipment, fans, skylights, cooling towers, vents, and any other structure or equipment which rise above the roof line shall be architecturally compatible with, or effectively shielded from, the view from any public or private dedicated street by an architecturally sound method which shall be approved, in writing, by the Township before construction or erection of said structures or equipment.
 - 8) Elsewhere, when required by Ordinance or as deemed necessary by the Planning Commission and/or Board of Supervisors.

- b. Wherever natural screening is being provided to meet a screening requirement of the Zoning Ordinance, the following landscape requirements must be adhered to:
- 1) The entire perimeter of any commercial, industrial or institutional property undergoing development shall be provided with a minimum of twenty-foot (20') wide planting strip if adjacent to a residential use or district, which will act as an effective screen separating uses.
 - 2) Vegetative screening shall include a variety of deciduous and evergreen species that are indigenous to the area so as to provide a year-round visual buffer. Trees and shrubs used for screening shall consist of at least fifty percent (50%) evergreen trees and shrubs and shall be arranged so as to provide an immediate visual screen of fifty percent (50%). Evergreen trees shall be at least six feet (6') in height at the time of planting.
 - 3) Vegetative screening may incorporate earthen mounds or berms to improve sound as well as visual buffering, and shall be broken at points of vehicular or pedestrian access.
 - 4) Plant materials used in the screen planting shall be at least six feet (6') in height when planted and be of a species which will produce a complete visual screen of at least eight feet (8') in height at maturity.
 - 5) When additional height is deemed necessary, a row of trees planted at intervals of not more than forty feet (40') on center shall be provided.
 - 6) No plantings shall be placed with their center closer than five feet (5') from the property line.
 - 7) All existing trees within a required planting strip above three inches (3") in diameter at breast height (DBH) and/or eight feet (8') in height shall be preserved wherever possible.
 - 8) Screening shall be designed so the clear-sight triangles at intersections are not obstructed.
 - 9) Screening design, including the type of plant materials used, spacing of plant materials, and the use and location of earthen berms, shall be subject to review and approval by the Board of Supervisors upon the recommendation of the Planning Commission.

- 10) Vegetative screens shall be perpetually maintained during the period the principal use causing the need for screening is in operation. Any plant material that does not survive shall be replaced within six (6) months.
- 11) Walls, ornamental structures, fences, and berms, or a combination thereof, not less than five feet (5') in height may be used in combination with appropriate plant material subject to the specific land use areas involved and as approved by the Board of Supervisors. Up to thirty percent (30%) of the screening may be accomplished by using a fence or wall.
- 12) Innovative means of screening are encouraged; however, as a guideline to quantity of materials required, there shall be a minimum of one (1) tree for each twelve (12) lineal feet of property line. Straight rows are strongly discouraged.
- 13) Windbreaks – The use of planting rows to serve as windbreaks to control the drifting of snow across public and private thoroughfares as well as for general comfort is recommended.

15. Individual Lot/Building Area Requirements:

- a. In addition to the landscape requirements for street trees, buffers, off-street parking areas, detention basins, and service areas, each new building lot shall provide one deciduous or evergreen tree per every one thousand square feet (1,000 ft²) of gross floor area of building.
- b. Any area on the development site not used for buildings, paved areas, or buffer plantings, (excluding natural woodlands), shall be planted with an all-season ground cover or lawn and other landscape materials.
- c. When designing the landscape for an individual lot or building area, due consideration shall be given to the location and selection of plantings and other landscape features to:
 - 1) Provide visual interest.
 - 2) Define outdoor spaces.
 - 3) Complement proposed architectural styles.
 - 4) Group materials according to specific needs and objectives on the site and as appropriate to the overall site design.

16. Off-Street Parking Areas:

- a. Landscaping areas shall be required for any parking lot area which provides more than ten (10) parking spaces to reduce wind and air

turbulence, heat and noise, and the glare of vehicle lights; to reduce the level of carbon dioxide; to provide shade; to improve storm water drainage problems; to replenish the groundwater table; and to provide for a more attractive setting.

- b. Required landscaping areas shall be planted with a combination of shade trees, shrubs, other acceptable plant materials, and lawn or other ground covers.
- c. Required landscaping areas shall be at least ten feet (10') in width.
- d. Except as specified otherwise in this *Section*, required landscaping areas shall be reasonably dispersed throughout the parking lot.
- e. For any parking lot facility containing two thousand square feet (2,000 ft²) or less of gross area (measured from the outside edge of paving), a minimum of five percent (5%) of the gross area of the parking lot shall be devoted to interior landscaping areas. These areas shall include a minimum of one (1) deciduous shade tree per twenty (20) parking spaces. No more than twenty-five (25) parking spaces shall be placed in a continuous row without an intervening landscaping island of at least ten feet (10') in width and extending the length of the parking stalls.
- f. For any parking lot facility containing more than two thousand square feet (2,000 ft²) of gross area (measured from the outside edge of paving), a minimum of ten percent (10%) of the gross area of the parking lot shall be devoted to interior landscaping areas. These areas shall include a minimum of one (1) deciduous shade tree per twenty (20) parking spaces. No more than twenty-five (25) parking spaces shall be placed in a continuous row without an intervening landscaping island of at least ten feet (10') in width and extending the length of the parking stalls.
- g. Off-street parking lots shall be screened in accordance with the above regulations relating to buffers. Further, any parking lot area perpendicular to and within one hundred feet (100') of a public street or intersection shall be screened with either a hedge, berm, fence, a combination thereof, or other measures to prevent distraction or confusion to passing motorists from parking cars' headlights.

17. Service, Loading, and Trash Disposal Areas:

- a. All service, delivery, loading, and outdoor storage and trash disposal areas shall be screened from all residential districts, public streets, parking lots and pedestrian walkways.
- b. These areas shall be totally screened from the above-listed places by the use of fences, walls, berms, evergreen plant material, or a combination thereof not less than six feet (6') in height.

18. Any part or portion of a site which is not used for buildings or other structures, loading and parking spaces and aisles, sidewalks, and designated storage areas shall be planted and maintained with landscaping.
19. Except for single-family detached, single-family semi-detached, and two-family detached dwellings, any part or portion of a site which is not used for buildings or other structures, loading and parking spaces and aisles, sidewalks, and designated storage areas shall be landscaped according to an overall plan prepared and approved as part of the Land Development Plan. A replacement program for non-surviving plants shall be included.

D. Recommended Plant Materials:

1. Species selection shall be based upon the existing site conditions including the site geology, hydrology, soils, and microclimate, as well as functional considerations of screening, energy conservation and architectural compatibility.
2. Unless noted otherwise in this *Section*, all newly planted landscaping trees shall have a minimum two and one-half-inch (2.5") caliper at the time of planting.
3. The following is a recommended list of street trees for use in Middlesex Township. However, the Township Board of Supervisors may permit other planting types if they are hardy to the area, are not subject to blight or disease and are of the same general character and growth habit as those listed below. Newly planted street trees shall have a minimum two-and-one-half-inch (2.5") caliper at the time of planting.

LIST OF RECOMMENDED STREET TREES

Common Name	Botanical Name
<u>Small Street Trees</u> (for clearances less than 20' and under overhead lines)	
Trident Maple	Acer buergerianum
Paperbark maple	Acer griseum
Tatarian maple	Acer tataricum
Serviceberry species ¹	Amelanchier spp.
Hornbeam species ²	Carpinus spp.
Eastern redbud	Cercis canadensis
Chinese fringetree	Chionanthus retusus
Dogwood species ³	Cornus spp.
American smoke-tree	Cotinus obovatus
Hawthorn species ⁴	Crataegus spp.
Star magnolia	Magnolia stallata
Sweetbay magnolia	Magnolia virginiana
Crabapple species and cultivars	Malus spp.
Cherry species ⁵	Prunus spp.
Japanese tree lilac	Syringa reticulata
<u>Medium Street Trees</u> (for clearances from 20' to 35', not under overhead lines)	
Hedge maple	Acer campestre
Purpleblow maple	Acer truncatum
Red horse chestnut	Aesculus x carnea
Asian white birch	Betula platphylla var. japonica
European hornbeam	Carpinus betulus
American yellowwood	Cladrastis kentukea
Carolina silverbell	Halesia Carolina
Magnolia species ⁶	Magnolia spp.
American hop-hornbeam	Ostrya virginiana
Sourwood	Oxydendron arboreum
Persian parrotia ⁷	Parrotia persica
Amur cork-tree	Phellondendron amurense
Cherry species ⁸	Prunus spp.
Korean mountain ash	Sorbus alnifolia

LIST OF RECOMMENDED STREET TREES

Common Name	Botanical Name
<u>Large Street Trees</u> (for clearances greater than 35', not under overhead lines)	
Red maple	Acer rubrum
Common hackberry	Celtis occidentalis
White ash	Fraxinus americana
Gren ash	Fraxinus americana
Ginko ⁹	Ginko biloba
Thornless honeylocust	Gleditsia triacanthos vas inermus
Kentucky Coffee-tree	Gymnocaldus dioca
Sweetgum	Liquidambar styraciflua
Black gum	Nyssa sylvatica
Dawn redwood	Metasequoia glyptostroboides
London plane-tree	Platanus x acerifolia
Oak spieces ¹⁰	Quercuis spp
Japanese scholar-tree	Sophora japonica
Common baldcypress	Taxodium distichum
Linden species ¹¹	Tilia spp.
1 tree form only 2 including American, Korean, Looseflower 3 including Pagoda, Giant, Flowering, Kousa, Cornelian cherry, Japanese cornell 4 including Thornless cockspur, Marshalls, Glossy, Washington, Green, Lavalie 5 including Okame, Oriental 6 including Yulan, Galaxy, Southern magnolia cultivars, Kobus, Merrill Loebner 7 male clone only 8 including Sargent, Higan, Yoshino 9 male clone only 10 including White, Swamp white, Scarlet, Shingle, Bur, Pin, Willow, Red, Shumard, Black 11 including American (basswood), Silver, Littleleaf	
Source: Morris Arboretum, "Recommended Trees for Metropolitan Areas" and Pennsylvania State University, College of Agricultural Sciences, "Street Tree Fact Sheets," as compiled by Sandra Insalaco, Forester, Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, September 2005.	

4. In no circumstances will any of the following trees be permitted to be planted as street trees:
 - a. Poplars (all varieties).
 - b. Willows (all varieties).
 - c. White or Silver Maple (Acer Saccharinum).
 - d. Aspen (all varieties).

- e. Common Black Locust.
- f. Pear (all varieties).
- g. Goldenrain Tree (botanical name Koelreuteria paniculata).

Section 720. Conservation Subdivision Design Process and General Design Guidelines for Location of Site Improvements

Following the Conservation Analysis, all residential subdivisions in the Conservation Subdivision Overlay District, except standard single-family lotting on small tracts (less than six [6] acres), estate lots, or conservation lots with no required Open Space shall generally follow a four-step design process as described below. Guidelines presented in §720.b should also be considered in the process of designing and siting uses in the Conservation Subdivision Overlay District. Graphics in these regulations are included for illustrative purposes.

A. Conservation Subdivision Design Four-Step Process.

1. Step 1: Delineation of Open Space Lands and Development Areas.
 - a. The minimum percentage and acreage of required Open Space lands should be calculated by the Applicant and submitted as part of the Sketch Plan or Preliminary Plan in accordance with the provisions of This Ordinance and of the Zoning Ordinance.
 - b. Primary Conservation Areas, per *Article IV §4.02.B.3.a* of the Zoning Ordinance, comprising of floodways, floodplains or special flood hazard areas, wetlands, and areas of steep slopes greater than twenty-five percent (25%) shall be clearly delineated by showing their actual boundaries as well as the types of resources included within them.
 - c. Secondary Conservation Areas, per *Article IV §4.02.B.4.a* of the Zoning Ordinance, comprising of established wellhead protection zones; mapped groundwater recharge areas; other areas of likely groundwater recharge; watercourses without defined floodways or floodplains; other flood areas and otherwise protected areas; riparian buffer areas; areas of wet soils; swales; springs and other lowland areas; prime farmland soils of capability Class I and Class II; farmland soils of statewide importance in capability Class III; areas of moderate to steep slopes from fifteen percent (15%) to twenty-five percent (25%); areas of forested lands and healthy woodlands; areas of hedgerows; groups of trees and large individual trees of botanical significance; areas of other significant natural features including topographic or geologic features; areas of significant natural areas of species listed as endangered, threatened, or of special concern; areas of existing or potential wildlife habitats; areas of park and recreation space designated for public use; areas of historic structures and sites; areas of greenways; areas of existing scenic views; areas containing, or in proximity to, existing connecting trails; and areas in proximity, or with

logical relationship, to other Open Space shall be clearly delineated by showing their actual boundaries as well as the types of resources included within them.

- d. Total Open Space area requirements shall include all Primary Conservation Areas and those parts of the remaining buildable lands with the highest resource significance (Secondary Conservation Areas) as described in §1204.A of This Ordinance.
- e. Development areas constitute the remaining lands of the tract outside of the designated Open Space areas – where house sites, streets, and lots are to be delineated in accordance with Steps 2, 3, and 4 below.
- f. Preferred locations for sewage treatment and disposal facilities – whether for public sewer facilities, individual or community on-lot sewage treatment and disposal systems, or for other sewage treatment and disposal systems – shall be identified using the Conservation Analysis as a base map. Opportunities to use these facilities as buffers between the proposed Open Space and development areas are encouraged.
- g. Preferred locations for storm water management facilities shall be identified using the Conservation Analysis as a base map. Opportunities to use these facilities as buffers between the proposed Open Space and development areas are encouraged. To the extent possible, these facilities should be located in areas identified as groundwater recharge areas as indicated on the Conservation Analysis. Design of the facilities should strive to use the natural capacity and features of the site to facilitate the management of storm water generated by the conservation subdivision.

Examples of Primary Conservation Areas

(see Section 12.04 A for complete list)

Floodways

Floodplains or SFH Areas

Wetlands

Steep Slopes (greater than 25%)

Examples of Secondary Conservation Areas

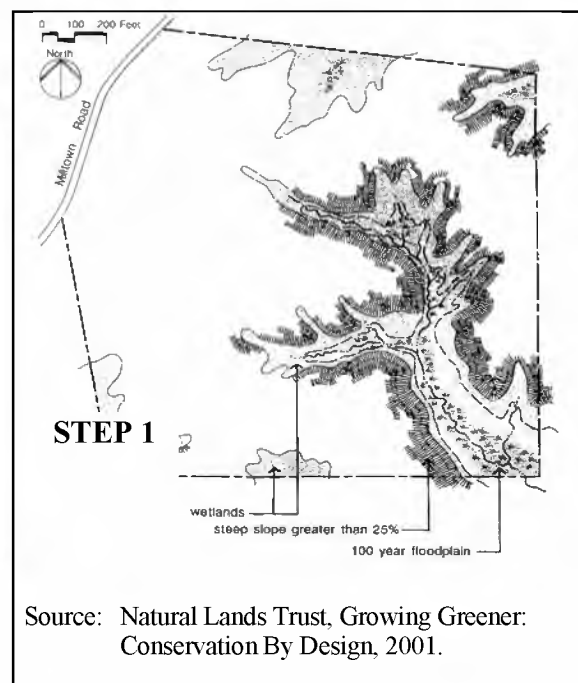
(see Section 12.04.A for complete list)

Wellhead Protection Zones

Groundwater Recharge Areas

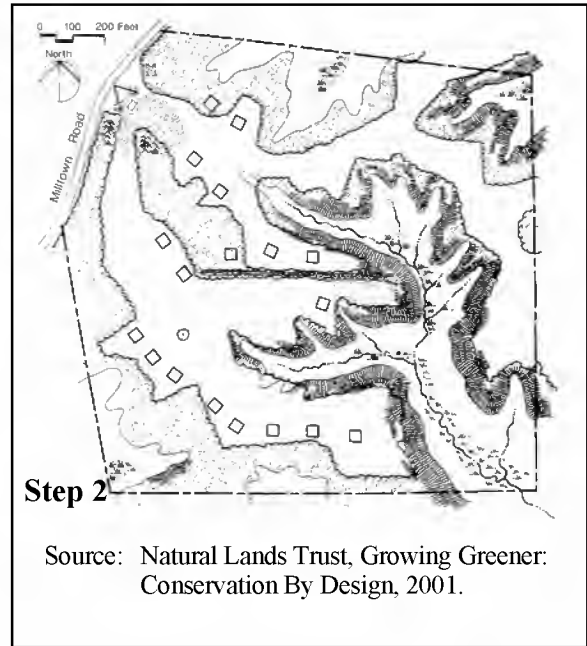
Riparian Buffers

Forested Lands



2. Step 2: Location of Dwelling Sites.

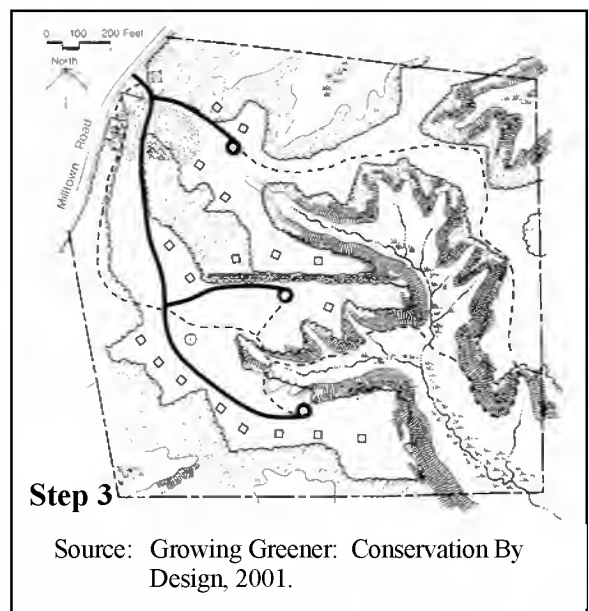
- a. Potential dwelling sites shall be tentatively located using the proposed Open Space lands as a base map as well as other relevant data on the Existing Resources Inventory Maps such as slopes and soils.
- b. Potential dwelling sites shall be located not closer than one hundred feet (100') from Primary Conservation Areas and fifty feet (50') from Secondary Conservation Areas.



3. Step 3: Alignment of Streets and Trails:

Upon designating the dwelling sites, a street plan shall be designed to provide vehicular access to each house, complying with the standards in *Article VII* herein.

