

WEST CALN TOWNSHIP CHESTER COUNTY

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

Developed and submitted to West Caln Township by:

Brandywine Conservancy



and

E.B. Walsh and Associates, Inc.

With direct support from:

West Caln Township Planning Commission, SALDO Update Task Force, Township Secretary, Township Solicitor, and,

Chester County Planning Commission and the Vision Partnership Grant Program

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**WEST CALN TOWNSHIP SALDO
SEPTEMBER, 2010**

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ARTICLE I

PURPOSE AND AUTHORITY

Section 100 Title

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

Section 101 Short Title

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

Section 102 Purpose

The regulations are adopted for the following purposes:

- A. To further the goals and objectives of the 1998 West Caln Township Comprehensive Plan.
- B. To promote the health, safety, and general welfare of the residents of the municipality.
- C. To promote the conservation and enhancement of the rural character of the Township.
- D. To ensure the development of land will be conducted with due regard to topography, geologic conditions, and natural, scenic and cultural resources, so that the highest quality environment is obtained.
- E. To ensure that proper provision shall be made for pedestrian and vehicular access and circulation, stormwater management, water supply, wastewater treatment and disposal, public utilities and other community services and facilities, and to provide for adequate coordination of existing and new facilities.
- F. To provide for adequate light, air, open space, recreation, street trees, and landscape quality.
- G. To encourage and promote flexibility, economy and ingenuity in the layout and design of subdivisions and land developments to facilitate realization of these purposes.

- H. To establish procedures and standards for observance by applicants, the Planning Commission and the Board of Supervisors.

Section 103 Authority

This Ordinance has been prepared under the authority and is consistent with the terms and requirements of the Pennsylvania Municipalities Planning Code (53 P.S. §10101 et seq., Act 1988-170, as amended) and is in accordance with the police power authority granted to the Township under the Township Code. It is intended to further the objectives of Article I, Section 27 of the Constitution of the Commonwealth of Pennsylvania, and of the West Caln Township Comprehensive Plan of 1998.

Section 104 Jurisdiction

- A. Subdivision and Land Development Control—It shall be unlawful for the owner or any other person, firm, or corporation owning or controlling any land in West Caln Township, to subdivide any lot, tract, parcel of land, or interior or exterior space by leasehold or other means, including the creation of condominium units, to otherwise undertake any land development as defined herein, or to lay out, construct, open or dedicate for public use or travel, any road, sanitary or storm sewer drainage facility or other facility in connection therewith, for the common use of occupants of buildings located within the subdivision or land development, unless the following conditions have been met:
 - 1. Final plans for any such subdivision or land development shall: (a) have been prepared and signed by and sealed by a professional engineer, land surveyor, geologist, or landscape architect, as permitted by the applicable registration laws, duly and currently registered in the Commonwealth of Pennsylvania; (b) have been submitted to and approved in writing thereon by the Board of Supervisors subsequent to meeting all applicable requirements set forth in this ordinance; and (c) have been recorded in the Chester County Recorder of Deeds office in West Chester, Pennsylvania; and
 - 2. Proper completion of any improvements required by the Township as condition(s) of plan approval, or any other conditions of approval, have been guaranteed by deposit of funds or financial security sufficient to cover the cost of improvements, inspections and legal fees.
- B. From and after the effective date hereof, the Board of Supervisors of West Caln Township shall have the authority to regulate subdivision and land development within the Township.
- C. In order to aid the Board of Supervisors in their considerations of subdivision and land development applications, the Board of Supervisors hereby decrees that the Planning Commission of West Caln Township shall serve the following functions:

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

Section 105 Interpretation

- A. The provisions of this ordinance shall be held to be minimum requirements to meet the above stated purposes. Where the provisions of this ordinance impose greater restrictions than those of any statute, other ordinance, or regulation, the provisions of this ordinance shall prevail. Where the provisions of any statute, other ordinance or regulation impose greater restrictions than those of this ordinance, the provisions of such statute, ordinance, or regulation shall prevail.
- B. Wherever the provisions of this ordinance mirror language found in the Pennsylvania Municipalities Planning Code, and in the event of subsequent modifications that do not explicitly overrule provisions herein, then the provisions of the more restrictive statute or ordinance shall apply.

Section 106 Severability

It is hereby declared to be the legislative intent that:

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

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

Section 107 Repealer

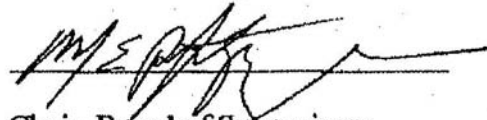
All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed to the extent that such Ordinances or parts of Ordinances are inconsistent herewith. Ordinance No. 209, The West Caln Township Subdivision and Land Development Ordinance of 1983, and subsequent amendments thereto, are hereby specifically repealed.

Section 108 Enactment

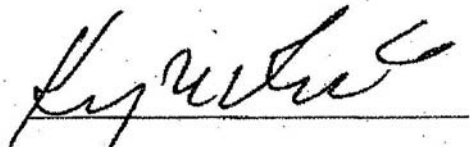
THIS ORDINANCE # _____ IS HEREBY ENACTED AND ORDAINED this 13th day of September, and shall take effect as provided for by law.

Passed by the West Caln Township Board of Supervisors this 13th day of September.

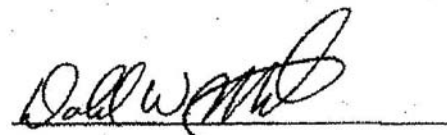
ATTEST:



Chair, Board of Supervisors



Vice-Chair, Board of Supervisors



Member, Board of Supervisors

ARTICLE II
DEFINITIONS

Section 200 General

- A. Unless otherwise expressly stated or the context clearly indicates another meaning, the following words and phrases shall be construed throughout the Ordinance to have the meanings indicated below.
- B. For the purpose of this Ordinance, words and terms used herein shall be interpreted as follows:
1. Words used in the present tense include the future.
 2. The singular includes the plural, and the plural includes the singular, except that such interchange of meaning shall not apply where numbers in the text refer to specific minimum and maximum quantities.
 3. The masculine gender includes the feminine and neuter.
 4. The word “person” includes an individual, estate, trust, firm, corporation, partnership, company, association, incorporated association or government entities including a trustee, a receiver, an assignee, or a similar representative or entity.
 5. The word “lot” includes the word “plot” or “parcel.”
 6. The word “may” is permissive; the words “shall”, “must”, and “will” are mandatory.
 7. The word “used” as applied to any land or building shall be construed to include the words “intended, arranged, or designed to be used.”
 8. The word “occupied” as applied to any land or building shall be construed to include the words “intended, arranged, or designed to be occupied.”
 9. The words “as amended from time to time” and the like as applied to any statute, ordinance, code regulation, plan or map, includes replacements, supplements or restatements thereof.
 10. References to a particular Article, Section or Subsection which inherently refers to other Articles, Sections or Subsections, includes all Articles, Sections or Subsections referred to.

11. The word “Supervisors” and the words “Board of Supervisors,” where not otherwise specified, shall mean the West Caln Township Board of Supervisors.
 12. The words “Governing Body” refer to the West Caln Township Board of Supervisors.
 13. The word “Commission” and the words “Planning Commission” or “Township Planning Commission,” where not otherwise specified, shall mean the West Caln Township Planning Commission.
 14. The words “Zoning Ordinance” shall refer to the West Caln Township Zoning Ordinance, as amended.
 15. The words “comprehensive plan” refer to the West Caln Township Comprehensive Plan.
- C. The terms “such as”, “including” and the like are intended to introduce matters which are illustrative of the meaning of the sentence, clause or phrase in which such terms appear without limiting or derogating from the general application of the sentence, clause or phrase in which such terms appear. The word "includes" or "including" shall not limit the term to the specified example, but is intended to extend its meaning to all other instances of like kind and character.
- D. The word “building” includes structure and shall be construed as if followed by the phrase “or part thereof”.
- E. In addition to the definitions in this article, additional definitions in this or other ordinances, applicable regulations, or appendices thereto may apply or be called into application by reference. In case of conflict, the more stringent or restrictive definition shall apply.
- F. Any word or term not defined herein shall be used with a meaning of standard usage.

Section 201 Definitions

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

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

AGENT- Any person, other than the developer, who, acting for the developer, submits to the Township subdivision or land development plans for the purpose of obtaining approval thereof.

ALLEY- A minor way, which may or may not be dedicated, primarily for vehicular service access to the rear or side of two (2) or more properties otherwise abutting on a street.

ALLUVIAL SOILS- Areas subject to periodic flooding as defined in the Chester and Delaware Counties, Pennsylvania Soil Survey, 1963, No. 19, as amended, and reclassified in the Soil Survey Geographic Database for Chester County, PA, U.S. Department of Agriculture, Natural Resources Conservation Service, 1997.

ALTERATION-

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

APARTMENT – See DWELLING.

APPLICANT- A landowner, developer, contract purchaser, or his authorized agent, as hereinafter defined, who has filed a complete application for subdivision and/or land development, including heirs, successors, assigns and grantees.

APPLICATION FOR DEVELOPMENT- Every application, for subdivision or land development, whether sketch, preliminary or final, either recommended (sketch), or required (preliminary and final) to be filed and approved prior to the start of construction or development, including but not limited to an application for a building permit, for the approval of a subdivision plat or plan, or for approval of a development plan.

AUTHORITY- A body politic (political body) and corporate (corporate policy) created pursuant to the Municipal Authorities Act of 1945, as amended.

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

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

BLOCK- A parcel of land bounded on all sides by any combination of streets, public park, railroad right-of-way, the corporate boundaries of West Caln Township, or any other barrier to the continuity of development. (See Figure 2-B of the West Caln Township Zoning Ordinance.)

BOARD- The Board of Supervisors of West Caln Township, Chester County, PA, or the official, person, or committee designated by the Board of Supervisors to act with respect to a particular matter set forth herein.

BUFFER (AREA)- A defined portion of a parcel or lot proposed for development appropriate for the planting of, or retention of, suitable hardwood and/or evergreen trees, including modifications to existing contours where appropriate, to create an acceptable transition between potentially incompatible land uses or reduce the potential for conflicts between them. See Section 1206 of the West Caln Township Zoning Ordinance.

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

BUILDING ENVELOPE- The area within a lot within which a building may be placed, as defined by the minimum yard setbacks, and the setbacks from natural resources.

BUILDING PERMIT- An approval statement signed by the Zoning Officer, indicating compliance with the West Caln Township Zoning Ordinance and any other ordinances or regulations, authorizing the construction, alteration, reconstruction, restoration, demolition or razing of all or a part of any building or structure within the Township.

BUILDING SETBACK LINE- The line which establishes the minimum depth of the particular yard in question, for the particular district, as measured from the applicable lot line. (See Figure 2-E of the West Caln Township Zoning Ordinance.)

CALIPER- The diameter of a tree trunk measured at a point six (6) inches above ground level.

CARTWAY- The surface of a street or alley available for vehicle traffic.

CLEAR-SIGHT DISTANCE- A line of unobstructed vision from a point four and one-half (4½) feet above the center line of a road to the farthest visible point on the

- top of an object four (4) inches high on the same center line. See Pennsylvania Code, Title 67, Transportation, Chapter 441 “Access To and Occupancy of Highways by Driveways and Local Roads”.
- CLEAR-SIGHT TRIANGLE-** An area of unobstructed vision at street intersection defined by lines of sight between points at a given distance from the intersection down the center lines of the road.
- CLUSTER RESIDENTIAL DEVELOPMENT-** An arrangement of dwellings that allows for reducing lot area and yard requirements and incorporating the remaining area as open space. (See Figure 2-F of the West Caln Township Zoning Ordinance.)
- COMMON OPEN SPACE-** See OPEN SPACE, COMMON.
- COMPREHENSIVE PLAN-** A long-range policy plan intended to guide the growth and development of West Caln Township and adopted as the West Caln Township Comprehensive Plan (1998) by the Board of Supervisors, as amended and its successor provisions.
- CONDOMINIUM-** A type of ownership wherein each apartment or dwelling unit is owned in fee by its occupant, while the land and such appurtenances as driveways, parking areas, sidewalks, landscaping, swimming pools and other recreation facilities, road lighting, heating facilities, entrance lobbies, halls, elevators and on-site utilities remain under the ownership, with full responsibility for maintenance, of the developer or any organization holding title to such land and appurtenances in accordance with the Pennsylvania Uniform Condominium Act of 1980 (68 Pa.C.S. §§ 3101-3404). The unit may be any permitted dwelling type.
- CONSTRUCTION-** The construction, reconstruction, erection, rebuilding, renovation, repair, extension, expansion, alteration, demolition or relocation of a building or structure, including the placement of mobile homes.
- COVERAGE, BUILDING-** The ratio of the total ground floor area of all buildings on a lot to the total area of the lot on which they are located; the percentage of the lot area covered by buildings.
- COVERAGE, LOT-** The ratio of the total ground floor area of all buildings and other impervious surfaces on a lot to the total area of the lot on which they are located.
- CROSSWALK-** A marked or specially constructed crossing of a public or private road or other vehicular accessway designed to enhance pedestrian safety and facilitate pedestrian circulation.
- CUL-DE-SAC-** A form of a single access street with access at one end and terminated at the other by a paved vehicular turnaround.

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

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

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

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

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

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

DENSITY- The total land area divided by the total number of dwellings located thereon, expressed in dwelling units (DU) per acre.

DESIGNATED OPEN SPACE- Areas allocated to meet requirements for open space.

DESIGN STANDARDS- Regulations adopted pursuant to this ordinance imposing standards by which a subdivision or land development is developed.

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

DETERMINATION- Any final action of the Zoning Officer, Township Engineer, Board of Supervisors, Planning Commission or other authorized Township officer constituting a final approval or disapproval with conditions of any application for a building permit or use permit or a decision relative to the provisions of this Ordinance, as specified within.

DEVELOPER- Any landowner, agent of such landowner, contract purchaser, or tenant with the permission of such landowner, or equitable owner who makes or causes to be made a subdivision of land or a land development.

DEVELOPMENT- Any man-made change to improved or unimproved real estate, including but not limited to the construction, reconstruction, renovation, repair, expansion or alteration of buildings or other structures; the placement of

manufactured homes; roads and other paving; utilities; filling, grading and excavation; mining; dredging; drilling operations; storage of equipment or materials; and the subdivision of land.

DEVELOPMENT PLAN- A sketch, preliminary or final plan, submitted in compliance with the requirements of the West Caln Township Subdivision and Land Development Ordinance, showing the provision for development of a tract of land.

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

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

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

DRIVEWAY- A private roadway providing access to a street.

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

DWELLING- Any building or other structure designed for, and occupied exclusively for, residential purposes, including an apartment and mobile home, but excluding rental units in a motel, rooming house, bed and breakfast, tourist home, institutional home, dormitory, and the like. It is the intention to include within the definition of dwelling, all recognized housing types, architectural types or styles, or combinations thereof, whether such housing units are for lease or for sale. Dwelling types include, but are not limited to, the following:

- A. **SINGLE-FAMILY DETACHED DWELLING** - A building designed for and occupied exclusively as a residence, containing one (1) dwelling unit and having no common or party wall with an adjacent dwelling, and having yards on all sides. Where a private garage is structurally attached to such building, it shall be considered as part thereof. (See Figure 2-G of the West Caln Township Zoning Ordinance)
- B. **SINGLE-FAMILY SEMI-DETACHED DWELLING (TWIN)** - A building designed for and occupied exclusively as a residence, containing two (2) dwelling units separated by a vertical common or party wall extending from ground to roof and having yards on all but one (1) side. (See Figure 2-G of the West Caln Township Zoning Ordinance)

- C. TWO-FAMILY DETACHED DWELLING (DUPLEX) - A building designed for and occupied exclusively as a residence, containing two (2) single-family dwelling units totally separated from each other by a horizontal party wall. (See Figure 2-G of the West Caln Township Zoning Ordinance)

- D. MULTI-FAMILY DWELLING - A residential building containing three (3) or more dwelling units, each with independent kitchen, bathroom and bedroom facilities including, but not limited to, the following:
 - 1. Townhouse (Single-Family Attached Dwelling) - A building containing at least three (3) dwelling units separated by a vertical common party wall, each one (1) dwelling unit from ground to roof, independent outside access, having yards on two (2) sides except dwelling units at either end of the building with yards on three (3) sides. (See Figure 2-G of the West Caln Township Zoning Ordinance)

 - 2. Four-Plex or Quadraplex - A building containing four (4) dwelling units, each of which has: independent inside access through a common area or independent outside access, two (2) non-parallel party walls in common with adjacent dwelling units, and yards on two (2) non-parallel sides. (See Figure 2-G of the West Caln Township Zoning Ordinance)

 - 3. Apartment - A building containing three (3) or more dwelling units separated by common party walls which may have more than one (1) dwelling unit from ground to roof and common outside access(es). (See Figure 2-G of the West Caln Township Zoning Ordinance)

DWELLING UNIT- A single living space for one (1) family, excluding individual rental uses in a motel, rooming house, tourist home, institutional home, dormitory, and the like.

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

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

ENGINEER, TOWNSHIP- A licensed Pennsylvania registered professional engineer, duly appointed by the West Caln Township Board of Supervisors.

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

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

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

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

FILL- Material, exclusive of structures, placed or deposited so as to form an embankment or raise the surface elevation of any portion of the land.

FINISHED GRADE- The final vertical elevation of the ground surface after development.

FLAG LOT- See Lot, Flag.

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

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

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

FLOODPLAIN AREA, IDENTIFIED- See FLOODPLAIN OVERLAY DISTRICT

FLOODPLAIN MAPS- Those maps prepared by the Federal Emergency Management Agency (FEMA) for West Caln Township, delineating the Floodplain.

FLOODPLAIN OVERLAY DISTRICT- The floodplain area specifically identified in the West Caln Township Zoning Ordinance as being inundated by the one hundred (100) year flood.

FLOODWAY- The area of a floodplain required to carry and discharge flood waters of a given magnitude. For the purposes of this Ordinance, the floodway shall be capable of accommodating a flood of the one hundred (100) year magnitude.

FREEBOARD- A margin of safety, expressed in feet, above the 100-year flood elevation.

GRADE- A reference plane representing the average of finished ground level adjoining a building at exterior walls or other structure, such as, but not limited to, a sign or swimming pool. Where the finished ground level slopes away from the exterior walls of a building or base of a structure, the reference plane shall be established by the lowest points six (6) feet from the building, or two (2) feet from the base of a structure.

GRADING- The changing of the surface of the ground by excavation or fill or a combination thereof; the act of moving earth.

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

GROUNDWATER AREAS OF CONCERN- Any land on which a subdivision or land development is proposed, and which land (or any portion thereof) is located in, or within one quarter (1/4) mile, of a known or threatened area of groundwater contamination, or within one quarter (1/4) mile of the boundary of a delineated contaminated groundwater plume. Groundwater Areas of Concern shall include any contaminated groundwater plume emanating from a site where contamination is suspected of originating.

GROUNDWATER RECHARGE- The replacement of water in interconnected pores located below the water table in an aquifer by the infiltration of precipitation, streams, lakes, or other water sources.

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

- A. Listed individually on the National Register of Historic Places (managed by the Pennsylvania Historical and Museum Commission [PHMC] in Pennsylvania, and maintained by the National Park Service, Department of the Interior);
- B. Determined by the National Park Service, Department of the Interior or PHMC respectively to be a contributing property to the significance of a National Register listed or eligible historic district;

C. Determined to be eligible (DOE) for listing either individually or as part of a historic district on the National Register of Historic Places by the Pennsylvania Historical Museum Commission (PHMC); or

D. Listed on the West Caln Township Historic Sites Survey.

HOMEOWNERS' ASSOCIATION- A non-profit organization of homeowners or property owners, planned and operated under approved rules and regulations, for the purpose of administering to the needs of residents through the maintenance of community owned property.

HYDRIC SOILS- Soil that is saturated, flooded, or ponded, long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of wetlands vegetation. Wetlands vegetation includes those plant species that have adapted to saturated soils and periodic inundations occurring in wetlands and/or any soil inventoried or described as hydric or as a soil with hydric inclusions according to the Soil Survey of Chester and Delaware Counties, Pennsylvania (most current data available) or other information provided by the Natural Resource Conservation Service (NRCS). In West Caln Township, hydric soils shall include, but are not limited to:

Hydric Soils	Soils with Hydric Inclusions
Wehadkee Silt Loam (We)	Chewacla (Ch)
Worsham Silt Loam (WoA, WoB, WoB2, WoC2)	Congaree (Cn)
	Glenville Silt Loam (GnA, GnB, GnB2, GnC2)
	Glenville Very Stony Silt Loam (GsB)

Where site conditions indicate that the location of hydric soils or the hydric inclusions differ from locations indicated by the Soil Conservation Service the burden shall be upon the applicant to verify such location(s) to the satisfaction of the Board of Supervisors, otherwise the Soil Conservation Service information shall be presumed to be accurate. Where the applicant seeks reclassification of hydric soils and their location, such reclassification shall be undertaken by a certified or licensed Soil Scientist or other similarly qualified professional.

HYDROGEOLOGIST- A person trained and having experience in the areas of hydrology and geology that deal with groundwater, its occurrence and movements, in its replenishment and depletion, the properties of rocks that control groundwater movement and storage, and the methods of investigation and utilization of groundwater.

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

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

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

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

IMPROVEMENTS- Physical addition and changes to land such as grading, paving, curbing, fire hydrants, water mains, sanitary sewers, stormwater management systems, culverts, sidewalks, monuments, crosswalks, bridges, earthworks, road lights, wells, sewage disposal systems, road trees and other plantings, and other structures that may be necessary to produce usable and desirable land development.

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

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

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

LAND DEVELOPMENT- Any of the following activities:

- A. The improvement of one (1) lot or two (2) or more contiguous lots, tracts, or parcels of land for any purpose involving:
 - 1. A group of two (2) or more residential or nonresidential buildings whether proposed initially or cumulatively, or a single nonresidential building, on a lot or lots regardless of the number of occupants or tenure; or
 - 2. The division or allocation of land or space, whether initially or cumulatively, between or among two (2) or more existing or prospective occupants by means of, or for the purpose of roads,

common areas, leaseholds, condominiums, buildings, or other features.

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

LAND DISTURBANCE- Any activity which exposes soils, alters topography, and/or alters vegetation, except for the removal of hazardous or alien vegetation. Customary agricultural practices such as tilling, plowing, mowing, and harvesting are excluded from the definition of land disturbance.

LANDOWNER- The legal or beneficial owner or owners of land, including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land, shall be deemed to be a landowner for the purposes of this Ordinance.

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

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

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

LICENSE- According to usage: When applied to mobile home parks, shall mean written approval by the Township of West Caln, a prerequisite of which shall be in compliance with all applicable regulations of this and other applicable ordinances, and the posting of a liability insurance policy or an indemnity bond in an amount not less than ten-thousand (\$10,000.00) dollars payable to the Township of West Caln, in a form satisfactory to the Township Solicitor.

LOT- A tract or parcel of land used or set aside for use as the site of one or more buildings and any buildings accessory thereto or for any other purpose in single and separate ownership and not divided by a road, nor including any land within a right-of-way or a public or private road upon which said lot abuts, even if the ownership to such right-of-way is in the owner of the lot. A lot for the purpose of this Ordinance may or may not coincide with a lot of record. For an exception to this definition, see LOT, FLAG.

LOT AREA- For the purposes of this Ordinance, the area of land contained within the limits of the property lines bounding a lot or tract, as shown on a deed, survey, plot, subdivision or land development plan, excluding any portion of a lot included in street and railroad rights-of-way, utility easements, stormwater management areas, and access easements.

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

LOT AREA OR TRACT AREA, NET- The area of a lot or tract exclusive of:

- A. Any existing right-of-way or area that has been set aside as right-of-way or easement for a public or private street;
- B. Any existing area comprising drainage or stormwater management easements or other utility easements;
- C. Any existing water body or water course; or
- D. An area equivalent to seventy-five (75) percent of any portion of a tract comprised of one (1) or more of the following as defined in this Ordinance:
 1. Any floodplain area as defined herein.
 2. Any wetlands area as defined herein, or
 3. Any area of very steep slope.

LOT, CORNER- A lot at the junction of and abutting two (2) or more intersecting streets where the interior angle of intersection does not exceed one hundred thirty-five (135) degrees. A lot abutting a curved street shall be deemed a corner lot if the tangents to the curve at the points of intersection of the side lot lines within the street lines intersect at an interior angle of less than one hundred thirty-five (135) degrees. Each yard abutting a street shall be considered a front yard, and the remaining yards shall include a rear yard, opposite the street to which the United States Postal Service (USPS) mailing address is assigned, and a side yard, the remaining yard opposite the other street.

LOT, FLAG- An interior lot which is connected to a public street, highway or public right-of-way by a minimum thirty-five (35) foot wide strip of land connecting the main portion of the lot with the aforesaid public street, highway or public right-of-way.

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

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

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

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

LOT, REVERSE FRONTAGE- Lots which are situated between two (2) generally parallel streets, but provide vehicular access solely from the street with the lesser road functional classification, as specified herein. See STREET FUNCTIONAL CLASSIFICATION.

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

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

MOBILE HOME- A transportable, single-family dwelling intended for permanent occupancy contained in one (1) unit, or in two (2) or more units designed to be joined into a single integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy, except for minor and incidental unpacking and assembly operations and connections to utilities, and constructed so that it may be used without a permanent foundation, including any addition, such as porches or additional rooms.

MOBILE HOME LOT OR SITE- A parcel of land in a mobile home park, improved with the necessary utility connections and other appurtenances required by this Ordinance for the placement of a single mobile home.

MOBILE HOME PAD- That part of an individual lot which has been reserved for the placement of the mobile home, appurtenant structures or additions.

MOBILE HOME PARK- A parcel of land or contiguous parcels under a single and separate ownership which has been planned and improved for the placement of mobile homes for non-transient uses, consisting of two (2) or more mobile home lots.

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

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

NATIVE PLANT SPECIES- A species of plant that currently or previously inhabited or grew in a specified location, and which was not introduced to that location as a result of human activity, either intentional or accidental. The term "native" species generally refers to a species whose range was located within a large area like a continent or a nation. The term "indigenous" species is typically used to refer to a species whose original range extended into a smaller area like a state, county, or watershed.

NET-OUT OF NATURAL RESOURCES- The technique in which natural resources and other unusable areas of a lot or tract are subtracted out of the gross lot area or gross tract area prior to determination of density or allowable number of dwelling units. See LOT AREA OR TRACT AREA, NET.

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

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

OLDFIELD- An area undergoing natural succession, characterized by the presence of herbs, shrubs, and small trees (seedlings), whose branches do not form a complete or nearly complete canopy.

ON-LOT SEWAGE DISPOSAL SYSTEM- A system serving a single lot, collecting and disposing of wastewater on the lot where such system is used.

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

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

private yards, roads, and off-street parking areas unless provided in conjunction with a recreational facility.

PARCEL- See LOT.

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

PERSON- Any individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties, including any members, directors, officers, trustees, employees, managers and supervisors, partners or principals thereof. Whenever used in any clause prescribing and imposing a penalty, person specifically includes the members, directors, officers, trustees, employees, managers and supervisors, partners or principals, or any of them, of such legal entities.

PIPE- A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

PLAN, AS-BUILT- A corrected final plan, showing dimensions and locations of all streets and other improvements as actually constructed.

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

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

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

PLANNING COMMISSION- The Planning Commission of West Caln Township, Chester County, PA.

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

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

PRIME FARMLAND/PRIME AGRICULTURAL SOILS- Prime agricultural soil classifications established by the United States Department of Agriculture as Agricultural Capability Classifications I, II, and III, as amended. See the West Caln Township Zoning Ordinance, Article II, DEFINITIONS, for a complete listing of West Caln Township's Class I, Class II, and Class III Agricultural Soils.

PRIVATE STREET- See STREET, PRIVATE.

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

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

PUBLIC NOTICE- Notice published once each week for two (2) successive weeks in a newspaper of general circulation in the Township. Such notice shall state the time, place, and particular nature of the matter to be considered. The first publication shall not be more than thirty (30) days and the second publication shall not be less than seven (7) days from the date of the hearing. Public notice shall be given as to all applicable regulations, including the Pennsylvania Municipalities Planning Code, Act 247 1968, as amended.

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

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

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

REVERSE FRONTAGE LOT- See Lot, Reverse Frontage.

REVIEW- An examination of a plan to determine compliance with this ordinance, the zoning ordinance, and other pertinent requirements.

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

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

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

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

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

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

SEMI-IMPERVIOUS- Any surface or material which is partially penetrable or able to absorb water, including but not limited to areas paved with stone, gravel, sand, paver block, or other porous paving material, as determined by the Township Zoning Officer and/or Township Engineer.

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

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

SEWAGE DISPOSAL SYSTEM-

- A. INDIVIDUAL (ON-LOT or OFF-LOT) SEWAGE DISPOSAL SYSTEM
- The disposal of sewage from one (1) dwelling unit by use of septic tanks or other safe and healthful means, approved by the Chester County Health

Department. Such system shall be totally within the confines of the lot on which the use is located (ON-LOT), or shall be located within an easement designated for such purpose on another lot (OFF-LOT).

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

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

SIGHT DISTANCE- The required length of roadway visible to the driver of a passenger vehicle at any given point on the roadway when the view is unobstructed by traffic. Sight distance measurement shall be made from a point four and one-half (4.5) feet above the centerline of the road surface to a point one-half (0.5) of a foot above the centerline of road surface.

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

SOIL PERCOLATION TEST- A field test conducted by a person or firm qualified according to the rules and regulations of the Chester County Department of Health to determine the suitability of the soil for sanitary sewage disposal facilities by measuring the absorptive capacity of the soil at a given location and depth.

STEEP SLOPES- Areas where the average slope equals or exceeds fifteen (15) percent. For the purposes of this Ordinance, steep slopes are divided into two categories:

- A. **Moderately Steep Slopes** are those areas where the grade is fifteen (15) percent to twenty-five (25) percent. Small areas of less than fifteen (15) percent slope occurring in the midst of larger areas of steeply sloping ground shall be averaged with the adjoining steeply sloping ground.

- B. Very Steep Slopes are those areas where the grade is greater than twenty-five (25) percent.

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

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

STORMWATER- The precipitation reaching the ground surface.

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

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

STREAM- A watercourse.

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

STREET, CENTERLINE OF- A line which is an equal distance from both street lines unless officially designated otherwise.

STREET FUNCTIONAL CLASSIFICATION- A designation in the West Caln Comprehensive Plan, as amended, given a street in accordance with its function as a carrier of traffic and from which specific setback distances and other regulations in this Ordinance apply. Classifications for new streets within the Township, or streets not designated in the current Township Comprehensive Plan, shall be determined by the Board of Supervisors after recommendation by the Planning Commission. For the purpose of this Ordinance, the following six (6) classifications shall apply based on the West Caln Township Comprehensive Plan, Chapter 6 – Transportation and Circulation Plan, 1998:

- A. EXPRESSWAY - These streets serve the heaviest volumes of traffic and have limited access to allow for higher speeds. Average daily trips range between 10,000 and 100,000. Expressways serve higher average trip lengths focusing on regional and interstate traffic. Expressways facilitate truck transport by providing the optimum conditions for truck traffic.

- B. MAJOR ARTERIAL – These streets serve heavy volumes of traffic often ranging between 10,000 and 40,000 trips per day. They provide a high degree of mobility, but offer more access than expressways. Major arterials link urban centers and usually consist of more than two (2) lanes.
- C. MINOR ARTERIAL – Arterials of this type also emphasize mobility and serve to link urban and rural centers, but their focus is more regional. They provide for traffic ranging from 5,000 to 15,000 trips per day with higher access than principal arterials, but still some access control.
- D. MAJOR COLLECTOR – Its purpose is to collect traffic and move it to the arterials. A major collector links residential and commercial areas by “collecting” traffic from residential areas and moving it to arterials. This road classification accommodates traffic averaging 3,000 to 8,000 trips per day.
- E. MINOR COLLECTOR – Minor collectors serve the same function as a major collector, but on a smaller scale. These serve traffic in the range of 1,000 to 3,000 trips per day, collecting traffic from various access points mainly in residential areas, and distributing it to other residential and commercial centers. Minor collectors serve mainly local traffic.
- F. LOCAL ROAD – Local roads focus on access, and often help to define the municipality’s unique character. Roads in the neighborhoods are considered local and provide direct residential access. They are intended for very short distance travel and usually do not carry through-trips.

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

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

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

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

STRUCTURE- Any man-made object having an ascertainable stationary location on or in land or water, whether public or private, including, but not limited to, buildings,

sheds, mobile homes, signs, fences or walls, antennae, porches, platforms, tennis courts, swimming pools, tanks, and towers, and similar items.

SUBAREA- The smallest drainage unit of a watershed for which stormwater management criteria have been established in the stormwater management plan.

SUBDIVIDER- See DEVELOPER.

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

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

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

- A. No public or private street is constructed or is required to be widened;
- B. No earth moving activities except those incidental to construction of a single family dwelling on each proposed lot will take place;
- C. No public improvement or guarantee thereof is required other than as may relate to on-lot stormwater management systems or sewer or water lines serving an individual lot; and
- D. No more than five (5) lots shall result from any subdivision.

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

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE- The Subdivision and Land Development Ordinance of West Caln Township, Chester County, PA.

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

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

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local zoning enforcement officer and which are the minimum necessary to assure safe living conditions, or;
- B. Any alteration of a “historic resource” provided that the alteration will not preclude the structure’s continued designation as a “historic resource.”

SUPERVISORS- The Board of Township Supervisors of West Caln Township, Chester County, Pennsylvania.

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

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

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

TOWNSHIP- The Township of West Caln. The Board of Supervisors of West Caln Township or the official, person, or committee designated by the Board of Supervisors to act with respect to a particular matter set forth herein.

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

TREE DRIPLINE- The line marking the outer edges of the branches of the tree. (See Figure 2-Q of the West Caln Township Zoning Ordinance.)

TREE PROTECTION ZONE- An area that is radial to the trunk of a tree in which no construction activity shall occur. The tree protection zone shall be fifteen (15) feet from the trunk of the tree to be retained, or the distance from the trunk to two (2) feet beyond the dripline, whichever is greater. Where there is a group of trees or woodlands, the tree protection zone shall be the aggregate of the protection

zones for the individual trees. (See Figure 2-Q of the West Caln Township Zoning Ordinance.)

WATER SUPPLY- Water Supply shall mean the following:

- A. **INDIVIDUAL WATER SUPPLY** - A safe and healthful supply of water, to a single user from a private well permitted by Chester County Health Department or appropriate governmental/regulatory agency.
- B. **COMMUNITY WATER SUPPLY SYSTEM** - A system for supplying water from a common source or sources to more than one (1) dwelling and other buildings within a development, or other Township service area. The water supply source may be located on-site and/or off-site and may be publicly or privately owned.
- C. **PUBLIC WATER SUPPLY SYSTEM** - A system for supplying water in sufficient quantities to more than one (1) dwelling and other buildings, which is administered by a municipality, municipal authority, or public utility as defined and regulated by the Pennsylvania Public Utility Commission (PUC). Such system services a municipality(s) or generally larger areas within a municipality(s).
- D. **OFF-SITE WATER SUPPLY** - A safe, adequate and healthful supply of water to more than one (1) user from a common source approved by all governmental agencies having jurisdiction over such matters and either governmentally or privately owned or PUC controlled, and approved by the Chester County Health Department.

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

WATERCOURSE- A river, brook, creek, stream, or a channel or ditch for water, whether natural or manmade with perennial or intermittent flow.

WATERS OF THE COMMONWEALTH- Any and all rivers, streams, creeks, rivulets, dammed water, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial within or on the boundaries of the Commonwealth of Pennsylvania.

WET POND- See RETENTION BASIN.

WETLANDS- Wetlands are those areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, ponds, lakes, and similar areas. Wetlands include all lands regulated as wetlands by the

PADEP or the U.S. Army Corps of Engineers. In the event there is a conflict between the definitions of these agencies, the more restrictive definition applies.

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

WOODLANDS- Woodlands consist of a tree mass or plant community in which the tree species are dominant or co-dominant and the branches of the trees form a complete, or nearly complete, canopy. Specifically, woodlands consist of a contiguous area one quarter (1/4) acre or greater, having more than one (1) viable tree with a diameter at breast height (DBH) of six (6) inches or greater per one thousand (1,000) square feet. The extent of the woodland plant community shall be measured from the outer-most dripline of all trees in the community. Woodlands do not include orchards and oldfields.

WOODLAND DISTURBANCE- Any activity which:

- A. Alters the existing structure of a woodland or hedgerow. Alterations include the cutting or removal of canopy trees, subcanopy trees, understory shrubs and vines, and herbaceous woodland floor species; or
- B. Constitutes a land disturbance within a woodland or hedgerow.
- C. Woodland disturbance does not include the selective cutting or removal of invasive or noxious trees, shrubs, vines, or herbaceous species. A list of invasive (noxious) plant species is included in Section A-8 of Appendix A of the West Caln Township Zoning Ordinance.

YARD- An open space between the principal building or group of buildings and the nearest lot line or road right-of-way which is unoccupied and unobstructed from the ground upward except as herein permitted. The size of a required yard is measured as the shortest distance between the structure and lot line or road right-of-way.

ZONING MAP- The official Zoning Map of West Caln Township, Chester County, Pennsylvania.

ZONING ORDINANCE- The Zoning Ordinance of West Caln Township, Chester County, Pennsylvania

ARTICLE III

PROCEDURES FOR SUBDIVISION AND LAND DEVELOPMENT

Section 300 General Provisions

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

- A. Authority for Plan Approval. Final authority for approval or denial of approval of all subdivision and land development plans shall be vested in the Township Board of Supervisors in accordance with the procedures set forth herein. Prior to action by the Board, all plans shall be referred for review and recommendation to the Township Planning Commission, the Township Engineer, and such other agencies as deemed pertinent by the Board or as required by law. However, the failure to make such referral and/or the failure by any reviewing party to review and/or make recommendation with respect to any plan shall not affect the validity of any action taken by the Board with respect to such plan. In addition, in the course of its review, the Township Planning Commission may solicit review and reports from any official Township consultant, or entity it considers to be affected by the subject plan.
- B. Plan Classification. For purposes of procedure, all applications filed pursuant to this Ordinance shall be further classified as either major or minor as defined below:
1. Minor: Any plan providing for a lot line adjustment or rejoining of lots where no land development is proposed, or any subdivision or land development application in which all of the following apply:
 - a. No public or private street is constructed or is required to be widened;
 - b. No earth moving activities except those incidental to construction of a single family dwelling on each proposed lot will take place;
 - c. No public improvement or guarantee thereof is required other than as may relate to on-lot stormwater management systems or sewer or water lines serving an individual lot; and
 - d. No more than five (5) lots shall result from any subdivision.
 2. Major: Any subdivision or land development application not classified as minor as provided above.
 3. Except for minor conventional subdivisions subject to the more restrictive limitations of Section 502.D. of the West Caln Township Zoning Ordinance, no more than three (3) minor subdivisions shall be approved over any period of time for any original tract or parcel of ground. Any subsequent subdivision approval submission after the three (3) minor

subdivisions are approved shall be considered major, and subject to the related provisions herein.

- C. Overview of Plan Submission and Review Process. The following plan review steps represent the standard approach used in West Caln Township. Plan contents shall be as set forth in Article IV and the number of plan sets to be submitted shall be as specified herein.

	Minor Subdivision or Land Development	Major Subdivision or Land Development
Pre-Application Meeting	Recommended	Recommended
Sketch Plan	Recommended	Recommended
Preliminary Plan	Not required	Required
Final Plan	Required	Required

- D. Recommended Conceptual Lot and Street Layout for Remaining Lands. When an application includes only a portion of a landowner's entire tract, or where lands subject to application are contiguous to an adjoining tract of the same landowner, the Planning Commission and/or the Board of Supervisors may require the applicant to include a conceptual layout showing future potential subdivision or land development of all the contiguous lands belonging to the landowner to ensure that future development may be accomplished in accordance with current codes and with appropriate access. Submission and review of the conceptual lot and street layout described in this section shall not constitute approval of the future subdivision or land development shown thereon.
- E. Municipalities Planning Code Requirements. Preliminary and final plans shall be reviewed in accordance with the requirements of the Pennsylvania Municipalities Planning Code (MPC) and as set forth herein.
- F. Site Access for Purposes of Plan Review. The owner of the parcel of land to be subdivided or developed shall, as part of initial submission in regard to the subject property, submit a written statement granting the West Caln Township Board of Supervisors, its authorized agents and representatives, and the Planning Commission the right to enter the parcel of land for the purpose of evaluating the site and the proposed development thereof. The Township shall make a reasonable effort to contact the applicant to notify him of the Township's scheduled site access at least two (2) days in advance of such site visit.
- G. Plan Review by Adjacent Municipalities.
1. Any plan applications for tracts of land along the municipal boundary shall, at the same time as any plans or supplementary documentation are

submitted to the Township, include submission of one additional complete set of such plans and documentation, which shall be forwarded by the Township to the adjacent municipality for its comments.

2. The Township may solicit comments from an adjacent municipality even if the plan is not on the boundary of the Township, where a plan, in the opinion of the Township, affects the adjacent municipality, in which case additional plan sets may be required.
3. When comments are solicited from any adjacent municipality, the Planning Commission and the Board of Supervisors shall review the reports from the adjacent municipality as part of the plan review process. However, if any adjoining municipality shall fail to report thereon within thirty (30) days after the receipt of an application, then the Township Planning Commission or Board may officially act without having received and considered such report.

H. Required Notification of Surrounding Property Owners.

1. For any major subdivision or land development approval requested by an applicant pursuant to the preliminary plan or final plan procedures described herein, the Applicant shall notify in writing all individuals or entities, who own real estate where any portion thereof is adjacent to or within five hundred (500) feet of the proposed major subdivision or land development, including property all or partly within adjacent municipalities, of the pendency of such major subdivision or land development proposal.
2. Notice required under this Section shall be made by registered mail to the landowner's last known address, to be mailed within fifteen (15) days of the date of filing of the major subdivision or land development application. The address on the tax rolls shall be considered the last known address. Verification of mailing, including a copy of the names, addresses and tax parcel numbers of each person to whom the notice was mailed, and including copy of appropriate registered mail receipts, shall be submitted by the Applicant to the Township prior to the first public meeting held on the application, and placed in the application file.
3. Upon initial notification verification, the Township shall not be further obligated to provide affected landowners with written notice of subsequent meetings held on the application except as may be required by other provisions of this Ordinance, other Township ordinances, or other applicable legal authority. The failure of any person or entity to receive notice given pursuant to this section shall not constitute grounds for any court to invalidate the actions of the Township for which the notice was given.

4. In addition, within fifteen (15) days of the date of filing, the Township shall post the application property with notice of the pending subdivision application, and include the initial public meeting date, time, location, and Township contact information.
- I. Re-filing of Plans. Any plan which meets any one of the criteria below shall be considered to be a new plan and shall be accompanied by an application, fees and all required information.
1. A plan which is submitted after a previous plan for the same property has been withdrawn shall constitute a new plan.
 2. A plan which is submitted after a plan for the same property has been approved or rejected shall constitute a new plan.
 3. A plan which is re-submitted during the course of plan review by the Planning Commission or Board of Supervisors, and is deemed by either to represent a substantially altered lot layout, road configuration, building location(s) or use, for the same land that was included in a prior plan submission, shall constitute a new plan. Plans considered by the Township Secretary as a major revision pursuant to the provisions of Section 303.D.4.d., in the case of Preliminary Plans, or Section 304.E.4.d., in the case of Final Plans, and starting a new ninety (90) day time period for formal review and notification, may not need to resubmit an application or fees, but may require new supplemental plans or impact studies.
- J. Township review and inspection fees. All applicants for subdivision or land development shall agree in writing on any applicable Township application forms to reimburse West Caln Township for all engineering fees, legal review fees, other official consultant review fees, engineering field inspection and other official consultant inspection costs, and other sundry expenses incurred by the Township directly related to the subdivision or land development, and to support such cost by way of an Escrow Agreement by providing reimbursement in advance of said Escrow Agreement.

Section 301 Pre-Application Planning and Design Procedures

The following procedures are to be followed for all subdivision and land development plan applications submitted to West Caln Township. The content of required plan submissions is set forth in Article IV.

- A. Pre-Application Meeting. Prior to any formal plan submission, it is strongly recommended that the applicant for any subdivision or land development approval schedule and meet with the Township Secretary. The purpose of the pre-application meeting is to introduce the applicant to the Township's planning objectives and applicable regulations and procedures, and to discuss the applicant's objectives.

- B. Existing Resources and Site Analysis Plan (ERSAP). The purpose of the ERSAP submission is to familiarize Township representatives with existing conditions on the applicant's property and within its immediate vicinity, to provide a complete and factual reference for making a site visit, and to provide a basis for planning and design consistent with the Township's natural and cultural resource protection and design objectives.
1. All applicants for major subdivision or land development approval shall submit an ERSAP prepared in accordance with the requirements contained in Section 400. While this analysis is a required component of Preliminary Plan submission, it is strongly recommended that it be provided at the time of sketch plan submittal.
 2. To the extent required by the Township, applicants for minor subdivision or land development also shall submit an ERSAP at the time of Sketch Plan or Final Plan submission, as applicable.
- C. Site Visit. Applicants for subdivision or land development approval may be requested by the Township Planning Commission or Board of Supervisors to arrange for a site visit of the property by Township representatives that may include the Township Engineer and any other federal, state, or county representatives or consultants as the Township deems appropriate. Applicants shall agree to reimburse the Township for any reasonable costs charged by Township consultants in relation to such site visit when such consultants have been requested by the Township to attend. Applicants are encouraged to accompany Township representatives. The purpose of the site visit is to familiarize Township representatives with the property's existing conditions and special features, to identify potential site design issues, and to provide an informal opportunity to discuss site design concepts, including the general layout of open space, undisturbed areas and landscaped areas, potential locations for proposed buildings and road alignments, stormwater management concepts, and protection of natural and cultural (including historic) resources. The site visit may be requested by the Township at any time during which a subdivision or land development application filed in accordance with this Ordinance is pending Township approval. Comments made by the Township or their staff and consultants during the site visit shall be only advisory and are not binding on either the Township or the applicant. It shall be understood by all parties that no formal recommendations can be offered, and no official decisions can be made, at the site visit or during the sketch plan process.
- D. Four-Step Design Process. All applicants for major subdivision or land development approval filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance shall use the following four-step design process to assist in determining the most suitable approach to development of the subject site. The layout of lots or development shall be designed to demonstrate compliance with the Cluster Residential Development Standards of the applicable zoning district, and furthermore, that such areas or features identified as being important in the ERSAP or upon site visit are preserved and the areas of

secondary importance are used for development. While demonstration of compliance with the four-step design process is a required component of Preliminary Plan submission, it is strongly recommended that it be accomplished prior to formal plan submission, and demonstrated through sketch plan submittal. The steps in the four-step design process are as follows:

1. Step 1: Establishment of Site Context and Delineation of Resources to be left undisturbed, protected, or incorporated into development plans.
 - a. Proposed site resources and open areas to be left undisturbed or specifically incorporated into development plans shall be identified and described based on review and assessment of mapping and other information included in the ERSAP, including open space, agricultural resources, woodlands, other significant vegetation, slopes, views, and historic resources, as relevant. The site visit, when requested by the Township, may be used to discuss and help determine those areas that should have minimal or no disturbance.
 - b. Special design considerations relative to structural placement, architecture, and landscape treatment shall be identified based on review of the Township Comprehensive Plan and Zoning Ordinance, as applicable, as well as assessment of relationships to neighboring properties.
 - c. The open and undisturbed areas identified at this stage of the design process shall include consideration for stormwater management, taking into account areas suitable for groundwater recharge and infiltration, wherever feasible.
2. Step 2: Location of Structures and Alignment of Infrastructure: Buildings, streets, trails, utilities, and stormwater management
 - a. Potential building area(s) and zones of land disturbance shall be identified in a manner which provides for maximum conservation of significant site resources as inventoried in the ERSAP and considered in Step 1. Conservation of historic resources may include their incorporation into development plans.

Building sites shall be located at least fifty (50) feet from any agricultural operation, and should generally be located not closer than fifty (50) feet from the boundary of any designated non-agricultural open space lands, taking into consideration the potential negative impacts of development on such areas as well as the potential positive benefits of locations which provide attractive views and visual settings for buildings.
 - b. An access and circulation plan shall be designed to provide pedestrian and vehicular access to the development which reflects a logical relationship to topographic conditions and neighboring

properties, and which minimizes further land disturbance or negative impacts to resource protection objectives.

- c. Locations and methods available for providing facilities for water service, wastewater disposal, stormwater management and other utilities, as necessary, shall be defined and indicated.
3. Step 3: Preparation of Schematic Design, Building and Conservation Plan.
- a. Narrative and plans shall be provided as appropriate to indicate the ways in which the applicant proposes to undertake development, as defined in Step 2, in order to implement identified design objectives and respect significant existing features of the land described in the ERSAP and areas designated for non-disturbance in Step 1.
 - b. Indication of proposed limits to land disturbance on the subject site, including limits to grading and soil disturbance activities.
 - c. Indication of how proposed limits to land disturbance comply with any applicable disturbance limitations set forth in the Township Zoning Ordinance in respect to natural and cultural resources.
 - d. Description and plans as necessary to demonstrate how existing natural contours and vegetation will be respected.
 - e. Description of the manner in which stormwater will be captured on site for maximum infiltration. This should indicate that the areas best suited for stormwater infiltration have been selected for that purpose, based on hydrologic soil groups and the stormwater management requirements of this ordinance.
 - f. Description and plans as necessary to indicate building plan including schematic architecture and incorporation of necessary infrastructure, road improvements, and landscaping.
 - g. Description of any historic resources on the site and proposed efforts to preserve their historical integrity, including where incorporated into any building program.

4. Step 4: Drawing Lot Lines/Defining Ownership Responsibilities

Lot lines shall be drawn as required to delineate the boundaries of individual lots, public and private rights-of-way, and open space areas. In all cases, ownership responsibilities shall be defined in a manner which affords implementation of the Schematic Design, Building and Conservation Plan defined in Step 3. Where permanently restricted from development, and where approved by the Board of Supervisors, designated open space areas may be included within the bounds of private lots.

Documentation - Applicants shall be prepared to submit maps indicating the findings of each step of the design process, if so requested by the Planning Commission or the Board of Supervisors at the time of Sketch, Preliminary and/or Final Plan application.

Section 302 Sketch Plans

- A. Purpose and Applicability. The purpose of the Sketch Plan, which is an optional but strongly encouraged submission for all plans, is to afford the applicant the opportunity to consult early and informally with the Planning Commission and the Township before submission of formal plans (preliminary or final, as applicable) for subdivision or land development approval. The sketch plan is viewed by the Township as an important, valuable, and highly recommended submittal that can speed the review process and may result in lower costs for the project. It is strongly recommended that all applicants for sketch plan review follow the Pre-Application Planning and Design Procedures set forth in Section 301 and, for major subdivision or land development applications filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance, that the Sketch Plan fully embodies the results of the Four-Step Design Process and further articulates the Schematic Design, Building and Conservation Plan that is part thereof.
- B. Sketch Plan Submission and Review.
1. Applicant shall submit seven (7) copies of the Sketch Plan application to the Township, for distribution to the Township Engineer, Planning Commission and Board of Supervisors. Submitted applications shall be prepared in accordance with the content requirements contained in Section 401. Applications for major subdivision or land development approval shall be accompanied by the ERSAP. Sketch Plan and supporting materials for major subdivisions and land developments should be filed with the Township at least thirty (30) calendar days prior to the Planning Commission meeting at which they are to be discussed. Sketch plan and supporting materials for minor subdivisions and land developments should be filed with the Township at least seven (7) calendar days prior to the Planning Commission meeting at which they are to be discussed.
 2. Where feasible, and at the request of the Township upon the recommendation of the Township Engineer, the Sketch Plan also shall be submitted to the Township electronically in the format specified by the Township Engineer.
 3. At the next regularly scheduled public meeting subsequent to submission in accordance with Section 302.B.1, above, the Applicant shall present the Sketch Plan and supporting materials to the Township Planning Commission. Failure of an Applicant to attend the Planning Commission meeting where such Sketch Plan has been scheduled for presentation shall automatically defer the agenda item until the next regularly scheduled Planning Commission meeting.

4. The Township Planning Commission shall review the Sketch Plan and shall discuss the plan upon presentation by the Applicant or at subsequent public meeting(s). The Planning Commission may also request that the Applicant arrange for a site visit pursuant to Section 301.C. As a result of their review, site visit, and discussion, the Planning Commission shall informally advise the applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance, to Township planning, design and historic preservation objectives, and to environmentally responsible design, and may suggest possible plan modifications that would increase its degree of conformance. To the extent that sufficient information has been submitted or presented to the Planning Commission, the Commission shall undertake a general review which may encompass but shall not be limited to:
 - a. the compatibility of the proposal with respect to the objectives and policy recommendations of the Comprehensive Plan, and other plans as applicable;
 - b. consistency with the zoning ordinance;
 - c. compatibility of the plan with the input from the Pre-Application Conference, Site Visit, ERSAP, and the Four-Step Design Process where applicable;
 - d. the location of all areas proposed for land disturbance (roads, foundations, yards, utilities and wastewater disposal systems, storm water management areas, etc.) with respect to notable features of natural or cultural significance as identified on the applicant's ERSAP;
 - e. the proposed building density and impervious coverage.
 - f. the potential for vehicular and pedestrian connections with existing roads, other proposed roads, and existing or potential development on neighboring properties;
 - g. the location of proposed access points along the existing road network;
 - h. the need for any waivers or modifications from otherwise applicable ordinance standards, including any waivers or modifications which the Planning Commission would recommend in order to permit the proposal to better conform to Township planning objectives.
5. Prior to making recommendations on the proposed Sketch Plan, the Planning Commission may request the preliminary input of the Township's planning and engineering consultants and other Township commissions or committees where relevant (e.g., Historical Commission),

and may hear comments from surrounding or affected landowners present at its public meeting(s). Where requested, and upon agreement of the applicant, all planning and engineering review fees shall be the responsibility of the applicant.

6. The Planning Commission shall communicate its comments and recommendations in regard to the proposed Sketch Plan to the Applicant within forty-five (45) days of the first public meeting of the Planning Commission after sketch plan submittal, except where an extension of time is granted by the Applicant.
7. All comments and recommendations made by Township representatives in regard to Sketch Plan review shall be considered non-binding opinions. No comment or recommendation, nor the failure of the Planning Commission or any Township representative, to proceed or act in accordance with this Section, shall be deemed to be a decision with respect to any subdivision or land development plan or to vest any rights in the applicant.

Section 303 Preliminary Plans

A. Purpose and Applicability.

1. All applicants for major subdivision or land development approval shall submit a Preliminary Plan application which is a set of documents demonstrating compliance with zoning provisions, showing existing features, proposed road and lot layout, storm water management facilities and engineering detail sufficient to ensure proper functioning of proposed improvements and sufficient to meet the plan requirements of this ordinance. Applicants for minor subdivision or land development approval are not required to submit a Preliminary Plan application and may proceed with Final Plan application.
2. It is strongly recommended that all applicants for Preliminary Plan approval follow the Pre-Application Planning and Design Procedures set forth in Section 301, and submit a Sketch Plan as set forth in Section 302, prior to formal submission of a Preliminary Plan application. Applicants are advised that those who choose to submit Preliminary Plans without taking advantage of Pre-Application and Sketch Plan options may incur added engineering expense. Evaluation of planning, design, and ordinance issues, occurring during pre-application and sketch plan review with the Township, can facilitate the Preliminary and Final Plan review processes by addressing a number of issues at an early stage during plan preparation.
3. The Preliminary Plan application shall demonstrate conformance to any recommendations made during Sketch Plan review where a Sketch Plan has been submitted. The Preliminary Plan application shall otherwise conform to all information requirements and procedures set forth herein.

B. Preliminary Plan Submission and Acceptance for Review.

1. The Preliminary Plan application shall include all information as set forth in Section 402, specifically including the ERSAP and, for applications filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance, documentation of fulfillment of the Four-Step Design Process described in Section 301.D. Steps which have been satisfactorily completed during the Pre-Application or Sketch Plan review stages need not be undertaken again. Submitted plans and accompanying documentation shall be clearly marked “Preliminary Plans.”
2. Applicant shall submit the minimum number of copies of the Preliminary Plan application, including all required supporting information and materials as specified below, to the Township. The Preliminary Plan application shall be filed with the Township at least twenty-one (21) calendar days prior to the Planning Commission meeting at which the Preliminary Plan is first to be discussed.
 - a. Three (3) copies of a completed Application for Review of Preliminary Subdivision or Land Development Plan;
 - b. Thirteen (13) copies of the preliminary plan and all other supporting plans, ERSAP, studies, and information to enable proper distribution and review of the plans.
3. Where specifically requested by the Township upon the recommendation of the Township Engineer, plans included in the Preliminary Plan application also shall be submitted to the Township electronically in the format specified by the Township Engineer.
4. Within ten (10) business days from the date the Preliminary Plan application is received, the Township shall determine whether the submission is administratively complete. For a submitted application to be considered administratively complete, all of the documentation required by this Ordinance shall be included with the application and required escrow and review fees shall be submitted to the Township in accordance with the municipal fee schedule, along with any required fees for the Chester County Planning Commission review.
5. If the submitted Preliminary Plan application is determined to be administratively complete, it shall immediately upon such determination be accepted for substantive review. The Township Secretary shall note upon all copies thereof the official date of filing, and that date of filing so noted shall be conclusive as to all parties for the purpose of computation of the time within which the review must be completed or act performed.

6. If any submitted Preliminary Plan application is determined not to be administratively complete, it shall be returned to the Applicant with specific indication of any missing materials or fees which rendered it incomplete. If the Township holds any portion of the submission, pending receipt of the balance thereof, the same shall not be deemed to have been received by the Township for any purpose until the date and time of submission of the last item required to be submitted to constitute a complete submittal.

C. Distribution of Preliminary Plans.

1. For applications determined complete, the Township shall forward one (1) copy of the Application for Review and five (5) sets of the preliminary plan packet (including supplemental plans and applicable impact studies) to the Township Planning Commission; three (3) sets of the preliminary plan packet (including supplemental plans and applicable impact studies) to the Township Board of Supervisors; and, one (1) set of the preliminary plan packet (including supplemental plans and applicable impact studies) to the Township Engineer, Chester County agencies (Planning Commission, Health Department, Conservation District), and local Emergency Services. One (1) copy of the preliminary plan packet (including supplemental plans and applicable impact studies) shall be retained in Township files.
2. The Applicant shall be directly responsible for all fees required by the Chester County Planning Commission for plan review.

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

1. Official Review Period

The Board of Supervisors shall render a decision in regard to the preliminary plan application not later than ninety (90) days following the date of the next regular meeting of the Township Planning Commission following the date the application is accepted for review, provided that should the next regular meeting be more than thirty (30) days following acceptance for review, said ninety (90) day period shall be measured from the thirtieth (30th) day following the official date of filing.

2. Review by Township Engineer and other Township Staff and Consultants

- a. The review by the Township Engineer shall include an examination of the content of the plans to assure the following:
 - i. that all information required by this Ordinance is presented in the plans submitted;
 - ii. that all other Township ordinances are complied with;

- iii. that the Four-Step Design Process has been complied with for plans filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance;
 - iv. that any Sketch Plan recommendations offered to the Applicant have been considered or addressed;
 - v. that any conditions set forth in any previously approved order of conditional use, special exception, or variance approval have been complied with, if applicable;
 - vi. that, in the opinion of the Township Engineer, the various schemes presented for the location, alignment and grade of roads, stormwater management/Best Management Practices, erosion and sedimentation control, physical site constraints, site grading, sanitary sewers, water supply, and any other proposed improvements are feasible from an engineering perspective.
- b. The Township Engineer shall submit his written comments to the Township. All engineering review fees shall be the responsibility of the Applicant.
 - c. The Township at its discretion may engage additional review and written reports by the Township Engineer, Township staff, Township commissions or committees in addition to the Planning Commission where relevant (e.g., Historical Commission), land planning consultant, or other consultants to the Township to evaluate and make findings and recommendations on the preliminary plan and submitted supplemental plans and impact studies, as deemed necessary based on the specific circumstances of the subject application. All additional Township Engineer or other Township consultant review fees shall be the responsibility of the Applicant.
3. Review by Chester County and Other Agencies.
- a. Chester County Planning Commission. The Chester County Planning Commission will be provided the opportunity as required by the Municipalities Planning Code (MPC) to review and comment on the preliminary subdivision plan.
 - b. Chester County Health Department. The Chester County Health Department will be provided the opportunity to review and comment on matters relating to requirements for water and sewer

systems, and special provisions for Groundwater Areas of Concern where applicable.

- c. Other Agencies. County, state, federal, or other reviewing or regulatory agencies having jurisdiction over all or a portion of the property subject to application will be provided the opportunity to review and comment on permit or other agency-specific matters, such as special provisions for Groundwater Areas of Concern where applicable.

4. Review by the Township Planning Commission.

- a. The Township Planning Commission shall, at its regularly scheduled public meetings, review the preliminary plan application in accordance with the criteria contained in this Ordinance and other applicable ordinances of the Township, with any conditions of approval contained in any applicable Order of Conditional Use, Special Exception, or Variance Approval, with the results of any sketch plan review or discussion and any previously submitted documentation of the Four-Step Design Process, and in consideration of the comments submitted to the Township by the Township Engineer and any other Township consultants where applicable. Where not previously submitted, the Planning Commission may request, for subdivisions filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance, that the Applicant submit documentation of compliance with the Four-Step Design Process. The Planning Commission review shall further include, but is not limited to, those items set forth in Section 302.B.4.a through h of this Ordinance. Pursuant to Section 301.C. of this Ordinance, the Planning Commission may request a Site Visit prior to offering advice on the Preliminary Plan submittal.
- b. The applicant or designated representative shall be present at the Planning Commission meeting to provide dialogue with its members. Failure of the Applicant or designated representative to attend the initial Planning Commission meeting where such Preliminary Plan has been scheduled for presentation and review shall automatically defer that agenda item until the next regulatory scheduled Planning Commission meeting. The Commission's review shall advise the applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance and the Township Zoning Ordinance, any conditions contained within any applicable Order or Approval for Conditional Use, Special Exception, Zoning Variance or other form of zoning relief, the need for or acceptability of any waivers

or modifications of design standards contained herein, and may include suggested plan modifications that would increase the subdivision's or land development's degree of conformance in order to obtain a Planning Commission recommendation of approval.

- c. Prior to communicating its recommendations to the Board of Supervisors regarding any Preliminary Plan application, the Commission may request the input and/or may review the written comments or testimony of any of the Township's planning and engineering consultants or other agencies involved in review of the subject plan as provided in Sections 303.D.2 and 3 above; it may receive comments from surrounding or affected landowners; and it may also conduct a site visit(s) to facilitate its review.
- d. During the course of the Planning Commission's review of the Preliminary Plan and prior to any action by the Board within the required ninety (90) day period, the Preliminary Plan may be revised by the applicant. Such revision shall be made on twelve (12) copies of the Plan, which shall note the dates of any revisions. Upon the submission of the revised plan, the Township Secretary shall determine whether the revision constitutes either a minor revision, or a major revision. When determined to constitute a major revision, the applicant shall sign a statement withdrawing any previously submitted plans from consideration and a new ninety (90) day time period for formal review and notification shall commence from the date of submission of the revised Plan. The revised Plans shall be submitted to the Planning Commission not later than ten (10) working days prior to the regularly scheduled meeting of the Planning Commission. The revised plan shall be distributed by the Township Secretary as required by Section 303.C.
- e. Except where an extension of time is granted by the Applicant, the Planning Commission shall communicate its comments and recommendations to the Township Board of Supervisors by the time of the last scheduled meeting of the Board prior to the expiration of the ninety (90) day review period. The minutes of the Planning Commission, whether or not formally approved, shall be deemed an adequate form of communication. The communication from the Planning Commission to the Board of Supervisors may include any recommended conditions of approval, and may cite specific sections of the Ordinance or other reasons relied upon for the Commission's recommendations. Failure of the Planning Commission to communicate its recommendations to the Board of Supervisors within the prescribed time frame shall not

affect the status of the Preliminary Plan application nor cause any extension of the applicable review period.

5. Review and Decision by the Board of Supervisors

- a. Following communication from the Township Planning Commission and prior to the expiration of the ninety (90) day review period as set forth above, unless an extension of time is formally granted by the applicant, the Board of Supervisors shall render a decision in regard to the Preliminary Plan application.
 - i. The decision shall be in writing and shall clearly inform the applicant of the Board's approval, approval with conditions, or disapproval, and be communicated to the applicant personally or mailed to him at his last known address not later than fifteen (15) days following the decision. Any conditions imposed by the Board shall be included with the communication to the applicant.
 - ii. When the application is not approved as filed, the decision shall specify the defects found in the application, describe requirements which have not been met and shall cite the provisions of the statute or ordinance relied upon.
 - iii. When the application is approved with conditions, and upon the Applicant's receipt and review of such conditions, the Applicant shall inform the Township in writing that the conditions imposed by the Board of Supervisors and set forth in the approval communication are accepted, or shall appeal the conditions within thirty (30) days of the date of approval. Failure to so accept or appeal any condition(s) shall void the plan approval and the subject Preliminary Plan application shall be considered denied.
- b. As a condition of preliminary plan approval, the Board of Supervisors may require that a complete Final Plan application for the subject property be submitted within twelve (12) months of the date of the Board's Preliminary Plan approval.
- c. Upon approval of the Preliminary Plan application, the Board shall designate one copy of the preliminary plan, including one copy of all supplemental plans and applicable impact studies, as the official copy. This copy shall include all necessary corrections as required by the Board of Supervisors. The official copy shall be retained in the Township files.

- d. Approval of the preliminary plan shall not constitute approval of the Final Plan or authorize the sale of lots or construction of buildings.

Section 304 Final Plans

A. Purpose.

The purpose of the Final Plan application for subdivision or land development is to demonstrate full compliance with this Ordinance, with applicable zoning provisions and with all other applicable laws and regulations prior to formal recording of all relevant planning documents and land records, and to ensure long-term proper functioning, maintenance and funding for all proposed improvements.

B. Applicability.

Upon submission of any Final Plan application, the Township shall determine within ten (10) business days of submission whether the Plan is a Major or Minor Plan submission, as defined in Section 300.B. This time frame may coincide with determination of whether or not submitted plans are administratively complete and shall not constitute initiation of the formal ninety-day review period.

1. If the application is determined to be a Major Plan submission, but no Preliminary Plan application has previously been submitted and approved, the application shall be returned to the applicant or, upon the request of the applicant, submitted for further review as a Preliminary Plan in accordance with the provisions set forth in Section 303.
2. If the application is determined to be a Major Plan submission following a Preliminary Plan application previously submitted and approved, or if the application is determined to be a Minor Plan submission, the application shall be retained by the Township for substantive review in accordance with the provisions set forth in this Section.
3. For any Major Plan application, the Final Plan shall conform to the terms of approval of the Preliminary Plan.
4. For any Major Plan application, the Board of Supervisors may permit submission of the Final Plan in sections, consistent with the provisions of Section 508 of the Municipalities Planning Code.
5. All Final Plan applications shall conform to any conditions set forth in any applicable Order of Approval for any conditional use, special exception, zoning variance, or other form of zoning relief.
6. Where preliminary plan approval includes a condition imposed by the Board of Supervisors requiring the Final Plan to be filed within one (1) year of the date of preliminary plan approval (See Section 303.D.5.b),

failure of an applicant to make timely submission of such Final Plan (within one (1) year of preliminary plan approval) shall render void the preliminary plan approval. Applicants with final plans subject to such a filing deadline condition may request from the Board of Supervisors a reasonable extension of the one-year time limit for filing when good cause can be shown. Otherwise, the applicant shall be required to file a new application for preliminary plan approval.

C. Final Plan Submission and Acceptance for Review.

1. The Final Plan application shall include all information as set forth in Section 403. Steps which have been satisfactorily completed during the Pre-Application, Sketch Plan, or Preliminary Plan review stages, as applicable, and meet applicable criteria for Final Plan submission, need not be undertaken again. Submitted plans and accompanying documentation shall be clearly marked “Final Plans.”
2. Applicant shall submit the minimum number of copies of the Final Plan application, including all required supporting information and materials, to the Township as specified below:
 - a. Three (3) copies of the Application for Review of Final Subdivision or Land Development Plan;
 - b. Thirteen (13) copies of the Final Plan and all supporting plans and information to enable proper distribution and review of the plans;
 - c. Where applicable the water quality management permit issued by the Department of Environmental Protection (PADEP), the approval of the Chester County Conservation District and/or the permit issued by the PADEP as appropriate for Erosion and Sedimentation Control and all other necessary prior approvals of West Caln Township and any other governmental body, agency, or authority having jurisdiction.
 - d. The appropriate filing fee(s).
3. The Final Plan application shall be filed with the Township at least thirty (30) calendar days prior to the Planning Commission meeting at which the Final Plan is first to be discussed.
4. Where specifically requested by the Township upon the recommendation of the Township Engineer, plans included in the Final Plan application also shall be submitted to the Township electronically in the format specified by the Township Engineer.
5. Within (10) business days from the date the Final Plan application is received, the Township shall determine whether the submission is administratively complete. For a submitted application to be considered

administratively complete, the application must be timely filed, all of the documentation required by this ordinance shall be included with the application and required escrow and review fees shall be submitted to the Township in accordance with the municipal fee schedule, along with any required fees for the Chester County Planning Commission review.

6. If the submitted Final Plan application is determined to be administratively complete, it shall immediately upon such determination be accepted for substantive review. The Township Secretary shall note upon all copies thereof the official date of filing, and that date of filing so noted shall be conclusive as to all parties for the purpose of computation of the time within which the review must be completed or act performed.
7. If any submitted Final Plan application is determined not to be administratively complete, it shall be returned to the Applicant with specific indication of any missing materials or fees which rendered it incomplete. If the Township holds any portion of the submission, pending receipt of the balance thereof, the same shall not be deemed to have been received by the Township for any purpose until the date and time of submission of the last item required to be submitted to constitute a complete submittal.

D. Distribution of Final Plans.

1. For applications determined complete, the Township shall forward one (1) copy of the Application for Review, five (5) sets of the Final plan packet to the Township Planning Commission; three (3) sets of the Final plan packet to the Township Board of Supervisors; and, one (1) set of the Final plan packet to the Township Engineer, Chester County agencies (Planning Commission, Health Department, Conservation District), and local Emergency Services. One (1) copy of the Final plan packet shall be retained in Township files.
2. A fee is required for review by the Chester County Planning Commission and the applicant shall provide direct payments to the County Planning Commission for such review.

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

1. Official Review Period

The Board of Supervisors shall render a decision in regard to the Final Plan application not later than ninety (90) days following the date of the next regular meeting of the Township Planning Commission following the date the application is accepted for review, provided that should the next regular meeting be more than thirty (30) days following acceptance for review, said ninety (90) day period shall be measured from the thirtieth (30th) day following the day the application is accepted for review.

2. Review by Township Engineer and other Township Staff and Consultants
 - a. The review by the Township Engineer shall include an examination of the content of the plans to be certain that all information required by this Ordinance is presented in the plans submitted, that all applicable laws or regulations are complied with, that the Final Plan conforms with the approved Preliminary Plan, as applicable, and that any conditions set forth in any previously approved Order Of Approval for any applicable conditional use, special exception, zoning variance or other form of zoning relief have been complied with. The Township Engineer shall submit his or her written comments to the Township within thirty (30) days of receipt of the Final Plan application. All engineering review fees shall be the responsibility of the Applicant.
 - b. The Township at its discretion may engage additional review by the Township Engineer, Township staff, Township commissions or committees in addition to the Planning Commission where relevant (e.g., Historical Commission), land planning consultant, or other consultants to the Township to ascertain the accuracy of the Final Plan and submitted supplementary data, materials, or documentation, as deemed necessary based on the specific circumstances of the subject application. All such additional review fees may be made the responsibility of the Applicant if determined appropriate by the Board of Supervisors.
3. Review by Chester County and Other Agencies.
 - a. Chester County Planning Commission. The Chester County Planning Commission will be provided the opportunity as required by the Municipalities Planning Code (MPC) to timely review and comment on the Final Plan submission.
 - b. Chester County Conservation District. The Chester County Conservation District will be provided the opportunity to timely review and comment on matters relating to site drainage, control and abatement of soil erosion and sedimentation, stormwater management/Best Management Practices, open space management where applicable, and compliance with NPDES and NPDES Phase II requirements. Input from the Chester County Conservation District may be waived by the Board of Supervisors upon the recommendation of the Township Engineer.