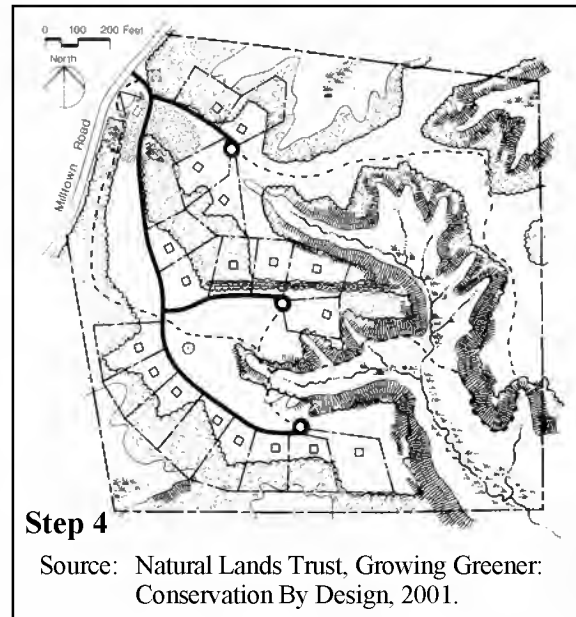
- a. Impacts of the street plan on proposed Open Space lands shall be minimized, particularly with respect to crossing environmentally sensitive areas such as wetlands and traversing slopes exceeding fifteen percent (15%).
- b. Aligning streets parallel to contours shall minimize steep grades and switchbacks.
- c. Street connections shall be encouraged to facilitate access to and from dwellings in different parts of the conservation subdivision property (and adjoining properties). New cul-de-sac type streets to be maintained by the Township should be minimized or eliminated if possible by designing interconnecting interior street networks.
- d. A preliminary network of trails shall also be shown, connecting streets with various natural and



cultural features in the conserved Open Space lands. Potential trail connections to adjacent parcels shall also be shown.

4. Step 4: Drawing in the Lot Lines:

Upon completion of the preceding three steps, lot lines are drawn as required to delineate the boundaries of individual residential lots.



B. General Design Guidelines for Location of Site Improvements:

The relative location of site improvements to each other and to existing and/or proposed natural features influences the landscape and character of a residential community developed on a conservation subdivision property.

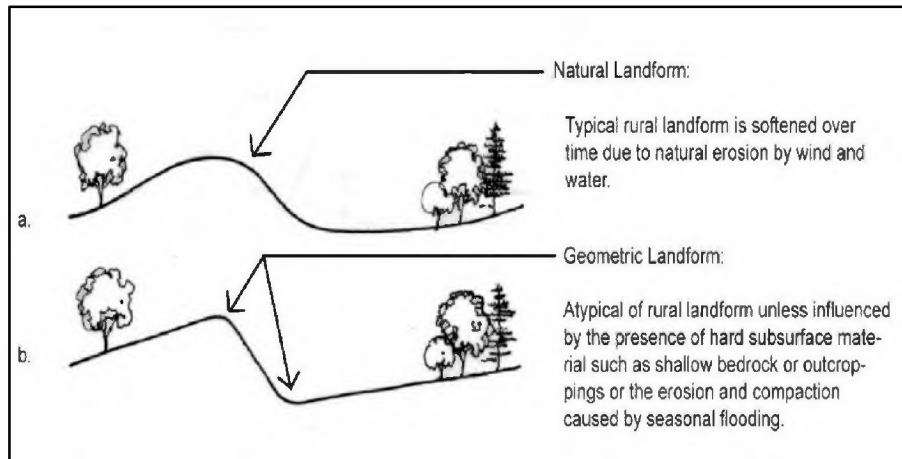
The following general guidelines are examples of acceptable methods to design and locate site improvements in relation to existing or proposed features of the conservation subdivision property. They should not be considered the only acceptable method to design and locate site improvements.

Four basic elements influence the landscape and character of a residential community: Landform – characterized by gradient, slope, and aspect or orientation; Vegetation – characterized by species and massing; Structures – characterized by setback, mass, and height of structures and roof form; and Circulation Systems, both vehicular and pedestrian – characterized by alignment, width, and edge treatment.

1. Landform:

The character and diversity of the natural landform should be reflected in grading to accommodate development.

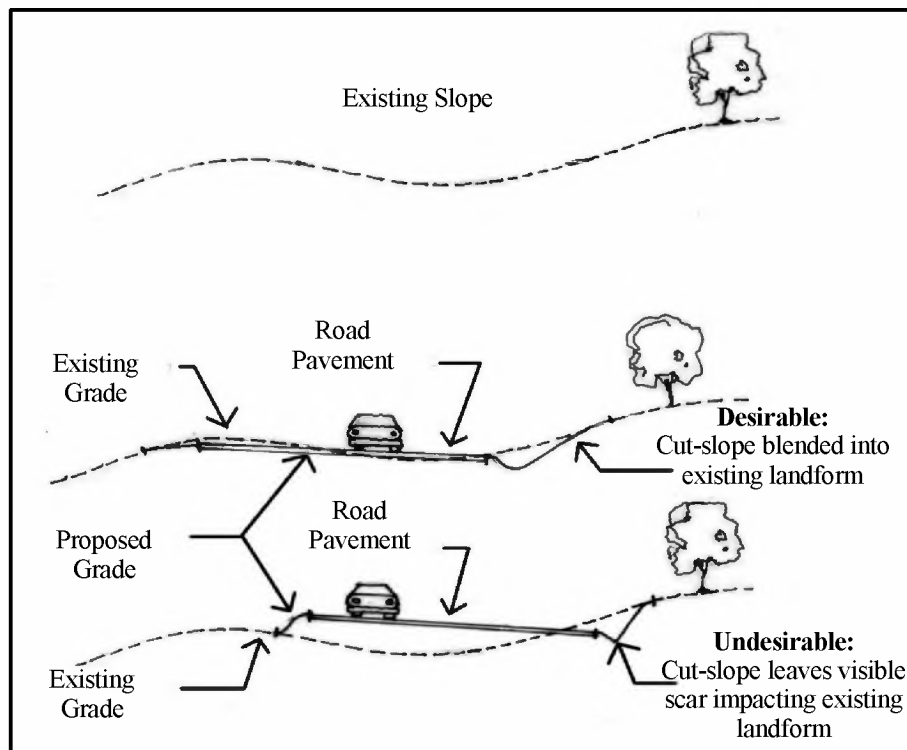
Figure 720.1
Landform Character



- a. Minimize cuts and fills.

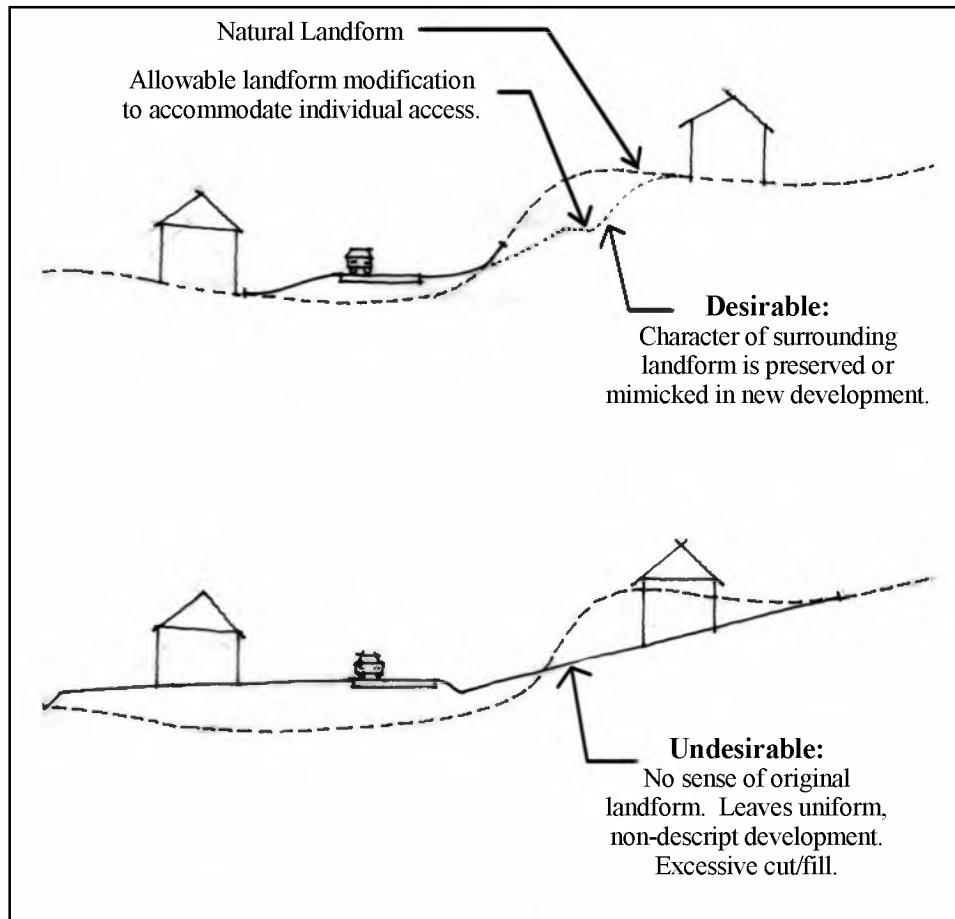
When grading is necessary, slopes should be graded to mimic existing slopes and blend smoothly into the surrounding landform.

Figure 720.2
Blending Grading into Existing Landform



- b. Conservation subdivision design should reflect and reinforce the existing topographic features of the property and should not erase landforms that are indigenous to the property.

Figure 720.3
Landform Preservation

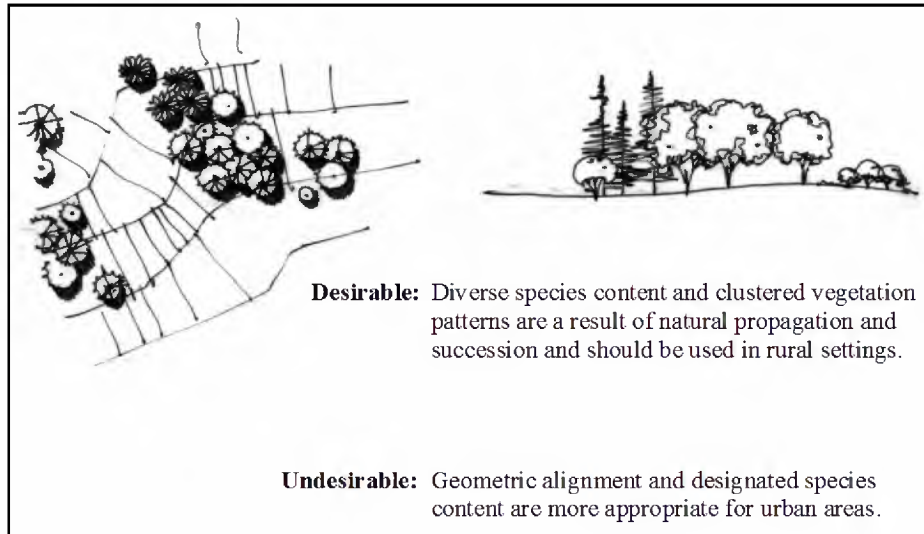


2. Vegetation:

In addition to the benefits plants offer the ecological system (soil stabilization, clean air, wildlife habitat), their presence or absence, how they are configured or arranged, and their species have a significant influence on development character. Every effort should be made to:

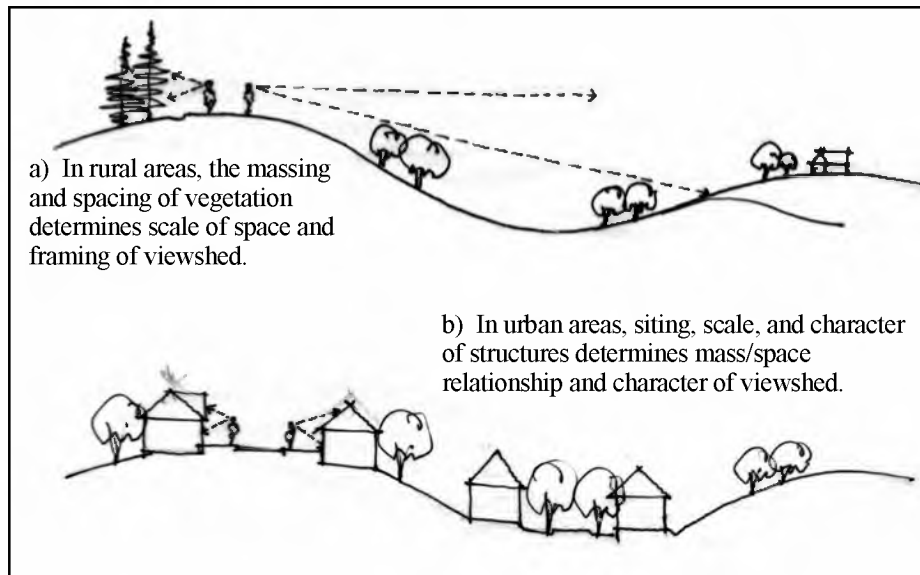
- a. Preserve existing vegetation patterns and species mix and density.
- b. Select and place new vegetation in ways that enhance the indigenous vegetation characteristics.
- c. Vegetation in undeveloped rural areas is typically clustered. To the extent possible, rural vegetation should not be in geometric patterns that are associated with the urban environment.

Figure 720.4
Vegetation Types and Patterns



- d. In the rural environment, vegetation, not structures, is the primary determinant of how far we can see and where we look.
- e. Use existing vegetation and topography to buffer and screen new buildings, if possible.

Figure 720.5
Framing Views

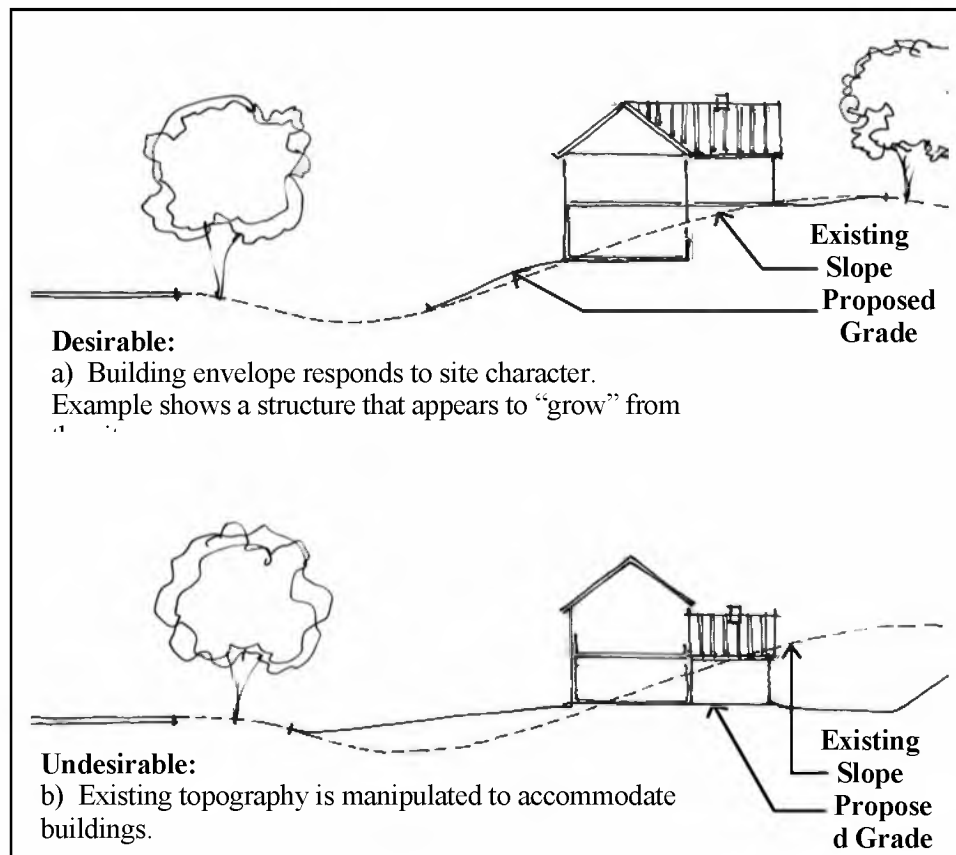


3. Structures:

The height, placement, forms, and patterns of building envelopes can establish an urban or rural character to any development. The intent of this *Section* is to identify building envelopes, forms, and patterns that are complimentary to and reflective of rural characteristics.

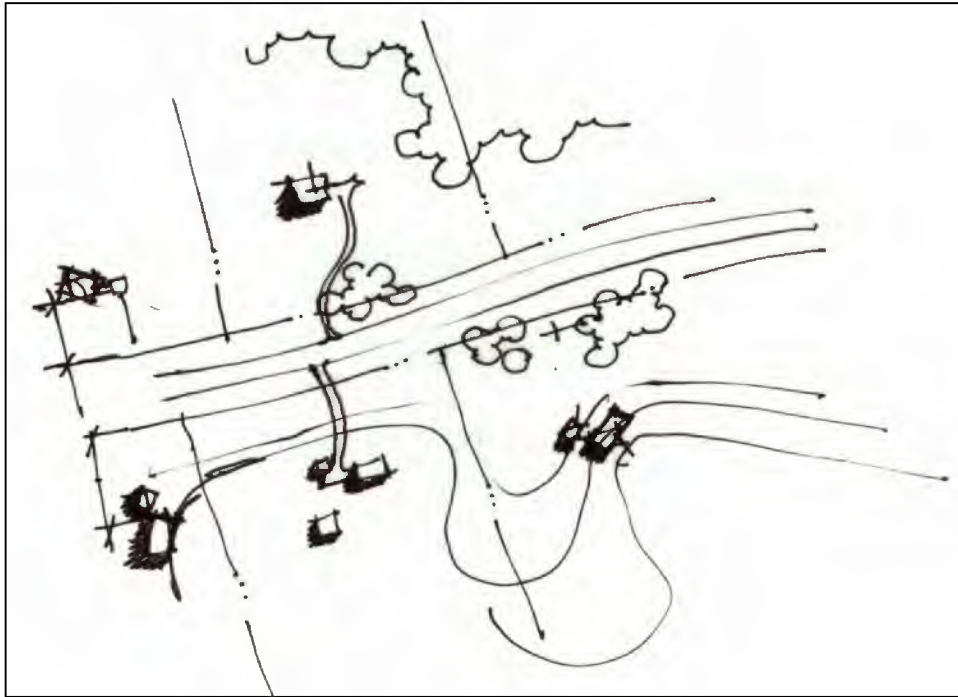
- a. Building envelopes in rural areas should be designed to maximize the preservation of the site's natural features (e.g., landform, vegetation). Whereas, in more urban environments, sites are more often modified to accommodate the building.