- c. Chester County Health Department. The Chester County Health Department will be provided the opportunity to review and comment on matters relating to requirements for water and sewer systems, and special provisions for Groundwater Areas of Concern where applicable.
 - d. Other Agencies. County, state, federal, or other reviewing or regulatory agencies having jurisdiction over all or a portion of the property subject to application will be provided the opportunity to review and comment on permit or other agency-specific matters, such as special provisions for Groundwater Areas of Concern where applicable.
4. Review by the Township Planning Commission.
- a. The Township Planning Commission shall, at its regularly scheduled public meetings, review the Final Plan application for consistency with any applicable Preliminary Plan approval and in accordance with the criteria contained in this Ordinance and other applicable ordinances of the Township, with any conditions of approval contained in any applicable Order or Approval of any Conditional Use, Special Exception, Zoning Variance, or other form of zoning relief, results of any relevant sketch plan review or discussion and any previously submitted documentation of the Four-Step Design Process, and in consideration of the comments submitted to the Township by the Township Engineer and any other Township consultants, where applicable.
 - b. The applicant or designated representative shall be present at such meeting to provide dialogue with the Planning Commission. Failure of the applicant or designated representative to attend the Planning Commission meeting where such Final Plan has been scheduled for discussion shall automatically defer that discussion until the next regularly scheduled Planning Commission meeting. The Commission's review shall advise the applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance and the Township Zoning Ordinance, any conditions of approval contained in any applicable Order of Approval of any conditional use, special exception, zoning variance, or other form of zoning relief, the need for or acceptability of any waivers or modifications of design standards contained herein, and may include suggested plan modifications that would increase the subdivision's or land development's degree of conformance in order to obtain a Planning Commission recommendation of approval.

- c. Prior to communicating its recommendations to the Board of Supervisors regarding any Final Plan application, the Commission may request the input and/or may review the written comments or testimony of any of the Township's planning and engineering consultants or other agencies involved in review of the subject plan as provided in Sections 304.E.2 and 3 above; and it may conduct a site visit(s) to facilitate its review.
- d. During the course of the Planning Commission's review of the Final Plan and prior to any action by the Board within the required ninety (90) day period, the Final Plan may be revised by the applicant. Such revision shall be made on twelve (12) copies of the Plan, which shall note the dates of any revisions. Upon the submission of the revised plan the Township Secretary shall determine whether the revision constitutes either a minor revision, or a major revision. When determined to constitute a major revision, the applicant shall sign a statement withdrawing any previously submitted plans from consideration and a new ninety (90) day time period for formal review and notification shall commence from the date of submission of the revised Plan. The revised Plans shall be submitted to the Planning Commission not later than ten (10) working days prior to a regularly scheduled meeting of the Planning Commission. The revised plan shall be distributed by the Township as required by Section 304.D.
- e. Except where an extension of time is granted by the Applicant, the Planning Commission shall communicate its comments and recommendations to the Township Board of Supervisors by the time of the last scheduled meeting of the Board prior to the expiration of the ninety (90) day review period. The minutes of the Planning Commission, whether or not formally approved, shall be deemed an adequate form of communication. The communication from the Planning Commission to the Board of Supervisors may include any recommended conditions of approval, and may cite specific sections of the Ordinance or other reasons relied upon for the Commission's recommendations. Failure of the Planning Commission to communicate its recommendations to the Board of Supervisors within the prescribed time frame shall not affect the status of the Final Plan application nor cause any extension of the applicable review period.

5. Review and Decision by the Board of Supervisors

- a. Following communication from the Township Planning Commission and prior to the expiration of the ninety (90) day review period as set forth above, unless an extension of time is

formally granted by the applicant, the Board of Supervisors shall render a decision in regard to the Final Plan application.

- b. In acting on the Final Plan application, the Board of Supervisors may specify conditions, changes, modifications, or additions to the application which the Board deems necessary.
- c. All Final Plan approvals shall be subject to the following conditions, as applicable:
 - i. The Applicant shall enter into a Written Agreement in accordance with Section 801 herein, agreeing with the Township to install all the improvements as required by this Ordinance and all regulations adopted pursuant thereto.
 - ii. The Applicant shall also provide financial security in accordance with the provisions of Section 801 herein.
 - iii. The Applicant agrees, if requested, to tender a Deed of Dedication to the Township for such roads, any and all easements for sanitary sewers, water lines, or storm sewers, public open space(s) and public improvements including stormwater basins, road paving, sidewalks, trails, shade trees, roadscape amenities, water mains, any fire hydrants, sanitary and storm sewers, as are determined by the Board of Supervisors to be required for the promotion of public welfare, after all said improvements are completed and such completion is certified as satisfactory by the Township Engineer. The Board of Supervisors may require that the Applicant supply a title insurance certificate or policy (in such amount as the Township shall reasonably require) from a reputable company before any property is accepted for the Township.
 - iv. The Applicant shall have applied for all required permits from agencies having jurisdiction over ancillary development, such as the Pennsylvania Department of Transportation (PennDOT) and the Pennsylvania Department of Environmental Protection (DEP), the Public Utility Commission, and the Chester County Health Department.
 - v. No plan which will require access onto a road under the jurisdiction of PennDOT shall be finally approved unless the plan contains a notice that a highway access permit is required pursuant to Section 420 of Act 428, known as the

"State Highway Law", before access to a State road is permitted.

- vi. That the landowner, Applicant, or developer shall agree in advance of final plan approval to reimburse West Caln Township for all engineering review fees, legal review fees, other official consultant review fees, engineering field inspection and other official consultant inspection costs, and other sundry expenses incurred by the Township directly related to the subdivision or land development, and to support such cost by way of an Escrow Agreement by providing reimbursement in advance in said Escrow Agreement.
- d. The decision of the Board of Supervisors shall be in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than fifteen (15) days following the decision.
 - i. When the application is not approved as filed, the decision shall specify the defects found in the application, describe requirements which have not been met and shall cite the provisions of the statute or ordinance relied upon.
 - ii. When the application is approved with conditions, the Applicant shall inform the Township in writing that the conditions imposed by the Board of Supervisors and set forth in the approval communication are accepted or shall appeal the conditions within thirty (30) days of the date of approval. Failure to so accept or appeal any condition(s) shall void the plan approval and the subject Final Plan application shall be considered denied. Application for any subsequent permit (e.g., building permit) or initiation of any construction in accordance with the approved plan prior to the passage of thirty (30) days shall constitute acceptance of any conditions imposed upon final plan approval.
6. Approved Final Plan
- a. Upon approval of the Final Plan application, the Board of Supervisors shall designate one (1) copy of the Final Plan as the official copy. This copy shall include all necessary corrections as finally approved by the Board, shall be certified by the Applicant's appropriate professional and shall be endorsed by signature of the Applicant, the Chairperson of the Board of Supervisors, the

Township Secretary and the Township Engineer. It shall be retained in the Township files.

- b. A minimum of nine (9) copies of the Final Plan as finally approved, certified and endorsed, as provided above, shall be distributed by the Applicant as follows:
 - i. Nine (9) copies to the Chester County Planning Commission for signing. The County Planning Commission shall keep one copy. Eight (8) copies shall be recorded within ninety (90) days at the Office of the Chester County Recorder of Deeds, consistent with the provisions of Section 513(a) of the PA Municipalities Planning Code. Of the eight (8) copies to be recorded, at least one shall have all of its pages recorded.
 - ii. The Office of the Chester County Recorder of Deeds shall retain three (3) signed and recorded copies.
 - iii. One (1) recorded copy shall be returned to the Applicant.
 - iv. Three (3) signed and recorded copies shall be returned to the Township, together with one (1) copy of all supporting materials.
 - v. One (1) signed and recorded copy shall be forwarded to the Chester County Health Department.
- c. Where specifically requested by the Township upon the recommendation of the Township Engineer, the approved Final Plan also shall be submitted to the Township electronically in a format specified by the Township Engineer enabling Township access for a minimum of ten (10) years.

ARTICLE IV
PLAN CONTENT AND
SUPPLEMENTAL STUDY REQUIREMENTS

Section 400 Required Contents of Existing Resources and Site Analysis Plan (ERSAP)

The following information shall be included in any ERSAP filed in support of an application for major subdivision or land development approval. Applicants for sketch plan, or minor subdivision or land development approval, shall submit the following information to the extent available from existing published information and where not otherwise waived by the Township.

- A. Site boundaries.
- B. Existing Resources Inventory - A comprehensive analysis of existing conditions on the proposed development site and areas within 200 feet, showing:
 - 1. Underlying geology, including rock outcroppings.
 - 2. Soils - Soils types, based on maps contained in the Soil Survey of Chester and Delaware Counties, Pennsylvania, U.S. Department of Agriculture, as last revised. The soil classifications and boundary lines of all soils shall be shown. In addition, any alluvial soils, hydric soils, or Class I, II, or III agricultural soils shall be graphically indicated. Soil descriptions for all soil types shall be provided and may be in the form of plan notes.
 - 3. Topography - Contour lines measured at vertical intervals of two (2) feet, determined by aerial photogrammetry or on-site survey.
 - 4. Slope areas - Areas to be shown graphically. The amount of area in acres, in each slope category shall be indicated.
 - a. Moderately steep slopes - 15% to 25% grade.
 - b. Very steep slopes - greater than 25% grade.
 - 5. Ridge lines and watershed boundaries.
 - 6. Floodplain areas, using the most recently available FEMA maps. When no FEMA mapping has been prepared, a determination of the floodplain for any stream with a drainage area of three (3) acres or more shall be made by the applicant.
 - 7. Streams, watercourses, lakes, ponds, and all natural drainage areas with an explanation of how site drainage works. Boundaries between drainage

areas shall be indicated along with the names of any named stream to which drainage flows. Applicable major drainage basin(s) shall be indicated, whether Delaware or Susquehanna.

8. Applicable stream classifications (i.e., EV, HQ) made by PA DEP or PA Fish and Boat Commission shall be indicated.
9. Riparian Forest Buffers, as defined by the West Caln Township Zoning Ordinance, shall be indicated.
10. Woodlands, hedgerows and specimen vegetation as defined by the West Caln Township Zoning Ordinance. shall be delineated. All specimen trees shall be indicated, and those proposed to be disturbed during construction shall be specifically noted. Tree protection zones, as defined by the Zoning Ordinance, shall also be shown where vegetation is to be retained.
11. Wetlands and wetland margins as defined by the Zoning Ordinance shall be indicated. Wetland boundaries within the tract shall be determined from on-site delineation in accordance with the 1987 US Army Corps of Engineers Wetlands Delineation Manual. All wetlands shall be classified as one of the following: exceptional value, important, or limited value. Wetlands delineation and classification shall be conducted by professional(s) acceptable to the Township, and shall be plotted from actual field survey.
 - a. If any wetland disturbance is proposed, a detailed Wetland Delineation Report shall be provided.
 - b. The wetland delineation must have been completed within one (1) year of the submission of the preliminary plan and shall be deemed valid for five (5) years from the date of submission.
 - c. The Township may undertake its own wetland delineation at the applicant's expense if any of the following site-specific criteria are applicable:
 - i. It is recommended by the Township Engineer due to uncertainties raised by the applicant's delineation or if conflicts exist between the applicant's delineation and wetlands information obtained from other sources including surrounding subdivisions.
 - ii. Greater than one acre of wetlands exists on-site.
 - iii. Wetlands on-site are associated with a wetland system of ten or more contiguous acres.
 - d. In the event of discrepancies with the applicant's and the Township's wetland delineations, the applicant shall request a

Jurisdictional Determination by the Army Corps of Engineers or the PADEP, as regulating agencies, and copies of such determination to be provided by the applicant to the Township.

12. Any Pennsylvania Natural Diversity Inventory Sites, or resources, listed in the Chester County Natural Areas Inventory.
13. Groundwater (may be substituted at preliminary plan submittal by a hydrogeology study subject to the provisions of Section 405).
 - a. Groundwater classifications and aquifer designations.
 - b. Principal groundwater recharge zones.
 - c. Individual groundwater withdrawals greater than 10,000 gallons per day.
 - d. Existing residential wells.
 - e. Groundwater elevations, if possible.
 - f. Stream and/or stormwater runoff from the site shall be tested for all pollutants listed in the Township's municipal separate storm sewer system NPDES II permit and/or total maximum daily load requirements.
14. Critical, sensitive, and other open space resources identified in the West Caln Township Open Space and Recreation Resources Plan (1995).
15. Groundwater Areas of Concern and other areas of known environmental impact (e.g., failed septic, leaking UST, polluted stream flow and/or stormwater runoff, eroded stream embankments), via laboratory analysis and photographic evidence, shall be included.
16. Existing land uses, buildings, structures, and roads, and any pedestrian or equestrian trails commonly used on the property.
17. Historic resources as defined herein.
18. All recorded easements and deed restrictions.
19. Photographs of the site including views from all abutting public roads.
20. For subdivision applications filed pursuant to the Cluster Residential Development Option of the Zoning Ordinance, a viewshed analysis which shall indicate:

- a. the scope and character of views into the tract from outside the tract, from public roads and from private properties in relationship to identified site features.
 - b. The scope and character of views within the tract in relationship to identified site features.
 - c. The scope and character of external views from within the tract.
 - d. A notation of any and all scenic roads.
21. Aerial photograph of the site – most recent available from the Delaware Valley Regional Planning Commission.
- C. The Board of Supervisors may waive certain requirements of this Section upon determining that the submission of information subject to any particular requirement is not relevant to the application or is duplicated by other materials.

Section 401 Required Contents of Sketch Plans

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

A. Drafting Standards.

Specific drafting standards are not required for Sketch Plan submission, however, to the extent practicable at the time of Sketch Plan submission, it is strongly suggested that the drafting standards set forth in Section 402.A for Preliminary Plan submission be employed.

B. Required Contents of Sketch Plan.

1. Name and address of the legal owner, the equitable owner, and/or the Applicant;
2. Tax Parcel Number(s) from current Chester County Tax Assessors records.
3. Name and address of the professional engineer, surveyor, planner, architect, landscape architect, or site designer responsible for preparing the plan;
4. Graphic scale (not greater than 1 inch = 100 feet) and true north arrow. Precise scale and dimensions are not required at the time of Sketch Plan submission; however, the subject plan shall clearly be titled “Sketch Plan;”
5. Approximate tract boundaries and tract size;

6. Location map;
7. Applicable zoning district(s), including any overlays;
8. Locations and names of existing and proposed streets on, adjacent to, or within 100 feet of the subject tract;
9. A brief narrative description of the subdivision or land development proposal.
10. Topographic, physical, and cultural features identified in the ERSAP as provided in Section 400. Where aerial photogrammetry or on-site topographic survey has not been completed at the time of Sketch Plan submission, USGS topographic information may be utilized. Minor subdivision or land development applications not required to submit an ERSAP may use generalized information to identify relevant site features consistent with those required in the ERSAP.
11. Schematic layout indicating a general concept for land conservation and development including lot lines, if any, proposed locations of buildings and other major structures, parking areas, roads and other vehicular and pedestrian access ways, necessary utilities and proposed stormwater management locations, including Best Management Practices, roadscape, landscape, and recreational improvements, and any other improvements; for major subdivision or land development applications. For subdivisions proposed pursuant to the Cluster Residential Development Option of the Zoning Ordinance, the schematic layout shall demonstrate a clear evolution of the Schematic Design, Building and Conservation Plan defined in the required Four-Step Design Process of Section 301.D of this Ordinance.

Section 402 Required Contents of Preliminary Plans

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

A. Drafting Standards.

1. The plan shall be drawn on a scale equal to or larger than 1" = 50'.
2. Dimensions shall be set in feet, bearing in degrees, minutes, and seconds, with errors of closure not to exceed one part per ten thousand (10,000).
3. Each sheet shall be numbered and shall show its relationship to the total number of sheets.

4. The plan shall bear an adequate legend to indicate clearly which features are existing and which are proposed.
5. The original drawing, and all submitted prints thereof, shall be made on sheets no larger than thirty (30) inches by forty-two (42) inches and no smaller than twenty-four (24) inches by thirty-six (36) inches.
6. If the preliminary plan requires more than one sheet, a master sheet at a scale not smaller than 1"= 200' showing the location of each section shall accompany the plan.
7. If more than one scale is used in the plan, a key must be provided that indicates the difference in scale.

B. Required Contents of Preliminary Plan, Improvements Construction Plan and Supplementary Documentation.

1. A location map and north arrow for the purpose of locating the site to be subdivided or developed, at a scale of not less than eight hundred (800) feet to the inch, showing the relation of the tract to adjoining property and to all roads and municipal boundaries existing within one thousand (1,000) feet of any part of the property proposed to be subdivided or developed.
2. A series of plan sheets prepared in accordance with the drafting standards set forth above, with accompanying narrative as needed, showing the following existing conditions:
 - a. Proposed subdivision or land development name or other identifying title;
 - b. Name, address and telephone number of the applicant and the owner of record or of his authorized agent, if any;
 - c. Name, address and telephone number of the registered engineer or surveyor responsible for the plan. If a registered engineer, architect or landscape architect collaborated in the preparation of the plan, his name and address and seal shall also appear. All plans showing the subdivision of land must be signed and sealed by a registered surveyor;
 - d. Zoning information, including applicable district, lot size and yard requirements, proof of any variance which may have been granted, and any zoning boundaries that traverse or are within one hundred (100) feet of the tract;

- e. Conditions of approval from any conditional use, special exception, variance application or other form of zoning relief granted by the Township for all or part of the application property.
- f. All waivers or modifications being requested by the Applicant as well as all waivers or modifications granted to the Applicant by the Township Board of Supervisors, shall be clearly stated on the first sheet of the preliminary plan submission, and also filed simultaneously in letter form to the Township.
- g. Original date of preparation, revision dates, with concise descriptions of each revision, north point, and scale, both written and graphic;
- h. Total lot or tract boundaries showing bearings and distances and along all existing rights of way within and adjacent to the tract prepared by a registered professional land surveyor;
- i. Total area of the subject lot or tract to the nearest square foot;
- j. The applicable front, side, and rear setbacks of the underlying Zoning District(s) shall be shown for the existing lot, parcel, or tract, including any applicable required setbacks from pipeline rights-of-way or other utilities;
- k. The names of all current owners of all adjacent lands, the names of all proposed and existing subdivisions adjacent, and the locations and dimensions of any roads or right-of-way easements;
- l. The locations and dimensions of all existing roads, railroads, sewers and sewage systems, water mains and feeder lines, fire hydrants, gas, electric, and oil transmission lines, water courses, sources of water supply, easements, and other significant features within the property, or such driveways, intersections and utilities; within one hundred (100) feet of any part of the subject lot or tract;
- m. Topographic, physical, and cultural features as required for submission of an Existing Resources and Site Analysis Plan (ERSAP), prepared in accordance with Section 400.
- n. Sufficient information to satisfy the requirements of Article X., Section 1003, of the West Caln Township Zoning Ordinance and to demonstrate compliance with the natural resource protection standards.
- o. Location and elevation of the datum to which contour elevations refer; datum used shall be a known established local bench mark.

- p. Any proposed improvements or land disturbances requiring a permit from the U.S. Army Corps of Engineers, the Pennsylvania Department of Environmental Protection, or the Chester County Conservation District shall be so indicated.
 - q. In any case where individual on-lot sewage disposal systems are proposed in accordance with Section 521.F, percolation test holes and deep probe test pits shall be performed and the exact locations of the successful and failed percolation and deep holes for the primary and replacement disposal areas shall be shown. Minimum horizontal isolation distances shall be maintained for the sewage disposal system as required by Pennsylvania Code, Title 25 Environmental Resources, Chapter 73, Standards for Sewage Disposal Facilities and shall be indicated on the plan.
 - r. In the case where an individual or community well is proposed to serve the subdivision or land development, the proposed location of the well shall be indicated on the plan.
 - s. The locations and widths of any streets or other public ways or places as shown upon an adopted local or County plan, if such plan exists for the area to be subdivided or developed;
 - t. Locations of all existing structures on the tract, and distance thereof from lot lines;
 - u. A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or developments except those which divide large farms into two or more parcels for continued agricultural use.
 - v. All notations on the plan must be readable. Illegible notations will be considered incomplete data on the plan.
3. All Preliminary Plan applications filed pursuant to the Cluster Residential Development Option shall include demonstration of compliance with the Cluster Residential Development Standards of the applicable district and the Four-Step Design Process in accordance with Section 301.D of this Ordinance.
 4. A full plan of the proposed subdivision or land development, prepared in accordance with the drafting standards set forth above, including at a minimum:
 - a. Location and width of all streets, alleys, and rights-of-way with a statement of any conditions governing their use, including distance

to the nearest intersection; proposed dedicated rights-of-way and reserved ultimate rights-of-way; street names and state or municipal road numbers.

- b. Existing and proposed street and utility easement locations with approximate dimensions;
- c. All proposed lot lines with approximate dimensions and lot areas, both gross and net, indicating those limitations excluded in the lot area definition; impervious and vegetative coverage calculations;
- d. Building setback lines along each street, minimum side and rear yard limits in accord with the existing or proposed zoning district(s);
- e. A statement of the intended use of all nonresidential lots and parcels;
- f. Lot numbers, and a statement of the total number of lots and parcels; addresses of each lot as provided by the U.S. Postal Service or local emergency services;
- g. Locations of all stormwater management facilities including but not limited to storm sewers, groundwater recharge areas, bioretention areas, and other drainage improvement measures. Specific design of such facilities shall be demonstrated in the required Stormwater Management Plan;
- h. Locations of all existing and proposed sanitary sewers and any other sewage conveyance, treatment or disposal facilities,
- i. Locations of all water supply facilities;
- j. Location of existing and/or proposed sidewalks, paths and trails throughout the property and on neighboring property within two hundred (200) feet;
- k. Proposed parks, playgrounds, and other open space areas to be dedicated or reserved for public use, with any conditions governing such use, ownership and maintenance;
- l. The Pennsylvania One-Call Number and a Table showing all affected utilities, with a notation on the plan showing the ownership and/or beneficiary of the easement or right-of-way.
- m. Any underground tanks including but not limited to, storage tanks, chemical and petroleum tanks, empty tanks or any other form of

underground structure comprised of a tank which is known to the applicant. (Current requirements of the PADEP shall be followed with respect to notification, removal and/or continued use of such tanks.)

- n. A grading plan, showing existing and proposed contours, for all proposed improvements, including preliminary grades for all house-lot locations. The plan shall reflect proposed limits of clearing and grading, and demonstrate compliance with the grading provisions of Section 518 of this Ordinance, the erosion and sedimentation control provisions of Section 517, and all other applicable Ordinance provisions.

5. Improvement Construction Plan

An Improvement Construction Plan shall be required to accompany preliminary and final plans whenever an improvement is to be constructed or installed.

- a. Scale
The Improvement Construction Plan shall have the same scale as required for a preliminary and final plan.
- b. Data
The Improvement Construction Plan shall contain sufficient information to provide working plans for the layout and construction of proposed streets, utilities, stormwater retention structures, and other improvements. Such a plan shall include, but not be limited to, the following:
 - i. A Horizontal Plan showing layout of proposed improvements, including stations corresponding to those shown on the profiles, horizontal curves, location and size of inlets and manholes, horizontal location of proposed utilities, and existing contours.
 - ii. A Profile Plan indicating the final grades of streets and sewers and the extent of cut and fill operations.
 - (1) The Profile Plan shall show the vertical section of the existing grade and proposed grade along the centerline and rights of way of the proposed street. Where storm drainage and/or sanitary sewer lines are to be installed, they shall also be indicated on the Profile Plan.

- (2) The horizontal scale of the Profile Plan shall be not less than 1"=50' and the vertical scale shall be not less than 1"-5'.
 - (3) A typical cross-section street construction shall be shown on the Profile Plan and shall indicate the following:
 - (a) Right of way width and the location and width of paving within the right of way;
 - (b) Type, thickness and crown of paving;
 - (c) The location, width, type, and thickness of curbs and sidewalks to be installed, if any;
 - (d) Typical location, size and depth of any underground utilities that are to be installed in the right of way where such information is available.
 - (4) All storm sewer, sanitary sewer, public water, gas line, and other existing utility crossings shall be shown by profile.
6. The preliminary plan shall also be accompanied by the following supplementary documentation:
 - a. A Preliminary Erosion and Sedimentation Control Plan, prepared in accordance with Section 517.
 - b. A Preliminary Stormwater Management Plan, prepared in accordance with Article VI. herein.
 - c. A Preliminary Landscape Plan demonstrating compliance with the requirements of Section 525.
 - d. If the preliminary plan or land development application is filed in accordance with an existing conditional use, special exception, variance or other form of zoning relief, then the applicant's supplementary documentation shall include any Order or Approval for Conditional Use, Special Exception, Zoning Variance or other form of zoning relief, any conditions of approval, and all plans submitted and approved as part of the Order or Approval.
 - e. Where applicable, a Hydrogeology Study prepared pursuant to Section 405 herein.

- f. Where applicable, an Historic Resource Impact Study prepared pursuant to Section 406 herein.
- g. Where applicable, an Environmental Impact Study prepared pursuant to Section 407 herein
- h. Where applicable, a Traffic Impact Study prepared pursuant to Section 408 herein.

Section 403 Required Contents of Final Plans

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

A. Drafting Standards.

Final Plans shall conform to the drafting standards set forth in Section 402.A.

B. Required Contents of Final Plan, Final Improvement Construction Plan, Supplementary Documentation.

Final Plan submissions shall include all information and data set forth below, except that the Township may waive any specific submission requirement where deemed not relevant to the subject application upon the recommendation of the Township Engineer. Information and data already supplied at the time of Preliminary Plan submission, where applicable, and satisfactorily meeting all requirements for Final Plan submission need not be resubmitted except to the extent that additional copies are needed by the Township to facilitate review.

- 1. Final Plan submissions shall include all information and data required under Section 402.B, except that preliminary supplementary documentation required under subsections 402.B.5.a and b. need not be resubmitted and instead shall be supplanted by the required supplementary plans set forth in Section 403.B.18 below.
- 2. All final lot area calculations and lot line dimensions, including straight lot lines and chords and radii of curved lot lines, defined in feet and hundredths of a foot by distances, and in degrees, minutes and seconds either by magnetic bearings or by angles of deflection from other lot and road lines;
- 3. A statement of restrictions of any type which exist as covenants in the deed(s) for all lots contained wholly or partly in the subdivision and, if covenants are recorded, including the deed book and page number;

4. The specific proposed placement of each building and all water and sewer facilities;
5. The location of all existing and proposed monuments;
6. All easements or rights-of-way for any purpose, including written legal descriptions, and any limitations on such easements or rights-of-way. Easements or rights-of-way shall be specifically described on the plans. Easements should be located in cooperation with the appropriate public utilities where applicable;
7. If the subdivision proposes a new street intersection with a state legislative route, the intersection permit number(s) shall be indicated for all such intersections;
8. A certification of ownership, acknowledgement of plan and offer of dedication shall be affixed on the plan, and shall be duly acknowledged and signed by the owner(s) of the property and notarized;
9. All waivers being requested by the applicant, as well as all waivers granted to the applicant by the Board of Supervisors, shall be clearly stated on the first sheet of the Final Plan submission.
10. Certificate for approval of the plan by the Board of Supervisors and by the Township Planning Commission shall be presented; as well as any other certificates required by the Township.
11. The name (or number) and cartway width and lines of all existing public streets and the name and location of all other streets within the property, as applicable;
12. Any fees, whether required or agreed to by the developer, shall be clearly noted on the plan.
13. The following data for the centerline of the cartway and both right-of-way lines of all recorded, and proposed streets, within and adjacent to the property:
 - a. Courses and distances with length in feet and hundredths of a foot of all straight lines and of the radius and the arc (or chord) of all curved lines with delta angles including curved lot lines, and bearings in degrees, minutes and seconds for all straight lines; and
 - b. The width in feet of the cartway, right-of-way and of the ultimate right-of-way, and (in degrees, minutes and seconds) of the delta angle of all curved lines, including curved lot lines.

14. A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or land developments except those which divide large farms into two or more parcels for continued agricultural use.
15. Final Improvement Construction Plan:
 - a. Typical street cross-section drawing(s) for all proposed streets. Cross-section drawings may be shown either on the final plan or on the profile sheets.
 - b. Profile sheets for all proposed streets within the tract. Such profiles shall show at least the following information, properly labeled:
 - i. Existing (natural) profile along the cartway edges or along the centerline of each street; all high and low points.
 - ii. Proposed finished grade (at 25' stations) of the centerline, or proposed finished grade at the top of both curbs, or proposed finished grade at both cartway (pavement) edges.
 - iii. The length of all vertical curves, including stations of beginning and ending points; all high and low points.
 - iv. Existing and proposed sanitary sewer mains and manholes.
 - v. Existing and proposed storm sewer and drainage facilities with invert and surface elevations.

The profile Sheets shall be legibly drawn at the following scale:

1" = 40' horizontal and 1" = 4' vertical.

- c. Final designs of any bridges or culverts required.
16. All offers of dedication and covenants governing the reservation and maintenance of un-dedicated open space shall bear the certificate of approval of the Township Solicitor as to their legal sufficiency.
17. Such private deed restrictions, including building setback lines, as may be imposed upon the property as a condition to sale, together with a statement of any restrictions previously imposed which may affect the title to the land being developed.

18. The Final Plan shall be accompanied by the following supplementary documentation:
 - a. A final Erosion and Sedimentation Control Plan, prepared in accordance with Section 518 herein, and;
 - b. A final Stormwater Management Plan, including a stormwater control and BMP operations and maintenance plan, prepared in accordance with Article VI. herein, and;
 - c. A final Landscape Plan demonstrating compliance with the requirements of Section 525 herein.

Section 404 Impact Studies and Assessments

- A. The Township shall require any preliminary plan application for major subdivision or land development plan approval to be accompanied by submission of the following, as applicable, and may require submission of specific portions thereof with minor plan submissions, to the extent deemed applicable:
 1. A Hydrogeology Study in accordance with Section 405 herein;
 2. An Historic Resources Impact Study in accordance with Section 406 herein;
 3. An Environmental Impact Study in accordance with Section 407 herein;
 4. A Traffic Impact Assessment in accordance with Section 408 herein;
- B. Each impact study or assessment shall be subject to review and approval by the Planning Commission and Board of Supervisors. In making its evaluation, the Planning Commission or Board may request any additional information as it deems necessary to adequately assess potential impacts. The Township may also contract with a qualified consultant to assist in evaluating the study or assessment. When contracted, the Township's consultant shall deliver to the Planning Commission and Board of Supervisors a written report on the adequacy of the study in identifying impacts, evaluating appropriate impact alternatives, and include an assessment of the Applicant's proposed mitigations.
- C. Any fees incurred by the Township for consultant review of any submitted impact study prepared in accordance with the provisions herein shall be billed to the Applicant and deducted from the escrow deposit.

- D. Following the report of the Township consultant(s) on any submission of any impact study or assessment, if requested, or prior to reaching a decision on the preliminary or final subdivision or land development application, the Planning Commission and Board of Supervisors shall either accept the findings and recommendations of the study or assessment, accept it with conditions, or reject it. The Board's decision on whether compliance has been achieved shall take into consideration the findings and recommendations of the Planning Commission, and be made part of its decision on the subdivision or land development application.

Section 405. Hydrogeology Study

A. Applicability.

Unless waived or modified by the Board of Supervisors, a hydrogeology study is required to accompany any proposed new land development and/or subdivision involving more than twenty-five (25) residential units of any type and/or commercial or industrial development involving more than fifty-thousand (50,000) square feet of gross buildable area. Proposed subdivisions or land developments with approved access to a public water supply/facility shall be exempt from this study requirement.

B. Purpose.

To enable the Planning Commission and Board of Supervisors to assess the likely impact of a proposed development on the ground water resources in the Township. To ensure that new wells constructed within the Township are able to provide a reliable, safe, and adequate water supply to support the intended use, including those areas potentially impacted by documented superfund sites. To assess the potential for new development to adversely impact adjacent property owners.

C. Professional Input.

The applicant shall retain a registered professional hydrogeologist/geologist to prepare the Hydrogeology Study. The qualifications and experience of the professional hydrogeologist shall be included as part of the study. The Township Engineer may reject any study due to lack of suitable experience by the preparer. Applicants are encouraged to consult the Chester County Health Department (CCHD) rules and regulations regarding water well construction and monitoring wells. All well drillers must be CCHD-licensed well drillers.

D. Study Area.

A study area shall be defined by the applicant's hydrogeologist who represents the area that is likely to be affected by the development. Prior to identifying the study area, the hydrogeologist shall discuss possible study area boundaries with the Township and Township Engineer.

E. Contents of Impact Study.

A hydrogeology study shall contain the following information:

1. General Site Description. The site description shall include the size, location, proposed land uses, construction staging and completion date of the proposed development. A brief description of other existing uses and approved recorded development plans. The Township may require consideration of development proposals not yet approved and recorded, but with sufficient status and probable impact to warrant inclusion. Reference shall be made to applicable content found within the Township's Act 537 Plan, as amended, and Chester County's Watersheds Policy Plan, as amended. Hydrogeological data contained in these studies shall be included in the site description.
2. The study shall contain documentation of the following elements:
 - a. Rainfall and recharge characteristics of the groundwater area in which the proposal is located.
 - b. Intended quantity and quality of withdrawal of groundwater to support the project.
 - c. Impact of the proposed sewage disposal system upon groundwater recharge. Description of proposed water import and export quantities.
 - d. A survey of existing wells utilizing groundwater resources.
 - e. Maps showing well locations, both existing and proposed within the area designated by the Township and Township Engineer, but no less than twenty-five hundred (2,500) feet from the boundary of the tract.
 - f. Projection of estimated effects of new withdrawals on existing water supplies and streamflow.
3. Pump Testing. In order to determine if suitable capacity exists as well as assess potential impacts on adjacent groundwater users, appropriate aquifer testing is required. This testing will comply with the requirements of the DEP Public Water Supply regulations, as amended, and the appropriate River Basin Commission, i.e., DRBC, requirements. At a minimum, one well will be tested for every ten (10) proposed residential dwelling units which use on lot wells as the means for water supply. One test well shall be drilled for every proposed non-residential use.

A well log shall be provided showing pumping well depth, diameter, casing length, static and pumping water levels, pumping rate, geologic formations, depth at which groundwater was encountered, draw down test plot of pumping well, etc.

In order to determine its capacity, the well shall be tested for yield, drawdown, and specific capacity. The well shall be evaluated through a two-part pump test, comprised of "peak demand" and "constant head", or approved equal, at flow rates calculated on the basis of the projected household population, assuming a water use of seventy five (75) gallons per capita per day and a peak use of one and one half (1.5) times the average. Non-residential flow rates shall be based upon data from similar type uses.

4. Impact of Development on Hydrogeologic Resources. The projected impacts of the proposed development shall be stated. Impacts shall be based upon but not limited to the aforementioned background information, proposed development, and test wells.
5. Conclusions and Recommendations. All development which has the potential to cause adverse affects to the groundwater resources or existing groundwater users shall be identified. Specific recommendations for the mitigation or elimination of adverse impacts shall be identified.
6. The Township, with the assistance of its own Township Engineer or designated consultant, shall review the methodology, assumptions, findings, and recommendations of the applicant's professional hydrogeologist. The Board may impose upon the applicant additional improvements deemed necessary to accommodate impacts of the development.

F. Special Provisions for Groundwater Areas of Concern.

1. General. Groundwater Areas of Concern are defined as any land on which a subdivision or land development is proposed, and which land (or any portion thereof) is located in, or within one-quarter mile, of a known or threatened area of groundwater contamination, or within one-quarter mile of the boundary of a delineated contaminated groundwater plume. Groundwater Areas of Concern shall include any contaminated groundwater plume emanating from a site where contamination is suspected of originating. If any part of the land on which subdivision or development is proposed is within one-quarter mile of a Groundwater Area of Concern, and a hydrogeology study is required under Section 405.A, then all of the land shall be subject to the provisions of this Subsection F. Prior to making an application for subdivision or land

development, the applicant is encouraged to make an inquiry of the Township regarding identified Groundwater Areas of Concern.

- a. Three former solid waste disposal sites, the William Dick Lagoon Superfund Site, the Blosenki Landfill Superfund Site, and the Wilmington Road Superfund Site a/k/a Perry Phillips Landfill all of which are located in the Township, have been designated as Superfund Sites under the provisions of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund"), and generally shall be considered to be Groundwater Areas of Concern under the provisions of this Subsection F, along with any plumes of contaminated groundwater associated with those aforementioned sites.
 - b. Other Groundwater Areas of Concern may be identified or determined by the Planning Commission or the Board of Supervisors in connection with the administration of this Subsection F.
2. The Township may rely on maps, or other information identifying or discussing Groundwater Areas of Concern, provided by the U.S. Environmental Protection Agency ("USEPA"), The Delaware River Basin Commission ("DRBC"), the Pennsylvania Department of Environmental Protection ("PaDEP") or the Chester County Health Department ("CCHD"), or their agents or consultants, in order to administer any provisions of this Subsection F.
 3. The Planning Commission and the Board of Supervisors may receive information from any other sources concerning the existence of areas of groundwater concern, and may decide to include such areas as Groundwater Areas of Concern for the purposes of this Subsection F.
 4. Maps provided by or prepared by the United States Environmental Protection Agency, or its consultants, depicting Groundwater Areas of Concern, and which maps have been accepted by the Township for the purpose of this Subsection F. shall be available for inspection and copying at the Township municipal building during normal business hours.
 5. In any instance where the location of proposed subdivision or land development is in question (e.g., the boundaries of the Groundwater Area of Concern are unclear) in relation to the location of a Groundwater Area of Concern, the Township may exercise its discretion to require the provisions of this Subsection F. be met.
 6. The exercise of discretion to identify a Groundwater Area of Concern or to require that the provisions of this Subsection F. be met shall not be

considered to be a final action of the Planning Commission or the Board of Supervisors on a proposed subdivision or land development application.

7. Any proposed subdivision or land development in areas designated as, and as defined by Section 406.F as, Groundwater Areas of Concern shall comply with the requirements of this Subsection F., in addition to any other applicable requirement of this Ordinance.
8. The purpose of this Subsection F. of the Ordinance is to protect the health, safety and welfare of residents of the Township, and to prevent interference or adverse effect with or upon any cleanup or pollution remediation activities underway in or near Groundwater Areas of Concern.
9. Notice Provisions
 - a. Any applicant for subdivision or land development plan approval in a Groundwater Area of Concern shall notify by certified mail, return receipt requested, US EPA Region III; the DRBC, PaDEP, Southeast Region Office; and the CCHD, of the submission of an application to the Planning Commission or the Board of Supervisors, at the following addresses, and shall provide to the Planning Commission and the Board of Supervisors proof of mailing. The applicant shall be responsible for furnishing to US EPA Region III; the DRBC; PaDEP, Southeast Region Office; or the CCHD copies of such plans and studies as such agencies might request in connection with the application for subdivision or land development approval to the Township.
10. Hydrogeology Studies
 - a. A Hydrogeology Study, as specified by Section 405.A. through E. of this Ordinance, shall be performed.
 - b. In addition to the requirements of Section 405.A. through E. of this Ordinance, the hydrogeology study in Groundwater Areas of Concern, shall include the following:
 - i. The applicant shall also notify and attempt to consult with representatives of USEPA Region III, PaDEP, and the CCHD concerning the proposal to monitor wells and the selection of wells to be monitored, and shall submit any comments of the agencies to the Planning Commission or the Supervisors. Prior to commencement of the study, a proposal to monitor wells located in Groundwater Areas of Concern during the hydrogeology study or any required pump tests shall be submitted. The Planning Commission or the Board of Supervisors may specify wells for

monitoring in addition to any proposed by the applicant for land development or subdivision approval.

- (a) At least 50 percent of the existing wells and springs within a minimum of one-half mile distance from the boundary of the proposed subdivision or land development shall be monitored during the hydrogeology study and required pump tests. The selection of existing wells and springs to be monitored shall be approved by the Planning Commission or the Board of Supervisors.
 - (b) The applicant shall pay the cost of the Township's expert consultant in connection with: (i) the review of the hydrogeology study or plans related thereto; (ii) reports generated in connection with such study, and (iii) other costs related to the review of such study, such as, but not limited to, the consultant's attendance at meetings. Such costs shall be paid in full prior to final approval of the land development or subdivision plan.
- ii. An assessment of the potential of the proposed subdivision or land development, as it relates to groundwater issues, to affect the health, safety and welfare of residents living or working in or near Groundwater Areas of Concern, or to affect any remedial activities or groundwater in Groundwater Areas of Concern.
 - iii. The requirements for pump testing may be enhanced or increased by the Planning Commission or the Board of Supervisors based upon the recommendations of the Township's expert consultants in order to achieve the purposes of this Subsection F. Notwithstanding the foregoing, any pump test performed shall include a minimum seventy-two (72) hour pump test.
 - iv. The hydrogeology study shall address proposed groundwater withdrawal rates and amounts, proposed sewage disposal rates and amounts; proposed stormwater management, and any other factors deemed necessary by the Planning Commission or the Board of Supervisors.
 - v. The hydrogeology study and all data collected shall be submitted to the Township and shall be considered a public record.

- vi. Any other investigations or evaluations deemed appropriate by the Planning Commission or the Board of Supervisors.
 - c. Based on the results of the hydrogeology study and any related investigations or evaluations, the Planning Commission or the Board of Supervisors may require additional studies, or plan modifications in order to achieve the purposes of this Subsection F.
 - d. Further, the Supervisors may deny an application if the application fails to demonstrate that drinking water will be supplied to the subdivision or land development meeting the standards of the Pa Safe Drinking Water Act, 35 P.S. 721.1 et seq., as amended, and the applicable rules and regulations set forth in 25 Pa. Code Chapter 109, as amended, or the regulations of the Chester County Health Department, or if the application does not otherwise provide for a safe and adequate supply of water for human consumption. In addition to any other reasons or bases for denial of applications for subdivision or land development approval, the Planning Commission or the Board of Supervisors may deny an application on the grounds that the proposed plans may adversely affect the performance of any groundwater, land, air or pollution remediation project related to a Groundwater Area of Concern.
 - e. Based on the results of the hydrogeology study, and any related investigations or evaluations, the Planning Commission or the Board of Supervisors may impose additional requirements for subdivisions or land development plans in order to protect the health, safety or welfare of residents living in or near Groundwater Areas of Concern, or to avoid adversely affecting the performance of any groundwater, land, air or pollution remediation project related to a Groundwater Area of Concern, including, but not limited to, deed notices, environmental covenants (pursuant to the Pa Uniform Environmental Covenant Act), well testing requirements, monitoring well requirements, and the like.
 - f. The Planning Commission or the Board of Supervisors may grant plan approvals conditioned upon the applicant providing proof of compliance with any requirements of the USEPA, DRBC, PaDEP or the CCHD.
4. Preliminary and Final Subdivision and Land Development plans
- a. All plans and deeds shall include the following, if required by the Planning Commission or the Board of Supervisors:
 - i. Notice of delineation of applicable Groundwater Areas of Concern at the time of plan recordation.

- ii. Notice of annual groundwater well testing requirements by land owners who use water supply wells for potable drinking water in Groundwater Areas of Concern.
- iii. If individual water treatment systems are required, notice of water supply well treatment system operation and maintenance responsibilities of landowners.
- iv. Notice of CCHD requirements re well permitting and testing.
- v. Notice of the obligation of land owners to supply well water sampling results to the Township by January 15, of the succeeding year for samples taken the previous year.
- vi. Notice of the hydrogeology study, and date of submission to the Planning Commission and Board of Supervisors

Section 406 Historic Resource Impact Study

A. Applicability.

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

B. Purpose.

- 1. To delineate sensitive Historic Resources and identify the necessary measures needed to protect them.
- 2. To establish a clear process by which proposed land use changes affecting significant Historic Resources can be reviewed.
- 3. To discourage the unnecessary demolition of significant Historic Resources.
- 4. To encourage the conservation of historic settings, and scenic corridors, vistas and landscapes.
- 5. To demonstrate compliance with the provisions of Section 1138 of the West Caln Township Zoning Ordinance.

C. Contents of Historic Resource Impact Study (HRIS)

The HRIS shall contain the following information:

1. Background Information.

- a. If not otherwise provided by the Applicant, a general description of the site subject to the application, including topography, watercourses, vegetation, landscaping, existing drives, etc.
- b. General description and classification of all Historic Resources located within two hundred fifty (250) feet of any proposed land development or land disturbance.
- c. Physical description of all Historic Resources, including location information on identified and potential archaeological resources and their relationship to the environmental attributes of the property.
- d. Narrative description of the historical significance of each Historic Resource, relative to both the Township and to the region in general.
- e. Sufficient number of black and white or color 8"x10" photographs to show each Historic Resource in its setting.
- f. Where a proposed subdivision or land development involves the rehabilitation, alteration, or modification of buildings and/or structures that contribute to the historic character of a Village District a detailed description of the planned efforts toward compliance with Section 1138 of the West Caln Township Zoning Ordinance.

2. Assessment of Potential Impacts to Historic Resources.

Description of potential impact(s) to each Historic Resource including, but not limited to, possible impacts to the integrity, setting, relationship to scenic corridors, vistas and landscapes, and future use of each Historic Resource.

3. Mitigation Measures.

Suggested approaches to mitigate potentially negative impacts to each Historic Resource, including avoidance, design alternatives, buffering, landscaping, conservation of existing vegetation, and any other appropriate measures permitted under the terms of this and other Township Ordinances.

4. Waivers and Modifications.

All or part of the requirements set forth in Subparagraphs a. through c. of this Subsection may be waived or modified by the Board of Supervisors.

5. Qualifications of Preparer.

Historic Impact Studies shall be prepared by those individuals meeting the Secretary of Interior's Qualifications. Lists of qualified consultants are available from the Pennsylvania Historical and Museum Commission.

Section 407 Environmental Impact Study

A. Applicability:

Unless waived or modified by the Board of Supervisors, an Environmental Impact Study shall be required for any preliminary plan application for major subdivision or land development when any of the following uses are proposed, or circumstances apply:

1. Where required as a condition of conditional use, special exception, or zoning variance approval.
2. Uses subject to subdivision, land development, or zoning permit approval which involve land disturbance of an area or areas either singularly or cumulatively greater than the maximum impervious coverage limitation of the underlying zoning district.
3. Junkyards, trash transfer stations, incinerators, cemeteries, crematories, other solid waste disposal facilities, sanitary landfill, commercial mulching operations, resource extraction uses, intensive agricultural uses such as feedlots and mushroom substrate operations.

B. Purpose.

It is the intent of this section to ensure that adequate analysis of site features may result in design that preserves and incorporates open space, historic, visual, environmental, biological and natural and other community resources within development plans.

C. Identification of Site Features.

The Applicant shall identify, inventory and map the site features of the tract proposed for development including all features set forth in Section 400, Required Contents of Existing Resources and Site Analysis Plan (ESRAP). Plan(s) shall be

provided at the same scale as development plans submitted for Preliminary Plan applications, as applicable.

D. Narrative.

In addition to the plan and resource inventory, the Applicant shall submit to the Township a narrative description of the following:

1. The general character of the site features identified in accordance with this Ordinance, including environmental quality, conservation value and scenic, historical and archaeological significance, as applicable.
2. Description and identification on plan map(s), as applicable, of all existing or proposed public or community services and facilities that might reasonably be expected to serve the development as proposed, including but not limited to roads, schools, libraries, park and recreation facilities, transportation facilities, sewer and water facilities, utilities and emergency services.
3. An analysis of any and all impacts, both positive and negative, to environmental, natural, scenic, historical and archaeological resources caused by or directly related to the development/improvement projects submitted to the Township for review and approval, including impacts to the property and any impacts to surrounding properties, regardless of distance of affected properties from the proposed development parcel.
4. A description and identification on plan map(s), as applicable, of proposed means and/or rationale demonstrating how development as proposed will minimize or mitigate identified negative impacts, including a detailed description of the proposed measures that will be taken by the applicant to mitigate any impacts to the identified resources present on the property and any other affected property as a result of the planned development.

E. Qualifications of Preparer.

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

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the

system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

F. Review and approval.

Each EIS submitted to the Township shall be subject to review and comment by the Planning Commission and/or an independent third-party reviewer retained by the Township to assist in reviewing the EIS.

G. Inspection and Conformance.

After completing construction and all land development but prior to expiration of the performance bond or other financial security posted by the Applicant for public improvements, a detailed site inspection shall be performed by the Township at the expense of the Applicant and/or developer to establish and document the actual impacts of development. Upon consultation and visual assessment with the Township's inspector, the Applicant shall correct any impacts to resources in accordance with, but not limited to, the following:

1. Trees removed by construction demarked on the plans and/or in the field to be preserved shall be replaced in accordance with the replacement ratios specified within the Township landscaping ordinances.
2. Erosion rills, channels, ditches or eroded stream embankments, including those caused by development on immediate downstream public and/or private property, shall be adequately stabilized by methods proposed by the developer/applicant and approved by the Township Engineer. Any governing agency permits required for these activities must be obtained by the applicant and/or developer.
3. Stream and/or stormwater runoff from the site shall be tested for all pollutants listed in the Township's municipal separate storm sewer system NPDES II permit and/or total maximum daily load requirements for the Christina River Basin. Any pollutant increases from initial testing must be mitigated to return the site runoff to the original pollutant levels or below. Mitigation measures shall be proposed by the developer and approved by the Township Engineer.
4. All stormwater management facilities and piping systems must be cleared of sediments and debris. Underground facilities clogged with sediments shall be replaced if deemed necessary by the Township Engineer.
5. Any damage to stormwater basin berms, spillways and piping shall be repaired, including those damaged as a result of construction on the immediate downstream public or private property. Repairs shall be

proposed by the applicant/developer and approved by the Township Engineer.

6. All temporary erosion control facilities left in place for construction, particularly filter fabric fencing and temporary stormwater basin outlet structures, shall be removed and replaced with permanent facilities where applicable. Any areas disturbed during the removal process must be stabilized.
7. Invasive plant species and algae must be removed from stormwater basin areas and any other areas where invasive plants have conflicted with the provisions of the landscaping plan.
8. All landscaping materials required as part of the land development plan destroyed by humans or animals must be replaced. Plantings destroyed by humans must be relocated to lessen the chance of further damage. Plantings destroyed by animals, particularly deer, must be replaced with species less desirable to the animal or must be treated with environmentally sensitive repellants.
9. Any riparian buffer areas, wetlands or open space areas infringed upon by mowing, fencing, clearing, structures, etc., must be abandoned and returned to their natural state. All structures, other than those previously identified for retention, including but not limited to those identified in the Historic Resources Impact Study, must be removed or demolished and all debris removed from the site.
10. All construction debris must be removed from the site.
11. The applicant/developer shall furnish the Township with any records of failing single lot septic systems or community sewage system failures or repairs.

Section 408 Traffic Impact Study

A. Applicability.

Unless waived or modified by the Board of Supervisors, Traffic Impact Studies shall be required for all preliminary plan applications for major subdivision or land development when any of the following uses are proposed, or circumstances apply:

1. Residential development which can be expected to generate more than fifty (50) trips during any peak hour, based on the most current trip version of the Trip Generation Manual prepared by the Institute of Transportation Engineers (ITE), as amended.

2. Institution or retirement facility with a trip generation rate of 100 ADT, as established in the Trip Generation Manual prepared by the Institute of Transportation Engineers, as amended.
3. Industrial, commercial and/or office development having a trip generation rate of 100 ADT or more, as established in the Trip Generation Manual prepared by the Institute of Transportation Engineers, as amended.
4. Any project which will affect roads with a level of service at "D", "E", or "F", as determined by the Township at the time of submission. (Levels of service are defined in the 1985 Highway Capacity Manual, Highway Research Board, National Academy of Science, Special Report 209, as updated.)
5. Any project which will affect roads as determined by the Township to have safety or design deficiency.
6. Any project which will be developed in phases with a cumulative effect of falling within the required categories outlined above.
7. No traffic impact study is required for those development projects that were the subject of a conditional use approval where a traffic analysis was submitted within two (2) years before the date that a preliminary plan was filed, except upon request of the Township, when in the opinion of the Township Engineer, traffic conditions have significantly changed to warrant a new study.

B. Purpose.

The purpose of the study is to identify any traffic problems likely to result from the proposed development in relation to ingress/egress, road capacities off-site traffic flow, public transportation, and pedestrian and other non-vehicular circulation.

C. Contents.

1. The contents of the study shall be such as to enable the Board to assess the likely impacts of the proposed development on the existing transportation network of the Township and surrounding areas.
2. The study shall be prepared in accordance with the Institute of Transportation Engineer's (ITE) Recommended Practice "Traffic Access and Impact Studies for Site Development", current edition and PennDOT Publications 201 and 282, current edition.
3. The study shall include, but not necessarily be limited to, an analysis of expected traffic generation to, from, and upon surrounding roads within a

radius of two (2) miles from the proposed development site, particularly showing AM and PM peak hours of existing traffic flow during a normal business day, in comparison with that which is anticipated after the proposed development is fully completed and, if applicable, upon the completion of each stage. Estimated peak hour trip generation shall be based on procedures established in the most recent edition of the ITE Trip Generation Manual. Existing traffic flows shall be based on actual counts; if these cannot be obtained, an alternative source, subjected to review and approval by the Township Engineer, may be used.

4. The Township Engineer, or a traffic consultant to the Township, shall review the methodology, assumptions, findings, and recommendations of the study and report his or her conclusions to the Planning Commission and to the Board of Supervisors.
5. The Board of Supervisors, upon recommendation from the Township Engineer or a traffic consultant to the Township, may impose upon the applicant additional onsite improvements deemed necessary to accommodate impacts of the proposed development, or where the Board has enacted an impact fee ordinance pursuant to the appropriate provisions and steps established in the Pennsylvania Municipalities Planning Code, offsite public transportation capital improvements deemed necessary to accommodate impacts of the proposed development.

ARTICLE V
DESIGN STANDARDS

Section 500 Applications

- A. The following subdivision and land development principles, standards and requirements will be applied by the Township in evaluating plans for proposed subdivisions and land developments.
- B. The standards and requirements outlined herein shall be considered minimum standards and requirements for the promotion of the public health, safety, and general welfare.
- C. Whenever municipal or other applicable regulations impose more restrictive standards and requirements than those outlined herein, such other regulations shall control.
- D. The Township reserves the right to waive, modify, extend, or increase any of the minimum standards set forth herein if conditions so warrant or as may be necessary in the public interest, or where requested by an applicant as set forth in Section 902 of this Ordinance.

Section 501 General Standards

- A. Land shall be developed in conformance with the Township's Zoning Ordinance, Comprehensive Plan, and other ordinances, codes, and regulations in effect in West Caln Township.
- B. All portions of a tract being subdivided or developed shall be taken up in lots, roads, open spaces, or other proposed uses so that remnants and landlocked areas shall not be created. Whenever a proposed subdivision is part of contiguous holdings of the applicant and/or the property is held by equitable rights as part of a larger tract, then a sketch plan shall be provided for the entirety.
- C. Land shall be developed in conformance with all pertinent statutes, regulations, rules and codes of Federal, State and County agencies concerned with subdivision, land development, construction and improvements or any activity arising out of or related thereto in any way whatsoever.
- D. Applicants shall make every effort to protect natural and cultural resources from disturbance due to subdivision or land development, including floodplains and floodways, steep slopes, watercourses/riparian forest buffers, woodlands, hedgerows, and specimen vegetation, wetlands and wetlands margins, groundwater recharge areas, and historic sites and structures as defined in this Ordinance.

- E. Proposed subdivision and land developments shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.
- F. The standards of design in this Article should be used to judge the adequacy of subdivision proposals. Wherever, in the opinion of the Planning Commission, the literal applications of these standards in certain cases would serve to create an undue hardship, be plainly unreasonable to the applicant, or be contrary to the public health, safety, morals, or welfare, the Planning Commission may recommend to the Board of Supervisors such reasonable exceptions as will not be contrary to the public interest. The Supervisors may, at their discretion, modify or adjust the standards to permit utilization of property while securing substantial conformance with the objectives of these regulations, as provided for in Section 902 of this Ordinance.

Section 502 Blocks

- A. The length, width, and shape of blocks shall be determined with due regard to:
 - 1. Provision of adequate sites for buildings of the type proposed;
 - 2. Least adverse impact to topography and natural features;
 - 3. Requirements for safe and convenient vehicular and pedestrian circulation; and
 - 4. Thoughtful and innovative design to create an attractive community.
- B. Blocks shall have a maximum length of sixteen-hundred (1,600) feet and, as far as practicable, a minimum length of two hundred-fifty (250) feet. In the design of blocks longer than one thousand (1,000) feet, special consideration shall be given to the requirements of satisfactory fire protection. Crosswalks up to twelve (12) feet wide with a paved walk of six (6) feet in width may be required for blocks more than one thousand (1,000) feet long.
- C. Residential blocks shall be of sufficient depth to accommodate two (2) tiers of lots, except where reverse frontage lots are permitted.
- D. In commercial or residential land development areas, the block layout shall conform, with due consideration of site conditions, to the best possible layout to service the public, to permit good traffic circulation and the parking of cars, to make delivery and pick-up efficient, and to reinforce the best design of the units in the commercial or residential area.

- E. The block layout in industrial areas shall be governed by the most efficient arrangement of space for present use and future expansion, with due regard for worker and customer access, parking, and loading/unloading.

Section 503 Lots and Lot Standards

A. General Lot Design Standards.

1. Lot areas, lot widths, setbacks, dimensions and yard requirements shall not be less than specified by applicable provisions of the West Caln Township Zoning Ordinance.
2. The lot design and interior space allotted shall be appropriate for the type of development and use contemplated, be sufficient to provide satisfactory space for required on-site parking, accessory uses, and comply with other applicable standards of Township codes and ordinances.
3. In general, side lot lines shall be substantially at right angles or radial to street lines. The Township may accommodate flexibility in lot layout so that the siting of buildings takes maximum advantage of solar energy; e.g., the orientation of buildings with their long axis generally in an east-west direction.
4. Lot lines shall follow municipal boundaries rather than cross them, to the greatest extent feasible.
5. Subdivisions shall not result in remnants of land that do not meet minimum area and bulk requirements for the applicable zoning district. All portions of a plan shall be incorporated into existing or proposed lots unless special usage for a specific piece of land is applied for, and approved by the Board of Supervisors, as part of a subdivision or land development proposal.
6. The depth of lots shall generally not exceed the width by more than two and one-half (2 ½) times.
7. In all lots intended for construction, the area equivalent to the minimum lot size in the zoning district shall be free of encumbrances, such as wetlands, floodplain, steep slopes, easements and stormwater management structures.
8. Lot addresses and street names shall be assigned to each lot by the Township and included on the Final Plan at the time of Board of Supervisors approval, and forwarded by the Township to the Postal Authority.

B. Lot Frontage Standards.

1. All lots shall have frontage along the right-of-way of a street and have direct access to a street, existing or proposed. Each lot shall have, in addition to the minimum width at the street line as specified by the zoning district, sufficient free and complete access to an existing or proposed street cartway to avoid the need to cross any portion of another lot to reach such road.
2. Residential lots shall, in general, front on a public street or a public right-of-way or where permitted by the Board of Supervisors, shall front upon a private street. Vehicular ingress and egress between any lot and an abutting street, for any use permitted by the Zoning Ordinance, shall be so located and so designed as to further the purposes of the Zoning Ordinance as set forth in Article I therein, and the purposes of this Ordinance as set forth in Article I herein.
3. Unless clearly impractical or inappropriate due to physical conditions or traffic access management considerations, lots which abut two (2) or more public streets shall have direct access only to the street of lesser functional classification.
4. Where lots are created having frontage on an arterial or collector road, as designated in the Comprehensive Plan, and as herein defined, any proposed residential development street pattern shall provide frontage to local streets within the subdivision, unless clearly impractical due to lot configuration or topography. See Section 1207.B.4 of the Zoning Ordinance for further regulations of reverse frontage lots.

C. Flag (Interior) Lots.

1. Lots for which the only frontage on a street is by an access strip the sole purpose of which is to provide fee-simple access from that street to the principle part of the lot, shall be permitted only if all of the following requirements are satisfied:
 - a. The Board of Supervisors grants permission based on topographical or other conditions unique to the site.
 - b. Each lot involves no more than one (1) single-family detached dwelling.
 - c. No more than five percent (5%) of the lots in a subdivision may be flag lots. In any case, lots in an approved plan shall not be further subdivided into flag lots.

- d. The flag lot access strip to the public street shall have a minimum width of thirty-five (35) feet for its entire length, and maintained clear of any wooded vegetation. If feasible for further subdivision, the Township may require the flag lot access strip to be a minimum width of fifty (50) feet to permit the access strip to become a street.
- e. The connecting strip of the lot shall be in fee simple ownership, or easements may be utilized as a substitute for the required fee simple ownership of the access strip, as approved by the Board of Supervisors.
- f. The minimum lot area, lot width, lot depth, and setback of the zoning district are met, exclusive of the access strip.
- g. A flag lot, once subdivided, shall not be further subdivided without the provision of direct public street access.
- h. The length of the “pole” of a flag-shaped lot shall be a maximum of three hundred (300) feet.
- i. All structures are located on the lot so as to meet the zoning district’s required setback, should the access strip later become a road.
- j. The lot is not a reverse frontage lot.
- k. No more than two (2) flag lots may abut one another in a subdivision. Such lots may share a common driveway access, provided that the abutting access strips each maintain a minimum width of thirty-five (35) feet, and subject to the provisions of Section 515.D of this Ordinance.

Section 504 Streets – General

- A. Proposed streets shall be properly related to such street plans or parts thereof as have been officially adopted by the Township, including recorded subdivision plans and the Official Map of the Township and shall be classified according to their function.
- B. Proposed streets shall further conform to such Township, County and State road and highway plans as have been prepared, adopted, and / or filed as prescribed by law.
- C. Thoughtful and imaginative design of streets and their relationship to the arrangement and shape of lots is required. Proposed street patterns shall relate to existing streets, topography and existing and planned settlement patterns in order to accomplish a smooth flow of traffic, to avoid poor sight distance, to avoid

traffic congestion and to promote public safety. The rectilinear design of streets and lots, involving long straight sections of street should be avoided.

- D. Local streets should be designed to discourage excessive traffic speeds and provide for the continuation of existing or platted streets and for proper access to adjoining undeveloped tracts suitable for future subdivision or development. Further, adequate provisions for emergency vehicle access shall be made.
- E. If lots resulting from a subdivision are large enough for further subdivision or if a portion of the tract is not subdivided, adequate street rights-of-way to permit further subdivision shall be provided, as necessary, unless the remaining property is restricted from further subdivision in a manner acceptable to the Township. Remnants, reserve strips and landlocked areas shall not be created unless permitted by the Township.
- F. Along the existing street on which a subdivision or land development abuts, additional right-of-way, paving or other improvements, including traffic calming measures, shall be made, as required by the Township, built to the specifications established by the Township.
- G. Where, in the opinion of the Board of Supervisors, a proposed subdivision or land development will generate such additional traffic on abutting and nearby State or Township roads of substandard specifications as to pose a hazard to public safety, the Board may require improvements (including widening and improvement to horizontal or vertical alignment) to be made by the applicant, including off-site improvements within existing public rights-of-way, such as will alleviate such hazards to public safety, provided that the extent of required off-site improvements shall be economically feasible in relation to the size and scope of the proposed subdivision or land development and shall be located within one thousand (1,000) feet of such subdivision.
- H. Dead-end streets shall be prohibited, except as stubs to permit future street extension into adjoining tracts, or when designed as cul-de-sacs. Temporary paved turnarounds may be required.
- I. Emergency access routes may be required at the sole discretion of the Township. The maintenance responsibilities of the emergency access route shall be clearly defined on the plans. An easement for the route shall be provided at a sufficient width to accommodate traffic and maintenance.
- J. New half or partial streets shall not be permitted, except where essential to a reasonable subdivision of a tract in conformance with the other requirements and standards of this ordinance and where, in addition, dedication of the remaining part of the street is secured. Wherever a tract to be subdivided borders an existing half or partial street, the other part of such street shall be plotted within such tract. Where half or partial streets are proposed, the acceptance of final plans shall be conditioned upon the provision of guarantees of the construction or completion of such streets to Township standards.
- K. Streets that are extensions of or obviously in alignment with existing streets shall bear the names of the existing streets. Street names shall not duplicate or closely

resemble names of any existing street or areas. All houses shall receive address numbers. All street names and address numbers shall be subject to the approval of the Township, the applicable Postmaster and the applicable Emergency Services personnel. Development names shall also be subject to approval of the Township.

- L. Where streets continue into adjoining municipalities, evidence of compatibility of design, particularly with regard to street widths, shall be submitted. The applicant shall coordinate such design with both municipalities to avoid abrupt changes in cartway width or in improvements provided.
- M. Private streets, where permitted by the Township, shall be designed and constructed to meet all requirements of public street standards; the recorded plan and other recorded documents shall state the persons responsible for the cleaning, maintaining, improving and repairing of private streets.
- N. Traffic calming measures shall be implemented on all streets, access drives, parking and loading areas, where required by the Township. Traffic calming measures shall be selected in consultation with the Township and shall be chosen with consideration of Pennsylvania Department of Transportation’s “Publication 383 - Traffic Calming Handbook”, as last revised.
- O. Acceleration, deceleration or turning lanes may be required along existing and proposed streets whenever the Township determines such lanes are required.
- P. Specifications - The minimum requirements for street improvements shall be those in the Pennsylvania Department of Transportation's Specifications (Form 408) as last revised, or those of West Caln Township, as the Township may specify.

Section 505 Street Standards

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

STREET CLASSIFICATION	Right-of-Way Width (feet)	Cartway Width (feet)
Expressway	80	40
Major Arterial	100	40
Minor Arterial	80	36
Major Collector	60	28
Minor Collector	60	28
Local	50	
with on –street parking		28
without on-street parking		26

- B. Additional and/or reductions in right-of-way and cartway widths may be required for the following purposes:
1. To promote public safety and convenience.
 2. To provide or prohibit sufficient area for on-street parking.
 3. To accommodate topographic circumstances which may result in cut/fill slopes extending beyond the standard right-of-way and in all circumstances to assure accessibility for maintenance operations.
 4. To promote Township circulation and mobility plans for vehicular and / or pedestrian access.
 5. To minimize impervious coverage and minimize stormwater runoff.
 6. To promote traffic calming.
- C. Where a subdivision or land development abuts or contains an existing street of inadequate right-of-way width, additional right-of-way width shall be dedicated to conform to Township standards. Such additional right-of-way shall be available at no cost at all times when street widening becomes necessary. Where a subdivision or land development abuts or contains an existing street of inadequate cartway width, the applicant shall be required to widen and/or reconstruct the roadway to meet Township standards.

Section 506 Street Alignment

- A. Whenever street lines are deflected in excess of two (2) degrees, connection shall be made by horizontal curves.
- B. Proper sight distances, as defined in this Ordinance, shall be provided with respect to both horizontal and vertical alignments. Measured along the centerline at a height of four and one-half (4-1/2) feet, and viewing an object two (2) feet in height, the minimum sight distance shall be two hundred (200) feet for local streets and three hundred (300) feet for all other streets.
- C. To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be as follows:
1. Arterial / Collector Street – 300 feet.
 2. Local Streets – 150 feet.
- D. For all street classifications, a minimum tangent of at least one hundred (100) feet measured at the centerline radii shall be required between reverse curves.

- E. Super elevation shall be provided for Collector and Arterial streets having a horizontal curve radius of less than five hundred (500) feet.
- F. The approaches to an intersection shall follow a straight course for at least one hundred (100) feet as measured from the intersection of the right-of-way lines.

Section 507 Street Grades

- A. There shall be a minimum grade of not less than one (1) percent on all streets and a maximum grade of ten (10) percent.
- B. The slope of the crown on proposed streets shall be a minimum of one-quarter (1/4) inch per foot.
- C. Vertical curves shall be used at changes of grade exceeding one (1) percent. The minimum length of vertical curves for local streets shall be twenty-five (25) times the algebraic difference in grade for crests and sag curves. Any street classification higher than a local street shall be designed to Pennsylvania Department of Transportation standards relative to vertical curves. Vertical curves shall not produce excessive flatness in grade.
- D. Where the grade of any street at the approach to an intersection exceeds four (4) percent, a leveling area shall be provided having a grade of no more than four (4) percent over a distance of at least seventy-five (75) feet measured from the intersecting right-of-way line.
- E. Grades within proposed intersections shall not exceed three (3) percent measured between respective right-of-way lines.
- F. A combination of minimum radius horizontal curve and maximum grade is not permitted.

Section 508 Street Intersections

- A. Streets shall be laid out to intersect at right angles whenever possible and intersections of less than sixty (60) degrees (measured at the centerline) shall not be permitted.
- B. Intersections involving the junction of more than two (2) streets shall be prohibited. Roundabouts for multiple street intersections may be permitted after consultation with the Township. Roundabouts shall follow the standards of the Pennsylvania Department of Transportation Guide to Roundabouts (Pub. 414), as amended.

- C. Streets shall not intersect on the same side of an arterial or collector street at an interval of less than one thousand (1,000) feet between their centerlines.
- D. Streets entering opposite sides of another street shall be laid out either directly opposite one another or with a minimum offset of two hundred (200) feet between their centerlines.
- E. Curb radii at local street intersections shall be no less than twenty-five (25) feet. Minimum curb radii for other types of street shall be thirty-five (35) feet. A minimum of ten (10) feet shall be provided between the edge of pavement and the right-of-way line.
- F. Intersections shall be designed to allow for pedestrian crossings in a safe manner by keeping crossing distance to a minimum, by providing crosswalks which are painted or constructed with contrasting paving materials to identify crosswalk areas.
- G. Clear sight triangles shall be provided at all street intersections and shall be shown on the final subdivision plan to be recorded. Within such triangles, no vision obstructing object shall be permitted above the height of thirty (30) inches and below ten (10) feet measured from the centerline grade of intersecting public streets. Appropriate deed restrictions shall be recorded to enforce this provision. Clear sight triangles shall be measured along the centerlines of the intersecting streets to a point seventy-five (75) feet from the center of intersection where a street is controlled by a stop sign and to a point two hundred (200) feet from the center of intersection on all other streets. At the discretion of the Board of Supervisors, a clear sight triangle of seventy-five (75) feet may be required at the intersection of potentially dangerous or hazardous intersections of private driveways with any public street or road.
- H. Sight distance requirements for all intersections shall be in accordance with the Pennsylvania Code, Title 67, Transportation, Chapter 441 “Access To and Occupancy of Highways by Driveways and Local Roads”, latest revision. Plans shall indicate the clear-sight distances.

Section 509 Cul-de-sac Streets

- A. Dead-end streets are prohibited unless designed as permanent cul-de-sac streets, or when designed as a temporary cul-de-sac for future access to adjoining properties.
- B. Cul-de-sac streets permanently designed as such shall provide access to not more than twenty (20) dwelling units.

- C. Cul-de-sac streets shall be provided at the closed end with a circular turnaround with a minimum right-of-way radius of fifty (50) feet and a minimum outer paving radius of forty (40) feet, as detailed in Appendix A-1.
- D. No cul-de-sac turnaround shall have a grade which exceeds five percent (5%) in any direction.
- E. All cul-de-sacs, whether permanently or temporarily designed as such, shall not be less than two hundred-fifty (250) feet. The length of cul-de-sac shall be measured from the edge of paving of the nearest through street to which the cul-de-sac street is connected, and to the center point of the cul-de-sac circle.
- F. When required for future extension, the turnaround right-of-way shall be placed adjacent to the tract boundary with sufficient width along the boundary line to permit extension of the street at full width. The small triangle or area of land beyond the cul-de-sac to the boundary shall be so deeded, that, until the street is continued, maintenance of these corners of land will be the responsibility of the adjoining owners.
- G. For any-cul-de-sac having an ultimate length which provides residential access for twelve (12) lots or less, the Board of Supervisors may approve a pavement width of not less than twenty (20) feet with a minimum twenty-four (24) foot wide street sub-base and base course. Where the ultimate length of a cul-de-sac will provide residential access to thirteen (13) to twenty (20) residential lots, the Board of Supervisors may approve a pavement width of twenty-six (26) feet having a minimum thirty (30) foot wide sub-base and base course.
- H. Except when designed pursuant to the alternative standards of Subsection M., when a new cul-de-sac street is proposed on a subdivision or land development plan, not more than four (4) driveways serving residential lots shall be permitted within the cul-de-sac bulb or turnaround area. Each lot which has street frontage on the cul-de-sac bulb right-of-way shall have a minimum lot width at the street line of at least fifty (50) feet.
- I. No parking shall be permitted in the turnaround.
- J. All non-through streets shall be provided with an authorized sign stating that no outlet exists.
- K. All public cul-de-sac streets shall have a snow storage easement to facilitate snow removal.
- L. A planted island may be required at the Township's discretion in the center of the cul-de-sac. If provided, the planted island shall be at least twenty (20) feet in diameter. Ownership and maintenance of the planted island shall be designated on the approved final plan of the subdivision or land development.