Figure 720.6
Siting of Structures



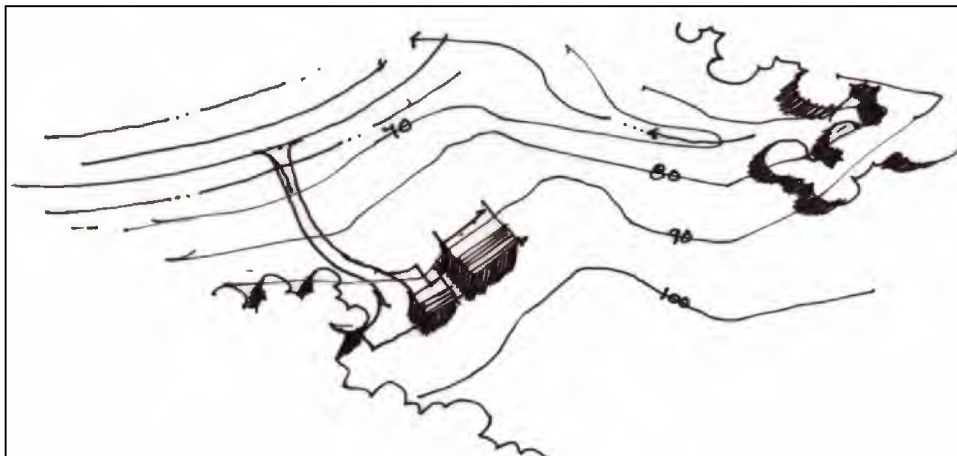
- b. The placement of building envelopes in relationship to streets and highways critically affects the character of a community. Varied setbacks provide a different experience than a street where buildings are placed uniformly along a street. Rural placement is historically deeper and more varied than in urban environments and is therefore recommended.

Figure 720.7
Rural Road with Varied Setbacks



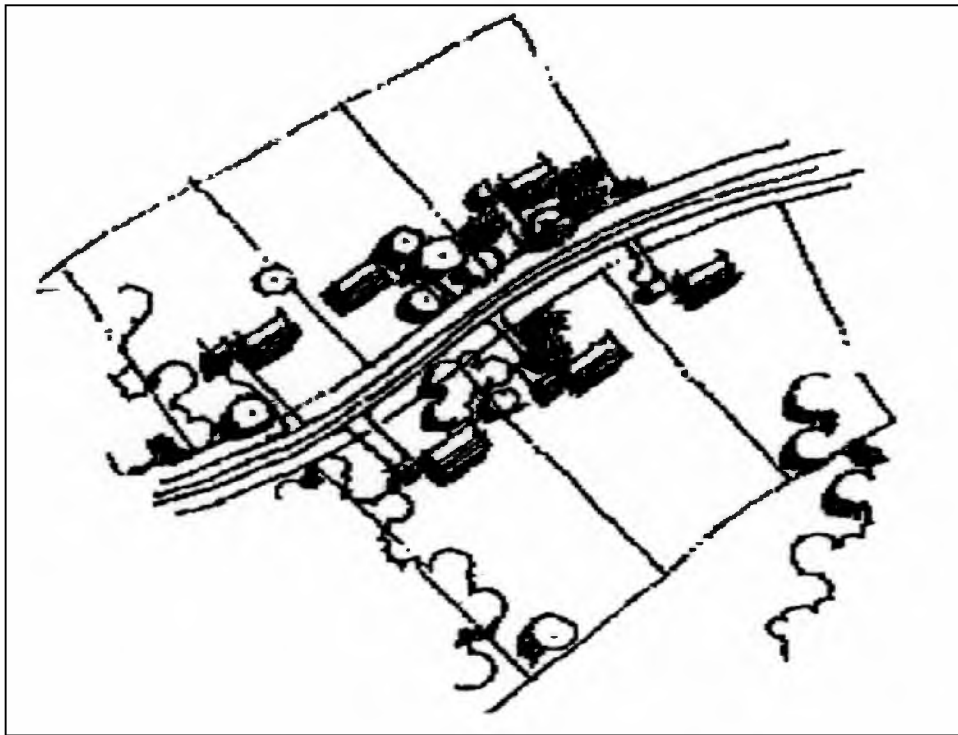
- c. When building envelopes must be placed in open fields, they should be oriented to and reflect the alignment and orientation of the existing topography and other natural features.

Figure 720.8
Orient Structures to Align with Topography



- d. Site building envelopes so that future buildings will be screened by treetops and crest lines of hills as seen from public places and roads. Use vegetation as a backdrop to reduce the prominence of the structure. Wherever possible, open views by selective cutting of small trees and pruning lower branches of large trees rather than by clearing large areas or removing mature trees.
- e. Group building envelopes and place them behind tree lines or knolls rather than spreading them out across the landscape.

Figure 720.9
Neighborhood Conservation Configuration



- f. The dominant visual context from the rural roads should be of natural and agricultural features, with structures visually subservient. Typically, development should be interior lot development with the majority of the immediate roadway viewshed preserved.
- g. The following design guidelines apply only to structures in conservation subdivisions. They are meant to be examples, but they should not be considered the only acceptable solutions. The intent is to have the mass and roof forms of structures contribute to the rural character of the development.

- 1) Massing of structures or structural elements influences rural character. Historically, rural buildings were often an assemblage of additions. These additions, over time, created a complexity of roof forms that have become icons associated with our rural agrarian environments.
- 2) Rural roof form options include, but are not limited to, symmetrically pitched or hip roofs with or without gables and horse barn type roof ends.

4. Circulation Systems:

Circulation systems are comprised of both vehicular and pedestrian systems. In general, rural vehicular and pedestrian systems are curvilinear in alignment, a pattern that evolved out of historic systems following the lines of least resistance (e.g., stream corridors) following natural landforms. It is only in more urbanized conditions that roads and streets should take on geometric forms, reflecting the built environments they move through.

- a. Vehicular and pedestrian circulation systems should retain and reuse historic farm roads and lanes.

This guideline allows a development to build upon the site's historic context while minimizing clearing and disruption to the landscape. Care should be taken to apply this guideline only where its implementation would not destroy the historic lanes, hedgerows, and stone walls it was meant to preserve.

- 1) Otherwise, vehicular and pedestrian circulation systems should be arranged to reflect the patterns of the site landform, vegetation, water bodies, and vegetation massing.
- 2) Minimize clearing of vegetation at the edge of a road, clearing only as much as is necessary to create a driveway entrance with adequate sight distance. Use curves in the driveway to increase the screenings of buildings.
- 3) Rural road edges are historically unprotected (e.g., no curbs, or gutters, with only a shoulder to use for safety).
- 4) Sidewalks should be used only to connect facilities within areas of concentrated development.

ARTICLE VIII MOBILE HOME PARK REGULATIONS

In addition to the rules, regulations, standards, and procedures established in other sections of This Ordinance, the following shall also apply to mobile home parks.

Section 801. General

The basic requirement of This Ordinance may be modified in the design and development of mobile home parks to the extent of and in accordance with the minimum standards set forth hereunder.

Section 802. Zoning Compliance

All mobile home park approvals under This Ordinance shall be subject to compliance with all related provisions of the Middlesex Township Zoning Ordinance, including applications, permits, and fee requirements set forth therein.

Section 803. Design Standards and Required Improvements

In addition to the other referenced requirements, the following shall apply:

- A. Generally, mobile home stands should be diagonal to the street at an angle of thirty degrees (30°) from perpendicular.
- B. The minimum depth of each mobile home space shall not be less than thirty percent (30%) of the length of the mobile home.
- C. The longitudinal gradient and cross slope of any mobile home shall not exceed five percent (5%), except for terracing at the periphery, and the minimum slope in any direction shall be one percent (1%).
- D. The streets, exits, and entrances shall be all-weather conforming to the standards and specifications for Township streets.
 - 1. At entrances, exits, and where parking is permitted on both sides, the minimum width shall be thirty-six feet (36') unless standards for Township streets require a greater width.
 - 2. In all other cases, the minimum width shall be twenty-four feet (24'), or as set forth under Article VII hereof.
 - 3. The above may be reduced in the case of one-way traffic, subject to the approval of the Board of Township Supervisors.

4. Cul-de-sac streets shall be provided with a turn-around having an outside roadway diameter of at least one hundred feet (100').
 5. The pavement edge at all intersections shall have an inside radius of at least thirty feet (30').
 6. Street grades shall not exceed eight percent (8%), and adequate transition shall be made at grade changes for the maneuvering of mobile home units.
 7. All other basic street and intersection design standards of This Ordinance not modified above shall apply.
- E. Curbs and sidewalks shall be provided and constructed according to the basic standards of This Ordinance.

ARTICLE IX FLOODPLAIN AREA REGULATIONS

Section 901. Purpose

The specific purposes of these special provisions are:

- A. Regulate the subdivision or development of land within any designated Floodplain Area in order to promote the good health, welfare, and safety of the community.
- B. Require that each subdivision lot in flood-prone areas be provided with a safe building site with adequate access and that public facilities which serve such uses be designed and installed to preclude flood at the time of initial construction.
- C. Protect individuals from buying land which are unsuitable for use because of flood by prohibiting the improper subdivision or development of land within the designated floodplain districts.

Section 902. Abrogation and Greater Restrictions

This *Article* supplements prior articles of This Ordinance as well as the Township Zoning Ordinance. In the event of a conflict between the content of this Article and Article XIII of the Middlesex Township Zoning Ordinance, provisions of Article XIII of the Middlesex Township Zoning Ordinance shall control.

Section 903. Design Standards and Improvements in Designated Flood Plain

- A. General Standards:
 - 1. Where not prohibited by this or any other laws or ordinances, land located in any identified floodplain area or district may be planned for development with the provision that the developer construct all buildings and structures to preclude flood damage in accordance with this and any other laws and ordinances regulating such development. Reference is made to *Article XIII* of Zoning Ordinance No. 3-89, as amended (Floodplain Conservation Districts of the Middlesex Township Zoning Ordinance for Purposes of Complying with the National Flood Insurance Program (NFIP) and the *Pennsylvania Flood Plain Management Act*).
 - 2. Building sites for residences or any other type of dwellings or accommodations shall not be permitted in any floodplain area where the elevation of the structure is located below one and one-half feet (1½') above the Regulatory Flood Elevation. Where no floodway has been identified, the structure shall not be located within fifty feet (50') from the top of bank of any stream or watercourse unless a detailed hydrologic and hydraulic analysis is provided by the Applicant and approved by the Township which demonstrates that the floodway is of a lesser width. If fill is

used to raise the elevation of a site, the fill area shall extend out laterally for a distance of at least fifteen feet (15') beyond the limits of any proposed structures.

3. All proposed subdivisions and land developments shall provide the location of all regulatory floodplain areas clearly delineated on the plan.
4. In the event that an application for a Subdivision Plan and/or Land Development Plan is proposed within a Non-Detailed Study Area, as defined by Federal Emergency Management Agency (FEMA) and/or the NFIP, said application shall be accompanied by a detailed Hydrology and Hydraulic (H&H) Study for review and approval by the Township. Said study will set forth the limits of the one percent (1%) Chance Storm (one-hundred [100]-year storm) which shall be so mapped on the Subdivision Plan and/or Land Development Plan.
5. No new construction or development shall be permitted within a designated floodway of a stream or waterway. When the Applicant is proposing encroachments into floodplain areas associated with a subdivision or land development application, said encroachment shall only be permitted when in compliance with this and other ordinances and approved by the Pennsylvania Department of Environmental Protection (PA DEP). Where the Applicant is proposing to modify an existing floodplain as defined by a FEMA Flood Insurance Study, the Applicant shall be responsible for performing all studies, data collection, analyses, and application preparation for the Township's review and approval in order to secure a Letter of Map Revision (LOMR) for the designated waterway. The limits of the study shall be determined in consultation with the Township and FEMA.
6. Building sites for structures or buildings other than for residential uses shall not be permitted in any identified floodway area or district. Also, such sites for structures or buildings outside the floodway shall be protected as provided in §903.A.1 above. However, the Board of Supervisors may allow the subdivision and/or land development of areas or sites for commercial and industrial uses at an elevation below the Regulatory Flood Elevation if the Applicant otherwise protects the area to that height or assures that the buildings or structures will be flood-proofed at least up to that height.
7. When an Applicant does not intend to develop the plan himself and the Township determines that additional controls are required to insure safe development, it may require the Applicant to impose appropriate plan and deed restrictions on the land. Such deed restrictions shall be inserted in every deed and noted on every recorded plan.
8. Where any excavation or grading is proposed or where any existing trees, shrubs, or other vegetative cover will be removed, the developer shall consult the Cumberland County Conservation District (CCCD) representative concerning plans for erosion and sedimentation control and to also obtain a report on the soil characteristics of the site so that a determination can be made as to the type and

degree of development the site may accommodate. Before undertaking any excavation or grading, the Applicant shall obtain all necessary permits and approvals from the Township.

9. Drainage Facilities:

Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall insure proper drainage along streets and provide positive drainage away from buildings. Storm water conveyance facilities may be located within floodplain areas; however, storm water management facilities and other Best Management Practice (BMP) areas shall not be located within any floodplain areas of the Township. Plans shall be subject to the approval of the Township.

10. The Township may require a primarily underground storm system to accommodate frequent floods and a secondary surface system to accommodate larger, less frequent floods. Drainage plans shall be consistent with local and County drainage plans. The facilities shall be designed to prevent the discharge of excess runoff onto adjacent properties.

11. Street and Driveways:

The finished elevation of proposed streets and driveways shall not be more than one foot (1') below the Regulatory Flood Elevation. The Township may require profiles and elevations of streets to determine compliance with the requirements. Drainage openings shall be sufficient to discharge floodflows without unduly increasing flood heights or damaging the roadway.

12. Sanitary Sewer Facilities:

All sanitary sewer systems located in any designated floodplain district, whether public or private, shall be floodproofed to not less than one and one-half feet (1½') above the Regulatory Flood Elevation.

13. Water Facilities:

All water systems located in any designated floodplain district, whether public or private, shall be floodproofed to not less than one and one-half feet (1½') above the Regulatory Flood Elevation.

14. Other Utilities and Facilities:

All other public and private utilities, including gas and electric, shall be elevated or floodproofed to not less than one and one-half feet (1½') above the Regulatory Flood Elevation.

ARTICLE X
STORM WATER MANAGEMENT PLAN AND DESIGN CRITERIA

Section 1001. Requirements

All subdivision and land development in Middlesex Township or subject to the laws, ordinances, codes, regulations, and/or resolutions of Middlesex Township shall comply with all requirements of the Middlesex Township Storm Water Management Ordinance, adopted August 3, 2011, as subsequently amended and reenacted. Any reference in the Middlesex Township Subdivision and Land Development Ordinance; the Middlesex Township Zoning Ordinance; or any other law, ordinance, code, regulation, or resolution of Middlesex Township that requires compliance with any storm water requirements of Middlesex Township formerly contained within the Middlesex Township Subdivision and Land Development Ordinance or elsewhere shall be and is considered a reference to those requirements contained in the Middlesex Township Storm Water Management Ordinance, adopted August 3, 2011, as subsequently amended and reenacted.

ARTICLE XI GRADING REQUIREMENTS

Section 1101. General Requirements

All proposed site excavation and grading for subdivision and land development projects shall be clearly depicted on the Preliminary Plan and Final Plan when filed with the Township for review. Grading associated with site development activities or areas to be graded outside of street right-of-way lines shall be clearly depicted by proposed contour lines and spot elevations as required in This Ordinance and shall not exceed a ratio of two feet (2') horizontal to one foot (1') vertical (2:1) for cut slopes and three feet (3') horizontal to one foot (1') vertical (3:1) for fill slopes. All excavation and grading shall be governed by the requirements as contained in Pennsylvania Department of Transportation (PennDOT) Publication 408, Specifications, current edition, regarding suitable soil materials, lift thickness, compaction criteria, soil testing, and related matters. It shall be the responsibility of the Applicant to fully document compliance with these specifications and to demonstrate the same to the Township upon request.

Section 1102. Grading

- A. In order to provide more suitable sites for building and other uses, improve surface drainage, and control erosion, the following requirements shall be met:
1. All lots, tracts, or parcels shall be graded to provide proper drainage away from buildings and dispose of the runoff without ponding, and all land within a development shall be graded to drain and dispose of surface water without ponding, except where other arrangements are approved by the Board of Township Supervisors.
 2. All drainage provisions shall be designed to adequately handle the surface runoff and carry it to the nearest suitable outlet, such as a curbed street, storm drain, or natural watercourse.
 3. Concentration of surface water runoff shall only be permitted in swales or watercourses that lead to a natural watercourse or drainage structure.
 4. Grading will be done in such a way so as to not divert water onto the property of another landowner without the expressed consent of the Township and the impacted landowner.
 5. During grading operations, necessary measures shall be taken to prevent erosion or siltation of natural drainageways.
 6. During grading operations, necessary measures for dust control will be exercised.
 7. Topsoil shall be preserved and redistributed as cover and shall be expeditiously planted with perennial grasses or ground cover.

8. Tree guards, during construction and grading, and limitations as to cuts and fills, both temporary and permanent, near trees shall be provided, as necessary, to give reasonable assurance of their continued healthy growth.
9. Grading equipment will not be allowed to cross live streams. Provisions will be made for the installation of culverts or bridges. Emergency crossing may be permitted through permission of the Pennsylvania Department of Environmental Protection (PA DEP).

Section 1103. Excavations and Fills

- A. Cut and fill slopes shall be in accordance with §1101 unless stabilized by a retaining wall or cribbing except as approved by the Township Engineer when handled under special conditions.
- B. Adequate provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surfaces of fills.
- C. Cut and fills shall not endanger adjoining property. The toe of fill slopes shall be no closer than twenty-five feet (25') from an adjoining property line.
- D. Fill shall be placed and compacted so as to minimize sliding or erosion of the soil.
- E. Fills shall not encroach on natural watercourses or construction channels.
- F. Fills placed adjacent to natural watercourses or constructed channels shall have suitable protection against erosion during periods of flooding.

Section 1104. Grading Plans

- A. Grading plans are required as supporting documentation to Preliminary and Final Plans and are to act as a guide to individual lot owners for lot plans to be submitted with individual building permit applications.
- B. Site/lot grading is an integral component of the management of storm water runoff. As such, site grading shall be a financially secured site improvement and shall be included in the construction cost estimate for site improvements required by *Article XIII* of This Ordinance.

ARTICLE XII

RESOURCE CONSERVATION AND OPEN SPACE DELINEATION STANDARDS

Section 1201. Application

The standards for resource conservation, as set forth in this *Article*, shall apply to all subdivision and land developments in Middlesex Township and shall not be construed to limit an individual's right to practice forestry on his or her land. The standards for preservation of environmentally sensitive features/resources shall apply to all proposed subdivision and land developments. Open Space delineation shall apply to all subdivision and land developments within the Conservation Design Overlay Districts and Residential Open Space developments.

Section 1202. Planning and Design Standards

A. General Standards to Minimize Adverse Impacts:

All subdivisions and land developments shall minimize or avoid, if possible, any adverse impacts on Middlesex Township's natural, cultural, and historic resources, as defined below.

B. Groundwater Resources:

This *Section* is intended to ensure that Middlesex Township's groundwater resources are protected for the purposes of providing water supplies for its residents and businesses and to protect the base flow of Middlesex Township's surface waters.