- M. Alternate cul-de-sac design standards: The Township may permit and / or require an alternate design for cul-de-sac turn around area on specific projects. The applicant is encouraged to discuss this design standard with the Township during the sketch plan process.
1. Permanent cul-de-sac streets must be provided with a paved turnaround having a minimum outside diameter of one hundred-sixty-six (166) feet and a minimum inside diameter of one hundred thirty-four (134) feet to each curb line and a minimum interior circular right-of-way diameter of one hundred (100) feet and having an outside minimum right-of-way diameter of two hundred (200) feet. The inside radius of the paved turnaround shall be provided with a mountable cul-de-sac island curb (see Appendix A-2.)
 2. The shape of the cul-de-sac turn-around may be oval or irregular in shape instead of circular with the following conditions:
 - a. The minimum cul-de-sac island area within the road right-of-way center island is equal to that of a cul-de-sac turn-around having the minimum required diameter specified above.
 - b. The minimum centerline radius of the cul-de-sac is not less than seventy-five (75) feet.
 3. The maximum number of lots permitted to have frontage on a cul-de-sac turn-around that contains the minimum dimensions specified in Subsection M.1. above is six (6). The number of lots permitted on a cul-de-sac turn-around can be increased by one lot for every additional ninety-two (92) feet of property street line circumference that is in addition to the circumference resulting from a two hundred (200) foot diameter right-of-way. Each lot referred to above shall have the required minimum lot width at the required minimum front yard setback line.
 4. An open center open space area shall be provided that is concentric with the cul-de-sac turnaround and shall have a fifty (50) foot radius and may be modified as indicated in Subsection L above.
 5. PennDOT “One Way” directional signs shall be placed at the entrance of the cul-de-sac circle located eighteen inches (18”) behind the interior cul-de-sac circle curb.
 6. The cul-de-sac turn-around center island shall be owned and maintained by a Homeowner’s Association. A continuing offer of dedication shall be provided on the plan for dedication of the cul-de-sac turn-around center island to West Caln Township. In the absence of a Homeowner’s Association, the cul-de-sac turn-around center island may be owned and maintained by West Caln Township at

the discretion of the Board of Supervisors, or if the Board desires, deeded to individual lot owners located on the cul-de-sac turn-around.

7. Cul-de-sac turn-around islands shall be graded to have a mound or a depression with appropriate drainage. The island area may be used for stormwater management and installation of “Best Management Practice” facilities. The mound shall be graded such that its highest elevation will be a maximum of three (3) feet above the average elevation of the cul-de-sac turn-around cartway elevation as indicated in the Appendix A-2, or as recommended by the Planning Commission and/or approved by the Board of Supervisors.
8. Turn-around islands shall be graded and/or designed to minimize snow melt from stored snow piles on the island collecting and freezing on the paved portion of the cul-de-sac circle, creating hazardous driving conditions.

Section 510 Street Construction Standards

All materials for the construction of streets and the methods of construction and drainage shall be in accordance with the applicable requirements of Pennsylvania Department of Transportation Specifications Publication 408, latest revision thereof, and shall be supplied by vendors approved by the Pennsylvania Department of Transportation for the supply of such materials. Cross-sections shall be as described in Table A and detailed in Appendix A-3. Inspection of materials and construction methods shall be as approved in Section 802 of this Ordinance.

A. Street Design

1. Thickness of base and paving for new Township streets shall meet the minimum requirements in Table A.

TABLE A

1 ½ inches Superpave Asphalt Mixture
Design, HMA Wearing Course, PG 64-22, 0.3 to 3 Million
ESALS, 9.5 mm Mix, SRL-H
on
2 inches Superpave Asphalt Mixture
Design, HMA Binder Course, PG 64-22, 0.3 to 3 Million
ESALS, 19 mm Mix
on
4 inches Superpave Asphalt Mixture
Design, HMA Base Course, PG 64-22, 0.3 to 3 Million
ESALS, 25 mm Mix
on
6 inches of 2A modified stone subbase course
on
Class 4, Type B Geotextile Fabric

Stone Subbase Course Notes: The stone subbase course shall consist of stone and screenings meeting with the requirements of Pennsylvania Department of Transportation Publication 408, as amended. Every attempt shall be made to completely fill voids with fines. No large areas of solid screenings or loose stone areas shall be permitted.

The application of bituminous concrete base course materials shall be in accordance with Pennsylvania Department of Transportation Publication 70 and Publication 408, both as amended.

2. The Township may require additional paving, base or subbase materials where soil types are inferior, wet or otherwise unsuitable as indicated by the "Soil Survey of Chester and Delaware Counties, Pennsylvania" prepared by the U.S. Soil Conservation Service or where, in the opinion of the Township, such conditions exist.
3. Alternate paving sections may be approved by the Township as long as the proposed alternative meets the structural strength achieved with the above pavement specification.

B. Subgrade

1. The area within the limits of the proposed road surface shall be shaped to conform to the line, grade and cross-section of the proposed street.
2. All unsuitable subgrade material shall be removed.
3. All wet or swampy areas shall be permanently drained and stabilized, subject to the approval of the Township Engineer.
4. Fills, within the roadway, shall be made with suitable materials as approved by the Township Engineer; they shall be thoroughly compacted for the full width of the cartway in uniform layers of not more than eight (8) inches thick. No more than two (2) eight-inch layers of fill shall be laid or placed between inspections by the Township Engineer.
5. The subgrade shall be thoroughly compacted by rolling with a minimum ten-ton three-wheel roller. Equivalent vibratory, sheep's foot or rubber tired rollers may be used with the approval of the Township Engineer. Subgrade shall be compacted tight and dry, to ninety-five (95) percent compaction at optimum moisture, and shall not be soft and spongy under the roller. Compaction of the subgrade shall extend the full width of the cartway, including the width to be occupied by shoulders.
6. In fill areas over three (3) feet thick, compaction tests are required in each eight (8) inch layer at one hundred fifty (150) foot intervals. A qualified

geotechnical engineer shall test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. The tests must be performed by a certified testing laboratory and the results submitted to the Township Engineer for approval. All compaction must be ninety-five (95) percent compaction at optimum moisture. Any layer not coming up to standard will be removed or re-rolled until suitable compaction is obtained.

C. Paving

1. Paving and base thickness and materials shall be as specified in Section 510. A and Table A above.
2. The subbase course where required shall be installed and compacted in accordance with Pennsylvania Department of Transportation specifications and shall extend a distance of seven (7) inches for base course and twelve (12) inches for stone subbase course beyond the paving line when curbs have been waived by the Township. The area above the base course and subbase outside the paving line (wearing course) shall be permanently stabilized with topsoil and grass.
3. Bituminous base, binder and surface courses shall be laid to the specified thickness after compaction. All bituminous courses shall be laid with a mechanical bituminous paver in accordance with specifications of the Pennsylvania Department of Transportation Specifications, Publication 408, and latest edition thereof.
4. Duplicate delivery slips for all material deliveries shall be furnished to the Township Engineer and shall become the property of the Township.
5. Failure to adhere to the above specifications shall give the Township cause to refuse, among other things, to accept streets for dedication.
6. All wearing courses shall be sealed to the concrete curb with a solid one-foot wide Class BM-1 bituminous gutter seal.

D. Grading and Shoulders

1. Roadways shall be graded for the full width of the right of way on each side, unless modified by the Township to avoid disturbance of significant trees, historic structures, or other significant natural or cultural resources. Shoulders or berm areas, including planting strips behind curbs, shall be graded with a minimum slope of one-half (1/2) inch per foot and a maximum slope of one (1) inch per foot. Beyond the limits of this grading, banks shall be sloped to prevent erosion but this slope shall conform to the details included in Appendix A-3.

2. Where concrete curbing has been waived by the Board of Supervisors and is not to be constructed, shoulders are to be constructed adjacent to the paving of the proposed road. The width and type of construction, grade, and the construction methods of these shoulders is to be determined by or must meet the approval of the Township Engineer or other person designated by the Board of Supervisors.
 3. Seeding. All unpaved areas between the street line and the curb or shoulders (as the case may be) shall be covered with not less than six (6) inches of topsoil, fertilized, seeded, and mulched in a manner and with materials approved by the Township.
- E. Underdrains may be required by the Township to mitigate wet road conditions.
- F. Utility trench construction (storm sewer, wastewater lines, water main, gas main etc.) within existing streets shall be backfilled with 2A modified stone placed and compacted in eight (8) inch lifts. The trench shall be paved with Superpave Asphalt Mixture Design, HMA Base Course, PG 64-22, 0.3 to 3 M ESALS, 25 mm mix (4" compacted depth), Superpave Asphalt Mixture Design, HMA Binder Course, PG 64-22, 0.3 to 3 M ESALS, 19 mm mix (2" compacted depth) and the entire roadway shall be paved with a full width overlayment (edge of road to edge of road) of Superpave Asphalt Mixture Design, HMA Wearing Course, PG 64-22, 0.3 to 3 M ESALS, 9.5 mm mix, SRL-L (1.5" compacted depth). Utility trenches within proposed streets shall be backfilled with clean, dry, select material and compacted in eight (8) inch lifts to not less than one hundred (100%) percent of the dry weight density of the backfill material. Trenches within easements shall be backfilled with clean, dry, select material and compacted in twelve (12) inch lifts to not less than one hundred (100%) percent of the dry weight density of the backfill material as set forth in ASTM D 698 and Pennsylvania Department of Transportation Specifications, Publication 408, and latest edition thereof.
- G. During construction of streets, the contractor shall provide maintenance and protection of traffic meeting Pennsylvania Department of Transportation standards.

Section 511 Curbs

- A. Concrete curbs shall be required at streets, private and public, at the sole discretion of the Board of Supervisors, and will generally be required along heavily traveled streets, at intersections and where street grades require them for proper drainage. Curbs shall be Plain Concrete Curb (18" height) in accordance with "Pennsylvania Department of Transportation Publication 72 – Standards for Roadway Construction", as last revised. Rolled curb may be permitted at the discretion of the Township.

- B. Curbs shall be provided on all parking areas within a land development. Curb may be waived, at the sole discretion of the Board of Supervisors, if the applicant can demonstrate that the physical barrier is not warranted and the elimination of curb helps promote water quality measures including filtration and infiltration of stormwater runoff.
- C. All curbs shall conform to the specifications for Class A concrete, as specified by the Pennsylvania Department of Transportation Publication 408, last revised, with a minimum compressive strength of three thousand (3,000) psi after twenty-eight (28) days.
- D. Final curb height, above the wearing course, shall be eight (8) inches.
- E. Curb constructing methods shall be in accordance with Pennsylvania Department of Transportation Publication 408, last revised.
- F. Where a curb ties into an inlet, two (2) #5 reinforced bars twelve (12) inches long shall be used to connect the curb to the inlet. Driveway curb depressions shall be reinforced with two (2) #5 reinforced bars in accordance with Pennsylvania Department of Transportation Publication 72 – Standards for Roadway Construction.
- G. Depressed curbs at driveways shall be no higher than one and one-half (1-½) inches above the street surface. The length of this depressed curb shall not exceed thirty-five (35) feet without a safety island. This safety island shall not be less than fifteen (15) feet in length. Pipes, grates or other constructions shall not be placed in the gutter to form a driveway ramp. The depressed curb at handicapped ramps shall be flush with the paving surface.
- H. New curb cuts for driveways and parking areas shall be limited to the extent feasible.
- I. Excavations shall be made to the required depth and the material upon which the curb is to be constructed shall be compacted to a firm even surface to ninety-five (95) percent of the maximum dry weight density of the soil.
- J. Where it is necessary to replace existing vertical curbs with depressed curbing, two (2) ten (10) foot long sections of existing curb shall be removed down to the subgrade without disturbing the adjacent cartway paving. Any portions of the cartway disturbed during curbing removal or installation will be repaired to new condition.
- K. Curbing shall be constructed in ten (10) foot lengths. A pre-molded bituminous impregnated expansion joint having a minimum thickness of one-fourth (1/4) inch shall be placed between sections of curved curb and at intervals of not more than fifty (50) feet. Intermediate joints between ten (10) foot sections shall be saw cut.

However, wherever a driveway enters a street, the driveway shall not have a curb joint nor be constructed in lengths longer than twenty (20) feet.

- L. All curb depressions must comply with the requirements of the Americans with Disabilities Act and the Pennsylvania Universal Accessibility Act, as applicable.

Section 512 Street Signs

- A. Street nameplates shall be put at all intersections, naming all streets at each intersection, and shall be visible from both directions when approaching an intersection. Generally, the sign shall be parallel to the street that it is identifying.
- B. Street nameplates shall match existing street nameplates as currently used by the Township.
 - 1. Street nameplates shall be mounted on a six (6) inch by six (6) inch pressure treated post of sufficient length to allow the bottom of the sign to be eight (8) feet from the curb or ground final grade and long enough to allow at least three (3) feet being embedded in a hole at least twelve (12) inches in diameter, three (3) feet deep, and shall rest on a steel plate or flat stone at the bottom of the hole and have at least two and one-half (2-1/2) feet of concrete poured around it and firmly tamped, taking care that the post is plumb and is adequately braced while the concrete sets so that the post will be permanently plumb.
 - 2. The remaining six (6) inches or so above the concrete can then be adequately back filled with dirt and tamped.
 - 3. The post shall be equipped with such standard rust proofed hardware as to hold the nameplates rigidly in a proper and permanent position and to prevent their swaying in the wind.
 - 4. The signs shall be preferably of rustproof materials such as aluminum and the proper thickness and properly reinforced at the edge to have rigidity and stiffness. If they are of a material other than aluminum, such as steel or cast iron, they shall be adequately rust proofed by bonderizing or other acceptable methods, prior to final painting. The backgrounds shall be white and the letters green or other acceptable contrasting colors. The finish shall be equivalent to a baked enamel and the letters shall be of the spacing and proportions as recommended in one of the alphabets used by the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) U.S. Bureau of Public Roads. Lettering on ground-mounted Street Name signs should be at least six (6) inch high in capital letters, or six (6) inch upper-case letters with four and one-half (4.5) inch lower-case letters. For local roads with speed limits of 25 mph or less, the lettering height may be a minimum of four (4) inches. The

letters shall have a minimum height of three and one-half (3-1/2) inches. All signs shall be of a reflecting type per the standards of the FHWA.

5. The signs shall be located with a view to making them seen at all times with a minimum of effort by both pedestrian and vehicular traffic, and as close to the side of the cartway or curb as practical, but no part of the name plate shall be permitted to overhang any part of the cartway or curb.
 6. Types and samples of street name plates, standards and installation and location shall be submitted for the inspection and approval of the Township prior to installation.
- C. Street signs, including stop and speed limit signs, shall be erected prior to occupancy of the first dwelling on the street.
 - D. Street signs shall be consistent in design and construction standards with those in general use by West Caln Township.
 - E. All signs shall be high-grade reflectivity signage in accordance with PennDOT standards.

Section 513 Alleys

- A. Alleys, where permitted or required, shall have a minimum right-of-way width of twenty (25) feet and a minimum paved width of twelve (12) feet for one-way alleys and sixteen (16) feet for two-way alleys.
- B. No part of any dwelling, garage or other structure may be located within twenty (20) feet of the edge of any paved cartways.
- C. Alleys serving commercial and industrial establishments may be required. Such alleys shall have a minimum right-of-way width of thirty (30) feet and a minimum paved width of twenty (20) feet.
- D. Where deemed necessary by the Township to facilitate circulation, alleys shall be offered for dedication.
- E. If it is impossible for an alley to extend completely through a block, such alley shall have an adequate turn-around at its closed end.
- F. The maintenance of the alley, including its snow plowing, shall be the responsibility of a homeowners' association and shall be addressed in covenants creating the association. In the event no homeowners' or property owners' association is required for the subdivision or development, maintenance shall be the responsibility of the lot owner.

Section 514 Private Streets

- A. A private street shall be privately owned, and the Township shall have no present or future maintenance obligation with respect thereto; maintenance in such case shall be the responsibility of a single person or entity such as the owner or landlord, or a homeowner's association or a similar approved association. As defined in this Ordinance, the responsibility for maintenance and ownership of a private street shall not be fragmented among co-owners or easement right owners. A private street can be a part of a single lot with easements granted to individual lot owners. However, the area of the private street right-of-way may not and shall not be counted as a part of the lot to which it is attached. Said lot shall meet the minimum lot area requirements for the district in which it is located.

A valid and acceptable maintenance agreement for said private street shall be submitted in writing for review and approval by the Township Solicitor. Such approval by the Township Solicitor shall occur prior to final plan approval. A private street proposed for a commercial or industrial development shall be built to the same right-of-way widths with the same pavement widths and pavement thicknesses or cross sections as required for public streets.

- B. The pavement width and construction specifications for private residential streets may be reduced when approved by the Board of Supervisors. However, in no case shall a private residential street be paved to a cartway width of less than eighteen (18) feet with a sub-base and base course of twenty-two (22) feet provided. Further, the Board of Supervisors may alter the required construction thickness for a private street so that the following minimum specifications are met:
1. a minimum subgrade as required in Section 510.A and B, herein; and a minimum of twelve (12) inches of compacted 3A modified stone subbase constructed in two six (6) inch lifts; and
 2. a minimum three and one-half (3-1/2) inches of bituminous paving coarse comprised of two (2) inches of binder coarse and a one and a half (1-1/2) inches of wearing coarse as per Section 510.A.
 3. All private road pavement, sections or thicknesses shall be subject to review and recommendation by the Township Engineer to the Board of Supervisors.
- C. Lots fronting on private streets shall meet the requirements of the Township Zoning Ordinance with regard to lot width and setbacks.
- D. All private streets shall have a minimum right-of-way of fifty (50) feet.

- E. A private street may be required by the Board of Supervisors for providing public street access to more than two (2) lots, but the use of private streets shall not be permitted for any major subdivision.

Section 515 Driveways

- A. All driveways and related improvements shall be located and constructed in such manner as to provide safe access to Township and State roads and not to impair the drainage or normal maintenance within road rights-of-way, to alter the stability of any roadway, subgrade, or roadway embankment, to change the drainage of adjacent areas, nor to interfere with the traveling public. Sufficient area for and access to off-street parking shall be provided for.
- B. Sight distance requirements for all driveways shall be in accordance with the Pennsylvania Code, Title 67, Transportation, Chapter 441 “Access To and Occupancy of Highways by Driveways and Local Roads”, latest edition. All sight distance obstructions, including, but not limited to, embankments and vegetation, shall be removed by the applicant to provide the required sight distance.
- C. Clear sight triangles shall be provided at all driveway entrances and shall be shown on the plans. The legs of such triangles shall be at least seventy-five (75) feet in either direction, measured from a point twelve (12) feet back from the edge of the cartway of the intersecting street. Within such triangles, no object greater than two and one-half (2-1/2) feet in height and no object that would obscure the vision of the motorist shall be permitted. Such clear sight triangles must be indicated on the subdivision plan along with a note detailing the maintenance responsibilities of the triangle by the lot owner.
- D. No more than two (2) lots shall be served by a private driveway in cases of common ownership or shared use of a private driveway, except where approved in writing by the Board of Supervisors in which case not more than four (4) single-family detached dwellings may be served by such driveway. As a condition to final plan approval, an agreement providing for the maintenance, repair, construction and reconstruction, including drainage facility maintenance and snowplowing of the shared driveway, shall be approved by the Township and shall be recorded against the lots in question.
- E. Private driveways, whether individual or shared, on corner lots shall be located at least forty (40) feet for local roads and one hundred (100) feet for collector and arterial roads from the point of intersection of the nearest street right of way lines.
- F. No driveway shall be situated within five (5) feet of a side or rear property line, except where shared driveways are utilized.

- G. Driveways to corner lots or lots having access to more than one street shall gain access from the street of lower classification when a corner lot is bounded by streets of two different classifications.
- H. Where on-street parking is permitted, the layout of the curb cuts of the driveways shall be designed to maximize the number of on-street parking spaces.
- I. Where a driveway slopes down from the street surface, a stormwater runoff paving diverter surface shall be provided for the driveway by sloping up from the edge of street or curb one quarter (1/4) inch per foot for a distance of ten (10) feet before starting the down slope of the driveway.
- J. Driveways shall intersect streets as nearly as possible at ninety (90) degrees, but in no case less than seventy-five (75) degrees or greater than one hundred-five (105) degrees.
- K. Residential Driveways:
 - 1. The driveway within the legal right-of-way of the public road, or for a distance of at least twenty-five (25) feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of four (4) percent. At no point shall the maximum grade of any driveway exceed ten (10) percent unless specifically authorized by the Board of Supervisors.
 - 2. When the grade of a driveway, at any point, exceeds eight (8) percent, a minimum of one (1) off-street parking space may be required. The off-street parking space shall be located before the grade of the driveway at any point exceeds eight (8) percent and shall be outside the driveway access aisle and outside the public right-of-way. Such off street parking spaces shall be a minimum of nine (9) feet by eighteen (18) feet.
 - 3. For driveways serving single residential units, the minimum width shall be twelve (12) feet within the legal right-of-way and ten (10) feet at all other points. Width of shared driveways shall be a minimum of eighteen (18) feet for thirty (30) feet from the street intersection. The Township may require pullover areas to provide safe passage of two (2) vehicles.
 - 4. Where feasible, new driveways shall provide for a safe turnaround area outside of the road right-of-way so that vehicles will not be required to back into the adjoining street.
 - 5. The driveway shall be constructed with a base of stone compacted to six (6) inches and a surface of a minimum of one and one-half (1½) inch ID-2 bituminous wearing course or approved equal. Driveway material standards shall apply to driveways for a minimum of twenty-five (25) feet from the edge of the cartway or curb. Shared driveways or driveways

serving multi-family dwellings shall be paved in their entirety. The use of pervious pavement is encouraged to minimize stormwater runoff.

L. Non-residential Driveways:

1. The driveway within the legal right-of-way of the public road, or for a distance of at least twenty (20) feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of four (4) percent. The grade of any driveway shall not exceed ten (10) percent.
2. Driveway entrances into all non-residential and non-agricultural single-use properties shall be no less than twenty-four (24) feet in width, shall not exceed thirty-six (36) feet in width at the street line, unless provided with a median divider, and shall be clearly defined by curbing. The curbs of these driveway entrances shall be rounded with a minimum radius of twenty (20) feet from where they intersect a street.
3. Driveways serving non-residential and non-agricultural uses shall be paved in their entirety. The specifications for such paving shall be approved by the Township as applicable for the specific use proposed. Alternate dust-free, all weather surfaces for driveways may be permitted by the Township where appropriate.
4. Driveways shall be limited to two (2) along the frontage of any single street and their centerlines shall be spaced a minimum of fifty (50) feet apart.

- M. Concrete aprons, where required by the Township, shall be provided for all driveways with concrete sidewalks. Concrete aprons shall be a minimum of six (6) inches of Class AA concrete (a twenty-eight (28) day minimum compressive strength of 3,500 psi and six (6) percent air entrainment by volume).

Section 516 Sidewalks

- A. Sidewalks shall be provided on both sides of all existing and proposed streets, within parking areas, and, where necessary for safety and convenience, to establish pedestrian connections to parking areas and green spaces or through blocks.
- B. Maintenance of sidewalks, whether located within the public street right-of-way or not, is the responsibility of the owner of the property directly adjacent to the sidewalk. Sidewalks which are damaged or deteriorating and present a hazard to public safety shall be repaired at the owner's expense. A note shall be added to the record plan indicating the sidewalk maintenance responsibilities.

- C. At the discretion of the Township, a system of bicycle, equestrian, and/or pedestrian trails for public use generally may be established and secured by dedication or easement. These trails may be required in any subdivision or land development.
- D. The following design standards shall be used for sidewalks:
1. The minimum width of all sidewalks shall be four (4) feet and a minimum three (3) foot wide planting strip between the curb and sidewalk shall be provided. Additional width may be required, as determined by the Township, if the walk abuts a fence, a building, walls or parking areas. Where a sidewalk exists on an adjoining property, the dimensions may be modified to match existing conditions provided the sidewalk is located within the road right-of-way.
 2. The grades and paving of sidewalks shall be continuous across driveways.
 3. The construction of all sidewalks shall be in accordance with the requirements of the Township.
 4. Sidewalks shall be laterally pitched at a slope of not less than three-eighths (3/8) inch per foot to provide for adequate surface drainage.
 5. Handicap ramps shall be provided at all intersections. All sidewalks and sidewalk ramps must meet the requirements of the Americans with Disabilities Act and the Pennsylvania Universal Accessibility Act. Where sidewalk grades exceed five (5) percent, a non-slip surface texture shall be used.
 6. All sidewalks shall conform to the specifications for Class AA concrete, as specified by Pennsylvania Department of Transportation, with a minimum compression strength of 3,500 psi after twenty-eight (28) days.
 7. Where sidewalks abut the curb and a building, wall or other permanent structure, a premolded expansion joint one-fourth (1/4) inch in thickness shall be placed between curb and the sidewalk for the full length of such structure. Sidewalks shall be constructed in separate slabs thirty (30) feet in length except for closures. The slabs between expansion joints shall be divided into blocks five (5) feet in length by scoring transversely.
 8. Sidewalks shall have a minimum thickness of four (4) inches when used solely for pedestrian traffic; a minimum thickness of six (6) inches at all residential driveways; and eight (8) inches for all non-residential driveways. Welded wire fabric (6/6-10/10) shall be provided in all sidewalks constructed at driveways. Upon approval of the Township Engineer, fiber reinforced concrete may be used as an alternative.

9. Excavation shall be made to the required depth whereupon a layer of four (4) inch base of 2A aggregate shall be placed and thoroughly compacted prior to laying the sidewalks when used solely for pedestrian traffic with a minimum thickness of a six (6) inch base at all driveways.

Section 517 Erosion and Sedimentation Control

- A. Earth disturbance activities and associated stormwater management controls are regulated herein and under existing state law and implementing regulations. These provisions shall operate in coordination with those parallel requirements; the requirements of this Ordinance shall be no less restrictive in meeting the purposes of this Ordinance than state law.
- B. All earth disturbance activities of the following kinds shall be designed, implemented, operated and maintained in compliance with this Ordinance:
 1. Erosion and sediment control and stormwater management during earth disturbance activity (e.g. during construction).
 2. Stormwater management and water quality protection measures after completion of an earth disturbance activity (e.g., after construction), including operations and maintenance.
- C. No earth disturbance activity shall commence until the requirements of this Ordinance have been fulfilled.
- D. All Best Management Practices (BMPs) proposed in accordance with this section shall conform to the State Water Quality Requirements or any more stringent requirements as determined by the Township.
- E. Post-construction water quality protection and the operation and maintenance of permanent stormwater BMPs shall be addressed as required by Article VI hereof.
- F. Erosion and sediment control during earth disturbance activities:
 1. No earth disturbance activity shall commence until approval by the Township of an erosion and sediment control plan to be submitted by an applicant for subdivision or land development plan approval at the time of preliminary and final plan submittals. The erosion and sediment control plan shall comply with the following reference publications, as amended.
 - a. 25 PA Code, Chapter 102, Erosion and Sediment Control, Section 102.4(b)(5)
 - b. PA DEP Erosion and Sediment Pollution Control Program Manual, March 2000, as amended.

2. The erosion and sediment control plan shall be prepared by a person trained and experienced in erosion and sediment control methods and techniques.
 3. The erosion and sediment control plan shall encompass the minimum limit of disturbance necessary for access for grading and borrow material in order to construct in accordance with the Best Management Practices (BMPs) (including sediment basins and sediment traps) the necessary erosion and sediment pollution controls. All plans shall adhere to applicable maximum area of disturbance criteria.
 4. A copy of the erosion and sediment control plan approved by the Township as part of the Final Plan, and any required permit, shall be available at the project site at all times.
 5. Subdivision and land development applicants shall also comply with PADEP regulations that require submittal of an erosion and sediment control plan for any earth disturbance activity of five thousand (5,000) square feet or more, and that require implementation and maintenance of erosion and sedimentation control Best Management Practices (BMPs) to minimize the potential for those activities which disturb less than five thousand (5,000) square feet, under 25 PA Code 102.4(b).
 6. Subdivision and land development applicants shall also comply with 25 PA Code Chapter 92, and obtain a DEP “NPDES Construction Activities” permit for regulated earth disturbance activities. Evidence of any necessary permit(s) for Regulated Earth Disturbance Activity from the Southeast Regional DEP office or Chester County Conservation District must be provided to the Township prior to the commencement of any earth disturbance activity for which any such permit may be required.
 7. Erosion and sediment controls must be constructed and functional before site disturbance begins.
 8. All graded or earth disturbance shall be stabilized, whether temporary or permanent, within three (3) days of the initial ground breaking and, weather permitting, and accepted material used for stabilization shall be watered, tended and maintained until growth is well established.
- G. Until the site is stabilized, all erosion and sediment BMPs must be maintained properly. Maintenance must include inspections by the applicant/developer of all erosion and sediment BMPs after each rainfall event and on a weekly basis. All preventive and remedial work, including cleanout, repair, replacement, regrading, reseeding, mulching, and renetting must be performed immediately. If erosion and sediment control BMPs fail to perform as expected, then immediate

replacement BMPs or modifications of those controls previously installed is required.

- H. Erosion and sediment control designs shall comply with the Township's Municipal Separate Storm Sewer System (MS4) NPDES II permit requirements, including the necessary Total Maximum Daily Load (TMDL) requirements for the Christina River Basin. Stream and/or stormwater runoff from the site may be required to be tested, by the applicant, for all pollutants as listed in the approved TMDL plan. Any pollutant increases must be mitigated to return the site runoff to the original pollutant levels or below. Mitigation measures shall be proposed by the applicant and approved by the Township.

Section 518 Grading

- A. All proposed earth disturbance activity shall comply with the following standards related to grading and earthwork:
 - 1. Natural and/or existing slopes exceeding one (1) vertical unit to four (4) horizontal units shall be benched or continuously stepped into competent materials prior to placing all classes of fill. Cut slopes shall not exceed one (1) vertical unit to three (3) horizontal units, except that cut slopes up to one (1) vertical unit to two (2) horizontal units may be permitted where the Township is satisfied that such steeper cut slopes will reduce the negative impacts of the grading disturbance overall and that adequate erosion control is provided.
 - 2. Fills toeing out on natural slopes steeper than one (1) vertical unit to three (3) horizontal units shall not be made unless approved by the Township after receipt of a report by a soils engineer certifying that he/she has investigated the property and made soil tests and that in his/her opinion such steeper slopes will safely support the proposed fill.
 - 3. Fill areas shall be properly prepared prior to the placement of any new material. If excessive wetness, springs, or other seepage of water can be observed, drainage must be provided before placement of fill is undertaken. Under no circumstances shall fill be placed upon frozen ground or ground underlain by tree stumps, branches, or other material subject to rot and / or decomposition.
 - 4. Fill shall begin at the lowest section of the area and spread in six (6) inch layers prior to compaction.
 - 5. Each layer of fill shall be inspected prior to compaction. All roots, vegetation or debris must be removed and stones or other material larger than six (6) inches in diameter that may create void spaces in fill area must be removed or broken.

6. Each layer of compacted fill shall be tested to determine its dry density as per ASTM D1556, including its latest revisions. The density of each layer shall be not less than ninety-five percent (95%) of maximum dry density as determined by ASTM D1557. The moisture content of the compacted layer shall be not more than four percent (4%) less or two (2%) greater than the optimum moisture content as determined by ASTM D1557.
7. A qualified geotechnical engineer shall be required to inspect and certify all fill operations, as required by the Township. A written report, by the geotechnical engineer, shall be prepared and submitted to the Township detailing his or her findings regarding the fill operations.
8. The top or bottom edge of filled or cut slopes shall be at least three (3) feet from property or right-of-way lines of roads in order to permit the normal rounding of the edge without encroaching on the abutting property or right-of-way line.
9. Adequate provisions shall be made for dust control as deemed acceptable by the Township.
10. All graded surfaces shall be seeded, sodded and/or planted or otherwise protected from erosion as soon as practicable and shall be watered, tended and maintained until growth is well-established at the time of completion and final inspection.

Section 519 Easements

- A. Easements with a minimum width of twenty (20) feet shall be provided for all utilities. Additional width may be required for access and maintenance as determined by the Township. Permanent or temporary construction easements may also be required at the sole discretion of the Township.
- B. Easements shall be centered on or adjacent to rear or side lot lines.
- C. Nothing shall be permitted to be placed, planted, set or put within the area of an easement unless necessary for the purpose of the easement, including but not limited to plants or trees.
- D. Drainage easements shall be required along water courses.
- E. Easements shall be required along existing trails which are to remain. At the discretion of the Township, such easements may be dedicated to the Township for public use.

- F. Where stormwater or surface water will be gathered within a subdivision or land development and discharged or drained over lands within or beyond the boundaries of the subdivision or land development, the applicant or owner shall reserve or obtain easements over all lands affected if flow patterns are changed, as deemed by the Township. These easements shall be adequate for such discharge of drainage and for the carrying off of such water and for the maintenance, repair and reconstruction, including the right of passage over and upon the same by vehicles, machinery and other equipment for such purposes, and shall be of sufficient width for such passage and work. The width of the easement shall be as required by the Township.
- G. The Township may accept dedication of easements prior to the final dedication of improvements to enforce such easements during construction or prior to the completion of all improvements.
- H. Metes and bounds descriptions shall be provided for all easements.
- I. The applicant shall provide, where required by the Township, a method of physically delineating easements for emergency access, pedestrian access or other utilization across private lots. Such method may include shrubbery, trees, fence, markers, or other method acceptable to the Township.
- J. Any easement or right-of-way required herein shall be made part of the deeds to all affected properties. Any error found in a deed shall be immediately corrected and re-recorded in the Chester County Recorder of Deeds office at the sole expense of the applicant. The applicant shall be solely responsible to the buyer for any failure to record an easement or right-of-way shown on the approved plan. Failure to record an easement or right-of-way shown on the approved plan shall not prevent its intended use from being utilized. All easements and rights-of-way shown on the final plan of record shall be deemed to be incorporated in the appropriate deed.

Section 520 Water Supply

- A. Required off-site water service from a private or public utility or an association shall require that mains must be sized to provide for adequate pressure and supply for the anticipated demands of the subdivision and to meet the minimum requirements for fire protection established by the Middle Department Association of Fire Underwriters. Minimum main size and hydrant tees shall be six (6) inches. If adequate source of supply and pressure is available, hydrants shall be installed at a maximum spacing so that properties to be built upon shall be within six-hundred (600) feet of the hydrant. If adequate supply is not currently available, hydrant tap connectors shall be provided for future installation. System design and the design and development of water resources shall conform to the requirements of the Pennsylvania Department of Environmental Protection.

- B. Where a permit is required by said Department, it shall be presented as evidence of such review and approval in the case of private or public systems before construction commences.
- C. For any subdivision or land development which involves more than twenty-five (25) residential dwellings of any type located within any Zoning District within the Township or for any land development plan involving commercial or industrial buildings exceeding fifty-thousand (50,000) square feet in gross floor area, it shall be required that each such dwelling unit and/or commercial industrial building be hereafter connected to an adequate supply of central, potable water meeting the water quality standards as established herein and the standards of state and national agencies.

Further, each such dwelling unit or commercial or industrial unit or building shall have an adequate supply of water for the purpose of providing fire protection. The following requirements shall be met. However, if the applicant for any such land development and/or subdivision plan shall prove conclusively to the Board of Supervisors that the provision of central water facilities meeting national fire protection standards cannot be provided because the cost per dwelling unit or commercial or industrial unit is not economically feasible or physically feasible, the applicant or developer may make a contribution to the Township in the amount of five-hundred (\$500.00) dollars per dwelling unit and/or five-hundred (\$500.00) dollars per each proposed ten thousand (10,000) square feet of commercial or industrial building in lieu of meeting the required fire flow requirements. Said funds shall be transferred directly to the Wagontown Fire Company and Martin's Corner Fire Company or their successors for the express purpose of purchasing additional fire fighting equipment. If the applicant and/or developer opts not to make such contribution in lieu of providing fire flow requirements, Sub-sections 1. through 8. shall be applicable. Sub-sections 1 through 8 are not to be waived, modified, or deleted, and are to remain as previously enacted. The following requirements shall be met:

1. The applicant, landowner, or developer shall submit with the Preliminary Subdivision Plan, five (5) copies of documentation, which shall be designated as "proposed public water supply study."
2. The water supply study shall contain the name, address and telephone number of the proposed public water supplier (the company, water company, public utility or association) proposed by the applicant to supply water to the subdivision or land development. In addition there shall be provided a complete description of the source of the water supply, the quantity of water available from the source or sources, the capacity of existing or proposed reservoirs and their locations, and other pertinent data if surface water is to be utilized.

3. If wells are to be utilized as a part of the proposed water supply system, the number of wells, the pumping capacity of each well, the number of hours per day that each well pump operates, the depth of each well, depth of water table in each well, diameter of well casing, draw down rated capacity of each well, the maximum sustained yield from the well test together with a copy of the well test data all shall be supplied with the proposed study.
4. The study shall outline the size of proposed water mains to be utilized for the subdivision or land development, and the number and location of proposed fire hydrants within or near the development. Further, the study shall contain the number of residential customers on the existing system (if any), the number of proposed new residential, commercial or industrial customers, and the estimated number of gallons required to service both and existing (if any) and proposed system when the subdivision or land development plan is completed.
5. Within the study a description shall be provided outlining the service area of customers to be provided and if the utility is regulated by the Public Utilities Commission of the Commonwealth of Pennsylvania, notations shall be made as to whether the proposed Subdivision or Land development falls within the supplier's approved franchised area. If it is necessary to obtain PUC approval to extend a franchise area to the site to be covered, such approval shall become a condition precedent to final subdivision or land development approval.
6. The proposed public water supply study submitted by the applicant shall be reviewed by the Township Engineer in conjunction with the subdivision or land development plan. The Township Engineer shall make a recommendation to the Board of Supervisors with respect to the Applicant's compliance with this section of this Ordinance. The Board of Supervisors reserves the right in its sole discretion to require a further independent engineering study as to the adequacy of the proposed water supply system in the event the Township Engineer does not approve the study submitted. The applicant, landowner, or developer must bear the cost of such confirming independent engineering study. A Final Plan will not be approved unless all of the above requirements and the following requirements listed below are fully met.
7. With regard to minimum water supply requirements for the above category of subdivision or land development, each residential dwelling shall be provided with a minimum domestic pressure of thirty (30) pounds per square inch at the house connection and each such dwelling shall be provided with a minimum of three hundred (300) gallons of water per residential unit per day. For any applicable commercial or industrial use, a minimum pressure of thirty (30) pounds per square inch shall be provided

which shall meet all potable water supply requirements for the intended use in addition to providing fire flow water requirements for a minimum duration of two (2) hours of not less than five-hundred (500) gallons per minute at residual pressures of twenty (20) pounds per square inch. Fire hydrants for either residential, commercial, or industrial development shall be spaced every six hundred (600) feet within the proposed development.

8. All potable water required for the above subject subdivisions and/or land developments shall meet the water quality standards as established by the U.S. Environmental Protection Agency, originally listed as the National Interim Primary Drinking Water Regulations, EPA Document No. 570/9-76-003, and as further amended in the Federal Register, Wednesday, December 24, 1975 through Wednesday, August 27, 1980 and including the National Secondary Drinking Water Regulations as listed in the Federal Register, Thursday, July 19, 1979. In addition, any known carcinogens which have been identified as of the date of this Ordinance and which might be identified after the date of this Ordinance, shall be identified in any and all testing procedures of the proposed public water supply and water supplies exceeding the established carcinogenic levels shall not be utilized for domestic purposes.

Section 521 Sewage Disposal

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

- A. Sewage facilities shall be designed and constructed in strict accordance with the applicable requirements and specifications of the Township, the Chester County Health Department, and the Pennsylvania Department of Environmental Protection.
- B. A copy of the approval from all applicable agencies and all required permits shall be submitted prior to Final Plan approval.
- C. Sanitary sewers shall not be used to carry stormwater nor shall floor drains, air conditioning condensate or sump pumps be connected to the sanitary sewer.
- D. Wherever a public sewer system is available and when consistent with the Township's Act 537 Sewage Facilities Plan, sanitary sewers and lateral connections to each building in a subdivision or land development shall be installed at the expense of the Applicant. If public sewer is not available but is planned for the area in question, a system of sewers, together with all necessary laterals extending from the sewer to the road right-of-way line, shall be installed and capped.

- E. Prior to the issuance of any permit for construction in any subdivision or land development, temporary toilet facilities shall be installed for the builders, contractors and subcontractors, unless the Applicant or Applicant's agent shows, to the satisfaction of the Township, that other suitable toilet facilities will be available during construction. All temporary toilet facilities must be maintained until they are removed from the site.

- F. Individual On-lot Sewage Disposal Systems. All lots shall be provided with a primary and secondary on-lot sanitary disposal system compliant with the design standards of Title 25, Chapter 73, Rules and Regulations of the Pennsylvania Department of Environmental Protection, the Chester County Health Department standards.

- G. Community Sewage Disposal Systems.
 - 1. The design and installation of any community sewage disposal systems, as defined herein, shall be subject to the approval of the Township, Pennsylvania Department of Environmental Protection and the Chester County Health Department, as required.
 - 2. Approval of a community sewage disposal system shall require satisfactory provisions for the maintenance thereof and for inspection by the Township at any time. In addition, the Applicant shall, prior to approval of a Final Plan for subdivision or land development, post a bond in a form acceptable to the Township, in an amount sufficient to pay for a period of five (5) years the cost of maintenance, repair and hiring of personnel qualified to operate the system in the event that the system owner fails to properly maintain and operate the system within design standards. The bond shall be renewed and remain in effect for the length of time the system remains in operation.
 - 3. Operation of the sewage disposal system shall at all times be under the supervision of an operator duly licensed by the Commonwealth of Pennsylvania.

- H. Public Sewerage System.
 - 1. Plans and Specifications - Construction drawings, specifications, and calculations, prepared by a registered professional engineer, must be prepared for all public and community sewerage systems, and shall include:
 - a. An overall plan view of the collection system showing the location of all sewers and manholes together with manhole numbers, all existing and proposed buildings with elevations of finished floor and basement floor (if applicable) and all existing and proposed sewer laterals.

- b. Profile view of all existing and proposed sewer mains, including ground, rim and invert elevations, grade of all existing and proposed sewer mains, pipe lengths, and size and type of sewer pipe.
- c. All lots without basement service to be clearly noted on plan view.
- d. Drawings shall contain a note that all construction of sanitary sewers shall be in accordance with the standards and specifications adopted by the Township.
- e. All elevations shall be based on USGS datum with bench marks noted and described and shall be tied into any bench marks established by the Township.
- f. Shop drawings of all material shall be submitted to the Township for review and approval prior to the start of construction.
- g. Erosion and sedimentation control plans will be submitted wherever sewers are being constructed through land not covered by the overall erosion and sedimentation plan.

2. Sewer Main Design Criteria

- a. Minimum sewer diameter shall be eight (8) inches and the minimum slope shall be one-half (1/2) percent.
- b. Minimum cover over the top of the sewer shall be four and one-half (4 ½) feet unless special construction precautions such as cast-iron pipe or concrete encasement are specified and approved.
- c. Maximum depth of sewer shall be eighteen (18) feet, unless otherwise permitted by the Township.
- d. Sewer mains shall be placed on six (6) inches of AASHTO #8 stone bedding and within all roads, backfilled completely with AASHTO #8 stone. In lawn areas, the main shall be backfilled with a minimum of twelve (12) inches of AASHTO #8 stone.
- e. When sewers are designed with a grade in excess of 20%, steep slope anchors shall be installed.
- f. Sewer easements outside of public rights-of-way shall be a minimum of twenty (20) feet with a temporary construction easement of ten (10) feet.
- g. When a sewer crosses a stream or ditch, the design shall be in accordance with PA DEP rules and regulations.
- h. Sewers shall be located a minimum of ten (10) feet horizontally from any obstruction such as a building. Sewers must be a minimum of ten (10) feet from a water main or eighteen (18) inches (measured from top of sewer to bottom of water main)

under the same. When a sanitary sewer line crosses above or under any other pipeline with separation of less than eighteen (18) inches, the sanitary line will be provided with concrete encasement that extends ten (10) feet on either side of the pipe being crossed.

- i. Material: All sewer mains shall be:
 - i. Ductile iron pipe and shall conform to ASTM A764.
 - ii. PVC SDR 35 pipe and shall be conform to ASTM D3034.

3. Sewer Manhole Design Criteria

- a. Manholes between gravity sewers shall be placed at all changes in grade, size of pipe or alignment, and at intervals of not greater than three hundred-fifty (350) feet.
- b. Manholes shall not be located in or near the gutter line of the road where they will be exposed to surface flooding.
- c. Manholes shall have a drop of two-tenths (0.2) feet between the inlet and outlet built-in.
- d. Manhole cones shall be a minimum of three (3) feet in height. Shorter cones and slab-top manholes may be used only with the permission of the Township.
- e. Watertight lids will be used and noted on the plans when the manhole is within a one-hundred-year floodplain or may become submerged.
- f. In all manholes, the pipes entering and leaving shall be oriented so that the flow angle is more than ninety degrees (90°).
- g. When connecting to an existing manhole which contains an existing pipe of larger diameter, the contractor shall match elevations of the tops of both pipes.

4. Material:

- a. Manholes shall be precast manhole sections conforming to ASTM C-478, latest edition, and shall be of watertight construction. All internal and external surfaces shall be coated or lined.
- b. Precast base and barrel sections shall have tongue and groove joints with round rubber gaskets set in specially provided indentations conforming to ASTM C-443 or butyl base joint

sealant that permits installation in temperatures from -20°F to 120°F, and complies with Federal Specification SS-S-00210.

- c. Pipe to manhole joints shall be Lock-Joint flexible manhole sleeve, Kor-N-Seal joint sleeve, or equivalent.
- d. Damp proofing for concrete shall be semi-mastic type Horn "Dehydratine #4," "RIW Marine Emulsified Liquid" by Toch Bros., Inc., "Hydrocide 600" by Sonneborn, or equivalent.
- e. Manhole rungs, when required, shall be of 5/8-inch diameter, aluminum safety type steps. Rungs shall be placed twelve (12) inches on center in concrete and shall not be subjected to any loads for a minimum of seven (7) days. Copolymer polypropylene steps reinforced with 3/8" Grade 60 steel rebar throughout may be used in place of aluminum.
- f. Concrete manholes shall have a channel passing through the bottom which corresponds in shape with the lower two-thirds of the pipe. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius. The top of the shelf shall slope to drain towards the main channel.
- g. All surfaces to be damp proofed shall be clean, smooth, dry, and free from loose material. Brush the damp proofing onto the outside concrete manhole surface and fill all voids. Apply in two (2) coats and conform to the covering capacity of the material used in strict accordance with the manufacturer's recommendations and directions. First coat to be applied by the manufacturer of the manholes. Second coat to be field applied by the Contractor. Do not apply damp proofing in freezing or wet weather.
- h. Iron castings for manhole frames and covers shall conform to ASTM A 48 and shall be Class 30.
- i. Manhole frames and covers shall be tough gray iron free from cracks, holes, swells, and cold shuts. The quality shall be such that a blow from a hammer will produce an indentation on an edge of the casting without flaking the metal. Frames and covers shall be machine seated so as to provide a tight, even fit.
- j. Manhole frames shall be six inches (6") to eight inches (8") high and shall be approximately thirty-five inches (35") in diameter with a minimum opening of twenty-two inches (22") and a maximum opening of forty-four inches (44"). Manhole covers

shall be solid and shall have the word "SEWER" (3" high) cast on the top. The approximate total weight of frame and cover shall be three hundred-ninety-five (395) pounds. Covers shall have two (2) concealed pickholes.

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

5. Sewer Lateral Design Criteria

- a. Lateral connections to each lot shown on the approved final plan shall be installed to the right-of-way line of the road prior to road paving. All laterals and manholes shall be capped and sealed to prevent the infiltration of any liquid. No underground water from springs or basements shall be permitted to enter any sanitary sewer line. Capped sewers shall be so installed as to avoid placing connections under any paved areas or driveways.
- b. Each building shall have a separate connection to the sewer main.
- c. Existing lateral lines may be utilized for new connections provided that they pass necessary tests, as required by the Township.
- d. Minimum lateral diameter shall be four (4) inches and minimum slope shall be two (2) percent, unless otherwise approved by the Township.
- e. Maximum length of a lateral will be one hundred and fifty (150) feet, unless approved otherwise by the Township.
- f. The minimum cover shall be three and one-half (3½) feet to prevent crushing and freezing. Minimum cover under paved areas shall be four (4) feet.
- g. A straight horizontal alignment shall be maintained where feasible.
- h. Clean-outs shall be provided at:

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

6. Testing and Inspections

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

7. As-built drawings. Prior to acceptance of the work, copies of as-built drawings shall be submitted by the applicant. As-built drawings are copies of the approved construction drawings. Existing design numbers (top and invert elevations, pipe lengths and slopes) shall be crossed out with one line so that the original numbers can still be determined. As-built numbers shall be indicated below the crossed out numbers. The plans shall be prepared by a licensed surveyor and show as-built locations of all lateral stubs. All easements shall be shown and shall be fully described by metes and bounds.

Section 522 Other Utilities

- A. All other utility lines, including but not limited to electric, telephone, cable and security shall be placed underground. Installation of all utilities shall be in strict accordance with the engineering standards and specifications of the Township and of the public utility concerned.
- B. Underground utilities shall be installed before the roads are constructed, as approved by the Township.
- C. Easements shall be required to facilitate the maintenance and repair of utility lines. Facilities shall be located within a right-of-way or in the center of an easement not less than twenty (20) feet wide.
- D. All proposed utility locations shall be coordinated so as not to conflict with landscaping requirements.
- E. In accordance with the provisions of the Pennsylvania Utility Line Protection Act, Act 287 of 1974, as amended (Act 199 of 2004), an applicant shall contact all applicable utilities and accurately determine the locations and depths of all underground utilities within the boundaries of the tract proposed for development prior to excavation. A list of the applicant's utilities and each utility's phone numbers shall appear on the plans submitted for review, and proof of contact shall be presented in the form of the Pennsylvania One Call System serial number.

Section 523 Monuments and Markers

- A. Monuments shall be placed at sufficient locations to define the exact location of all roads and to enable the re-establishment of all road lines. In general, monuments shall be set on the road line on one side of the road at the beginning and ending of all curves and at those points on the curve at road intersections necessary to establish the actual intersection. Monuments shall be placed at the tract perimeter where no markers exist, as required by the Township.

- B. Markers shall be placed at all points where lot lines intersect road lines or other lot lines and at all angle points in lot lines, except where concrete monuments are required.
- C. Monuments shall be concrete with a minimum top width of four (4) inches by four (4) inches and a bottom width of six (6) inches by six (6) inches. The minimum height shall be twenty-four (24) inches. The concrete monument shall be composed of ferrous or other material detectable by an electromagnetic locator.
- D. Markers shall be steel bars at least twenty-four (24) inches long and not less than five-eighth (5/8) inches in diameter.
- E. Utility easements shall be monumented at their beginning, their end, and at all directed changes. The monumentations shall be placed in the ground after final grading is completed. The monumentation shall be either a concrete monument or marker, as required by the Township.
- F. All monuments and markers shall be certified for accuracy by the developer's engineer and their accuracy checked by the Township Engineer. Accuracy of monument / markers shall be within three-hundredths (3/100) of a foot.
- G. In cases where it is impossible to set a monument or where the permanency of a monument may be better ensured by off-setting the monument with a reference monument(s), the Township may authorize such procedure, provided that proper instrument sights may be obtained and complete offset data is designated on the record plan. A reference monument (preferably two) should be set on the boundary line(s) that intersect the corner.

Section 524 Natural Features Conservation

The provisions of Article X of the West Caln Township Zoning Ordinance are incorporated by reference herein. Any definition in the West Caln Township Zoning Ordinance that pertains to this Section is incorporated by reference herein. The provisions of this Section apply to all subdivision and land development applications in accordance with the regulation of this Ordinance. Modification(s) to the provisions of this Section may be requested by an applicant for subdivision or land development approval and may be granted by the Board of Supervisors in accordance with Section 902 of this Ordinance, and where the Board determines that the resource protection purposes of this Section will be adhered to, to the maximum extent practicable.

Section 525 Buffering and Screening, Landscaping, and Street Trees

- A. Buffering and Screening. Subdivisions and land development plans shall comply with Section 1206.A of the West Caln Township Zoning Ordinance and this Ordinance, as applicable.

B. General Landscaping Requirement. Any part or portion of any lot or tract which is not occupied by buildings or structures or used for loading, parking spaces and aisles, pedestrian circulation, designated storage areas, or other permitted impervious or semi-pervious surfaces shall be landscaped according to a Landscape Plan approved by the Township, or shall be left in its natural state (e.g., forest, meadow or hedgerow). The Landscape Plan shall be submitted as part of both Preliminary and Final Plan submissions and shall clearly identify all landscaped areas, all areas subject to vegetation disturbance and replacement pursuant to Section 524 above, and any areas to be left in a natural state. The Landscape Plan shall match with the Applicant's proposed grading plan, and shall comply with this Ordinance and Section 1206.B of the West Caln Township Zoning Ordinance.

C. Street Trees.

1. All subdivisions or land developments shall provide street trees of varying species along the entire length of any existing or proposed public road that forms a property boundary and on both sides of any road within the subdivision or land development, except where the Township agrees that suitable street trees are already in place.
2. One of the following street tree planting concepts shall be used, subject to Township approval:
 - a. Formal Allee of Street Trees
 - i. Use uniform street tree variety.
 - ii. Coordinate new plantings with existing street tree plantings, where applicable, to obtain a uniform canopy from both sides of the street or road.
 - iii. Street trees shall be located a minimum of ten (10) feet back from the street right-of-way for all subdivisions proposed for single-family detached dwellings. For single-family attached, or multifamily residential subdivisions, or for mixed-use or village style developments, street trees may be planted between the sidewalk and curb, with the minimum width of the tree lawn (the planted area between the sidewalk and the curb) being no less than eight (8) feet.
 - iv. Street trees shall be planted at regular thirty five (35) foot intervals on each side of the street along street frontage.

- v. New plantings shall observe the clear sight triangles to be provided at driveway entrances (see Section 515.C of this Ordinance).
- b. Naturalized Street Tree Planting
 - i. Varying street tree varieties spaced ten (10) to fifteen (15) feet back from the street right-of-way line.
 - ii. An average of one street tree shall be planted on each side of the street or road for every thirty five (35) feet of street frontage.
 - iii. Planting design shall accentuate views and integrate important landscape elements.
 - iv. New plantings shall observe the clear sight triangles to be provided at driveway entrances (see Section 515.C of this Ordinance).
- 3. Street trees shall meet the following standards:
 - a. Minimum Size – two (2) to two and one-half (2½) inches caliper; Trees of three (3) inch caliper and greater are desirable, if locally available.
 - b. Branching Height - The height of branching shall depend upon the size and species of tree; those trees selected for street tree usage shall have a minimum clearance height of seven (7) feet above grade before branching begins.
 - c. All trees shall be balled and burlapped in accordance with the standards of the following publications: "American or U.S.A. Standard for Nursery Stock," ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. The ball depth shall be not less than sixty (60) percent of the ball diameter and in all cases contain the maximum of the fibrous roots of the tree. Bare root material is not acceptable. The following standards shall apply:

Caliper	Minimum Ball Diameter
2 to 2½ inches	24 to 28 inches
3 to 3½ inches	32 inches
3½ to 4 inches	36 inches
4 to 5 inches	44 inches
5 to 6 inches	54 inches

- d. Excavated plant pits shall be two (2) feet wider than the ball size.
- e. Backfill mix for the excavated plant pit shall be composed of top soil, compost, or other Township recommended material.
- f. Tree Guying
 - i. Three (3) No. 12 galvanized steel wires shall be spaced equally around the tree and be so connected to the tree with rubber hoses that the wire does not come in contact with the tree.
 - ii. For trees up to and including three and one-half (3½) inch caliper, three (3) oak rough-sawed stakes, two (2) inches x two (2) inches x eight (8) feet, shall be used.
 - iii. For trees over three and one-half inches (3½)inch caliper, three (3) ground anchor stakes, two (2) inches x two (2) inches x two and one-half (2½) feet driven flush with grade shall be used.
- g. Tree wrapping paper the entire length of the tree trunk from the top of ball to the start of lateral branching shall be provided tied on with natural twine.
- h. All tree guying material shall be removed one (1) year after planting.
- i. All plantings shall be mulched to a depth of three (3) inches in a six (6) foot diameter ring around the base of each tree or continuous beds, if trees or shrubs are less than six (6) feet apart.
- j. Pruning - Each plant shall be pruned to preserve the natural character of the plant in a manner appropriate to the particular plant. Branches shall be thinned by approximately twenty-five (25) percent by the removal of crossing, damaged or competing limbs back to the major crotch. The leader shall be left intact.
- k. Plant Material.
 - i. Street tree species for planting shall be selected from the “Street/Urban Trees” list in Appendix A to the West Caln Township Zoning Ordinance.

- ii. The use of native species from this list is encouraged, with trees selected to have minimal maintenance requirements and, at maturity, shall provide adequate summer shade. Selected street tree species shall be of the non-grafted type. Tap-rooted species shall be required in locations proximate to roads or sidewalks.
- iii. Plantings and their measurement shall conform to the standards of the following publications: "American or U.S.A. Standard for Nursery Stock", ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material shall have been grown within the same USDA hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees may partially fulfill the requirements of this Section.

D. Landscape Guarantee. All replacement plantings shall be guaranteed and maintained by the Applicant or developer in a healthy and/or sound condition for at least eighteen (18) months, or be replaced by the Applicant or developer. Applicant shall escrow sufficient funds for the maintenance and/or replacement of the proposed vegetation during the eighteen (18) month replacement period to insure that funds are available for the Applicant's/developer's use for the removal and replacement of vegetation damaged during construction.

Section 526 Dedication of Land, or Payment in Lieu of Fees Thereof, for Parks, Recreation, or Open Space Uses

A. Purpose

The purpose of this Section is to implement the West Caln Township Open Space, Recreation and Environmental Resources Plan of 1995, as may be amended, including:

- 1. Providing a variety of active and passive open space lands and facilities to serve the varied recreational needs of the Township's residents, businesses and industry;
- 2. Preserving open space and protecting the natural, scenic, and historic resources of West Caln Township;
- 3. Developing a system of public parklands and other open space areas that can effectively and efficiently offer recreational opportunities and experiences;

4. Providing equitable and convenient accessibility to recreation facilities and open space areas within the Township's urbanizing areas; and
5. Supporting community development and stability through a balance of developed areas, locally and regionally valued open space resources, and neighborhood, community, and regional recreational opportunities.

B. Applicability

The requirements of this section shall apply to any major subdivision or land development application proposing more than ten (10) dwelling units.

C. General requirements

1. The Applicant shall make an irrevocable offer of dedication of park and recreation lands to the Township per the requirements of this Section. The Township Supervisors may authorize the transfer of the land to a homeowners' association or other appropriate third party when such reservation is consistent with the West Caln Township Open Space, Recreation, and Environmental Resources Plan. In lieu of dedicating park, recreation, and open space land to the Township, the Applicant may elect to pay a fee to the Township.
2. All dedications of land for park, recreation, and open space purposes shall be consistent with any standards contained in the West Caln Township Open Space, Recreation, and Environmental Resources Plan, and all provisions of this Section. Such dedications shall be at locations deemed appropriate by the Township Board of Supervisors. If a specific site has been designated in the West Caln Township Open Space, Recreation, and Environmental Resources Plan for future park purposes, any preliminary or final plan shall show the dedications of land in a location that corresponds to the Plan designation. Title to land to be dedicated shall be good and marketable, free of all liens or other defects and acceptable to the Township Solicitor.

D. Amount of land required

1. Consistent with the West Caln Township Open Space, Recreation, and Environmental Resources Plan, the amount of park and recreation land required to be dedicated for subdivisions satisfying the applicability criteria of Section 526.B. shall equal to ten (10) percent of the gross tract area proposed for subdivision. Lands proposed for dedication shall be consistent with the Land Characteristics and Design Standards of Section 526.F of this Ordinance.

2. The Board may, at its sole discretion and upon recommendation of the Township Planning Commission, agree to accept a lesser amount of land than the minimum acreage otherwise required, where the Applicant agrees to provide a fully developed active recreation facility within the open space that addresses a recreational need of particular importance to the Township in that location and that is particularly appropriate to the prospective residents of the development.
3. Required restricted open space for subdivisions filed in accordance with the Cluster Residential Development option of the Zoning Ordinance may be utilized to meet the land dedication requirements where such land fully meets the Land Characteristics and Design Standards of Section 526.F of this Ordinance, and is determined suitable by the Board of Supervisors as provided for in this Section.
4. The land dedicated to the Township for park and recreation purposes need not be part of the land development or subdivision. It may be located on a separate parcel of land, provided that in the sole discretion of the Board of Supervisors, it is convenient to the subdivision or land development. In addition, the developer, with the approval of the Board of Supervisors, may construct park and recreation facilities at the Township facilities, Coatesville Area School District properties, or the facilities of another development to satisfy the requirements of this Section.

E. Fee-in-lieu of dedication

1. If the Board of Supervisors determines in its discretion that no land within a particular subdivision or land development proposal is suitable for dedication as park land or open space, or determines in its discretion that dedication would not be practical in a particular case, or if the applicant demonstrates to the satisfaction of the Board of Supervisors that the reservation of park or open space is not practical or not in the best interest of the residents of the proposed development and of the Township in general, a fee in lieu of parkland dedication shall be required.
2. The amount of any fee in-lieu of land dedication shall be as determined by Resolution of the Township Board of Supervisors.
3. A note shall be placed on the final subdivision plan prepared for recording, stipulating the total amount of the fee to be paid, as established through Section 526.E.2, and the means and timing of payment.
4. All funds collected in lieu of land dedication shall be deposited by the Township in an interest-bearing account which identifies the specific park and recreation facilities the funds will be used to acquire and construct. All interest earned on this account shall become funds of the account.

Upon request of any person who paid any fee, the Township shall refund such fee, plus any interest accumulated thereon from the date of payment, if the Township has not used the funds to meet the purposes set forth in this Section within three (3) years from the date such fee was paid.

F. Land Characteristics and Design Standards

The Planning Commission and the Board of Supervisors in exercising their duties regarding the review of subdivision or land development plans shall consider the following criteria in determining whether to accept the Applicant's offer to dedicate land:

1. The area or areas shall be consistent with the plan for open space and plan for recreation components of the Township's Open Space, Recreation, and Environmental Resources Plan and any other open space, park or recreational facilities existing or subsequently adopted by the Township, or Chester County;
2. The area or areas shall be suitable for active recreational uses in their entirety without interfering with adjacent dwelling units, parking, driveways, and roads. Consistent with the primary objective of providing active recreation areas, the proposed open space shall be free of wetlands and surface water, and not characterized by floodplain, hydric soils, or slopes exceeding six (6) percent;
3. The area or areas and their use shall be consistent with natural features conservation provisions of this ordinance and the natural resource protection standards contained in Article X. of the West Caln Township Zoning Ordinance;
4. The area(s) shall be comprised of areas not less than one-quarter (1/4) acre of contiguous areas and not less than seventy-five (75) feet in width, except where a narrower area of linear open space is serving solely as a connecting access strip between larger open space parcels or as a portion of a trail system or pathway network. The configuration of the recreation area must be able to accommodate the proposed recreation activities;
5. The area(s) shall be interconnected with common open space areas on adjoining parcels where ever possible, including provision for pedestrian pathways for general public use to create linked pathway systems between developments, neighborhoods, villages, and other public recreational areas;
6. The area(s) and uses shall be coordinated with applicable open space and recreation plans of any federal, state, county, regional, adjacent municipal or private organization to compliment various programs increasing the utility of the open space and recreation network;

7. The area(s) and uses shall be provided with sufficient perimeter parking when necessary, and with safe and convenient access by adjoining street frontage or other right of way easements capable of accommodating pedestrian, bicycle, maintenance and vehicle traffic and containing appropriate access movements;
8. The area(s) shall be undivided by any public or private streets, except where necessary for proper traffic circulation, and then only upon the recommendation of the Township Engineer and Planning Commission;
9. The area(s) shall be free of all structures and utility easements, except those structures related to outdoor recreational uses. Subject to the approval of the Board of Supervisors, supportive equipment for the use of such lands in the disposal of treated wastewater through land application or community subsurface methods may be permitted. Furthermore, other utility easements (cable, gas, oil, phone, fiber optic, or electric) where utilities are placed underground and no part of them or their supportive equipment protrudes above the ground-level are permitted within the area(s) free of woodlands and other sensitive natural or cultural resources;
10. The area(s) shall be subject to approval of a Landscape Plan and, if applicable, an Open Space Management Plan. The landscaping plan submitted in accordance with Sections 524 and 525 shall include provisions for full invasives removal by the Applicant and/or developer prior to dedication of any natural area to the Township.
11. The linkage of erosion and sediment control or stormwater control facilities with recreation facilities may be permitted and is encouraged by the Township if the presence of such facilities does not conflict with proposed activities or detract from the aesthetic values associated with the recreational facility. Plans for combining these facilities should be submitted to the Township for review and approval.
12. Where part of a phased development, areas shall be in amount and at locations, as deemed acceptable by the Board of Supervisors, sufficient to meet the minimum open space needs generated by each phase of the development. The Applicant shall provide, as part of the application for approval of the first phase of development, a schedule to the amount of open space land or of fees-in-lieu thereof to be provided in each of the subsequent phases.

G. Effect of Dedication of Land on Allowed Density of Remaining Development

Land dedicated for park and recreational use shall not be included in lot size calculations for the purpose of determining the number and character of units allowed to be developed.

ARTICLE VI
STORMWATER MANAGEMENT

Section 600 Statement of Findings

The governing body of the Township finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, and threatens public health and safety.
- B. Inadequate planning and management of stormwater runoff resulting from land development throughout a watershed can also harm surface water resources by changing the natural hydrologic patterns, accelerating stream flows (which increase scour and erosion of stream beds and stream banks, thereby elevating sedimentation), destroying aquatic habitat, and elevating aquatic pollutant concentrations and loadings such as sediments, nutrients, heavy metals, and pathogens. Groundwater resources are also impacted through loss of recharge.
- C. A comprehensive program of stormwater management, including minimization of impacts of development, redevelopment, and activities causing accelerated erosion and loss of natural infiltration, is fundamental to the public health, safety, welfare, and the protection of the people of the Township and all of the people of the Commonwealth, their resources, and the environment.
- D. Stormwater is an important water resource by providing groundwater recharge for water supplies and baseflow of streams, which also protects and maintains surface water quality.
- E. Impacts from stormwater runoff are minimized by using project designs that maintain the natural hydrologic regime and sustain high water quality, groundwater recharge, stream baseflow, and aquatic ecosystems. The most cost-effective and environmentally advantageous way to manage stormwater runoff is through nonstructural project design that minimizes impervious surfaces and sprawl, avoids sensitive areas (i.e., stream buffers, floodplains, steep slopes), and considers topography and soils to maintain the natural hydrologic regime.
- F. Public education on the control of pollution from stormwater is an essential component in successfully addressing stormwater runoff.

- G. Federal and state regulations require West Caln Township to implement a program of stormwater controls. West Caln Township is required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).
- H. Non-stormwater discharges to municipal separate storm sewer systems contribute to pollution of Waters of the Commonwealth by the Township.

Section 601 Purpose

The purposes of this Article are to:

- A. Accommodate subdivisions, land developments, and other site improvements in West Caln Township in a manner that:
 - 1. Protects public safety.
 - 2. Is consistent with, or reestablishes, the natural hydrologic characteristics of each watershed and sustains groundwater recharge, stream baseflows, stable stream channel (geomorphology) conditions, the carrying capacity of streams and their floodplains, groundwater and surface water quality, and aquatic living resources and their habitats.
 - 3. Maintains the existing water balance in all watersheds, sub-watersheds, and streams in West Caln Township, and protects and/or restores natural characteristics and habitats wherever possible throughout the watershed systems.
 - 4. Reduces flooding impacts and prevents a significant increase in surface runoff rates and volumes, pre-development to post-development, which could worsen flooding downstream in the watershed, enlarge floodplains, erode stream banks, and create other flood-related health, welfare or property losses; in general, to preserve and restore the natural flood-carrying capacity of streams and their floodplains.
 - 5. Protects water quality by removing and/or treating pollutants prior to discharge to ground and surface waters throughout West Caln Township, and to protect, restore, and maintain the chemical, physical, and biological quality of ground and surface waters, and
 - 6. Protects adjacent lands from identified adverse impacts of direct stormwater discharges.
 - 7. Complies with water quality requirements of Commonwealth law, including 25 Pennsylvania Code Chapter 93.4, in order to protect,

maintain, reclaim, and restore the existing and designated uses of waters of the Commonwealth.

- B. Provide Township review procedures, design criteria, and performance standards for watershed-wide stormwater planning and management that:
 - 1. Promote the use of nonstructural Best Management Practices (BMPs).
 - 2. Maintain existing base flows and quality of streams and watercourses.
 - 3. Preserve the flood-carrying capacity of streams.
 - 4. Prevent the scour and erosion of stream banks and stream beds.
 - 5. Protect and utilize natural drainage systems.
 - 6. Manage accelerated stormwater runoff, erosion and sedimentation problems, and stormwater runoff impacts at, or near, their source.
 - 7. Require the infiltration of stormwater wherever possible to facilitate groundwater recharge.
 - 8. Minimize increases in stormwater runoff volume, and minimize increases in impervious surfaces.
 - 9. Address the quality and quantity of stormwater discharges from a development site.
 - 10. Identify stormwater controls appropriate for compliance with NPDES permit requirements.
 - 11. Promote alternative project stormwater designs and layouts.
- C. Establish and implement an illegal discharge detection and elimination program for West Caln Township that addresses non-stormwater discharges.
- D. Provide for proper operation and maintenance of all permanent stormwater management facilities and BMPs that are implemented in the Township.

Section 602 Applicability / Regulated Activities

The following activities are defined as “regulated activities” and shall be regulated by the provisions of this Article except where listed as exempt on Table 602.1, or exempted by the provisions of Section 603, or modified when approved by the Board of Supervisors. Refer to Table 602.1 for a summary of ordinance applicability.

- A. All minor and major subdivision applications.
- B. All land development applications.
- C. Any other Township regulated activity requiring zoning compliance or local permit approval, including, but not necessarily limited to:
 - 1. Construction of or the addition of new impervious or semi-pervious surfaces when the net increase in impervious surface exceeds the maximum square footage allowed by Table 602.1 (i.e., driveways, parking lots, roads, etc.).
 - 2. Construction of new buildings or additions to existing buildings.
 - 3. Diversion piping or encroachments in any natural or man-made channel.
 - 4. Earth disturbance activities of greater than five thousand (5,000) square feet.
- D. Any situation where the Township determines that surface or subsurface drainage could impair public safety or cause physical damage to adjacent lands or public property.

Section 603 Additional Exemptions to Those Listed in Table 602.1

The following regulated activities are also exempt from the requirements of Sections 607, 608, 609, 610, and 611 of this Article, in addition to those labeled “exempt” in Table 602.1. All other stormwater management requirements contained herein shall be applicable.

- A. Exemptions.
 - 1. Gardening Exemption: Use of land of any size for gardening for personal consumption.
 - 2. Agricultural Exemption: On agricultural lots of ten (10) acres or greater, installation of new, or expansion of, existing farmsteads, animal housing (barns), accessory structures, waste storage and production areas that result in a net increase of five thousand (5,000) square feet or less impervious surface, and when operated in accordance with a conservation plan, nutrient management plan or erosion and sedimentation control plan approved by the Chester County Conservation District. The exemption includes activities such as growing, rotating, tilling and grazing. Agricultural lots of less than ten (10) acres shall be considered a residential use, irrespective of zoning district, and are not exempt.

TABLE 602.1 ORDINANCE APPLICABILITY

Ordinance Article or Section	Lot Size			Lot Size		Lot Size		Earth Disturbance	
	<0.5 acres	0.51 acres to 1.0 acre	>1.01 acres	<0.5 acres	0.51 acres to 1.0 acre	All	All	5,000 sq. ft. – 1 acre	> 1 acre
	Proposed Net Increase in Impervious Surface								
0-500 sq. ft.	0-1,000 sq. ft.	0-1,500 sq. ft.	500-1,500 sq. ft.	1,000-1,500 sq. ft.	1,500-5,000 sq. ft.	>5,000 sq. ft.			
Section 607 Nonstructural Project Design	Exempt	Exempt	Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt
Section 608 Volume Control / Groundwater Recharge	Exempt	Exempt	Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt
Section 609 Water Quality Requirements	Exempt	Exempt	Exempt	Exempt	Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt
Section 610 Stream Bank Erosion Requirements	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Not Exempt	Exempt	Not Exempt
Section 611 Stormwater Peak Rate Control	Exempt	Exempt	Exempt	Exempt	Exempt	Not Exempt	Not Exempt	Not Exempt	Not Exempt
Erosion and Sediment Pollution Control Plan Submission to the Conservation District	See Earth Disturbance Requirements							Exempt	Not Exempt

3. Timber Harvesting Exemption. Timber harvesting operations subject to timber harvesting regulations of the West Caln Township Zoning Ordinance, and to the Pennsylvania Department of Environmental Protection’s “Soil Erosion and Sedimentation Control Guidelines for Forestry.” Such operations shall have an erosion and sedimentation control plan approved by the Chester County Conservation District and must comply with all other applicable Zoning Ordinance requirements.
4. Road improvement projects that have less than two thousand (2,000) square feet of new or additional impervious surface/cover or, in the case of earth disturbance only, less than five thousand (5,000) square feet of disturbance.