1. The proposed subdivision and land development of any tract shall be designed to cause the least disturbance to natural infiltration and percolation of precipitation to the groundwater table through careful planning of vegetation and land disturbance activities and the placement of streets, buildings, and other impervious surfaces.
2. The proposed storm water management design shall consider storm water Best Management Practices (BMPs) in a manner so as to replicate predevelopment hydrology such that it addresses recharge of the groundwater.

C. Stream Valleys, Swales, Springs, Natural Drainageways (Draws), and Other Lowland Areas:

Perennial stream channels and floodplains, both Federal Emergency Management Agency (FEMA)-recognized and those not recognized by FEMA, and other lowland and wetland areas, are resources that warrant restrictive land use controls because of flooding hazards to human life and property, groundwater recharge functions, importance to water quality and the health of aquatic communities, and wildlife habitats.

1. The site plan layout shall avoid the following:
 - a. Disturbance to perennial streams including stream riparian buffers, natural drainageways, and drainage swales.
 - b. Disturbance to year-round wetlands and areas with seasonally high water tables.
2. Stream valleys and other wetland areas shall be designated as Open Space.
 - a. In certain instances, seasonal high water table soils may be excluded from the requirement that they may not be disturbed and/or placed in required Open Space when it can be demonstrated that they are suitable for low-density residential uses and conventional on-site sewage systems.
 - b. In certain instances, storm water management structures creating attractive landscape features such as storm water wet ponds as referenced in the Pennsylvania Storm Water BMP Manual may be included in any required Open Space. If a storm water management structure is proposed to be included in a required Open Space, Applicant must present sufficient information to prove the storm water management structure is safe and useful for active and/or passive recreation or is a scenic asset to the development.

D. Woodland:

Woodlands on any tract proposed for subdivision or land development shall be evaluated, per *Article V, §502.D.2.b.B)* of This Ordinance, to determine the extent to which such woodlands should be designated partly or entirely as Conserved/Not to be Disturbed Open Space or development lands.

1. In designing a Subdivision and Land Development Plan for any tract, the Applicant shall be guided by the following standards:
 - a. Proposed site improvements shall be located, designed, and constructed to minimize the loss or degradation of woodland areas.
 - b. Subdivisions shall be designed to preserve woodlands along roadways, property lines, and lines occurring within a site such as streams, swales, stone fences, and hedgerows. Such lines, and the native vegetation associated with them, shall be preserved as buffers between adjacent properties and between areas being subdivided within a property. Preserved natural buffers shall count toward buffer requirements as specified in the Zoning Ordinance or elsewhere in This Ordinance. Preservation shall include ground, shrub, understory, and canopy vegetation.

- c. Disturbance or removal of woodlands occupying environmentally sensitive areas shall be undertaken only when approved by the Board of Supervisors and on a limited, selective basis to minimize the adverse impacts of such actions. This shall include, but not necessarily be limited to, vegetation performing important soil stabilizing functions on wet soils, stream banks, and sloping lands.
2. No clearing or earth disturbance (except for soil analysis) shall be permitted on a site before the approval of the preliminary Subdivision and Land Development Plan. The determination of sight distance clearances along roadways shall be made graphically and not by clearing on-site prior to Final Plan approval.

E. Slopes:

Moderately sloping lands (fifteen to twenty-five percent [15-25%]) and steeply sloping lands (greater than twenty-five percent [25%]) are prone to severe erosion if disturbed. Areas of steep slope shall be preserved as described below.

1. No site disturbance shall be allowed on slopes exceeding twenty-five percent (25%) except grading for a portion of a driveway to a single-family dwelling when it can be demonstrated that no other routing which avoids slopes exceeding twenty-five percent (25%) is feasible.
2. On slopes from fifteen to twenty-five percent (15%-25%), the only permitted grading beyond the terms described above shall be in conjunction with the siting of a single-family dwelling, its access driveway, and an on-lot sewage disposal system.
3. Permitting and siting of on-lot sewage disposal systems on slopes up to twenty-five percent (25%) shall be in accordance with requirements of the PA Code, Title 25, Chapter 73 §73.12.
4. Finished slopes of all cuts and fills shall not exceed two feet (2') horizontal to one foot (1') vertical (2:1) for cut slopes and three feet (3') horizontal to one foot (1') vertical (3:1) for fill slopes.
5. Roads and driveways should follow the line of existing topography to minimize the required cut and fill.

F. Significant Natural Areas and Features:

Natural areas containing rare or endangered plants and animals, as well as other features of natural significance, exist throughout Middlesex Township and shall be preserved. Both the Pennsylvania Statewide Natural Diversity Inventory (PNDI) and the Cumberland County Natural Diversity Inventory have documented the location of some of these whereas, for others, only their general locations are known. Subdivision Applicants shall take all reasonable measures to protect significant natural areas and

features either identified by the Middlesex Township Map of Primary Conservation Areas (most current version, when available, as published from time to time), Natural Features Mapping in the Middlesex Township Comprehensive Plan, the PNDI, the Cumberland County Natural Diversity Inventory, other published reports or by the Applicant's Conservation Analysis (as required in §502.D.2) by incorporating them into proposed Open Space areas or avoiding their disturbance in areas proposed for development. At a minimum, a copy of a current PNDI search must be submitted with all proposed subdivisions and land developments.

G. Trails:

1. When a subdivision or land development proposal is traversed by or abuts an existing trail customarily used by pedestrians and/or equestrians, the Board of Supervisors may require the Applicant to make provisions for the continued recreational use of the trail.
2. The Applicant may alter the course of the trail within the tract for which development is proposed under the following conditions:
 - a. The points at which the trail enters and exits the tract remain unchanged.
 - b. The proposed alteration exhibits quality trail design according to generally accepted principles of landscape architecture (e.g., Bureau of State Parks publication "Non-Motorized Trails").
 - c. The proposed alteration does not coincide with a paved road intended for use by motorized vehicles.
 - d. If part of the Appalachian Trail System, only with permission from the Appalachian Trail Conservancy.
3. When trails are intended for public or private use, they shall be protected by a permanent conservation easement on the properties on which they are located. The width of the protected area in which the trail is located should be a minimum of twenty-five feet (25'). The language of the conservation easement shall be to the satisfaction of the Board of Supervisors upon recommendation of the Township Solicitor.
4. The land area permanently designated for trails for public use may allow a design incentive that may be applied to increase the maximum possible number of dwelling units allowed on a Conservation Subdivision property in accordance with *Article IV §4.03.B.3.b* of the Zoning Ordinance.
5. An Applicant may propose and develop a new trail. If said trail is available for use by the general public and connects with an existing trail, the land area protected for said trail may be credited toward the Open Space requirement for

Conservation Subdivisions as described in *Article IV §4.02.D* of the Zoning Ordinance.

6. Trail improvements shall demonstrate adherence to principles of quality trail design according to generally accepted principles of landscape architecture (e.g., Bureau of State Parks publication “Non-Motorized Trails”).
7. Trails shall have a vertical clearance of no less than ten feet (10').
8. The width of the trail surface may vary depending upon the type of use to be accommodated, but in no case shall it be less than four feet (4') or greater than six feet (6').
9. No trail shall be designed with the intent to accommodate motorized vehicles.

H. North Mountain Conservation Areas:

All subdivisions or land development proposals in the Open Space (OS) Conservation Zoning Districts that fall within the North Mountain Conservation Areas shall be in accordance with the requirements of *Article V* of the Zoning Ordinance.

Section 1203. Design Process for Conservation Subdivisions

A. Resource Inventory and Analysis.

The tract's resources shall be identified in a Conservation Analysis and delineated on the Existing Resources Inventory Mapping and a Site Analysis Report, as required in §502.D of This Ordinance.

B. Four-Step Design Process.

Following the resource inventory and analysis, all conservation subdivisions shall follow a four-step design process as described in §720.A. Applicants shall document the design process.

Section 1204. Open Space Design Standards

A. Prioritized List of Resources to be Conserved as Open Space or Not to be Disturbed Open Space:

Open Space and areas designated as Not to be Disturbed on Subdivision/Land Development Plans shall include the following resources, as identified through the Conservation Analysis described in §502.D.2.

1. Primary Conservation Areas as detailed in Zoning Ordinance §4.02 B.3 and supplemented below.
 - a. Floodways as detailed on the most recently published NFIP mapping by FEMA.
 - b. Floodplains or Special Flood Hazard Areas, as detailed on the most recently published NFIP mapping by FEMA.
 - c. Floodplains of perennial streams as determined by United States Army Corps of Engineers (USACE) HEC-RAS or other methodology approved by the Township Engineer.
 - d. Natural drainageways, the width of which shall be determined by hydrologic and hydraulic means for the one percent (1%) Chance Storm (one hundred [100]-year storm).
 - e. Wetlands, as detailed on the most recently published National Wetland Inventory (NWI) mapping by the United States Fish and Wildlife Service (USFWS), as published from time to time, or as located by a wetland field survey conducted by a qualified individual and verified by appropriate employees of the Pennsylvania Department of Environmental Protection (PA DEP) or the USACE.
 - f. Areas of steep slopes greater than twenty-five percent (25%) as verified on Final Plan by field survey.
2. Secondary Conservation Areas as detailed in Zoning Ordinance §4.02.B.4 and supplemented below.
 - a. Areas of established wellhead protection zones.
 - b. Mapped groundwater recharge areas of existing or potential groundwater supplies and surface water bodies as identified on Plate #2 in the addendum to the Groundwater Availability and Well Siting Study (Middlesex Township, Cumberland County, Pennsylvania; September 1999) or as changed based upon hydrogeologic and/or other studies adopted by the Board of Supervisors from time to time.
 - c. Areas where precipitation is most likely to recharge local groundwater resources because of topographic and soil conditions causing high rates of infiltration and percolation.
 - d. Areas of watercourses without studied and defined floodways or floodplains.
 - e. Other Flood Areas and Otherwise Protected Areas, as detailed on the most recently published NFIP mapping by FEMA.

- f. Riparian buffer areas located parallel to and a minimum distance of seventy-five feet (75') from each side of the top of banks of all watercourses (measured in a direction away from the watercourse, horizontally on a line parallel to the water surface in the watercourse, beginning at the top of the defined bank, at bankfull flow, with the location of the top of defined bank being reviewed by the Township Engineer and approved by the Board of Supervisors).
- g. Areas having wet soils, swales, springs, and other lowland areas, including adjacent buffer areas which may be required to insure their protection.
- h. Areas of prime farmland soil, within capability Class I and Class II, as defined in the Soil Survey of Cumberland and Perry Counties, Pennsylvania, published by the United States Department of Agriculture (USDA) Soil Conservation Service, issued April 1986, and as amended from time to time.
- i. Areas of farmland soil of statewide importance, within capability Class III, as defined in the Soil Survey of Cumberland and Perry Counties, Pennsylvania, published by the USDA Soil Conservation Service, issued April 1986, and as amended from time to time.
- j. Areas of moderate to steep slopes from fifteen to twenty-five percent (15%-25%), particularly those adjoining watercourses and ponds, where disturbance and resulting soil erosion and sedimentation could be detrimental to water quality, but including all such areas of moderate to steep slopes.
- k. Areas of forested lands and healthy woodlands, particularly those performing important ecological functions such as soil stabilization and protection of streams, wetlands and wildlife habitats, but including all such areas of forested lands and healthy woodlands.
- l. Areas of hedgerows, groups of trees, and large individual trees of botanic significance.
- m. Areas of other significant natural features including topographic or geologic features like rock outcroppings, caves, or natural karst features.
- n. Areas of significant natural areas of species listed as endangered, threatened, or of special concern, such as those listed in the PNDI.
- o. Areas of existing or potential wildlife habitats.
- p. Areas of park and recreation space designated for public use.
- q. Areas of historic structures and sites.

- r. Areas of greenways identified in the Middlesex Township Comprehensive Plan and/or other studies agreed upon by the Board of Supervisors from time to time.
- s. Areas of existing scenic views identified in the Middlesex Township Comprehensive Plan and/or other studies agreed upon by the Board of Supervisors from time to time.
- t. Areas containing or in proximity to existing trails connecting the property to other locations in Middlesex Township.
- u. Areas in proximity to or with logical relationship to other Open Space.

B. Other Design Considerations:

The configuration of proposed Open Space set aside for common use in conservation and residential open space subdivisions shall comply with the following standards:

- 1. No structures shall be permitted with the exception of historic buildings, stonewalls, and structures related to Open Space uses. The Board of Supervisors may grant approval of structures and improvements required for storm drainage, sewage treatment, and water supply within the Open Space provided that such facilities would not be detrimental to the Open Space and take away from its aesthetic and natural resource value.
- 2. Forty percent (40%) of dwelling units shall face the required Open Space either directly or across a street.
- 3. A minimum of three percent (3%) of the required Open Space shall be Common Greens Open Space set aside as greens, commons, or squares.
- 4. Open Space areas shall be suitable for active recreational uses to the extent deemed necessary by the Board of Supervisors without interfering with adjacent dwelling units, parking, driveways, and roads.
- 5. The Open Space land shall be interconnected to provide a continuous network of Open Space within and adjoining the subdivision unless otherwise justified.
- 6. Screen buffers shall be provided to adjoining parks, scenic roadways, preserves, or other protected lands in accordance with §719.C.14 of This Ordinance or in the Zoning Ordinance.
- 7. Pedestrian pathways shall be provided from residences to the Open Space area, except in those cases where part of the Open Space is located within private dwelling lots and under private ownership. Consideration shall be given to providing for public access on such trails if they are linked to other publicly accessible pathway systems within Middlesex Township. Provisions should be

made for access to the Open Space, as required for land management and emergency purposes.

8. Public or private streets shall not divide Open Space areas, except where necessary for proper traffic circulation.
9. Conservation easements shall be made subject to such agreement with Middlesex Township and shall be duly recorded in the office of the County Recorder of Deeds as required by the Board of Supervisors for the purpose of preserving the Common Open Space for such uses.
10. Provide pedestrian and maintenance access to Open Space such that no more than fifteen (15) lots shall be contiguous to each other without a centrally located access point meeting the following standards:
 - a. The minimum width of the access strip shall ideally equal the minimum width of a lot and, in no case, shall be less than fifty feet (50').
 - b. The minimum width of the access strip shall extend the full depth of the adjacent lots.
 - c. Access to Open Space used for agriculture or horticulture may be restricted or prohibited for public safety and to prevent interference with agricultural operations.
11. Open space shall generally not include parcels smaller than three (3) acres, have a length-to-width ratio of less than four feet (4') to one foot (1') (4:1), or be less than seventy-five feet (75') in width, except for such lands specifically designed as neighborhood greens, playing fields, trail links, and boulevard or cul-de-sac islands.
12. Open space shall help minimize views of new dwellings from exterior roads and abutting properties by the use of changes in topography, existing vegetation, or additional landscaping which meets the landscaping requirements of the Subdivision and Land Development Ordinance.
13. Open space that is not wooded or farmed shall be landscaped in accordance with the landscaping requirements and Open Space Management Plan standards of This Ordinance.
14. Open space shall be consistent with the policies of the Middlesex Township Comprehensive Plan.

15. Open space shall be delineated on the ground by any or all of the methods listed below. The Board of Supervisors shall have the sole discretion of approving the location, design, and materials used for the delineation of Open Space.
 - a. Markers.
 - b. Small signs, in accordance with requirements for Type P7 on-site signs as detailed in §14.16 of the Middlesex Township Zoning Ordinance.
 - c. Sections of split rail or post and rail fencing, as long as the fencing is not continuous and does not restrict or prohibit public access.
 - d. Vegetative plantings; landscaping.
 - e. Other similar and appropriate methods.

C. Ownership and Maintenance.

Applicants shall demonstrate compliance with Open Space ownership standards in *Article IV §4.03.G* of the Zoning Ordinance and Open Space maintenance standards in *Article IV §4.03.H* of the Zoning Ordinance.

Section 1205. Dedication of Open Space Land for Public Use

The following standards shall apply to new subdivisions involving ten (10) or more dwelling units.

- A. Unless otherwise required in this or other Township Ordinances, Applicants shall be required to set aside five percent (5%) of their gross tract acreage as undivided recreational land designated for public usage. Such land shall be suitable for active and/or passive recreation, with at least half of the land area set aside proven to be suitable for active sports, where such facilities are required by the Board of Supervisors.
- B. The Applicant may propose one of the following alternative in lieu of dedication of recreation land for public usage:
 1. The Applicant may offer an area of land limited to recreational usage by the residents of the proposed subdivision. If land is set aside in this manner for private recreational use, it shall also be permanently protected through a conservation easement enforceable by Middlesex Township and/or a land trust, prohibiting future non-recreational (or commercial recreational) uses.
 2. The Applicant may offer to pay a fee to Middlesex Township in lieu of any recreational land set aside, per the requirements of §710 of This Ordinance. Situations in which it would be appropriate for Middlesex Township to accept such offers include cases where the land would not provide a particular public benefit because of its small size or location. Exceptions to this rule, where public use of relatively small land areas would still be appropriate, include situations in

which the land could be used to buffer or extend public parks or public school grounds or could provide potential linkage in a future Township trail network.

3. The decision whether to accept a fee-in-lieu offer by the Applicant shall lie with the Board of Supervisors per §710 of This Ordinance.
4. If adequate, in area, and acceptable to the Board of Supervisors, the Open Space provided in conservation subdivisions shall satisfy all or part of the recreational land set aside as per the requirements of §710. If a fee-in lieu is provided, in accordance with §1205.B.2 and §1205.B.3 above, the acreage represented by the fee shall not qualify as meeting part of the Open Space requirement.

Section 1206. Resource Conservation Standards for Site Preparation and Cleanup

Conservation practices during site preparation and cleanup shall meet the following requirements.

A. Protection of Vegetation from Mechanical Injury:

Where earthwork, grading, or construction activities will take place in or adjacent to woodlands, or specimen trees or other significant vegetation or site features, the Board of Supervisors may require that the limit of disturbance be delineated and vegetation protected through installation of temporary construction fencing or another secure demarcation to be located on the dripline of tree masses or mature trees standing alone. Such fencing shall be installed prior to commencing of and shall be maintained throughout the period of construction activity.

B. Protection of Vegetation from Grading Change:

Grade changes to occur at any location of the property shall not result in an alteration to soil or drainage conditions which would adversely affect existing vegetation to be retained following site disturbance unless adequate provisions are made to protect such vegetation and its root systems.

C. Protection of Vegetation from Excavations:

1. When digging trenches for utility lines or similar uses, disturbances to the root zones of all woody vegetation shall be minimized.
2. If trenches must be excavated in the root zone, all disturbed roots shall be cut as cleanly as possible. The trench shall be backfilled as quickly as possible.