5. Emergency maintenance work performed for the protection of public health, safety, and welfare. A written description of the scope and extent of any emergency work performed shall be submitted to the Township in advance of the actual work, if feasible, but not later than two (2) calendar days after the commencement of the activity. If the Township finds that such work is not an emergency, then the work shall cease immediately and the requirements of this Ordinance shall be complied with, as applicable.
6. Any maintenance to an existing stormwater management system made in accordance with plans and specifications approved by the Township.

Section 604 Exemption Responsibilities

- A. For regulated activities listed as “exempt” in Table 602.1, or exempted by the provisions of Section 603, land disturbance or total impervious surface criteria shall apply to the total development even if the development is to take place in phases. Upon Ordinance adoption, all tracts shall be considered as “parent tracts” upon which future subdivisions and respective earth disturbance computations shall be cumulatively calculated. Exempted uses are encouraged to implement stormwater management practices found in Appendix B of this Ordinance.
- B. No exemption granted in Table 602.1, or in 603 shall relieve a subdivision, land development, zoning permit, or building permit applicant from implementing such measures as are necessary to protect the public health, safety, and property under the following circumstances:
 1. If a drainage problem is documented or known to exist downstream of, or is expected to result from the proposed activity, the Township reserves the right to require the applicant to comply with all requirements of this Ordinance.
 2. HQ and EV Streams – If a proposed activity will occur within a watershed with a High Quality (HQ) or Exceptional Value (EV) designation, an exemption shall not relieve the Applicant from meeting the special requirements for HQ and EV watersheds and Source Water Protection Areas (SWPA) or from meeting the requirements for nonstructural project design sequencing (Section 606).

Section 605 General Requirements

- A. Applicants proposing regulated activities not otherwise exempt shall submit sufficient data, as determined by the Township, including a plan and supporting calculations, to demonstrate conformance with the provisions of this Article. The stormwater management criteria of this Ordinance shall apply to the total proposed development even if development is to occur in phases.

- B. Applicants shall employ feasible alternatives to the surface discharge of stormwater, the creation of impervious surfaces, and the degradation of waters of the Commonwealth, and employed stormwater management measures shall be designed to maintain, to the greatest extent feasible, the natural hydrologic regime.
- C. The stormwater management plan shall be designed consistent with the sequencing provisions of Section 607.
- D. Stormwater management measures shall generally not result in impeded flow along natural watercourses, except as modified by stormwater management facilities or open channels proposed in conformance with this Ordinance and as approved by the Board of Supervisors.
- E. Existing points of concentrated drainage that discharge onto adjacent property shall not be altered in any manner which could cause property damage without the permission of the affected property owner(s). Such alternations, when permitted, shall be subject to any applicable discharge criteria specified herein.
- F. Areas of existing diffused drainage discharge, whether proposed to be concentrated, or maintained as diffused drainage areas, shall be subject to discharge criteria contained herein, except as otherwise provided by this Ordinance. Stormwater calculations shall indicate compliance with the applicable discharge criteria within each sub-watershed at the location of the existing discharge point of interest, if concentrated, or line of interest, if diffused. If diffused drainage discharge is proposed to be concentrated and discharged onto adjacent property, the applicant must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge or otherwise prove that no erosion, sedimentation, flooding or other impacts will result from the concentrated discharge.
- G. Where a proposed development site is traversed by existing streams or other water courses, drainage easements shall be provided conforming to the line of such streams or water courses.
- H. Regulated activities which include stormwater management measures proposed for, or proposed adjacent to, waters of the Commonwealth or delineated wetlands shall be subject to approval by PADEP (through the Joint Permit Application or the Environmental Assessment Approval process or, where deemed appropriate, by the PADEP General Permit process). When there is a question as to whether wetlands may be involved, the Applicant or his agent shall submit relevant materials to the Township to officially determine the existence of wetlands and need for PADEP permits. .
- I. Any stormwater management measures proposed for location within state highway rights-of-way shall require PennDOT approval.

- J. The minimization of impervious surfaces and the infiltration of runoff through seepage beds, infiltration trenches, etc., shall be undertaken where soil conditions permit in order to reduce the size or eliminate the need for detention facilities or other structural BMPs.
- K. All stormwater runoff, except roof runoff, shall be pretreated for water quality prior to discharge to surface or groundwater to the greatest extent practicable. Pre-treatment standards shall follow current applicable regulations as per PADEP. The water quality standards per Section 609 shall be met for applicable projects.
- L. All regulated activities shall be designed, implemented, operated, and maintained to achieve the purposes of this Ordinance through these two elements:
 - 1. Erosion and sediment control required by the provisions of Section 517 of this Ordinance during earth disturbance activities (e.g., during construction), and
 - 2. Stormwater Management and Water Quality protection measures required by this Article after completion of earth disturbance activities (i.e., after construction), including operations and maintenance.
- M. The techniques described in Appendix C (Low Impact Development [LID] practices) of this Ordinance shall be utilized to the greatest extent practicable, with the concurrence of the Township.
- N. In selecting Best Management Practices (BMPs) or combinations thereof to comply with the provisions of this Article, applicants shall consider the following for their sites:
 - 1. Total contributing area to the site and its sub-basins.
 - 2. Permeability and infiltration rate of soils.
 - 3. Slope and depth to bedrock of soils.
 - 4. Seasonal high water table characteristics of soils.
 - 5. Proximity to building foundations and wellheads.
 - 6. Erodibility of soils.
 - 7. Land availability and configuration of the topography.
 - 8. Peak discharge and required volume control.

9. On- or off-site stream bank erosion.
 10. Efficiency of the BMPs to mitigate potential water quality problems.
 11. The volume of runoff that will be effectively treated.
 12. The nature of the pollutant(s) being removed.
 13. Long-term maintenance requirements.
 14. Protection/restoration of aquatic and wildlife habitat.
 15. Recreational value.
- O. In specific cases where an applicant has demonstrated, to the satisfaction of the Township Engineer, that the requirements of this Article cannot be achieved on-site with the use of non-structural and structural stormwater BMPs, the Board of Supervisors may permit an applicant to meet the stormwater management criteria through off-site stormwater management measures as long as the proposed measures are in the same subwatershed (it is strongly recommended that the off-site area be located upstream of the proposed developed site). When permitted by the Board, the applicant shall be responsible for:
1. Locating adequate off-site locations, and
 2. Obtaining all easements, agreements and permits to construct such facilities on property(s) other than which is proposed to be developed and currently owned by the applicant. The agreements must outline the operation and maintenance responsibilities for the stormwater management facilities to the satisfaction of the Township.

All off-site easements, agreements and permits must be obtained and provided along with the final stormwater management plan submission to the Township for Final Plan review and approval prior to the start of any construction activities. All easement agreements approved in accord with this provision shall be recorded along with the approved Final Plan as required by Section 304.E.6.b. of this Ordinance.

Section 606 Permit Requirements by Other Governmental Entities

The following permit, agency, or governmental approval requirements, where applicable, shall be satisfied by an Applicant, and evidence of such permits or approvals provided to the Township at the time of Final Plan submittal, or zoning permit or building permit application, or at a minimum, no later than the commencement of regulated activities:

- A. All regulated earth disturbance activities subject to PADEP permit requirements under regulations at 25 Pennsylvania Code Chapter 102.
- B. Work within natural drainageways as permitted by PADEP under 25 Pennsylvania Code Chapter 105.
- C. Any stormwater management facility located in or adjacent to the surface waters of the Commonwealth, including wetlands, as permitted by PADEP under 25 Pennsylvania Code Chapter 105.
- D. Any stormwater management facility proposed for location within a state highway right-of-way, or that requires access from a state highway, shall be subject to approval by PennDOT.
- E. Culverts, bridges, storm sewers, or any other facilities which are designed to convey flows from a tributary area, and any facility which is a dam requiring a PADEP permit under 25 Pennsylvania Code Chapter 105.
- F. Any stormwater management facility that alters the flow patterns, flow velocity or volume to negatively affect the drainage patterns of a municipality downstream of West Caln Township shall require approval from that municipality.
- G. Any regulated earth disturbance shall comply with the applicable Environmental Protection Agency (EPA) and PADEP Total Maximum Daily Loads (TMDLs) regulations for the Christina River Basin, Brandywine Creek.

**Section 607 Nonstructural Project Design
(Sequencing to Minimize Stormwater Impacts)**

- A. Stormwater management plans filed with the Township for all regulated activities shall be based on the following requirements to minimize stormwater impacts.
 - 1. Applicants shall find practicable alternatives to the surface discharge of stormwater (see those listed in Appendix D, Table D-4), the creation of impervious surfaces, or the degradation of waters of the Commonwealth and maintain the natural hydrologic regime of the site in so far as reasonably possible.
 - a. An alternative is practicable if it is capable of implementation, taking into consideration existing technology and logistics, overall project purposes, and other applicable Ordinance requirements and Township policies.
 - b. Practicable alternatives to the discharge of stormwater are presumed to have less adverse impact on quantity and quality of waters of the Commonwealth

- B. Applicants shall demonstrate that the regulated activities were designed by following the sequence below in order to minimize any increases in stormwater runoff and impacts to water quality resulting from the proposed regulated activity:
1. Where required by Section 302 of this Ordinance, prepare an Existing Resource and Site Analysis Plan (ERSAP), the contents of which are specified in Section 400 of this Ordinance.
 2. Where applicable, establish riparian buffers, Zone 1 and Zone 2, per Article X, Section 1002.C of the West Caln Township Zoning Ordinance.
 3. Prepare a draft project or development layout which avoids sensitive areas identified in the applicable ERSAP.
 4. Identify site-specific existing conditions, drainage areas, discharge points, recharge areas, and hydrologic soil groups A and B (areas conducive to infiltration).
 5. Evaluate the effectiveness of nonstructural stormwater management alternatives, based on the site's natural characteristics, to:
 - a. Minimize earth disturbance.
 - b. Minimize impervious surfaces.
 - c. Separate large impervious surfaces.
 - d. Minimize clearing operations (vegetation removal).
 - e. Protect existing trees.
 6. Satisfy the groundwater recharge (infiltration) objective of Section 608 and provide for stormwater pretreatment prior to infiltration.
 7. Provide for water quality protection in accordance with the water quality requirements of Section 609.
 8. Provide stream bank erosion protection in accordance with stream bank erosion requirements of Section 610.
 9. Prepare the final project design to maintain existing conditions, drainage areas and discharge points; to minimize earth disturbance and impervious surfaces; and, to the maximum extent possible, to ensure that the remaining site development has no surface or point discharges.

10. Conduct a proposed conditions runoff analysis based on the final design compliant with the Peak Rate Control requirements (Section 611 hereof).
11. Manage any remaining runoff prior to discharge through detention, bioretention, direct discharge, or other structural control.

Section 608 Volume Control / Groundwater Recharge

A. General provisions.

1. The groundwater recharge capacity of the area being developed shall be maximized.
2. Design of infiltration facilities shall compensate for the reduction in groundwater recharge that occurs when the ground surface is disturbed or impervious surface is created.
3. Roof runoff shall be directed to infiltration BMPs designed to compensate for the runoff from parking areas.
4. The above-listed measures shall be consistent with Section 601 and maximize use of any existing recharge areas.

B. Where applicants can successfully demonstrate to the Township that infiltration of stormwater cannot be physically accomplished due to site-specific limitations such as soil type, the applicant shall examine other alternative BMPs, such as green roofs, capture and reuse systems, wet ponds, and low-impact design measures, and employ them to the maximum extent possible to achieve the maximum reduction in volume and water quality protection identified in this article.

C. Infiltration BMPs shall meet the following minimum requirements:

1. Infiltration BMPs intended to receive runoff from developed areas shall be based on the suitability of soils and site conditions and shall be constructed on soils that have the following characteristics:
 - a. A minimum depth of twenty-four (24) inches between the bottom of the BMP and the top of the limiting zone.
 - b. An infiltration rate sufficient to accept the additional stormwater load and dewater completely as determined by field tests conducted by the Applicant's qualified person / firm.

- c. The infiltration facility shall be capable of completely draining the retention (infiltration) volume (Re_v) within three (3) days (72 hours) from the end of the design storm.
 - d. Pretreatment shall be provided prior to infiltration (except for residential roof runoff).
2. The size of the infiltration facility and Re_v shall be based upon the following volume criteria:
- a. Control Guideline One (CG-1) in PADEP BMP Manual – The retention (infiltration) volume (Re_v) to be captured and infiltrated shall be the net 2-year 24-hour volume. The net volume is the difference between the post-development runoff volume and the predevelopment runoff volume. The post-development total runoff volume for all storms equal to or less than the 2-yr. 24-hr. duration precipitation shall not be increased over the pre-development total runoff volume. For modeling purposes existing (predevelopment) non-forested pervious areas must be considered meadow in good condition or its equivalent, and twenty (20) percent of existing impervious area, when present, shall be considered meadow in good condition, in the model for existing conditions.
 - b. Infiltrating the entire Re_v volume in Section 608.C.2.a (above) may not be feasible on every site due to site-specific limitations such as shallow depth to bedrock. If it cannot be physically accomplished, then the following criteria from Control Guideline Two (CG-2) in PADEP BMP Manual must be satisfied:

At least the first one inch (1.0”) of runoff from new impervious surfaces shall be permanently removed from the runoff flow -- i.e., it shall not be released into the surface waters of this Commonwealth. Removal options include reuse, evaporation, transpiration, and infiltration.

$$Re_v = 1 \text{ (inch)} * \text{impervious area (square feet)} \div 12 \text{ (inches)} = \text{cubic feet (cf)}$$

An asterisk (*) in equations denotes multiplication.

- c. If infiltrating the entire Re_v volume in Section 608.C.2.b (above) is not feasible, then the following minimum criteria from Control Guideline Two (CG-2) in PADEP BMP Manual must be satisfied:

Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first one-half inch (0.5”) of the permanently removed runoff should be infiltrated. The minimum infiltration volume (Rev) required would, therefore, be computed as:

$$Re_v = I * \text{impervious area (square feet)} \div 12 \text{ (inches)} = \text{cubic feet (cf)}$$

An asterisk (*) in equations denotes multiplication.

Where:

I = The maximum equivalent infiltration amount (inches) that the site can physically accept or 0.50 inch, whichever is greater.

The retention volume values derived from the methods in Section 608.C.2.a, 608.C.2.b, and/or 608.C.2.c is the minimum volume the Applicant must control through an infiltration BMP facility. If site conditions preclude capture of runoff from portions of the impervious area, the infiltration volume for the remaining area should be increased an equivalent amount to offset the loss. If the minimum of 0.50 inch of infiltration requirement cannot be achieved, a waiver from Section 608, Groundwater Recharge, is required from the Township.

- D. Soils. A detailed soils evaluation of the project site shall be required to determine the suitability of infiltration facilities. The evaluation shall be performed by a qualified person / firm as deemed acceptable by the Township Engineer and at a minimum address soil permeability, depth to bedrock, and subgrade stability. The general process for designing the infiltration BMP shall be to:
1. Analyze hydrologic soil groups as well as natural and man-made features within the site to determine general areas of suitability for infiltration practices. Where development on fill material is under consideration, geotechnical investigations of sub-grade stability shall be made. Infiltration may not be ruled out without conducting these subgrade suitability tests.
 2. Provide field tests, such as double ring infiltrometer or hydraulic conductivity tests (at the level of the proposed infiltration surface), to determine the appropriate hydraulic conductivity rate. Percolation tests for design purposes shall not be submitted.

3. Design the infiltration structure for the required retention (Re_v) volume based on field determined capacity at the level of the proposed infiltration surface.
 4. If on-lot infiltration structures are proposed, it must be demonstrated that the soils are conducive to infiltrate on the lots identified.
- E. Stormwater “Hotspots.” If a site is designated as a hotspot, as defined by PADEP’s Stormwater/BMP Manual, untreated stormwater runoff there from shall not be allowed to recharge into groundwater. Therefore, the Re_v requirement shall NOT be applied to development sites in the hotspot category (the entire WQ_v must still be treated). A greater level of stormwater treatment shall be required at hotspot sites to prevent pollutant wash off after construction. Hotspots shall include, but not necessarily limited to, the following:
- Vehicle salvage yards and recycling facilities
 - Vehicle fueling stations
 - Vehicle and boat service and maintenance facilities
 - Vehicle and equipment cleaning facilities
 - Fleet storage areas (bus, truck, etc.)
 - Industrial sites based on Standard Industrial Classification (SIC) codes list
 - Outdoor liquid container storage
 - Outdoor loading/unloading facilities
 - Public works storage areas
 - Facilities that generate or store hazardous materials
 - Commercial container nursery
 - Other land uses and activities as designated by an appropriate review authority
- Land uses and activities not normally considered hotspots include:
- Residential roads and rural highways
 - Residential development
 - Institutional development
 - Office developments
 - Nonindustrial rooftops
 - Pervious areas, except golf courses and nurseries (which may need an integrated pest management (IPM) plan).
- F. Extreme caution shall be exercised where infiltration is proposed in SWPAs (Source Water Protection Areas) as defined by the Township, an adjoining municipality, or water authority.
 - G. Infiltration facilities shall be used in conjunction with other innovative or traditional BMPs, stormwater control facilities, and nonstructural stormwater management alternatives.

- H. Extreme caution shall be exercised where salt or chloride (municipal salt storage) is the pollutant since soils do little to filter this pollutant. A qualified design professional hired by the applicant at his or her expense shall evaluate the possibility of groundwater contamination from the proposed infiltration facility and, if contamination is found likely, the applicant shall submit a hydrogeologic justification study to the Township at the time of Preliminary Subdivision Plan for review and approval.
- I. The infiltration requirement in HQ or EV waters is subject to PADEP's Chapter 93 Anti-degradation Regulations.
- J. An impermeable liner shall be required in detention basins where the possibility of groundwater contamination exists. In such cases, a detailed hydrogeologic investigation may be required.
- K. The Applicant shall provide safeguards against groundwater contamination for land uses that may cause groundwater contamination should there be a mishap or spill.
- L. All infiltration practices shall be set back at least fifteen (15) feet from all structures with sub-grade elements (e.g., basements, foundation walls).
- M. Where roof drains discharge to infiltration practices, they shall have appropriate measures to prevent clogging by unwanted debris (for example, silt, leaves and vegetation). Such measures shall include but are not limited to leaf traps, gutter guards and cleanouts.
- N. All infiltration practices shall have appropriate positive overflow controls to prevent storage within one (1) foot of the finished surface or grade, unless a specific amount of surface storage away from pedestrian and vehicular traffic is provided and such areas infiltrate the stored volume within forty-eight (48) hours.
- O. During site construction, all infiltration practice components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material. Infiltration areas shall also be protected from sedimentation. Areas that are accidentally compacted or graded shall be promptly remediated to restore soil composition and porosity. Adequate documentation to this effect shall be submitted for review by the Township Engineer. No areas designated for infiltration shall receive runoff until the contributory drainage area has achieved final stabilization.
- P. The following procedures and materials shall be required during the construction of all subsurface facilities:
 - 1. Excavation for the infiltration facility shall be performed with equipment that will not compact the bottom of the seepage bed/trench or like facility.

2. The bottom of the bed and/or trench shall be scarified prior to the placement of aggregate.
 3. Only clean aggregate with documented porosity, free of fines, shall be allowed.
 4. The tops and sides of all seepage beds, trenches, or like facilities shall be covered with drainage fabric. This fabric shall meet the specifications of PennDOT Publication 408, Section 735, Construction Class 1. A separation material must be placed at the bottom of all facilities. The material shall be a pervious drainage fabric, geogrid or sand material.
 5. Perforated distribution pipes connected to centralized catch basins and/or manholes with the provision for the collection of debris shall be provided in all facilities unless the municipal engineer agrees that site soils provide superior infiltration (A soils or highly porous B soils). Where perforated pipes are used to distribute stormwater to the infiltration practice, stormwater shall be distributed throughout the entire seepage bed/trench or like facility.
- Q. All infiltration practices that serve more than one (1) lot and are considered a common facility shall be in a drainage easement. The easement shall afford the Township the right of access.

Section 609 Water Quality Requirements

Applicants shall comply with the following water quality requirements:

- A. No regulated earth disturbance activities shall commence until approvals are issued by the Township as a result of the submittal of Plans prepared in compliance with this Article, and the applicant has filed evidence with the Township that approval of post-construction state water quality requirement compliance (NPDES Construction Permit) has been obtained.
- B. BMPs shall be designed, implemented, and maintained in compliance with State Water Quality Requirements and any other more stringent requirements as determined by the Township.
- C. To control post-construction stormwater impacts from regulated earth disturbance activities, applicants shall demonstrate that water quality requirements have been met through the use of available BMPs, including site design, which provide for replication of pre-construction stormwater infiltration and runoff conditions so that post-construction stormwater discharges do not degrade the physical, chemical, or biological characteristics of the receiving waters. As described in the DEP Comprehensive Stormwater Management Policy (#392-0300-002,

September 28, 2002), water quality requirements can be achieved by the following measures:

1. Infiltration: replication of pre-construction stormwater infiltration conditions;
2. Treatment: use of water quality treatment BMPs to ensure the filtering out of the chemical and physical pollutants from the stormwater runoff; and
3. Stream bank and stream bed protection: management of volume and rate of post-construction stormwater discharges to prevent physical degradation of receiving waters (e.g., from scouring).

D. Developed areas shall be provided with adequate storage and treatment facilities necessary to capture and treat stormwater runoff. The recharge volume computed under Section 607 may be a component of the water quality volume if the applicant chooses to manage both components in a single facility. If the calculated Water Quality Volume (WQv) is greater than the volume required to be infiltrated as described in Section 608.C.2, then the difference between the two volumes shall be treated for water quality by acceptable stormwater management practice(s). The required water quality volume (WQv) is the storage capacity needed to capture and treat a portion of stormwater runoff from the developed areas of the site. To achieve this goal, the following criteria are established:

1. From Control Guideline (CG-1) in the PADEP BMP Manual, the Water Quality Volume (WQv) shall be the net 2-year 24-hour volume. The net volume is the difference between the post development runoff volume and the predevelopment runoff volume. For modeling purposes, existing (predevelopment) non-forested pervious areas must be considered meadow in good condition, or its equivalent, and twenty (20) percent of existing impervious area, when present, shall be considered meadow in good conditions.
2. This volume requirement can be managed by the permanent volume of a wet basin or other appropriate water quality BMPs. Where appropriate, wet basins shall be utilized for water quality control and shall follow the guidelines of the PA Stormwater BMP manual.

E. For areas within defined special protection subwatersheds that include EV and HQ waters, the temperature and quality of water and streams shall be maintained through the use of temperature sensitive BMPs and stormwater conveyance systems.

F. To accomplish the above, the Applicant shall submit original and innovative designs to the Township Engineer for approval. These designs may achieve the required water quality objectives through a combination of different BMPs.

- G. If a perennial or intermittent stream passes through, or a water body is present on the site, the Applicant shall comply with the riparian buffer requirements per the Article X, Section 1002.C of the Township’s Zoning Ordinance, as amended.

Section 610 Stream Bank Erosion Requirements

- A. In addition to controlling water quality volume (in order to minimize the impact of stormwater runoff on downstream stream bank erosion), applicants shall use BMPs to detain the proposed 2-year, 24-hour design storm to the existing conditions 1-year flow using the SCS Type II distribution. BMPs shall be designed (e.g., adding a small orifice at the bottom of the outlet structure) so that the proposed conditions 1-year storm takes a minimum of twenty-four (24) hours to drain from the facility from a point where the maximum volume of water from the 1-year storm is captured (i.e., the maximum water surface elevation is achieved in the facility). Release of water can begin at the start of the storm (i.e., the invert of the water quality orifice is at the invert of the facility).
- B. The minimum orifice size in the outlet structure to the BMP shall be three (3) inches in diameter, and a trash rack shall be installed to prevent clogging. Stormwater calculations shall be submitted for sites with small drainage areas contributing to this BMP that do not provide enough runoff volume to allow a 24-hour attenuation with the 3-inch orifice. Orifice sizes less than three (3) inches may be permitted by the Township, provided that the applicant demonstrates that the design will prevent clogging of the intake.

Section 611 Stormwater Peak Rate Control

- A. Development sites shall control proposed conditions runoff rates to existing conditions runoff rates for the design storms in accordance with the following:

Proposed Condition Design Storm	Reduce to	Existing Conditions Design Storm
2 - year		1 – year
5 - year		2 – year
10 - year		2 – year
25 - year		25 – year
50 – Year		50 – year
100 - year		100 – year

- B. Calculated peak discharges shall apply regardless of whether the grading plan changes the drainage area by subarea. An exception to the above may be granted if discharges from multiple subareas recombine in proximity to the site. In this

- case, peak discharge in any direction may be a one hundred (100) percent release rate provided that the overall site discharge meets the weighted average release rate.
- C. Off-Site Areas. Off-site areas that drain through a proposed development site are not subject to release rate criteria when determining allowable peak runoff rates.
 - D. Site Areas. Site drainage facilities shall be designed to convey safely off-site flows through the development site. Where the site area to be impacted by a proposed development activity differs significantly from the total site area, only the proposed impact area utilizing stormwater management measures shall be subject to the applicable control standards.
 - E. Hardship. The standards and criteria outlined in Section 611.A are designed to maintain existing peak flows and volumes, and compliance with such standards and criteria may, in certain instances, create a hardship to a landowner or developer. Where an applicant cannot satisfy the stormwater standards due to lot conditions or if conformance would create a hardship, the applicant may request a waiver or modification from the Board of Supervisors.
 - 1. The existing drainage network in some areas may be capable of safely transporting slight increases in flows without causing a problem or increasing flows elsewhere.
 - 2. Applicants seeking a modification or waiver under this provision assume all liabilities that may arise in the future should the Board grant such a request.
 - 3. Cost or financial burden is not a hardship.
 - 4. Applicants may use off-site management controls or contribute to the Municipal Stormwater Control and BMP Operation and Maintenance Fund (Section 805.C) as long as the stormwater management controls are within the same subwatershed.

Section 612 Calculation Methodology

- A. Stormwater runoff from development sites with drainage areas of greater than twenty (20) acres shall be calculated using a generally accepted calculation technique based on the NRCS Soil Cover Complex Method. The Township may allow the use of the Standard Rational Method to estimate peak discharges from drainage areas that contain less than twenty (20) acres. The Soil Cover Complex Method shall be used for the determination of the groundwater recharge volume per 607 and for water quality volume per Section 609. The averaging or weighting of a composite curve number (CN) or runoff coefficient is prohibited in determining the groundwater recharge volume.

- B. All calculations consistent with this Ordinance using the Soil Cover Complex Method shall use the appropriate design rainfall depths for the various return period storms according to the region in which they are located as per NOAA Atlas 14. If a hydrologic computer model such as PSRM or HEC-1 / HEC-HMS is used for stormwater runoff calculations, then the duration of rainfall shall be twenty-four (24) hours.
- C. The ground cover used in determining the existing conditions flow rates for the Stormwater Peak Rate Control (Section 611) shall be as follows:
 - 1. Wooded sites shall use a ground cover of “woods in good condition.” Portions of a site having more than one viable tree of a DBH of six (6) inches or greater per fifteen hundred (1,500) square feet shall be considered wooded where such trees existed within three (3) years of application.
 - 2. The undeveloped portion of the site, including agriculture, bare earth, lawn and fallow ground, shall be considered as “meadow in good condition,” unless the natural ground cover generates a lower curve (CN) number or Rational “c” value (i.e., woods) as listed in the Appendix D of this Ordinance.
 - 3. For developed portions of the site, the ground cover used in determining the existing conditions flow rates for the developed portion of the site shall be based upon actual land cover conditions.
- D. All calculations using the Rational Method shall use rainfall intensities consistent with appropriate times-of-concentration (duration) and return periods obtained from NOAA Atlas 14 or the latest version of PennDOT's PTD-IDF curves. Times-of-concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of *Urban Hydrology for Small Watersheds*, NRCS, TR-55 (as amended or replaced from time to time by NRCS). Times-of-concentration for channel and pipe flow shall be computed using Manning’s equation.
- E. Runoff curve numbers (CN) for both existing and proposed conditions used in the Soil Cover Complex Method shall be obtained from Table D-1 in Appendix D of this Ordinance.
- F. Runoff coefficients (c) for both existing and proposed conditions for use in the Standard Rational Method shall be obtained from Table D-2 in Appendix D of this Ordinance. For the Standard Rational Method, Ascending and Receding Limb Factors shall be a minimum of three (3) times the time of concentration.
- G. Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations and to determine the capacity of open channels, pipes,

and storm sewers. Values for Manning's roughness coefficient (n) shall be consistent with Table D-3 in Appendix D of this Ordinance.

- H. Outlet structures for stormwater management facilities shall be designed to satisfy the performance standards of this Article using any generally accepted hydraulic analysis technique or method.
- I. The design of any stormwater detention facilities intended to satisfy the performance standards of this Article shall be verified by routing the design storm hydrograph through these facilities using the Storage-Indication Method. The design storm hydrograph shall be computed using a calculation method that produces a full hydrograph. The Township may approve the use of any generally accepted full hydrograph approximation technique that uses a total runoff volume that is consistent with the volume from a method that produces a full hydrograph.

Section 613 Other Requirements

- A. Any stormwater facility located within state highway rights-of-way shall be subject to approval by PennDOT.
- B. All wet basin designs shall incorporate West Nile Virus controls and any other biologic controls that may be enacted. Contact Chester County Health Department for the most current description of necessary controls.
- C. Any stormwater management facility (i.e., detention basin) required or regulated by this Ordinance designed to store runoff and requiring a berm or earthen embankment shall have an emergency spillway large enough to handle flows up to and including the 100-year proposed conditions. The height of embankment must provide a minimum one (1) foot of freeboard above the maximum pool elevation as computed when the facility functions for the 100-year proposed conditions inflow. Should any stormwater management facility require a dam safety permit under PADEP Chapter 105, the facility shall be designed in accordance with and meet the regulations of Chapter 105 concerning dam safety.
- D. Any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls, or stream enclosures) and any work involving wetlands governed by PADEP Chapter 105 regulations (as amended or replaced from time to time) shall be designed and permitted in accordance with Chapter 105.
- E. Any other drainage conveyance facility not subject to PADEP Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, runoff from the 25-year design storm with a minimum one (1.0) foot of freeboard measured below the lowest point along the top of the roadway.
- F. Conveyance facilities to or exiting from stormwater management facilities (i.e., detention basins) shall be designed to convey the design flow to or from that

structure. Roadway crossings located within designated floodplain areas must be able to convey runoff from a 100-year design storm.

G. The Township reserves the right to disapprove any design that would result in construction in or continuation of a stormwater problem area.

H. Outlet Structures. Outlet structures shall possess the following specifications:

1. To minimize clogging and to facilitate cleaning and inspecting, outlet pipes for all basins with a drainage area of one (1) acre or more shall have an internal diameter of at least eighteen (18) inches and a minimum grade of one percent (1 percent).
2. Anti-seep collars shall be provided on all outlet pipes within a constructed berm.
3. All principal outlet structures shall be built using reinforced concrete with watertight construction joints.
4. Outlet pipes shall be constructed of reinforced concrete with rubber gaskets in conformance with AASHTO M170, M198 and M207.
5. Basin outlet structures shall have childproof non-clogging trash racks over all design openings exceeding twelve (12) inches in diameter except those openings designed to carry perennial stream flows. Periodic cleaning of debris from trash racks shall be required in the operation and maintenance plan.
6. Anti-vortex devices, consisting of a thin vertical plate normal to the basin berm, shall be provided at the top of all circular risers or stand pipes.
7. Outlet structures for all basins shall be designed to permit the facility to be completely drained, if needed, for maintenance.

I. Discharge Points. The minimum distance between a proposed basin discharge point (including the energy dissipater, the emergency spillway, dam breast area, or water storage area) and a downstream property boundary shall in no case be less than the distances indicated below based on the applicable drainage area. Where there is discharge onto or through adjacent properties prior to release to a stream, applicants shall demonstrate how downstream properties are to be protected. The Township Engineer may require that the setback distance be increased based upon factors such as topography, soil conditions, the size of structures, the location of structures, and discharge rates. A drainage easement may also be required.

1 acre drainage area	25' separation
2 to 4 acre drainage area	50' separation

4 to 10 acre drainage area	75' separation
Over 10 acres	100' separation

Section 614 Conveyance System

- A. The stormwater conveyance system, inlets, pipes, overland flow and swales shall be designed utilizing the Rational Method. Storm drainage collection systems, inlets and pipes shall be designed to convey a twenty-five (25) year storm event without surcharging an inlet. Adequate controls to ensure the one-hundred (100) year storm event is conveyed to the stormwater management facility must be incorporated into the design.
- B. Cross-pipes, box culverts and bridges shall be designed to convey a one-hundred (100) year storm event.
- C. Any drainage facility crossing a State Highway shall conform to all applicable PennDOT Design Standards.
- D. Pipe Materials – All storm pipe material shall be in accordance with PennDOT specifications. Piping shall be saw-cut at ends, as needed, and not hammered or broken.
- E. Minimum Pipe Size – Minimum pipe diameter shall be eighteen (18) inches.
- F. Flow Velocity – Stormwater systems shall be designed for a minimum velocity of three (3) feet per second when flowing full. The maximum permissible velocity shall be ten (10) feet per second. The minimum pipe slope shall be one-half (½) percent.
- G. Inlets shall be located at tangents on the uphill side of road intersections and at intervals along the gutter line to control the maximum amount of encroachment of runoff on the roadway pavement so that such encroachment does not exceed a width of four (4) feet during the design storm event. Design and location of curb inlets shall be approved by the Township. The maximum amount of flow through an intersection may not exceed one (1) inch.
- H. Inlets and manholes shall be spaced at intervals not exceeding three hundred (300) feet and shall be located wherever branches are connected or sizes are changed, and wherever there is a change in alignment or grade.
- I. All storm sewer pipes shall be laid to a minimum depth of one (1) foot from subgrade to crown of pipe. Minimum and maximum cover shall be in accordance with PennDOT specifications.
- J. The capacity of all inlets shall be based on a maximum surface flow to the inlet of four (4) cubic feet per second or a maximum spread of flow of one-half of the

travel lane for the road (public or private), calculated based on the twenty-five (25) year design storm event. The maximum flow to inlets located in low points (such as sag vertical curves) shall include the overland flow directed to the inlet as well as all bypass runoff from upstream inlets. The bypass flow from upstream inlets shall be calculated using inlet efficiency curves in PennDOT Design Manual Part 2, latest edition, or other equivalent computer program. If the surface flow to an inlet exceeds four (4) cubic feet per second or, in the case of roads, the spread of flow is greater than one-half of the travel lane, additional inlets shall be provided upstream of the inlet to intercept the excessive surface flow.

- K. The capacity of all stormwater pipes shall be calculated utilizing the Manning's Equation for open channel flow as applied to closed conduit flow. The Manning's roughness coefficient for concrete pipe shall be 0.13. In cases where pressure flow may occur, the hydraulic grade line shall be calculated throughout the storm sewer system to verify that at least one-half ($\frac{1}{2}$) foot of freeboard will be provided in all inlets and manholes for the design storm event.
- L. Culverts shall be designed based on the procedures in Hydraulic Design of Highway Culverts, HDS #5, U.S. Department of Transportation, Federal Highway Administration.
- M. Inlet and Manhole Construction – Inlet and manhole castings and concrete construction shall be equivalent to PennDOT Roadway Construction Standards, latest edition.
- N. Open end pipes must be fitted with concrete endwalls in accordance with PennDOT Roadway Construction Standards, latest edition.
- O. Stormwater pipes must be oriented as close as possible to right angles to electric, water, sanitary sewer, and gas utilities when crossing above or beneath the same. Crossing angles of less than ninety (90) degrees will only be permitted at the discretion of the Township Engineer. When skewed crossings are permitted, interior angles between the alignment of the storm sewer pipe and utility may not be less than forty five (45) degrees.
- P. Modified inlet boxes shall be used when required in accordance with the PennDOT Roadway Construction Standards, latest edition. Pipes shall not enter the corner of boxes for all inlets. The crown of the pipe shall be at least four (4) inches below the top of the precast inlet or manhole box.
- Q. All manholes, endwalls, inlet boxes, inlet grates and inlet hoods shall be constructed in accordance with PennDOT Publication 408 and Roadway Construction Standards, latest edition.