D. Protection of Topsoil:

1. No topsoil shall be removed from the site.
2. Prior to grading operations or excavation, topsoil in the area to be disturbed shall be removed and stored on-site.

3. Topsoil removed shall be redistributed and stabilized as quickly as possible following the establishment of required grades for a project or project phase. All exposed earth surfaces shall be stabilized by hydro-seeding, or an approved equivalent method, on slopes of less than ten percent (10%) and by sodding or hydro-seeding on slopes exceeding ten percent (10%).

ARTICLE XIII
IMPROVEMENT AND CONSTRUCTION ASSURANCES

Section 1301. Improvement and Maintenance Guarantee

- A. No plan shall be finally approved unless the streets shown on such plan have been improved to a mud-free or otherwise permanently passable condition, or improved as may be otherwise required by This Ordinance and any sidewalks, walkways, pathways, curbs, gutters, street lights, parking lots, fire hydrants, shade trees, water mains, sanitary sewers, storm sewers, landscaping, landscape berm grading, and other improvements as may be required by This Ordinance have been installed in accordance with This Ordinance. In lieu of the completion of any improvements required as a condition for the final approval of a plan, including improvements or fees otherwise required by This Ordinance, the Applicant may deposit with the Township financial security in an amount sufficient to cover the costs of such plan improvements or common amenities including basins and other related drainage facilities, recreational facilities, Open Space improvements, traffic and transportation improvements, or buffer or screen plantings which may be required in accordance with any land use ordinance. The Applicant shall not be required to provide financial security for the cost of any improvements for which financial security is required by, and provided to, the Pennsylvania Department of Transportation (PennDOT) in connection with the issuance of a Highway Occupancy Permit (HOP) for the project.
- B. When requested by the Applicant, in order to facilitate financing, the Board of Supervisors shall furnish the Applicant with a signed copy of a resolution indicating approval of the Final Plan contingent upon the Applicant obtaining a satisfactory financial security. The Final Plan or record plan shall not be signed or recorded until the financial security agreement is executed. The resolution or letter of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within ninety (90) days unless a written extension is granted by the Board of Supervisors; such extension shall not be unreasonably withheld and shall be placed in writing at the request of the Applicant.
- C. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed the preferred and acceptable method of financial security for the purposes of this *Article*. Said instruments of financial security shall be prepared in a format containing an “evergreen clause” which causes said security to renew automatically on an annual basis unless otherwise authorized by the Township.
- D. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth.

- E. Such security shall provide for, and secure to the public, the completion of any improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of the improvements.
- F. The amount of financial security to be posted for the completion of the required improvements shall be equal to one hundred ten percent (110%) of the cost of completion estimated as of ninety (90) days following the date scheduled for completion by the Applicant. In addition, the Applicant shall include an additional amount of the financial security to cover engineering inspection fees associated with the installation of said improvements, the preparation of As-Built Plans, and related work. Annually, the Township may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost of the completion of the remaining improvements as of the expiration of the ninetieth (90th) day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the Township may require the Applicant to post additional security equal to said one hundred ten percent (110%). Any additional security shall be posted by the Applicant in accordance with this *Subsection*.
- G. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements, submitted by an Applicant and prepared by a Professional Engineer licensed as such in this Commonwealth and certified by such Professional Engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept such estimate for good cause shown. If the Applicant and the Township are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another Professional Engineer licensed as such in this Commonwealth and chosen mutually by the Township and the Applicant. The estimate certified by the third (3rd) Professional Engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third (3rd) Professional Engineer is so chosen, fees for the services of said Professional Engineer shall be paid equally by the Township and the Applicant.
- H. If the party posting the financial security requires more than one (1) year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional ten percent (10%) for each one (1)-year period beyond the first (1st) anniversary date from posting of financial security or to an amount not exceeding one hundred ten percent (110%) of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one (1)-year period.
- I. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of Final Plans by sections or stages of development subject to such requirements or guarantees as to improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.
- J. As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Supervisors to release, or authorize the partial

release, from time to time, of such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing, addressed to the Board of Supervisors, and shall detail the specific improvements that are being requested for release. The Board of Supervisors shall have forty-five (45) days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Board of Supervisors that such portion of the work upon the improvements has been completed in accordance with the approved plan. Upon such certification, the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the improvements completed or, if the Board of Supervisors fails to act within said forty-five (45)-day period, the Board of Supervisors shall be deemed to have approved the release of funds as requested. The Board of Supervisors may, prior to final release at the time of completion and certification by its engineer, require retention of ten percent (10%) of the estimated cost of the aforesaid improvements.

- K. Where the Board of Supervisors accepts dedication of all or some of the required improvements following completion, the Board of Supervisors may require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the Final Plan for a term not to exceed eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this *Section* with regard to installation of such improvements, and the amount of the financial security shall not exceed fifteen percent (15%) of the actual cost of installation of said improvements.
- L. If water mains or sanitary sewer lines, or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the rules and regulations of a public utility or Middlesex Township Municipal Authority separate and distinct from the Township, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling public utility or municipal authority and shall not be included within the financial security as otherwise required by this *Section*.
- M. If financial security has been provided in lieu of the completion of improvements required as a condition of the final approval of a plan as set forth in this *Section*, the Township shall not condition the issuance of building, grading, or other permits relating to the erection or placement of improvements, including buildings, upon the lots or land as depicted upon the Final Plan upon actual completion of the improvements depicted upon the approved Final Plan. Moreover, if said financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following the improvement of the streets providing access to and from existing public roads to such building or buildings to and from a mud-free or otherwise permanently passable condition, as well as the completion of all other improvements as depicted upon the approved plan, either upon the lot or lots or beyond the lots in question if such

improvements are necessary for the reasonable use of or occupancy of the building or buildings.

N. Release of Financial Security:

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

O. The Board of Supervisors shall notify the Applicant, in writing, within fifteen (15) days of receipt of the Township Engineer's report by certified or registered mail of the action of said Board of Supervisors with relation thereto.

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

Q. If any portion of the said improvements shall not be approved or shall be rejected by the Board of Supervisors, the Applicant shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

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

S. The Applicant shall reimburse the Township for the reasonable and necessary expense incurred for the inspection of improvements according to a schedule of fees adopted by a resolution of the Board of Supervisors and as from time to time amended.

T. In the event the Applicant disputes the amount of any such expense in connection with the inspection of improvements, the Applicant shall, within one hundred (100) days of the date of billing, notify the Township that such expenses are disputed as unreasonable or unnecessary, in which case the Township shall not delay or disapprove a subdivision or land development due to the Applicant's request over disputed engineer expenses.

- U. If, within one hundred days of the transmission of the billing, the Township Engineer and the Applicant cannot agree on the amount of expenses which are reasonable and necessary, then Applicant and Township Engineer shall jointly, by mutual agreement, appoint another Professional Engineer licensed as such in the Commonwealth of Pennsylvania to review the said expenses and make a determination as to the amount thereof which is reasonable and necessary.
- V. The Professional Engineer so appointed shall hear such evidence and review such documentation as the Professional Engineer, in his or her sole opinion, deems necessary and render a decision within fifty (50) days of his or her appointment. The Applicant or Township Engineer shall be required to pay any amounts necessary to implement the decision within sixty (60) days. In the event that the Township and Applicant cannot agree upon the Professional Engineer to be appointed, then, upon application of either party, the President Judge of the Court of Common Pleas of the judicial district in which the Township is located (or if at the time there be no President Judge, then the senior active judge then sitting) shall appoint such Professional Engineer who, in that case, shall be neither the Township Engineer nor any Professional Engineer who has been retained by, or performed services for, the Township or the Applicant within the preceding five (5) years. In the event the Township has paid the Township Engineer in an amount in excess of the amount determined to be reasonable and necessary, the Township Engineer shall, within sixty (60) days, reimburse the excess payment.
- W. In the event that the Township and the Applicant cannot agree upon the Professional Engineer to be appointed within twenty (20) days, then, upon application of either party, the President Judge of the Court of Common Pleas of Cumberland County shall appoint such Professional Engineer who, in that case, shall be neither the Township Engineer or nor any Professional Engineer who has been retained by, or performed services for, the Township or the Applicant within the preceding five (5) years.
- X. The fee of the Professional Engineer shall be paid by the Applicant if the disputed fee is upheld by the Professional Engineer. The fee of the Professional Engineer shall be paid by the Township if the disputed fee is two thousand five hundred dollars (\$2,500) or greater than the payment decided by the Professional Engineer. The fee of the Professional Engineer shall be paid in equal amount by the Applicant and the Township if the disputed amount is less than two thousand five hundred dollars (\$2,500) of the payment as decided by the Professional Engineer.

In the event the disputed fees have been paid and the Professional Engineer finds that the disputed fees are unreasonable or excessive by more than one thousand dollars (\$1,000), the Professional Engineer shall:

1. award the amount of the fees found to be unreasonable or excessive to the party that paid the disputed fees; and
2. impose a surcharge of four percent (4%) of the amount found to be unreasonable or excessive to the party that paid the disputed fee.

The Township or an Applicant shall have one hundred (100) days after paying a fee to dispute the charge as being unreasonable or excessive.

ARTICLE XIV

IMPROVEMENT AND CONSTRUCTION REQUIREMENTS

Section 1401. Intent

- A. The Applicant shall design and construct all improvements required under the Township's Subdivision and Land Development regulations in accordance with the requirements and specifications as contained herein.
- B. All materials, workmanship, and methods of work shall comply with the current edition, as supplemented and amended from time to time, of Pennsylvania Department of Transportation (PennDOT) Publication 408, Specifications, and PennDOT Publication 72M, Standards For Roadway Construction, (RC Drawings) as accepted and commonly used by the Township, and such specifications shall be considered to be incorporated into this *Article* as if copied in full. In the event a conflict arises between the requirements and specifications of this *Article* and the above-referenced specifications, the Township Engineer shall resolve the difference, and the Township Engineer's opinion shall be binding.
- C. Where an item of construction is not covered by the above-referenced specifications, or other specifications contained herein, the Applicant shall be required to submit full design information and construction details in accordance with commonly accepted engineering and construction practices for review and consideration by the Township Engineer.
- D. Excluding emergency situations, when construction inspection by the Township is required as a precedent to other construction activities outlined herein, the Applicant, or the Applicant's authorized representative, shall provide a minimum of two (2) working days' notice to the Township prior to requesting said inspection.

Section 1402. Preconstruction Meeting Requirements

- A. A minimum of two (2) working days prior to beginning the construction of any improvement under an approved Subdivision Plan or Land Development Plan, the Applicant, or the Applicant's designee, shall arrange a preconstruction meeting with Middlesex Township officials, utility companies, contractors, regulatory agencies, and other interested parties to review the project schedule, status of permits and approvals, construction and inspection procedures, project submittals, and other relevant information. At the preconstruction meeting, the Applicant shall provide a detailed construction schedule such that the Township can coordinate routine inspections of the work. Any project that begins work without proper notice to the Township shall bear the risk of removal of the facilities that have been installed without proper inspection or, ultimately, the Township refusing to accept public facilities which are intended to be dedicated to the Township.

Section 1403. Street Construction

A. Pavement Construction:

Streets shall be designed in accordance with *Article VII - Design Standards* herein and shall be surfaced to the grades and dimensions drawn on the plan, profiles, and cross sections submitted by the Applicant and approved by the Township. Before constructing the pavement structure for streets, the Applicant shall install all required utilities and provide, where necessary, adequate underdrains and storm water drainage facilities for said streets, as approved by the Township. Unless otherwise required, the pavement subbase, base course, binder course, and wearing surface must be constructed according to the following specifications and as outlined in Table 703.3 of *Article VII*, entitled “Street Widths and Materials” as contained herein.

B. The following shall be required for all streets and/or other paved improvements that are to be dedicated to or otherwise owned by the Township. Private driveways, parking lots, and other similar paved surfaces are exempt from the requirements of this *Section*. However, construction shall adhere to those design details and specifications contained in the approved plans.

1. Site Preparation – Earthwork:

- a. Clearing, grubbing, demolition activities, stripping topsoil, excavating, and placing fill materials shall be in strict conformance with the requirements with PennDOT Publication 408.
- b. Roadways in fill areas shall be compacted in not more than eight-inch (8") lifts in accordance with PennDOT Publication 408, Specifications. Soil testing for each lift shall be performed and paid for by the Applicant as required by these specifications. The Applicant shall be responsible for documenting the location, number, and results of all compaction testing on the site and shall provide the same to the Township.

2. Subgrade Preparation:

- a. The subgrade soil shall be prepared and tested in strict accordance with PennDOT Publication 408 §210. Field Dynamic Cone Penetration (DCP) tests shall be conducted by the Applicant and observed by the Township on the subgrade soils prior to the placement of stone subbase. The location and number of tests will be proposed by the Applicant or Developer’s Geotechnical Engineer for review and approval of the Township Engineer for the specific site conditions. Subgrade conditions that display a California Bearing Ratio (CBR) correlation from DCP testing of less than three (3) shall be deemed unacceptable for street construction and will require removal prior to proceeding with additional fill material or the placement of the subbase material.

- b. Soil cement; geogrids; and/or Class 4, Type C geotextile material may be used in lieu of undercutting to stabilize weak subgrade areas, at the Township Engineer's sole discretion.
- c. Subgrade areas that have been disturbed by trenching shall be backfilled and compacted in eight-inch (8") lifts and inspected by the Township Engineer or a designated agent before proceeding with subsequent construction.
- d. Unsuitable material in the subgrade shall be removed and replaced with material acceptable to the Township.
- e. Any springs or wet areas discovered shall be provided with a proper underdrain system, which shall be properly daylighted or connected to an approved storm sewer system.
- f. The subgrade shall be sloped to match the pavement cross slope to facilitate subgrade drainage. At inlet locations, the subgrade shall be transitioned for a minimum of four feet (4') on each side of the inlet to accommodate the sumped condition and to achieve the proper pavement thicknesses.
- g. Subgrade conditions shall be inspected by the Township Engineer, or the Township's designated agent, prior to the placement of the subbase material.

3. Subbase Material:

- a. Prior to the placement of the subbase, the subgrade shall be prepared and tested in accordance with §1401.B.2 above. A final proof roll with a tri-axle truck fully loaded with stone shall be conducted under the observation of the Township Engineer immediately prior to the placement of the subbase. All defects in the subgrade (including pumping, wheel ruts, soft patches, and other defects) shall be fully corrected to the satisfaction of the Township Engineer. Subbase placed without fully complying with this procedure and without it being witnessed and approved by the Township Engineer shall be considered defective, and it shall be removed and retested at the Applicant's sole expense.
- b. No subbase shall be placed on wet, frozen, or unsuitable material. Unsuitable material is defined in the PennDOT Publication 408, Specifications. Unsuitable material must be completely removed to the satisfaction of the Township Engineer.
- c. No subbase shall be placed prior to the installation of curbing, pavement base drain, storm sewers, sanitary sewers, and other structures and utilities which are located within the roadway cartway.

4. Hot Mix Asphalt (HMA) Base Course:
 - a. Prior to the placement of the HMA Base Course, the subbase shall be prepared and tested in accordance with §1401.B.3.a above. A final proof roll with a tri-axle truck fully loaded with stone shall be conducted under the observation of the Township Engineer immediately prior to the placement of the HMA Base Course. All defects in the subbase (including wheel ruts, soft patches, excessive mud or dirt, improper slope, and other defects) shall be fully corrected to the satisfaction of the Township. HMA Base Course placed without fully complying with this procedure or without it being witnessed by Township personnel shall be considered defective and shall be removed and retested at the Applicant's sole expense.
 - b. PennDOT Publication 408 §309 shall be strictly enforced for base course placement, except as amended by applicable Township ordinances, and shall include all testing requirements to be performed by the Applicant under the supervision of the Township, Township Engineer, or Township's designee at the Applicant's sole expense.
 - c. Notwithstanding the paving requirements outlined above, following completion of the base course, the binder course shall be placed without excessive delay. The base course shall not be permitted to remain in place longer than thirty (30) days without placement of the binder course unless specifically approved by the Township or otherwise precluded by other requirements of this Ordinance.
5. Surface Preparation and Tack Coat:
 - a. The tack coat shall be provided between all paving sections, according to PennDOT Publication 408, Specifications.
 - b. Prior to the placement of the tack coat, the pavement surface shall be swept and cleaned in order to remove all stones, dirt, and other accumulated debris, as necessary.
6. HMA Binder and Wearing Courses:
 - a. Prior to the placement of the binder and/or wearing courses, the base course shall be prepared and tested in accordance with §1401.B.3 above. A final inspection shall be conducted under the observation of the Township Engineer immediately prior to the placement of the binder and/or wearing courses. All defects in the base course or binder course (including cracking, wheel ruts, soft patches, and other deficiencies or deviations) shall be fully corrected to the satisfaction of the Township Engineer. Prior to the placement of the final wearing course, an inspection by the Township Engineer of all curbing, inlets, manholes, valve boxes,

and the like shall also occur in order to confirm the ability of these structures to accept the placement of the final paving section. Binder or wearing courses placed without fully complying with these requirements shall be considered defective and shall be removed and replaced at the Applicant's sole expense.

- b. PennDOT Publication 408 §408 and §409 shall be strictly enforced for binder and wearing course placement, except as amended by applicable Township ordinances, and shall include all testing requirements to be performed by the Applicant under the supervision of the Township Engineer at the Applicant's sole expense. All binder and wearing course placement and compaction shall be observed by the Township Engineer.
- c. PG 64-22 sealant shall be neatly placed to a width of twelve inches (12") wherever the final wearing surface abuts curb, inlets, manholes, or other structures. Sealed pavement notches, in accordance with PennDOT Publication 72M, RC-28M, shall be installed wherever proposed pavement ties into existing pavement. Sealant shall be neatly placed such that it is uniform in appearance.
- d. Longitudinal pavement joints for the proposed HMA Wearing Course that fall within an existing travel lane are not permitted. The Applicant shall extend the wearing course by milling the travel lane to a minimum depth of one and one-half inches (1½") and installing the wearing course to the edge of the existing travel lane or centerline as required. All longitudinal pavement joints shall be sealed with PG 64-22.

7. Weather Limitations:

- a. The placing of HMA base course or HMA binder course shall terminate after October 31 of each year and shall not be resumed until April 1 of the following year.
- b. When the air temperature falls below fifty degrees Fahrenheit (50° F), extra cold weather precautions shall be taken in drying the aggregate, controlling the temperature of the delivered material, and compacting the mixture. The HMA base course or HMA binder course shall not be placed on wet surfaces or when the air temperature is forty degrees Fahrenheit (40° F) or lower.
- c. The placing of HMA wearing course or surface course shall terminate after October 15 of each year and shall not be resumed until April 1 of the following year.
- d. When the air temperature falls below fifty degrees Fahrenheit (50° F), extra cold weather precautions shall be taken in drying the aggregate, controlling the temperature of the delivered material, and compacting the

mixture. HMA wearing course or surface course shall not be placed on wet surfaces or when the air temperature is forty-five degrees Fahrenheit (45° F) or lower.

8. Construction Limitations on Wearing Course Placement:

Within any phase of a single-family or multi-family residential development, the placement of HMA wearing course on streets intended to be offered for dedication to the Township shall not occur until at least seventy-five percent (75%) percent of the dwelling units are constructed. For commercial and/or industrial developments which contain streets intended to be offered for dedication to the Township, the placement of the HMA wearing course shall not occur until the improvements on the lot or lots are substantially completed.

9. Pavement Base Drain:

- a. The pavement base drain shall be constructed in accordance with the specifications as set forth in PennDOT Publication 408, as amended, and as detailed on the Roadway Construction Standard Drawings (RC-30).
- b. The combination storm sewer and underdrain shall be constructed in accordance with the specifications as set forth in PennDOT Publication 408, as amended, and as detailed on the Roadway Construction Standard Drawings (RC-30).
- c. The base drain shall be six-inch (6") perforated polyethylene pipe unless otherwise specified and approved by the Township.
- d. The pavement base drain shall be provided on both sides of new roadways and existing roadways being widened or reconstructed based upon the following criteria:
 - 1) In all locations where the pavement subgrade is in a cut condition as it relates to the existing ground elevations.
 - 2) On each side of the roadway at all low points for a minimum distance of one hundred feet (100') in each direction.
 - 3) At all other wet areas, springs, seeps, or spongy soil materials or at other locations as directed by the Township Engineer based upon good engineering practice.
- e. Base drains shall be properly connected to inlet boxes or other approved drainage structures but shall not be permitted to discharge by overland means.

10. Utility Construction in Existing Streets:

- a. Utility excavations within the legal right-of-way of existing streets shall be constructed and backfilled, in accordance with the following standards:
 - 1) Backfilling shall be done as promptly as possible. Trenches shall not be left open where they could create a hazard or unsafe condition. For karst areas, see additional requirements in Storm Water Management Ordinance 06-2011.
 - 2) Trenches for utilities shall be a minimum width of the largest conduit diameter plus twelve inches (12") unless otherwise regulated herein.
 - 3) The trench shall be filled with hand-placed stone (PennDOT No. 1B or 2A material) acceptable to the Township to a height of at least one foot (1') above the top of the conduit, pipe, or pipe bell.
 - 4) All utility trenches shall be provided with metallic identification tape placed above the utility line and within eighteen inches (18") of the surface of the trench.
 - 5) The remainder of the trench shall be backfilled with PennDOT No. 2A stone and properly compacted. The backfill material shall be mechanically tamped in six-inch (6") layers.
 - 6) Trenches within existing streets shall be restored with a pavement section as outlined in *Article V*, Table 503.1 for the street classification. Trench lines shall be cut back one foot (1') on each side of the maximum trench width and sealed with PG 64-22 for a width of twelve inches (12").
 - 7) Where openings are made behind the curb line, work shall be performed as required in these specifications, the opening covered with good topsoil to a depth of six inches (6"), and the ground seeded or sodded to the satisfaction of the Township.
 - 8) Whenever the trenches have not been properly filled, or if settlement occurs, they shall be re-excavated, refilled, re-compacted, smoothed off, and finally made to conform to the surface of the ground. Under no circumstances will the addition of bituminous material patched over existing, settled bituminous material be permitted.
 - 9) Frozen material shall not be used for backfill, nor shall any backfilling be done when materials already in the trench are frozen.

- 10) All utility trenches shall be either perpendicular or parallel to the cartway. No skewed trenches across roadways shall be permitted.
- 11) When an existing roadway is trenched or open cut at more than four (4) perpendicular trenches within a one hundred-foot (100') section of roadway, the roadway shall be milled and overlaid as specified herein.
- 12) Longitudinal trenching within the cartway of existing streets shall be prohibited unless the entire lane width is milled for a minimum of one and one-half inches (1½") and overlaid.
- 13) Alternate trenching and backfilling techniques such as directional drilling, boring, narrow trenching with flowable backfill, etc. will be entertained on a case-by-case basis by the Township only to the extent that the technique results in less disturbance to the Township's roadways.

Section 1404. Curb Construction

- A. Curbs shall be installed on each side of all new roadways and along widened or reconstructed roadways in accordance with the requirements of the Township.
- B. Curbs shall be constructed in accordance with the specifications as set forth in PennDOT Publication 408, as amended, and as detailed on the PennDOT RC Drawings (RC-64).
- C. Curb construction shall be either vertical concrete curbing or slant curbing. Rolled curbs shall not be permitted.
- D. Curbs shall be constructed in accordance with the cross section details shown on approved drawings and as referenced herein.
- E. Curbs shall be set and finished to the line and grade as shown on approved drawings.
- F. Backfill shall be placed as soon as the concrete is cured, the surface is finished, and the joints are sawn. The backfill shall be compacted in place along the rear face of the curb to within six inches (6") of the top of the curb.
- G. When curbing is to be removed to construct a driveway, the removal shall be done on the complete curb section. The length of curbing to be removed shall be carried to the nearest expansion joint or saw cut if the joint is located more than five feet (5') from the end of the curb removal. Two (2) No. 5 rebar dowels, each having a length of eighteen inches (18"), shall be provided between the existing curb and the replaced curb section. Curb replacement shall be formed and shaped to the required driveway width. The driveway shall be depressed to a height of one and one-half inches (1½") above the finished paving grade.

- H. No grinding, partial sawcutting, or breaking out of the curb shall be permitted for the creation of driveway cut areas.
- I. Curb joints shall be caulked prior to backfilling.
- J. Curbs shall be inspected by the Township, Township Engineer, or the Township's designee just prior to the placing of concrete and after completion of all work.

Section 1405. Sidewalk Construction

Sidewalks shall be installed on both sides of new streets or along one side of widened or reconstructed streets in accordance with Township requirements and in accordance with the following specifications:

- A. Sidewalks shall be constructed of four inches (4") of plain cement concrete in accordance with the specifications as set forth in PennDOT Publication 408, Specifications, as amended.
- B. Four inches (4") of American Association of State Highway and Transportation Officials (AASHTO) Number 57 coarse aggregate shall be placed under all sidewalks.
- C. Sidewalks shall be located within the right-of-way of the street and shall extend in width from a point no closer than four inches (4") from the right-of-way line toward the curb line.
- D. Sidewalks shall be four feet (4') wide for residential developments and five feet (5') wide for commercial, industrial, or all other types of developments unless the Township determines otherwise, based upon a special need that the width should be greater. These cases shall be areas which are used for recreation, in proximity to schools, or as called for in the Township's Greenway Plan.
- E. Where a sidewalk abuts a curb, wall, building, or any other structure, a pre-molded expansion joint, one-quarter inch ($\frac{1}{4}$ ") in thickness, shall be placed between the sidewalk and said structure for the full length of said structure.
- F. Sidewalks shall be boxed out around light standards, fire hydrants, etc., with a pre-molded expansion joint, one-quarter inch ($\frac{1}{4}$ ") in thickness.
- G. Sidewalks shall be inspected by the Township, Township Engineer or designee after the forms have been placed, just prior to the placing of the concrete and after the completion of all work.

Section 1406. Storm Sewer Construction

- A. General:
 - 1. The storm sewer shall be properly staked to line and grade, as called for on the approved plans.

2. All storm sewers shall be of the type and size as called for on the approved Subdivision Plans and/or Land Development Plans. All sewer pipes must be clearly marked with the manufacturer's name or trademark and class of pipe.
3. Circular concrete pipe with elliptical reinforcement shall have lift holes cast in the pipe which will indicate the top of the pipe as installed.
4. Joints for smooth-lined corrugated plastic pipe shall be provided with homing marks to indicate correct joining of the pipe and the joint material during field installation.
5. The Township Engineer shall be present, unless indicated otherwise, during storm sewer construction to perform material checks and to observe for proper construction. Storm sewer trenches shall not be backfilled and closed without prior approval of the Township Engineer. Failure to adhere to these requirements shall render storm sewer construction defective and shall be removed and replaced at the Applicant's sole expense.
6. Prior to construction, specifications and/or details (shop drawings) shall be submitted to the Township or the Township Engineer for review and approval so as to ascertain compliance with the approved plans. This requirement applies to all components of the storm sewer which includes, but is not limited to, pipes, inlets including tops, catch basins, head and end walls, stone bedding, and select backfill material (if required).
7. All materials and construction specifications shall be in accordance with the latest version of PennDOT Publication 408.

Section 1407. Storm Water BMP Construction

- A. All storm water Best Management Practices (BMPs) shall be properly staked to line and grade, as called for on the approved Subdivision Plans and/or Land Development Plans.
- B. The Township Engineer shall be present, unless indicated otherwise, during construction to perform material checks and to observe for proper construction.
- C. Prior to construction, specifications and/or details (shop drawings) shall be submitted to the Township or the Township Engineer for review and approval so as to ascertain compliance with the approved plans.
- D. All materials and construction specifications shall be in accordance with the latest version of PennDOT Publication 408 and the latest version of the Pennsylvania Department of Environmental Protection (PA DEP) Storm Water BMP Manual.

Section 1408. Changes Following Plan Approval

- A. In the event that changes to approved plans are required prior to or during the construction phase of the work due to unforeseen field conditions, final utility design, or

other similar changes or conflicts encountered during construction, the Township shall be immediately notified in order to review the proposed changes prior to implementation. Depending upon the severity of the situation encountered, the Township may require the Applicant to submit engineering design information for review and approval prior to construction of the proposed modification. Design changes made without review and approval by the Township shall be considered defective work and shall be subject to removal and reconstruction.

- B. When discrepancies or plan errors are discovered during construction, or any time thereafter, that relate to property line closure, encroachments, easements, subdivision or other geometric-type errors, or similar conditions which effect the conveyance of land or title thereto, the Applicant shall be required to correct the errors to the satisfaction of the Township, which may include filing a corrective Subdivision Plan or Land Development Plan or other similar efforts. Regarding the dedication of public facilities, the Township will not accept any facilities which knowingly contain defects in closure, title, or otherwise.

Section 1409. As-Built Plans

- A. Following the completion of all required public improvements and prior to final inspections and the offering of facilities for dedication to the Township, the Applicant shall prepare and submit an As-Built Plan prepared to a minimum scale of one inch to sixty feet (1"=60') and on no larger than twenty-four by thirty-six inches (24"x36") plan sheets showing the actual location, dimension, elevation, and related features for all existing improvements as constructed. In addition, the plan shall demonstrate that the existing grading, drainage, and utility improvements are in substantial conformance with the previously approved drawings and specifications and that all facilities are properly located within planned rights-of-way, easements, or property lines. The Plan shall specifically identify, graphically and by note, any and all deviations from the approved drawings. Where As-Built Plans are required by another Township entity or other governmental agency having jurisdiction, the Township may require confirmation by said entity or other governmental agency that the constructed improvements are acceptable and are in conformance with the approved plans and/or permits for the project.
- B. As-Built Plans shall, at a minimum include all facilities and infrastructure located within rights-of-way or easements to be offered for dedication to the Township and all grading, drainage, storm water and related facilities as proposed on the approved plan. The As-Built Plan shall include, where applicable, profiles and details to adequately depict the as-constructed condition of said facilities.
- C. The Applicant's Professional Land Surveyor or Engineer shall sign and seal said plan, certifying that the plan reflects all existing conditions, as performed by a field survey following the actual construction of said improvements, and that the plan, as submitted, is in conformance with the approved plans unless otherwise specifically noted as referenced above.

- D. Prior to the acceptance of dedicated public facilities, the Township may require the Applicant to remedy any material changes discovered during the preparation of the As-Built Plan which are not in conformance with the approved plans and specifications.
- E. The Applicant shall file three (3) paper copies, one (1) reproducible Mylar copy, one (1) electronic file copy in Adobe Acrobat (PDF) format, and one (1) electronic data file on a compact disk (CD) in the format and to the specifications as required by the Township Engineer.

ARTICLE XV MODIFICATION OF REQUIREMENTS

Section 1501. Special Conditions

Where the literal enforcement of the provisions of these regulations will exact undue hardship because of peculiar conditions pertaining to the land in question, the Board of Township Supervisors, after review by the Planning Commission and recommendation by the Township Engineer, as required, may grant a modification of the requirements of one or more provisions of This Ordinance provided that such modification will not be contrary to the public interest and that the purpose and intent of This Ordinance is observed.

Section 1502. Applications for Modification

All requests for a modification shall be in writing and shall accompany and be part of the Application for Development. The request shall state, in full, the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the ordinance involved, and the minimum modification necessary.

Section 1503. Modification Action by the Board of Township Supervisors

- A. The Board of Township Supervisors shall consider and act upon requests for modification at a regularly scheduled meeting of the Board.
- B. A formal hearing shall not be required. However, the Applicant or any interested party may request a hearing upon agreement to pay for the public notice and stenographic costs thereof; such hearing shall be subject to approval by the Board of Township Supervisors.
- C. At any meeting or hearing, the Applicant, or the Applicant's representative, shall present evidence in support of the request.
- D. The Board of Township Supervisors, after hearing said evidence and considering the application, may grant or deny said modification.
- E. In modifying any requirements, the Board of Township Supervisors shall record its action and the grounds for the modification of a requirement to the Applicant for the modification.
- F. Whenever a request for the modification of a requirement is denied, the Board of Township Supervisors shall record its action, and the grounds for such denial, in its minutes. The Board of Township Supervisors shall transmit a copy of the action, and the grounds for such denial, of any alteration to the Applicant applying for the modification.

ARTICLE XVI
ENFORCEMENT, PENALTIES, SEVERABILITY,
AMENDMENTS, AND ENACTMENT

Section 1601. Administration and Enforcement

- A. The Board of Township Supervisors shall have the duty and authority for the administration and general enforcement of the provisions of This Ordinance, as specified or implied herein.

Officials of the Township having regulatory duties and authorities connected with or appurtenant to the subdivision, use or development of land shall have the duties and authorities for the controlling enforcement of the provisions of This Ordinance, as specified or implied herein or in other ordinances of the Township.

- B. Permits required by the Township for the erection or alteration of buildings; installation of sewers or sewage disposal systems; or other appurtenant improvements to, or use of, the land shall not be issued by any Township official responsible for such issuance until he/she has ascertained that the site for such building, alteration, improvement, or use is located in a subdivision approved and publicly recorded in accordance with the provisions of This Ordinance regulating the subdivision and development of land.

Also, such permits shall be issued only after it has been determined that the site for such building alteration, improvement, or use conforms to the site description indicated by the approved and recorded Final Plan or other land description acceptable in accordance with the provision of This Ordinance, and that it is in compliance with all applicable provisions of This Ordinance.

If the building permit is issued erroneously or prior to proper approval, it is void.

- C. The Sewage Enforcement Officer shall require that applications for Sewage Disposal Systems Permits contain all the information for him/her to ascertain that the site for the proposed system is acceptable in accordance with the provisions of This Ordinance, and the Rules and Regulations of the Pennsylvania Department of Environmental Protection (PA DEP) and any requirement of the Township pertaining to the issuance of such permit.

- D. Preventive Remedies:

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

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

Section 1602. Amendments

- A. Before voting on the enactment of an amendment, the Board of Township Supervisors shall hold a public hearing thereon, pursuant to the public notice. Notice shall be given as follows:
 1. By publication of the notice in a newspaper of general circulation in the Township.
 2. Said notice shall be published one (1) time each week for two (2) successive weeks. The first (1st) publication shall not be more than thirty (30) days and the second (2nd) publication shall not be less than seven (7) days before the date of the hearing.
- B. In addition, in the case of an amendment other than that prepared by the Township Planning Commission, the Board of Township Supervisors shall submit each such amendment to the Planning Commission for recommendation at least forty-five (45) days prior to the date fixed for the public hearing on such proposed amendment.

- C. In addition, at least thirty (30) days prior to the hearing on the amendment, the Township shall submit the proposed amendment to the County Planning Commission for recommendations.

Section 1603. Publication, Advertisement and Availability of Ordinance

- A. Proposed subdivision and land development ordinance amendments shall not be enacted unless notice of proposed enactment is given in the manner set forth in this *Section* and shall include the time and place of the meeting at which passage will be considered, a reference to a place within the Township where copies of the proposed amendment may be examined without charge or obtained for charge not greater than the cost thereof. The Board of Township Supervisors shall publish the proposed amendment once in one (1) newspaper of general circulation in the Township not more than sixty (60) days not less than the seven (7) days prior to passage. Publication of the proposed amendment shall include the full text thereof or the title and a brief summary prepared by the Township Solicitor and setting forth all the provisions in reasonable detail. If the full text is not included:
1. A copy thereof shall be supplied to a newspaper of general circulation in the Township at the time the public notice is published.
 2. An attested copy of the proposed ordinance shall be filed in the County law library or other County office designated by the County Commissioners, who may impose a fee no greater than that necessary to cover the actual cost of storing said ordinance.
- B. In the event substantial amendments are made in the proposed amendment, before voting upon enactment, the Board of Township Supervisors shall, at least ten (10) days prior to enactment, re-advertise, in one newspaper of general circulation in the Township, a brief summary setting forth all the provisions in reasonable detail together with a summary of the amendments.
- C. Subdivision and land development amendments may be incorporated into official ordinance books by reference with the same force and effect as if duly recorded therein.
- D. Within thirty (30) days after adoption, the Township shall forward a certified copy of any amendment to the subdivision and land development ordinance to the County Planning Commission.

Section 1604. Penalties

- A. Jurisdiction:

District justices having territorial jurisdiction over Middlesex Township shall have initial jurisdiction over proceedings brought under §1504.b.

B. Enforcement Remedies:

1. Any person, partnership, or corporation who or which has violated, or permitted the violation of, the provisions of This Ordinance shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Township, pay a judgment of not more than five hundred dollars (\$500.00) plus all court costs, including reasonable attorney fees incurred by the Township as a result thereof. No judgment shall commence or be imposed, levied, or be payable until the date of the determination of a violation by the District Justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the District Justice determining that there has been a violation further determines that there was a good-faith basis for the person, partnership, or corporation violating the ordinance to have believed that there was no such violation, in which event there shall be deemed to have been only one such violation until the fifth (5th) day following the date of the determination of a violation by the District Justice, and thereafter each day that a violation continues shall constitute a separate violation. All judgments, costs, and reasonable attorney fees collected for the violation of the Ordinance shall be paid to the Township.
2. The Court of Common Pleas of Cumberland County, upon petition, may grant, an order of stay, upon cause shown, tolling the per diem fine pending a final adjudication of the violation and judgment.
3. Nothing contained in this *Section* shall be construed or interpreted to grant any person or entity, other than the Township, the right to commence any action at law and/or at equity for enforcement pursuant to this *Section*.

Section 1605. Mediation Option

- A. Parties to the proceeding authorized in This Ordinance may utilize mediation as an aid in completing such proceedings. Mediation shall supplement, not replace, those procedures in This Ordinance once they have been formally initiated. Nothing in this *Section* shall be interpreted as expanding or limiting municipal police powers or as modifying any principles of substantive law.
- B. Participation in mediation shall be wholly voluntary. The appropriateness of mediation shall be determined by the particulars of each case and willingness of the parties to negotiate. The Township shall assure that in each case, the mediating parties, assisted by the mediator as appropriate, develop terms and conditions for:
 1. Funding mediation.
 2. Selecting a mediator who, at a minimum, shall have a working knowledge of municipal zoning and subdivision procedures and demonstrated skills in mediation.

3. Completing mediation, including time limits for such completion.
 4. Suspending time limits otherwise authorized in This Ordinance and the Pennsylvania Municipalities Planning Code, provided there is written consent by the mediating parties, and by an Applicant or municipal decision-making body, if either is not a party to mediation.
 5. Identifying all parties and affording the opportunity to participate.
 6. Subject to legal restraints, determining whether some or all of the mediation sessions shall be open or closed to the public.
 7. Assuring that mediated solutions are in writing, signed by the parties, and become subject to review and approval by the appropriate decision-making body pursuant to the authorized procedures set forth in the Pennsylvania Municipalities Planning Code.
- C. No offers or statements made in the mediation sessions, excluding the final written mediated agreement, shall be admissible as evidence in any subsequent judicial or administrative proceedings.

Section 1606. Severability

If any section, clause, provision, or portion of This Ordinance shall be held to be invalid, or unconstitutional, by any court of competent jurisdiction, such decision shall not affect any other section, clause, provision, or portion of This Ordinance.

Section 1607. Enactment

Enacted and Ordained this 29th day of December, 2017.

APPENDIX A EXHIBITS

The exhibits listed below are included in this appendix and are presented on the following pages.

- Exhibit 1 – Subdivision and Land Development Plan Submission Checklist
- Exhibit 2 – Letort Watershed Map
- Exhibit 3 – Approval and Recording Blocks
- Exhibit 4 – Professional Certifications
- Exhibit 5 – Owner's Certification and Dedicatory Statement

Exhibit A1
Subdivision and Land Development Plan Submission Checklist

This exhibit consists of the following items (presented separately on the following pages).

- Middlesex Township Application for Subdivision and Land Development Review
- Middlesex Township Subdivision and Land Development Plan Submission Checklist
- Middlesex Township Subdivision and Land Development Sketch Plan Requirement Checklist
- Middlesex Township Subdivision and Land Development Preliminary Plan Base Requirements Checklist
- Middlesex Township Subdivision and Land Development Final Plan Base Requirements Checklist

**MIDDLESEX TOWNSHIP
APPLICATION FOR SUBDIVISION AND LAND DEVELOPMENT REVIEW**

Date of Plan Submission: _____

Title of Plan: _____

Name of Owner/Applicant: _____

Phone Number: _____ **Fax Number:** _____

Address: _____

Contact Person: _____ **E-mail Address:** _____

Name of Plan Preparer: _____

Contact Person: _____ **E-mail Address:** _____

Phone Number: _____ **Fax Number:** _____

Address: _____

PLAN CLASSIFICATION

☐ Subdivision

☐ Preliminary Development Type:

☐ Residential

Describe: _____

☐ Land Development:

☐ Final

☐ Commercial

☐ Industrial

☐ Other

Describe: _____

**MIDDLESEX TOWNSHIP
APPLICATION FOR SUBDIVISION AND LAND DEVELOPMENT REVIEW**

PREVIOUS PLAN APPROVALS FOR THE PROPERTY

Date of Previous Plan Approvals: _____

Recorder of Deeds Plan Reference: _____

Total Tract Area in Acres: _____

Number of Residential Lots/Dwelling Units Proposed: _____

Total Amount of Non-Residential Floor Area: _____

Are any modifications of requirements being requested?

If so, list the specific Section of the Ordinance from which relief is requested and provide full justification for the requested modification. (Use separate sheets if necessary.)

Have any variances been requested or granted to allow this development?

Describe:

**MIDDLESEX TOWNSHIP
APPLICATION FOR SUBDIVISION AND LAND DEVELOPMENT REVIEW**

I hereby certify that the plan submission as represented by this application is complete and is prepared in conformance with all of the applicable provisions of the Lower Paxton Township Subdivision and Land Development Ordinance. I further agree to comply with all provisions of Township Ordinances in effect at the time of the filing of this application for plan review.

I also understand and agree that failure to file a complete and correct application including the attached checklist and the items referenced therein may result in the Township's refusal to process the application for planning review.

Signature of Applicant

Date

Printed Name

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT PLAN
SUBMISSION CHECKLIST**

Name of Subdivision/Land Development: _____

Name of Applicant: _____

Date of Plan Submittal: _____

In accordance with the requirements of the Middlesex Township Subdivision and Land Development Ordinance, the following initial information is required for a complete submission. If an item/specific requirement is not applicable to the submission, please indicate completeness by placing YES, NO, or N/A in the space provided.

Applicant	Township	
		Completed and Signed Application for Subdivision and Land Development Review
		Statement of all requested waivers with written justification
		Subdivision and Land Development Plan Submission Checklist
		Subdivision and Land Development Plan Requirement Checklist
		Required Township Review Fees
		Cumberland County Planning Commission Application for Review
		Cumberland County Planning Commission Review Fees
		Twelve (12) copies of the complete plan set (24"x36"maximum)
		Four (4) completed PA DEP Sewage Facilities Planning Modules
		Two (2) copies – Wetland Delineation Report
		Two (2) copies – Traffic Impact Study
		Two (2) copies – Hydrogeologic Analysis and Water Quality Testing Report
		Two (2) copies – Stormwater Management/ Drainage Plan
		Middlesex Township Municipal Authority (MTMA) approval for sewer extension design
		Commitment Letter or Service Agreement from MTMA or other service provider, if applicable
		Evidence of E&SPC Plan submission to the Cumberland County Conservation District
		Complete listing of all required local, state, and federal outside agency permits/ approvals required for the project
		Two (2) copies – Homeowner's Association Documents
		Two (2) copies – Financial Security Estimate
		PDF files

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT PLAN
SUBMISSION CHECKLIST**

I understand that if the above-listed information is not included in the plan submission, the application will not be considered a complete application and will not be further processed.

I also understand that all required communication relative to this plan application will be sent to the individual listed herein as Applicant.

Signature of Applicant

Date

Printed Name

For Township Use Only

Application is: ☐ Complete ☐ Incomplete

By: _____ **Date Filed:** _____

Plan Review Deadline: _____

Township Fee Paid: _____ **Check #** _____

County Fee Paid: _____ **Check #** _____

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
SKETCH PLAN REQUIREMENT CHECKLIST**

Name of Plan: _____

Name of Applicant: _____

Date Submission: _____

Plan Preparer's Name: _____

Plan Preparer's Signature: _____

For items marked N/A (Not Applicable), provide a statement as to why.

Sketch Plan Content

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1. Title Block | ☐ Yes | ☐ No | ☐ N/A |
| 2. Name of proposed development, municipality, county, and plan label (Sketch) | ☐ Yes | ☐ No | ☐ N/A |
| 3. Name, address, e-mail address, and telephone number of owner, equitable owner, subdivider/developer, engineer, landscape architect, and land surveyor | ☐ Yes | ☐ No | ☐ N/A |
| 4. Date of plan preparation and revision date(s) | ☐ Yes | ☐ No | ☐ N/A |
| 5. Location map with north arrow and scale | ☐ Yes | ☐ No | ☐ N/A |
| 6. Existing and proposed features: | | | |
| Streets | ☐ Yes | ☐ No | ☐ N/A |
| Buildings | ☐ Yes | ☐ No | ☐ N/A |
| Lot arrangements | ☐ Yes | ☐ No | ☐ N/A |
| Utilities | ☐ Yes | ☐ No | ☐ N/A |
| Significant natural features | ☐ Yes | ☐ No | ☐ N/A |

Sketch Plan Coordination

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 1. Cumberland County Conservation District E&S Feasibility | ☐ Yes | ☐ No | ☐ N/A |
| 2. Public Sewer and Water or On-Lot Utility Feasibility Study | ☐ Yes | ☐ No | ☐ N/A |
| 3. Floodplain Management | ☐ Yes | ☐ No | ☐ N/A |

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
PRELIMINARY PLAN BASE REQUIREMENTS CHECKLIST**

Name of Plan: _____

Name of Applicant: _____

Date Submission: _____

Plan Preparer's Name: _____

Plan Preparer's Signature: _____

For items marked N/A (Not Applicable), provide a statement as to why.

Preliminary Plan Cover Sheet Information

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1. Title Block | ☐ Yes | ☐ No | ☐ N/A |
| 2. Name of proposed development, municipality, county, and plan label (Preliminary) | ☐ Yes | ☐ No | ☐ N/A |
| 3. Name, address, e-mail address, and telephone number of owner, equitable owner, subdivider/developer, engineer, landscape architect, and land surveyor | ☐ Yes | ☐ No | ☐ N/A |
| 4. Written and graphic plan scale | ☐ Yes | ☐ No | ☐ N/A |
| 5. Date of plan preparation and revision date(s) | ☐ Yes | ☐ No | ☐ N/A |
| 6. Signature blocks for Board of Supervisors, Township Planning Commission, Township Engineer, and County Planning Commission | ☐ Yes | ☐ No | ☐ N/A |
| 7. Certification of ownership and dedicatory statement | ☐ Yes | ☐ No | ☐ N/A |
| 8. Certification of accuracy | ☐ Yes | ☐ No | ☐ N/A |

Preliminary Plan Content

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 1. Location map (1"=1,000' or larger) | ☐ Yes | ☐ No | ☐ N/A |
| 2. North arrow and scale | ☐ Yes | ☐ No | ☐ N/A |
| 3. Metes and bounds descriptions | ☐ Yes | ☐ No | ☐ N/A |
| 4. Existing features within 100' of property boundary | ☐ Yes | ☐ No | ☐ N/A |
| 5. One permanent benchmark on site | ☐ Yes | ☐ No | ☐ N/A |
| 6. Plan scale $\leq 1"=60'$ | ☐ Yes | ☐ No | ☐ N/A |

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
PRELIMINARY PLAN BASE REQUIREMENTS CHECKLIST**

Preliminary Plan Content

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 7. Tax parcel number, deed reference, source of title of property and adjoining | ☐ Yes | ☐ No | ☐ N/A |
| 8. Lot layout | ☐ Yes | ☐ No | ☐ N/A |
| 9. Proposed features | ☐ Yes | ☐ No | ☐ N/A |
| 10. Proposed easements and rights-of-way (size, type, location, beneficiary, metes, and bounds) | ☐ Yes | ☐ No | ☐ N/A |
| 11. On-lot well and sewage disposal system locations | ☐ Yes | ☐ No | ☐ N/A |
| 12. Public improvements | ☐ Yes | ☐ No | ☐ N/A |
| 13. Fire lanes | ☐ Yes | ☐ No | ☐ N/A |
| 14. Phasing plan and schedule | ☐ Yes | ☐ No | ☐ N/A |
| 15. Construction details | ☐ Yes | ☐ No | ☐ N/A |
| 16. Sight distances and clear sight triangles | ☐ Yes | ☐ No | ☐ N/A |
| 17. Dedicated land designation and schedule | ☐ Yes | ☐ No | ☐ N/A |
| 18. 100-year base flood elevation | ☐ Yes | ☐ No | ☐ N/A |
| 19. Street and site lighting | ☐ Yes | ☐ No | ☐ N/A |

Preliminary Plan Notes and Conditions

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1. Tabular plan requirements and existing conditions | ☐ Yes | ☐ No | ☐ N/A |
| 2. Tabular zoning information | ☐ Yes | ☐ No | ☐ N/A |
| 3. Statement of intent/use | ☐ Yes | ☐ No | ☐ N/A |
| 4. Statement indicating that all easements and rights-of-way have been shown on the plan and that all utilities have been contacted | ☐ Yes | ☐ No | ☐ N/A |
| 5. Current PA One Call listing and serial number | ☐ Yes | ☐ No | ☐ N/A |
| 6. Statement indicating that the Applicant shall comply with all Township regulations in effect at the time of the filing of the Preliminary Plan | ☐ Yes | ☐ No | ☐ N/A |
| 7. Statement that the Applicant shall be responsible for paying for the installation of all street and traffic control signs required for the project, as deemed necessary by Middlesex Township | ☐ Yes | ☐ No | ☐ N/A |
| 8. Statement of any deed restrictions or covenants that may be a condition of the sale of the property | ☐ Yes | ☐ No | ☐ N/A |
| 9. HOP note | ☐ Yes | ☐ No | ☐ N/A |

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
FINAL PLAN BASE REQUIREMENTS CHECKLIST**

Name of Plan: _____

Name of Applicant: _____

Date Submission: _____

Plan Preparer's Name: _____

Plan Preparer's Signature: _____

For items marked N/A (Not Applicable), provide a statement as to why.

Final Plan Cover Sheet Information

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1. Title Block | ☐ Yes | ☐ No | ☐ N/A |
| 2. Name of proposed development, municipality, county, and plan label (Final) | ☐ Yes | ☐ No | ☐ N/A |
| 3. Name, address, e-mail address, and telephone number of owner, equitable owner, subdivider/developer, engineer, landscape architect, and land surveyor | ☐ Yes | ☐ No | ☐ N/A |
| 4. Written and graphic plan scale | ☐ Yes | ☐ No | ☐ N/A |
| 5. Date of plan preparation and revision date(s) | ☐ Yes | ☐ No | ☐ N/A |
| 6. Signature blocks for Board of Supervisors, Township Planning Commission, Township Engineer, County Planning Commission, and Recorder of Deeds | ☐ Yes | ☐ No | ☐ N/A |
| 7. Certification of ownership and dedicatory statement | ☐ Yes | ☐ No | ☐ N/A |
| 8. Certification of accuracy | ☐ Yes | ☐ No | ☐ N/A |

Final Plan Content

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 1. Location map (1"=1,000' or larger) | ☐ Yes | ☐ No | ☐ N/A |
| 2. North arrow and scale | ☐ Yes | ☐ No | ☐ N/A |
| 3. Metes and bounds descriptions | ☐ Yes | ☐ No | ☐ N/A |
| 4. Existing features within 100' of property boundary | ☐ Yes | ☐ No | ☐ N/A |
| 5. Existing and proposed protective covenants running with the land, easements, and rights-of-way | ☐ Yes | ☐ No | ☐ N/A |

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
FINAL PLAN BASE REQUIREMENTS CHECKLIST**

Final Plan Content

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 6. Zoning districts and zoning lines | ☐ Yes | ☐ No | ☐ N/A |
| 7. Existing contours within 100' of property boundary | ☐ Yes | ☐ No | ☐ N/A |
| 8. One permanent benchmark on site | ☐ Yes | ☐ No | ☐ N/A |
| 9. Plan scale $\leq 1"=60'$ | ☐ Yes | ☐ No | ☐ N/A |
| 10. Tax parcel number, deed reference, source of title of property and
adjoiners | ☐ Yes | ☐ No | ☐ N/A |
| 11. Lot layout and numbers | ☐ Yes | ☐ No | ☐ N/A |
| 12. Proposed features | ☐ Yes | ☐ No | ☐ N/A |
| 13. Proposed contours | ☐ Yes | ☐ No | ☐ N/A |
| 14. Proposed easements, setbacks, rights-of-way, and property lines
(size, type, location, beneficiary, metes, and bounds) | ☐ Yes | ☐ No | ☐ N/A |
| 15. On-lot well and sewage disposal system locations | ☐ Yes | ☐ No | ☐ N/A |
| 16. Public improvements | ☐ Yes | ☐ No | ☐ N/A |
| 17. Fire lanes | ☐ Yes | ☐ No | ☐ N/A |
| 18. Construction details | ☐ Yes | ☐ No | ☐ N/A |
| 19. Sight distances and clear sight triangles | ☐ Yes | ☐ No | ☐ N/A |
| 20. 100-year base flood elevation | ☐ Yes | ☐ No | ☐ N/A |
| 21. Street and site lighting | ☐ Yes | ☐ No | ☐ N/A |
| 22. Survey monuments and markers | ☐ Yes | ☐ No | ☐ N/A |

Final Plan Notes and Conditions

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 1. Tabular plan requirements and existing conditions | ☐ Yes | ☐ No | ☐ N/A |
| 2. Tabular zoning information | ☐ Yes | ☐ No | ☐ N/A |
| 3. Statement of intent/use | ☐ Yes | ☐ No | ☐ N/A |
| 4. Statement of waivers granted and date of action | ☐ Yes | ☐ No | ☐ N/A |
| 5. Statement indicating that all easements and rights-of-way have
been shown on the plan and that all utilities have been contacted | ☐ Yes | ☐ No | ☐ N/A |

**MIDDLESEX TOWNSHIP
SUBDIVISION AND LAND DEVELOPMENT
FINAL PLAN BASE REQUIREMENTS CHECKLIST**

Final Plan Notes and Conditions

- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| 6. Statement indicating that the Applicant shall comply with all Township regulations in effect at the time of the filing of the Final Plan | ☐ Yes | ☐ No | ☐ N/A |
| 7. Statement that the Applicant shall be responsible for paying for the installation of all street and traffic control signs required for the project, as deemed necessary by Middlesex Township | ☐ Yes | ☐ No | ☐ N/A |
| 8. Statement that the Applicant shall provide as-builts upon construction completion | ☐ Yes | ☐ No | ☐ N/A |
| 9. Statement of any deed restrictions or covenants that may be a condition of the sale of the property | ☐ Yes | ☐ No | ☐ N/A |
| 10. HOP note | ☐ Yes | ☐ No | ☐ N/A |
| 11. Current PA One Call listing and serial number | ☐ Yes | ☐ No | ☐ N/A |
| 12. Plan Note stating that trench excavations (applicable in Karst regions of the Township) shall be backfilled daily and temporary berms or dikes shall be constructed around all excavations, including those for utility trenches, building foundations, etc., to prevent the entry of surface water. | ☐ Yes | ☐ No | ☐ N/A |

Exhibit A2 Letort Watershed Map

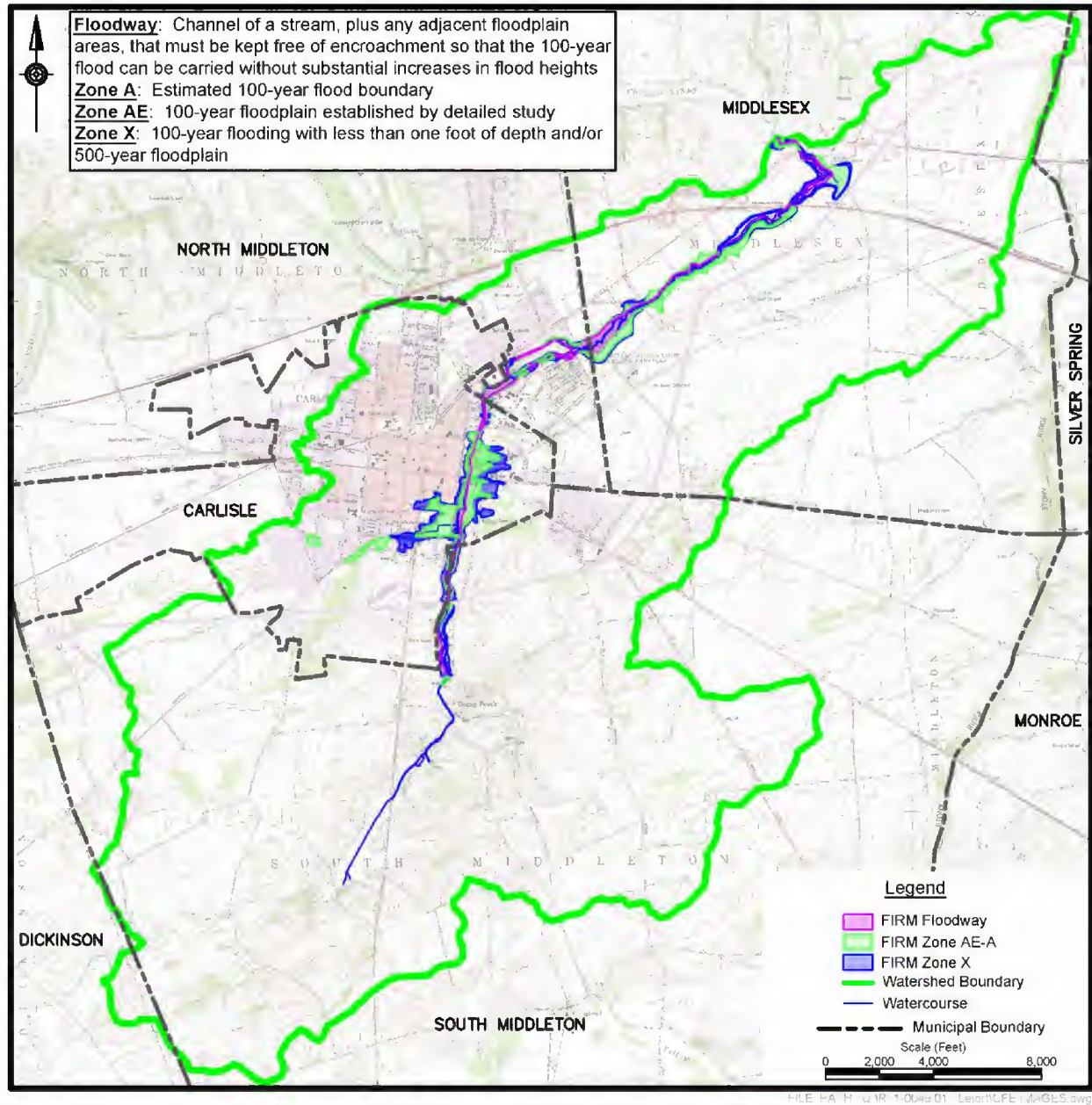


Exhibit A3
Approval and Recording Blocks

MIDDLESEX TOWNSHIP BOARD OF SUPERVISORS
PLAN APPROVAL CERTIFICATION

This Plan was approved or conditionally approved the _____ day of _____, 20____
by the MIDDLESEX TOWNSHIP BOARD OF SUPERVISORS.

All conditions, if any imposed with respect to such approval have been met on this _____ day of
_____, 20____.

Chairman, Middlesex Township Board of Supervisors

Township Secretary

SIGNATURE BLOCK MIDDLESEX TOWNSHIP PLANNING COMMISSION

This Plan was recommended for approval by the MIDDLESEX TOWNSHIP PLANNING
COMMISSION this _____ day of _____, 20____.

Chairman, Middlesex Township Planning Commission

SIGNATURE BLOCK CUMBERLAND COUNTY PLANNING DEPARTMENT

This Plan was reviewed by the CUMBERLAND COUNTY PLANNING DEPARTMENT this
_____ day of _____, 20____.

Director of Planning

PROVIDE A 2" X 3" SPACE FOR UPI CERTIFICATION BY
CUMBERLAND COUNTY TAX ASSESSMENT OFFICE

RECORDER OF DEEDS

Recorded in the Office for the Recorder of Deeds, in and for Cumberland County, Pennsylvania,
this _____ day of _____, 20____.

Instrument Number: _____

Exhibit A4

Professional Certifications

Printed name, signature, address, telephone number, registration number, and appropriate seal(s) of the Registered Design Professional(s) responsible for preparation of the plan including, but not limited to, the following certifications:

- A. Certification, along with printed name, date, signature, and seal of the Professional Land Surveyor certifying the accuracy of the survey information shown and described on the plan along with certification including the following specific language:

“I hereby certify to the Board of Supervisors of Middlesex Township that, to the best of my knowledge, based on recent actual observation of the site, the survey and plan shown and described hereon is true and correct to the accuracy required by the Middlesex Township Subdivision and Land Development Ordinance and in accordance with the laws of the Commonwealth of Pennsylvania.”

- B. Certification, along with printed name, date, signature, and seal of the Professional Engineer certifying the accuracy of the engineering details shown and described on the plan along with certification including the following specific language:

“I hereby certify to the Board of Supervisors of Middlesex Township that, to the best of my knowledge, based on recent actual observation of the site, the engineering details and plan shown and described hereon are true and correct to the accuracy required by the Middlesex Township Subdivision and Land Development Ordinance and in accordance with the laws of the Commonwealth of Pennsylvania.”

- C. Certification, along with printed name, date, signature, and seal of the Professional Geologist certifying the accuracy of the engineering details shown and described on the plan along with certification including the following specific language:

“I hereby certify to the Board of Supervisors of Middlesex Township that, to the best of my knowledge, based on recent actual observation of the site, the geologic details and plan shown and described hereon are true and correct to the accuracy required by the Middlesex Township Subdivision and Land Development Ordinance and in accordance with the laws of the Commonwealth of Pennsylvania.”

- D. Certification, along with printed name, date, signature, and seal of the Registered Landscape Architect certifying the accuracy of the landscaping details shown and described on the plan along with certification including the following specific language:

“I hereby certify to the Board of Supervisors of Middlesex Township that, to the best of my knowledge, based on recent actual observation of the site, the specific details and plan shown and described hereon are true and correct to the accuracy required by the

Middlesex Township Subdivision and Land Development Ordinance and in accordance with the laws of the Commonwealth of Pennsylvania.”

- E. Certification, along with printed name, date, signature, and seal of other Registered Design Professionals certifying the accuracy of the appropriate details shown and described on the plan along with certification including the following specific language:

“I hereby certify to the Board of Supervisors of Middlesex Township that, to the best of my knowledge, based on recent actual observation of the site, the specific details and plan shown and described hereon are true and correct to the accuracy required by the Middlesex Township Subdivision and Land Development Ordinance and in accordance with the laws of the Commonwealth of Pennsylvania.”

Exhibit A5
Owner's Certification and Dedicatory Statement

STATEMENT OF OWNERSHIP: INDIVIDUAL

COMMONWEALTH OF PENNSYLVANIA :SS

COUNTY OF _____ :SS

ON THIS, THE _____ DAY OF _____, 20____, BEFORE ME THE
UNDERSIGNED PERSONALLY APPEARED * _____
WHO, BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT
(HE/SHE/THEY) (IS/ARE) THE ** _____ OF THE PROPERTY
SHOWN ON THIS PLAN AND THAT (HE/SHE/THEY) ACKNOWLEDGE(S) THE SAME
TO BE (HIS/HER/THEIR) ACT AND DEED, THAT ALL STREETS OR PARTS THEREOF
AND OTHER LANDS INTENDED TO BE OFFERED FOR PUBLIC USE, IF NOT
PREVIOUSLY DEDICATED, ARE HEREBY OFFERED FOR DEDICATION TO PUBLIC
USE AND DESIRE THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

OWNER _____
(SIGNATURE)

OWNER _____
(PRINTED NAME)

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

*** _____
NOTARY PUBLIC MY COMMISSION EXPIRES

* Individual's Name or Equitable Owner
** Identify Ownership or equitable Ownership
*** Signature and Seal of Notary Public

**Exhibit A5
Owner's Certification and Dedicatory Statement**

STATEMENT OF OWNERSHIP: CORPORATE

COMMONWEALTH OF PENNSYLVANIA :SS

COUNTY OF _____ :SS

ON THIS, THE _____ DAY OF _____, 20____, BEFORE ME THE
UNDERSIGNED OFFICER PERSONALLY APPEARED * _____
BEING ** _____ OF *** _____,
THE **** _____ OF THE PROPERTY SHOWN ON THIS PLAN, THAT
HE/SHE IS AUTHORIZED TO EXECUTE SAID PLAN ON BEHALF OF THE
CORPORATION, THAT THE PLAN IS THE ACT AND DEED OF THE CORPORATION,
AND ON BEHALF OF THE CORPORATION, FURTHER ACKNOWLEDGES THAT ALL
STREETS OR PARTS THEREOF AND OTHER LANDS INTENDED TO BE OFFERED FOR
PUBLIC USE, IF NOT PREVIOUSLY DEDICATED, ARE HEREBY OFFERED FOR
DEDICATION TO PUBLIC USE AND DESIRE THE SAME TO BE RECORDED AS SUCH
ACCORDING TO LAW.

OWNER _____
(SIGNATURE)

OWNER _____
(PRINTED NAME)

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

*** _____
NOTARY PUBLIC MY COMMISSION EXPIRES

- * Individual's Name
- ** Individuals Title
- *** Name of Corporation
- **** Identify Ownership or Equitable Ownership
- ***** Signature and Seal of Notary Public

APPENDIX B

WETLAND INVESTIGATION AND DELINEATION REQUIREMENTS

A. A Wetlands Delineation Report, as specified herein, is required for all subdivisions and land developments. The Applicant must determine if regulatory wetlands exist on the property containing the proposed subdivision or land development. The Applicant must also determine if any wetlands will be impacted off-site from the property if off-site construction activities are proposed.

1. Wetlands shall be mapped based upon actual field delineations, as determined by a qualified professional such as a Wetland Biologist or Soils Scientist with experience in Wetland Delineation and Reporting in accordance with the U.S. Army Corps of Engineers' (USACE) 1987 Wetland Delineation Manual and the Regional Supplement for the Eastern Mountains and Piedmont Region (Version 2.0, April 2012). The Township may request submission of qualifications as a required supporting documentation.
2. If, after an initial absence/presence site investigation, it is determined that there are no wetlands on the subject property and no wetlands will be impacted off-site, an Absence of Wetlands Certification statement and the wetland professional's signature must be placed on the plan as follows:

I, (Name of environmental consultant), hereby certify that I have conducted a wetlands investigation on (date) in accordance with the requirements of the Middlesex Township Subdivision and Land Development Ordinance and have determined that there are no regulatory wetlands on the subject property, the proposed project will not impact any off-site wetlands, and no wetland permits are required from any state or federal governmental agency having jurisdiction.

Signature and date

3. If there are regulatory wetlands found on the property, and/or wetlands will be impacted off-site, a Wetland Delineation Report must be submitted to the Township as part of the required plan submission materials prepared in accordance with the requirements listed above and generally including the information required by the USACE as part of a Jurisdiction Determination (JD) review. All regulatory wetlands must be clearly delineated on the Subdivision or Land Development Plan. If wetlands are proposed to be impacted by project activities, required wetland mitigation areas and construction details must also be included with the plan set.
4. A copy of completed permit applications, such as a Water Obstruction and Encroachment Permit or General Permit from the Pennsylvania Department of Environmental Protection (PA DEP) and a Section 404 Permit from the USACE, shall be provided to the Township for review.

5. If necessary, the wetlands may be verified by the Township, Township Engineer, or their consultants through a site visit.
6. If there are wetlands located on the property, a Presence of Wetlands Certification statement and the wetland professional's signature must be placed on the plan as follows:

I, (Name of environmental consultant), hereby certify that I have conducted a wetlands delineation study on (date) in accordance with the requirements of the Middlesex Township Subdivision and Land Development Ordinance and have determined that regulatory wetlands exist on the subject site, and this plan accurately depicts the extent of all wetlands.

Signature and date

7. Any approval by the Township shall be conditioned upon full compliance with any requirements of any regulatory agency, and no action by the Township shall be relied on in lieu of a permit issued by the appropriate agency.

APPENDIX C HYDRO-GEOLOGIC ANALYSIS AND WATER QUALITY TESTING REQUIREMENTS

A hydro-geologic analysis and water quality testing shall be required prior to the approval of any Subdivision or Land Development Plan representing more than ten (10) dwelling units or a non-residential use, or uses, which individually, or collectively, have an anticipated daily water usage demand of four thousand (4,000) gallons per day or more and which proposes to utilize an on-site community public water supply system or individual private wells. However, this requirement will not apply to any single-family residential development where individual lots are larger than one (1) acre.

A. Test Standards and Procedures

No person shall propose the use of an on-site public water supply system or individual wells for a development activity as described above without first administering the aquifer test required by these requirements and meeting the minimum requirements for Water Quality as specified in Item B (below) of this Appendix.

1. Test Objective

The objectives of an aquifer test shall be one or more of the following:

- a. To obtain sufficient data for the calculations of aquifer performance, including the coefficients of transmissibility and storage, permeability, long-term well yield, and specific capacity.
- b. To determine the location and character of geologic boundaries
- c. To ascertain the effects of well interference between on-site wells and surrounding off-site wells

2. Test Standard

The aquifer test shall establish that the proposed well(s) is (are) capable of supplying potable water at the minimum rate of four hundred (400) gallons per day per dwelling unit or, in the case of non-residential use, the anticipated daily water flow at a demand rate of not less than ten (10) gallons per minute for one (1) hour, either with or without the use of a storage system. The test shall also establish that no significant adverse impact will result to other existing on-site and surrounding wells.

3. Test Supervision and Evaluation

The aquifer test shall be conducted under the supervision of a Professional Geologist or Professional Engineer using testing procedures hereinafter set forth.

The Professional Geologist or Professional Engineer shall be responsible for notifying the Township a minimum of three (3) days prior to the test. He or she will also summarize the test and its significance and make recommendations as to the suitability of the well or wells for the intended uses. The final report of the supervising person shall include an opinion as to whether the proposed use of the well will have an impact upon other existing wells in the immediate surrounding area. The supervising person shall provide the Township with a copy of all field notes and test results.

4. Test Method

The method for conducting the aquifer test shall be as follows.

An aquifer test shall be conducted for a minimum of twelve (12) hours at a constant rate of pumping. The test well shall be the one proposed for the specified development activity for which the test is conducted. Two (2) observation wells which have hydraulic continuity with the pumped well are required. The preferred method of analysis of the aquifer test data is the non-equilibrium formula, although other methods are available and may be used. These include various methods of analysis of either the drawdown or recovery data.

5. Collection of Data

Data shall be collected in conjunction with the aquifer test as follows.

a. Prior to the Test:

- 1) Collection of geologic data of the area to be tested including well logs, if available
- 2) History of water level fluctuations in the area when available
- 3) The location, relative elevations, and static water levels in the pumped well and the observation well or wells

b. During the Test:

A standard aquifer test field data sheet will be required for a pumped well and each observation well. The data sheet shall include columns for listing the following:

- 1) Date
- 2) Elapsed time since pumping started/stopped to the nearest tenth (10th) of a minute

- 3) Depth to water below land surface to the nearest tenth (10th) of a foot
- 4) Drawdown and recovery in feet and tenths (10th) of feet
- 5) Observed discharge at specified intervals in gallons per minute

c. Following the Test:

A report shall be prepared summarizing all project information and analyses, including findings and recommendations regarding the adequacy of the groundwater supply for the proposed development. In accordance with recognized principles of well hydraulics, graphs shall be included to show time drawdown and time recovery for the pumped well and the observation wells. A distance drawdown graph will be required for anticipated rates of pumping. Computation of the coefficients of transmissibility and storage as well as the rate of pumping, time, and drawdown are required as well as recharge and other hydro-geologic data which may be considered necessary to satisfy the test objectives.

6. Impacts During Testing

The Applicant shall be fully responsible for mitigating any impacts to adjacent water supplies which occur as a result of the testing.

B. Water Quality Test

A water quality test shall be conducted concurrently with any aquifer test as required in Item A (above) of this Appendix. Such tests shall be conducted by a Pennsylvania Department of Environmental Protection (PA DEP) certified laboratory. The quality of the water tested shall meet the minimum public drinking water standards as set forth by PA DEP's current standards or be capable of treatment to attain said standard of quality. If an on-site community system is proposed, the PA DEP "New Source" analyses will be required.

APPENDIX D COMMUNITY ASSOCIATION DOCUMENTS

A. Preliminary Plan Requirements

(This section is not required at this stage.)

B. Final Plan Requirements

1. A Community Association Document, also known as a Homeowner's Association Document or a Condominium Association Document, shall be provided for all subdivision and land development applications which propose lands or facilities to be used or owned in common by all or a portion of the residents of that subdivision or land development and not deeded to the municipality.

2. The elements of the Community Association Document shall include, but shall not necessarily be limited to, the following:

- a. A description of all lands and facilities to be owned by the Community Association

This description shall include a map of the proposal highlighting the precise location of those lands and facilities.

- b. Statements setting forth the powers, duties, and responsibilities of the Community Association, including the services to be provided

- c. A Declaration of Covenants, Conditions, and Restrictions, giving perpetual easement to the lands and facilities owned by the Community Association

The Declaration shall be a legal document which also provides for automatic Association membership for all owners in the subdivision or land development and shall describe the mechanism by which owners participate in the Association, including voting, elections, and meetings. Furthermore, it shall give power to the Association to own and maintain the common property and to make and enforce rules.

- d. Statements prescribing the process by which Community Association decisions are reached and setting forth the authority to act

- e. Statements requiring each owner within the subdivision or land development to become a member of the Community Association

- f. Statements setting cross-covenants or contractual terms binding each owner to all other owners for mutual benefit and enforcement

- g. Requirements for all owners to provide a pro rata share of the cost of the operations of the Community Association
- h. A process of collection and enforcement to obtain funds from owners who fail to comply
- i. A process for transition of control of the Community Association from the developer to the unit owners
- j. Statements describing how the lands and facilities of the Community Association will be insured, including limit of liability
- k. Provisions for the dissolution of the Community Association, in the event such dissolution should become inevitable