- R. Open swales shall be stabilized with vegetation or other materials in accordance with Title 25, Chapter 102 Rules and Regulations of the PADEP. Slopes for swale banks shall be a minimum of one (1) foot vertical for four (4) feet horizontal.
- S. Adequate erosion protection shall be provided along all open channels and at all points of discharge.
- T. A minimum of a twenty (20) foot wide easement shall be provided for and centered on all storm sewers and open swales not located within a public right-of-way.

Section 615 Inspections

- A. The Township Engineer shall inspect all phases of the installation of the permanent BMPs and/or stormwater management facilities.
- B. During any stage of the work, if the Township Engineer determines that the permanent BMPs and/or stormwater management facilities are not being installed in accordance with the approved stormwater management plan, the Township Engineer may immediately request that the Township Secretary or Zoning Officer revoke any existing permits or other approvals and issue a cease and desist order until a revised drainage design is approved and the deficiencies are corrected. In such cases, the Township Engineer shall follow the procedures established in Section 802 of this Ordinance.
- C. A final inspection of all BMPs and/or stormwater management facilities shall be conducted by the Township Engineer or his designee to confirm compliance with the approved drainage design. The Township may hold the issuance of an occupancy permit or require sufficient funds be held in escrow until the Township has determined the facilities are properly installed.

Section 616 Maintenance Responsibilities

- A. Performance Guarantee – For subdivisions and land developments, the Applicant shall provide a financial guarantee to the Township of the timely installation and proper construction of all stormwater management controls:
 - 1. In an amount equal to or greater than the full construction cost of the approved drainage plan controls, or
 - 2. In the amount and by the method of payment provided for in Article VIII herein.
 - 3. For other regulated activities, the Township may require a financial guarantee from the Applicant calculated as in Subsection 617.A.1 or 2 above.

B. Responsibilities for Operations & Maintenance of Stormwater Controls and BMPs.

1. No regulated activities shall commence until the Township has approved a stormwater control and BMP operations and maintenance plan that describes how the permanent (e.g., post-construction) stormwater controls and BMPs will be properly operated and maintained.
2. A stormwater control and BMP operations and maintenance plan shall include:
 - a. Map(s) of the project area, in a form as required for recording at the Office of the Recorder of Deeds of Chester County, shall be submitted on 30-inch x 42-inch or 24-inch x 36-inch sheets. The contents of the maps(s) shall include, but not be limited to:
 - i. Clear identification of the location and nature of permanent stormwater controls and BMPs.
 - ii. The location of the project site relative to highways, municipal boundaries, or other identifiable landmarks.
 - iii. Existing and final contours at intervals of two (2) feet or as otherwise appropriate.
 - iv. Existing streams, lakes, ponds, or other bodies of water within the project site area.
 - v. Other physical features, including flood hazard boundaries, sinkholes, streams, existing drainage courses and areas of natural vegetation to be preserved.
 - vi. The locations of all existing and proposed utilities, sanitary sewers and water lines within fifty (50) feet of the property lines of the project site.
 - vii. Proposed final changes to the land surface and vegetative cover, including the type and amount of impervious area to be added.
 - viii. Proposed final structures, roads, paved areas and buildings.

- ix. A fifteen (15) foot-wide access easement around all stormwater controls and BMPs to provide ingress to and egress from a public right-of-way.
- b. A description of how each permanent stormwater control and BMP will be operated and maintained and the identity and contact information associated with the person(s) responsible for such operations and maintenance.
- c. The name of the project site, the name and address of the owner of the property and the name of the individual or firm preparing the plan.
- d. A statement, signed by the landowner, acknowledging that the stormwater controls and BMPs are fixtures that can be altered or removed only after approval by the Township.
- e. The stormwater control and BMP operations and maintenance plan for the project site shall set forth who has and what the responsibilities will be for the continuing operation and maintenance of all permanent stormwater controls and BMPs, as follows:
 - i. If a plan includes roads, sewers and other public improvements to be dedicated to the Township, stormwater controls and BMPs may also be dedicated to and maintained by the Township;
 - ii. If sewers and other public improvements are to be privately owned and maintained, then the operation and maintenance of stormwater controls and BMPs shall be the responsibility of the owner or private management entity.
- 2. The Township shall make the final determination on the continuing operations and maintenance responsibilities and reserves the right to accept or reject the operations and maintenance responsibility for any or all of the stormwater controls and BMPs.
- C. Adherence to an Approved Stormwater Control and BMP Operations and Maintenance Plan - It shall be unlawful to alter or remove any permanent stormwater control and BMP required by an approved stormwater control and BMP operations and maintenance plan or to allow property to remain in a condition which does not conform to an approved stormwater control and BMP operations and maintenance plan for that property.

D. Operations and Maintenance Agreement for Privately Owned Stormwater Controls and BMPs.

1. The Applicant shall sign an operations and maintenance agreement with the Township covering all stormwater controls and BMPs that are to be privately owned which shall be transferred to the succeeding owner(s) by operation of law with the transfer of ownership. The agreement shall be substantially the same as the agreement in Appendix E of this Ordinance.
2. Other items may be included in the agreement where necessary to guarantee the satisfactory operation and maintenance of permanent stormwater controls and BMPs subject to the approval of the Township.

E. Stormwater Management Easements

1. Valid stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Township.
2. Valid stormwater management easements shall be provided for access for inspections and maintenance or the preservation of stormwater runoff conveyance, infiltration, detention areas and other stormwater controls and BMPs by persons other than the property owner. The purpose of such easements shall be specified in the easement agreement required by Section 616.D hereof.

F. Recording of an Approved Stormwater Control and BMP Operations and Maintenance Plan and Related Agreements

1. The owner of any land upon which permanent stormwater controls and BMPs will be placed, constructed, or implemented, as described in the stormwater control and BMP operations and maintenance plan, shall record the following documents in the Office of the Recorder of Deeds for Chester County within fifteen (15) days of approval of the stormwater control and BMP operations and maintenance plan by the Township:
 - a. The operations and maintenance plan or a summary thereof;
 - b. All operations and maintenance agreements under Section 616.D; and
 - c. All easements under Section 616.E.
2. The Township may suspend or revoke any approvals granted for the project site upon the failure of the owner to comply with this section.

Section 617 Prohibitions

- A. Prohibited Discharges - No person shall allow, or cause to allow, stormwater discharges into the Township's separate storm sewer system which are not composed entirely of stormwater, except (1) as provided in subsection B below, and (2) discharges allowed under a state or federal permit.

- B. Discharges that may be so allowed to be discharged based on a finding by the Township that such discharge(s) do not significantly contribute to pollution to surface waters of the Commonwealth, are:
 - 1. Discharges from fire-fighting activities.
 - 2. Potable water sources, including dechlorinated water line and fire hydrant flushings.
 - 3. Irrigation drainage.
 - 4. Routine external building washdown (which does not use detergents or other compounds).
 - 5. Air conditioning condensate.
 - 6. Water from individual residential car washing.
 - 7. Spring water from crawl space pumps.
 - 8. Uncontaminated water from foundation or from footing drains.
 - 9. Flows from riparian habitats and wetlands.
 - 10. Lawn watering.
 - 11. Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
 - 12. Dechlorinated swimming pool discharges. (Filter backwash water during normal pool operation must be at a sufficiently low volume that all water infiltrates to the ground. Backwash water discharged to a stream or storm sewer is not permitted.)
 - 13. Uncontaminated groundwater.

- C. In the event that the Township determines that any of the discharges identified in Section 617.B significantly contribute to pollution of waters of the

Commonwealth, or is so notified by PADEP, the Township will require the responsible person to cease the discharge.

- D. Upon notice by the Township to cease under Section 617.C, the discharger will have a reasonable time, as determined by the Township, to cease the discharge consistent with the degree of pollution caused by the discharge.
- E. Nothing in this section shall affect a discharger's responsibilities under state or federal law.
- F. Prohibited Connections - The following connections are prohibited, except as provided in Section 617.B above:
 - 1. Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge, including sewage, process wastewater, or wash water, to enter the separate storm sewer system and any connections to the storm drain system from indoor drains and sinks; and
 - 2. Any drain or conveyance connected from a commercial or industrial land use to the separate storm sewer system which has not been documented in plans, maps, or equivalent records and approved by the Township.
- G. Roof Drains - Roof drains shall not be connected to roads, sanitary or storm sewers or roadside ditches unless permitted, on a case by case basis, by the Township.
 - 1. Roof drains shall ordinarily discharge to infiltration areas or vegetative BMPs to the maximum extent practicable.
- H. Alteration of BMPs
 - 1. No person shall modify, remove, fill, landscape, or alter any existing stormwater control or BMP without the approval of the Township.
 - 2. No person shall place any structure, fill, landscaping, or vegetation into a stormwater control or BMP or within a drainage easement, which would limit or alter the functioning of the stormwater control or BMP, without the approval of the Township.

Section 618 Right-of-Entry

- A. Upon presentation of proper credentials, duly authorized representatives of the Township may enter at reasonable times upon any property to inspect the implementation, condition, or operation and maintenance of the stormwater controls or BMPs governed by this Ordinance.

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

ARTICLE VII
REGULATIONS FOR MOBILE HOME PARKS

Section 700 Purpose In accordance with the provisions of the Pennsylvania Municipalities Planning Code, Act No. 247, as amended, separate provisions regulating mobile home parks and their design, development, alteration, extension, operation and maintenance; licensing; setting forth certain street, parking, walk, open space and density requirements; and providing penalties for violations, are incorporated within this ordinance.

Section 701 Other Applicable Ordinances The provisions and regulations of this Article shall not supersede or otherwise nullify the requirements of West Caln Township Ordinances #7, #13, #15, #20, and #24 and such ordinances shall continue in full force and effect. However, should a conflict occur between the provisions of this Ordinance and the above-listed ordinances, the most stringent regulations shall govern.

Section 702 Submittal Requirements

In addition to the required contents for a major subdivision and land development plan listed in Article IV of this Ordinance, an application for preliminary or final land development approval of a mobile home park shall indicate by drawings, diagram, maps, text, affidavit or other legal instrument, the following:

- A. That the parcel or lot for which application is made is held in single and separate ownership.
- B. The placement, location and number of mobile home lots and mobile home pads on a layout map of the parcel at a scale of one (1) inch equals fifty (50) feet.
- C. The location and dimension of all driveways, pedestrian ways, parking facilities, sidewalks, and access roads with notation as to type of impervious cover.
- D. The locale, dimension and arrangement of all areas to be devoted to lawns, buffer strips, screen planting, and common open space including areas for recreation.
- E. Location, dimension, and arrangement of all buildings existing or proposed to be built and all existing tree masses.
- F. Proposed provisions for handling of storm water drainage, street and on-site lighting, water supply and electrical supply in the form of written and diagrammatic analysis with calculations and conclusions prepared by a registered professional engineer.
- G. Proposed provisions for treatment of sanitary sewage together with proof that the treatment and disposal of such sewage meets with the approval of the agency of the Commonwealth having jurisdiction over such matters.

Section 703 General Standards

- A. A mobile home park shall have an area of not less than twenty (20) acres and shall be held in single ownership at all times.
- B. No mobile home, office or service building shall be closer to a public or private street right-of-way line external to the mobile home park than one hundred and fifty (150) feet, nor closer to the edge of an interior street than fifty (50) feet, nor closer to an adjacent property than seventy-five (75) feet, nor shall any part of any mobile home obstruct any roadway or walkway within a mobile home park.
- C. The maximum gross density on any tract developed for a mobile home park shall be no more than four (4) mobile homes per acre measured on the basis of gross tract area less any jurisdictional wetlands, any areas with Very Steep Slopes, and/or any areas located within the Floodplain Overlay District as defined in the West Caln Township Zoning Ordinance.
- D. There shall be no mobile home sited within twenty (20) feet of another mobile home or common accessory structure.
- E. At least ten (10) percent of the gross site area of each mobile home park shall be set aside as common open space for the use and enjoyment of the residents of the mobile home park. See Section 711 for specific common open space provisions.
- F. The minimum size of mobile home lots shall be seven thousand (7,000) square feet.
- G. The minimum frontage for any mobile home lot shall be seventy (70) feet.
- H. All streets within a mobile home park shall be private and shall not be offered for dedication to West Caln Township.
- I. An initial operating permit from the Township shall be required prior to opening and operating a mobile home park. An annual renewal of such permit shall be required. Permit requirements are covered in greater detail within Section 720 herein.

Section 704 Site Layout

- A. Mobile homes placed on individual lots are encouraged to be placed off-center on the lots so as to provide a large usable open yard space and outdoor living area in one section of the lot.
- B. Groups or clusters of units, so placed as to create interior spaces and courtyards, shall be incorporated whenever feasible.

- C. There shall be variety in the arrangement and orientation of mobile homes, with particular attention given to topography and retaining existing trees. Site layout shall be designed to ensure that mobile home units are offset to avoid long, uninterrupted corridors between the units.
- D. Each mobile home shall be located in a well-drained area and the lot shall be properly graded so as to prevent the accumulation of storm water or other water. Mobile homes shall not be placed within two-hundred (200) feet of any stream centerline and shall observe any riparian buffer zones as defined herein.
- E. The Applicant is strongly encouraged to design the mobile home park so that many units have their long axis east-west, offering southern exposure to their longest wall and roof areas. When topographic conditions make a road layout for good solar orientation of units difficult or undesirable, lots should be laid out so that units can be oriented to the south to the greatest extent possible.
- F. With the exception of Minor Home Occupation/No-Impact Home-Based Businesses, as defined in the West Caln Township Zoning Ordinance, no part of the mobile home park shall be used for a nonresidential purpose, except such uses that are specifically required for the direct servicing and well being of mobile home park residents, for management and maintenance of the mobile home park, or those uses permitted by the West Caln Township Zoning Ordinance.
- G. Each mobile home lot shall be clearly marked and shall contain a driveway with unobstructed access to an interior road.

Section 705 Park Street System

With the exception of those standards specified in this Section, the design and construction of streets in a mobile home park shall be governed by the standards pertaining to private streets set forth in Section 514 of the West Caln Township Subdivision and Land Development Ordinance.

- A. Access to any mobile home lot shall be from a street interior to the mobile home park. Where mobile home lots are created having frontage on an existing road within the Township, the mobile home park street pattern shall provide reverse frontage access to an interior street within the mobile home park, and not to the existing road.
- B. Interior streets shall be at least twenty-four (24) feet wide and shall be constructed to comply with all other private street requirements set forth in Section 514 of the West Caln Township Subdivision and Land Development Ordinance.
- C. The entrance roads or area connecting the park with a public street or road shall have a minimum pavement width of thirty-six (36) feet for a depth of at least one-hundred (100) feet from the public street or road.

- D. Illumination of Streets. All mobile home parks shall be furnished with lighting fixtures so spaced and so equipped with luminaries as will provide adequate levels of illumination throughout the park for the safe movement of vehicles and pedestrians at night. Lighting fixtures selected shall comply with Section 1209 of the West Caln Township Zoning Ordinance, and employ downlighting so that no direct light or objectionable glare shall leave the tract upon which the mobile home park is developed.
- E. Curbs, gutters and sidewalks (parallel to streets) may, at the sole discretion of the Board of Supervisors, be required or waived depending on the needs of the mobile home park, including drainage and safety considerations.

Section 706 Parking

- A. Off-street parking for at least two (2) motor vehicles shall be provided at each mobile home site. Each parking stall shall be designed to Township standards, which shall be specified in the plan. Off-site common parking areas may be provided in lieu of parking stalls at each mobile home site; but, in such case, parking slots shall be provided at the ratio of two slots for each mobile home site not equipped with on-site parking. The parking spaces must be within one-hundred (100) feet of the mobile home site which they will serve.
- B. Additional parking spaces for vehicles of non-residents shall be provided. A minimum of five (5) visitor spaces shall be provided for every ten (10) mobile home sites. All visitor parking spaces shall be located within two hundred (200) feet of the mobile home spaces which are to be served.
- C. Mobile home park offices shall have a minimum of two (2) visitor spaces and one (1) space for every employee working the largest shift.
- D. Parking shall be prohibited on internal roads and it shall be the duty of the owner or operator of the mobile home park to enforce this provision.
- E. All mobile home parks shall provide safe, convenient, all-season pedestrian walkways of adequate width for their intended use, durable and convenient to maintain, between the park roads and all community facilities provided for park residents.
 - 1. Where pedestrian traffic is concentrated, each walk shall have a minimum width of four (4) feet.
 - 2. All mobile home sites shall be connected to common walks, and to streets or to driveways connecting to a paved street or road. Each such walk shall have a minimum width of two (2) feet.

Section 707 Grading; Erosion and Sedimentation Control; and Stormwater Management

Article V., Sections 517 and 518, and Article VI. of the West Caln Township Subdivision and Land Development Ordinance shall be applicable to all mobile home park developments and are accordingly incorporated herein by reference.

Section 708 Water Supply

All mobile home parks shall be connected to a public water supply when available, unless otherwise waived by the Board of Supervisors. Mobile home parks unable to connect to a public water supply shall have an adequate potable water supply provided to all dwellings within a mobile home park. The mobile home park shall be served by one (1) community water supply system meeting the provisions of Section 520 of the West Caln Township Subdivision and Land Development Ordinance, as applicable. Such systems shall be installed according to the requirements and standards of the Pennsylvania Department of Environmental Protection (PADEP) and the Chester County Health Department (CCHD). In addition to such requirements, the water distribution system shall be constructed in accordance with the following:

- A. Individual water-riser pipes shall be located within the confined area of the mobile home stand at a point where the water connection will approximate a vertical position.
- B. The water-riser pipe shall extend at least four (4) inches above ground elevation. The pipe shall be at least three-fourth (3/4) inch. The water outlet shall be capped when a mobile home does not occupy the lot.
- C. Adequate provisions shall be made to prevent freezing of service lines, valves and riser pipe and to protect risers from heaving and thawing actions of ground during freezing weather. Surface drainage shall be diverted from the location of the riser pipe.
- D. A shut-off valve below the frost line shall be provided near the water-riser pipe of each mobile home lot.
- E. Underground stop and waste valves shall not be installed on any water service.

Section 709 Sanitary Sewage Disposal

- A. All mobile home parks shall have a permitted sewage disposal facility in accordance with the rules and regulations of the PADEP, the Chester County Health Department, the Township's Act 537 Sewage Facilities Plan, and in accordance with Section 521.G or 521.H of this Ordinance. Wherever a public sewer system is available, and when consistent with the Township's Act 537 Sewage Facilities Plan, all mobile home parks shall connect to the public sewer

system. All sewer systems shall be designed, constructed and maintained in accordance with the applicable regulations of the PADEP, CCHD, and the Township's Act 537 Sewage Facilities Plan.

B. If a public sewer system is not available, a privately owned community sewage treatment and disposal system(s) system may be utilized if consistent with the Township's Act 537 Sewage Facilities Plan. Individual On-site Sewage Systems are not permitted. For a privately owned community sewage treatment and disposal system(s), the owner of the mobile home park shall provide financial assurances for the repair or replacement of the privately-owned system. The design of a privately-owned community sewer system for a mobile home park shall be subject to the approval of the West Caln Township Board of Supervisors. All community sewage treatment and disposal systems shall utilize the land application of wastewater in accordance with the West Caln Township Sewage Facilities Plan and all applicable requirements of the PADEP and the CCHD. In addition to such requirements, the sewage system shall be constructed in accordance with the following:

1. All mobile homes and service buildings shall include toilet facilities and shall be connected to an approved sewage system.
2. Individual sewer riser pipes having at least a four (4) inch diameter shall be located on each mobile home stand and shall extend at least one (1) inch above ground level.
3. Provisions shall be made for sealing the sewer riser pipe with a securely fastened plug or cap when the mobile home is unoccupied.
4. Adequate provisions shall be made to protect sanitary sewers from storm water infiltration and leakage.

Section 710 Utility Distribution System

All utilities shall be installed and maintained in accordance with utility company specifications regulating such systems and shall be underground.

Section 711 Common Open Space Areas

A. Common open space areas shall be located and designed as areas easily accessible to residents and preserving natural features. Common open space areas should include both active recreation areas for all age groups and, particularly where the site includes a watercourse or hilly or wooded areas, land which is left in its natural state. At least seventy-five (75) percent of the open space areas shall be located in an area not subject to flooding, be characterized by wetlands or very steep slopes, and which is usable for active recreational use. No such active recreational open space areas shall be less than one-quarter acre in size.

- B. Lands within a mobile home park reserved for park or recreational use, and otherwise conforming to the requirements for dedication, may be retained in single ownership with the remainder of the mobile home park, subject to restriction to park or recreational use acceptable to the Township.
- C. The owner and/or operator of the mobile home park shall be responsible for the maintenance of the recreational area. Failure to properly maintain the recreational area shall constitute a nuisance. In the event that the recreational area is not maintained, the Township may proceed to remedy such deficiency by enforcement of any applicable Township ordinance, by injunctive relief or by performing the necessary maintenance and assessing the cost of such maintenance, plus a penalty in the amount of fifteen percent (15%) of the cost of such maintenance, against the owner and/or operator and filing such cost and penalty as a municipal claim against the property. Maintenance of the recreational area by the Township shall not relieve the owner and/or operator from prosecution or penalties under this Ordinance or other applicable ordinances.

Section 712 Service Buildings and Facilities

- A. Mobile home parks proposed with fifteen (15) or more units shall have a structure clearly designated as the Office of the mobile home park manager.
- B. Service and accessory buildings located in a mobile home park shall be used only by the residents and employees of the mobile home park.
- C. Where a service building is provided, it must contain at least one bathroom and storage areas accessible to park residents and employees. In addition, the applicant, or park operator, may provide laundry facilities, repair shop, indoor recreational facilities and/or commercial uses to supply essential goods and services to park residents only. Where indoor recreation facilities are established, two bathrooms, one for each sex, shall be provided. Applicants or park operators should also provide sheltered waiting areas for public transportation service, and a mail box area for residents.
- D. Construction of service buildings shall be in compliance with all applicable building codes, plumbing codes, etc. Service buildings shall be maintained in a clean, sanitary and structurally safe condition. All portions of the structure shall be properly protected from damage by ordinary uses and by decay, corrosion, termites and other destructive elements. Exterior portions shall be of such materials and be so constructed as to prevent the entrance or penetration of moisture and weather.
- E. The CCHD Rules and Regulations shall be applicable to all mobile home park developments and are accordingly incorporated herein by reference.

Section 713 Other Accessory Buildings and Uses

- A. The outdoor storage of boats, recreational vehicles, and travel trailers exceeding twenty (20) feet in length, or any other type of trailer of any height or length, shall only be permitted within mobile home parks where an area has been specifically set aside for such storage by park residents. Such area shall be fenced to prevent unauthorized trespass, and effectively screened, or located so as to be out of view, from adjoining properties to the park zoned or used for residential purposes. All other outdoor storage shall be prohibited within mobile home parks.
- B. The mobile home park operator shall provide occupants of each mobile home lot with at least one hundred fifty (150) square feet of enclosed storage, or the mobile home park operator shall inform occupants of the prohibition of outdoor storage and the requirement to obtain a permit from the Township if the occupant desires to install a storage building. The type of storage facility shall be approved by the Township. The land development plan shall clearly depict any centralized storage facilities.
- C. All buildings within the mobile home park shall be used only by occupants of the mobile home park, guests of occupants, and employees of the mobile home park.
- D. All attachments to individual mobile homes in the form of buildings such as sheds and lean-tos are prohibited. Retractable awnings to individual mobile homes are permitted.

Section 714 Fuel Supply and Storage

- A. Liquefied petroleum gas systems.
 - 1. The design, installation and construction of containers and pertinent equipment for the storage and handling of liquefied petroleum gases shall conform to the Act of Pennsylvania Legislation 1951, December 27, P.L. 1793, as it may be amended by the Pennsylvania Department of Labor and Industry (PADLAI), or its successor.
 - 2. Liquefied petroleum gas systems provided for mobile homes, service buildings or other structures when installed shall be maintained in conformity with the rules and regulations of the PADLAI and shall include the following:
 - a. Systems shall be provided with safety devices to relieve pressures and shall be arranged so that the discharge terminates at a safe location.

- b. Systems shall have at least one accessible means for shutting off gas. Such means shall be located outside the mobile home and shall be maintained in effective operating condition.
- c. All liquefied petroleum gas piping outside of the mobile home shall be well supported and protected against mechanical injury. Undiluted liquefied petroleum gas in liquid form shall not be conveyed through piping equipment or systems in mobile homes.
- d. Vessels of at least twelve (12) U.S. gallons and less than sixty (60) U.S. Gallons gross capacity shall be maintained in a vertical position and shall be securely, but not permanently fastened to prevent accidental overturning. No vessel shall be placed any closer to a mobile home exit than five (5) feet, and no closer to any window than three (3) feet.
- e. No liquefied petroleum gas vessel shall be stored or located inside or beneath any storage cabinet, carport, mobile home or any other structure.
- f. All pipe connections shall be of a flare type.

B. Fuel Oil Systems.

- 1. All fuel oil supply systems provided for mobile homes, service buildings and other structures shall be installed and maintained in conformity with the rules and regulations of the authority having jurisdiction.
- 2. All piping from outside fuel storage tanks or cylinders to mobile homes shall be securely, but not permanently, fastened in place.
- 3. All fuel oil supply systems provided for mobile homes, service buildings and other structures shall have shut-off valves located within five inches of storage tanks.
- 4. All fuel storage tanks or cylinders shall be securely placed and shall not be less than five feet from any mobile home exit, and not less than three feet from any window.
- 5. Storage tanks located in areas subject to traffic shall be protected against physical damage.

C. Natural Gas System.

1. Natural gas piping systems when installed in mobile home parks shall be maintained in conformity with the specifications of the gas company serving the area.
2. Each mobile home lot provided with piped gas shall have an approved shut off valve installed upstream of the gas outlet. The outlet shall be equipped with an approved cap to prevent accidental discharge of gas when the outlet is not in use.

Section 715 Electrical Distribution System

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

B. Power Distribution Lines. Main power lines shall be located underground. All conductors and cables shall be buried at least thirty-six (36) inches below the ground surface and be insulated and specially designed for that purpose. Such conductors shall be located not less than one foot radial distance from water, sewer, gas, or communication lines.

C. Individual Electrical Connections.

1. Each mobile home lot shall be provided with an approved disconnecting device and overcurrent protective equipment. The minimum service per outlet shall be 120/240 volts AC, 100 amperes.
2. The mobile home shall be connected to the outlet receptacle by an approved type of flexible cable with connectors and a male attachment plug.
3. Where the calculated load of the mobile home is more than 60 amperes, either a second outlet receptacle shall be installed or electrical service shall be provided by means of permanently installed conductors.
4. Meter poles shall have a maximum height of six (6) feet.

D. Required Grounding. All exposed non-current-carrying metal parts of mobile homes and all other equipment shall be grounded by means of an approved grounding conductor run with branch circuit conductors or other approved method of grounded metallic wiring. The neutral conductor shall not be used as an equipment ground for mobile homes or other equipment.

Section 716 Fire Protection

- A. All mobile home parks served by public water shall be provided with fire hydrants which meet the specifications of the National Fire Protection Association and the Township Fire Protection Standards, but in any case, in sufficient numbers to be within six hundred feet of all existing and proposed structures and mobile homes, measured by way of accessible roads.
- B. Portable hand-operated fire extinguishers of a type suitable for use on oil fires and approved by the local fire prevention authority shall be kept in each service building under park control and shall be required by the mobile home operator to be placed in each mobile home in the park, located inside the mobile home in a fixed location preferably near a door but not in close proximity to cooking facilities.
- C. The mobile home park manager shall consult periodically with the local fire prevention authority as to proper fire prevention practices, accessibility of roads, testing of fire hydrant pressure, location and operation of equipment, community education programs, and the like.
- D. Mobile home park areas shall be kept free of litter, rubbish and other flammable materials.
- E. Adequate water capacity for fire protection shall be stored within, or immediately adjacent to, the mobile home park.

Section 717 Landscaping and Buffering

In addition to plantings for buffered setbacks, and compliance with the requirements of Section 1206 of the West Caln Township Zoning Ordinance and Sections 524 and 525 of this Ordinance, a mobile home park shall comply with the following landscaping and buffering requirements:

- A. A vegetative buffer area of at least twenty-five (25) feet shall be provided around the entire perimeter of each mobile home park (except at entrance/exit roads). The Board of Supervisors may waive the vegetative buffer requirement where park boundaries do not adjoin lands zoned for, or developed with, residential uses, or public or private recreational uses. The vegetative buffer area may occupy, or constitute a portion of, the required setbacks for mobile homes, offices, or service buildings specified in Section 703.B. However, this buffer area shall not be considered a part of an individual mobile home “lot” or required “lot area” and shall be provided in addition to the required open space specified in Section 703 of this Article.
- B. Unless otherwise waived by the Board of Supervisors pursuant to Section 717.A., buffered setbacks shall consist of a visual screen of mixed evergreens and

deciduous plant material of species listed in Appendix A. of the Township Zoning Ordinance. At least fifty (50) percent of the plant material shall be evergreen, and applicants are encouraged to use native plantings wherever possible. All existing deciduous and evergreen trees equal to or greater than three (3) inches (DBH) and/or eight (8) feet in height shall be preserved in the buffer areas, and cleared only to insure adequate sight distance for any park entrances as determined by the Township Engineer. At the time of planting, a sufficient amount of evergreen material to visually screen the property shall be installed from the ground level to a minimum of at least six (6) feet in height (after planting), and no less than ten (10) feet apart along the entire perimeter of the mobile home park tract, broken only by vehicle and pedestrian accessways. Where parks adjoin public streets, required plantings shall be setback from the edge of pavement, or curb, a minimum of ten (10) feet.

- C. No portions of tree masses shall be cleared within the park unless the Planning Commission or Board of Supervisors determines that such clearing is necessary for effectuation of the proposed mobile home park development. Applicants shall make all reasonable effort to harmonize their plans with the preservation of existing trees, and at a minimum, shall comply with the Natural Resource Protection Standards of Article X. of the Township Zoning Ordinance.
- D. Disturbed topsoil shall be stockpiled and replaced after construction.
- E. Deciduous trees of varying and indigenous species shall be planted within the mobile home park at the ratio of two (2) per mobile home. In the event that a substantial portion of the tract is wooded and a substantial number of trees remain after development, the Board of Supervisors may modify this requirement.
- F. Deciduous and/or evergreen shrubs of varying and indigenous species shall also be planted within the mobile home park at a ratio of at least four (4) per mobile home.
- G. Planting of all landscape material shall be in accordance with a Landscape plan prepared by a registered landscape architect in conformance with Section 525 of this Ordinance, and Section 1206 of the West Caln Township Zoning Ordinance. Planting of landscape material shall be completed within six months of approval of the Final Plan, and failure to carry out the landscaping plan within such time shall warrant denial of the issuance or renewal of the park's annual license under Section 721 herein.
- H. Plantings shall be maintained permanently and replaced within one (1) year in the event of death of any plant material. Plantings shall not be placed closer than three feet from any property line. If plantings are not properly maintained, this provision may be enforced by means of the annual licensing provisions in Section 720 herein.

Section 718 Slope

No mobile home site shall be located in an area of greater than fifteen (15) percent slope.

Section 719 Solid Waste Collection, Disposal, and Recycling

- A. The storage, collection, recycling, and disposal of refuse in the mobile home park shall be the responsibility of the mobile home park owner or manager and shall be so conducted as to create no health hazards, rodent harborage, insect breeding areas, accident or fire hazards or air pollution and shall comply with all applicable Township and State regulations. Provisions shall be made by the mobile home park operator to have garbage, waste, and recyclables collected at least once every week and shall be deposited at approved disposal/recycling sites.
- B. All mobile home parks shall be provided with solid waste collection and recycling stations at convenient but inconspicuous locations, each serving not more than fifteen (15) mobile homes, and consisting of self-closing containers, with separate containers for garbage, trash, and recyclables, placed on a concrete slab and accessible for truck pick-up, and completely screened from view by solid fencing.

Section 720. Permits, Licenses, Fees and Inspections

- A. Permits Required
 - 1. It shall be unlawful for any person, firm or corporation or other entity to construct, maintain, alter, extend, or operate a mobile home park within West Caln Township unless and until the following are obtained:
 - a. A valid permit issued by the Pennsylvania Department of Environmental Protection in the name of the landowner, for the specified construction, alteration or extension proposed.
 - b. All required local inspections and licenses.
- B. Annual Licenses
 - 1. In addition to the initial permits, the landowner of the mobile home park shall apply to the West Caln Township Manager on or before the 15th day of January of each year for an annual license to continue operation of the mobile home park. The Manager shall issue the annual license upon satisfactory proof that:
 - a. The park continues to meet the standards prescribed by the Pennsylvania Department of Environmental Protection, if any;

- b. The standards promulgated by any other state or county agency having jurisdiction, have been met;
- c. Compliance with the standards and provisions of this Ordinance is evident;
- d. The landowner holds a current and valid certificate of registration issued annually by the Pennsylvania Department of Environmental Protection for operation of the mobile home park.

C. Fees

- 1. Fees for the initial application and preliminary and final approvals shall be prescribed by regulations by the governing body of West Caln Township.
- 2. The fee for the annual license shall be prescribed by regulation of the Board of Supervisors and shall be submitted to the Township Secretary with the application for the annual license.

D. Inspection

- 1. Upon notification to the licensee, manager or person in charge of a mobile home park, a representative of West Caln Township may inspect a mobile home park at any reasonable time to determine compliance with this Ordinance.
- 2. Upon receipt of the application for annual license and before issuing such annual license, the Township Secretary, Township Manager or other designated representative or West Caln shall make an inspection of the mobile home park to determine compliance with this Ordinance. The Township Manager or his representative shall thereafter notify the licensee of any instances of non-compliance with the Ordinance and shall not issue the annual license until the licensee has corrected all such violations.

ARTICLE VIII

IMPROVEMENT GUARANTEES AND ACCEPTANCE

Section 800 Construction of Improvements

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

- B. No occupancy permits for any building or buildings to be erected shall be issued by the Township until the Township Engineer certifies that:
 - 1. The roads, streets, or lanes providing access to and from existing public roads to such building or buildings have been improved to a permanently passable condition by application of at least a base course thereon; and

 - 2. That all other improvements depicted on the approved final plan, either upon the lot or lots or beyond the lot or lots in question and necessary for the reasonable use of or occupancy of any such building or buildings have been completed.

Section 801 Improvement Guarantee Requirements and Agreements

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

2. That the Applicant or developer guarantees completion of all public improvements by means of a bond or deposit of funds or securities in escrow in an amount established pursuant to Section 801.B herein;
 3. That the Applicant or developer agrees to tender a deed or deeds of dedication to the Township for such streets and for such easements for sanitary and storm sewers, sidewalks, manholes, inlets, pumping stations, and other appurtenances as shall be constructed as public improvements provided that the Township shall not accept dedication of such improvements until their completion is certified as satisfactory by the Township Engineer. All streets, easements and other public improvements offered for dedication shall be accompanied by a metes and bounds description by the developer. The Board of Supervisors may require that the Applicant or developer supply a title insurance certificate from a reputable company before the Township accepts any property.
- B. The form and type of financial security shall be approved by the Township Solicitor, and may be either a Federal or Commonwealth chartered lending institution irrevocable letter of credit, a restrictive or cash escrow account in such lending institution or a performance bond. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the developer posting the financial security, provided that the bonding company or lending institution is authorized to conduct business within the Commonwealth of Pennsylvania.
- C. The amount of financial security to be posted for completion of the required improvements shall be equal to one hundred-ten (110) percent of the cost of completion of the required improvements, estimated as of ninety (90) days following the date scheduled for completion by the developer. The estimated cost of completion of the required improvements shall be submitted by the Applicant or developer and prepared by a professional engineer licensed as such in the Commonwealth of Pennsylvania and certified by such engineer to be a fair and reasonable estimate of such cost. The Township may refuse to accept such estimate for good cause. If the Applicant or developer and the Township are unable to agree upon an estimate, the procedures set forth in the Section 509(g) of the MPC shall be followed. No final plan shall be approved until the scheduled date for subdivision or land development construction completion is explicitly set forth on its cover sheet.
- D. If the Applicant or developer requires more than one year from the date of posting of the financial security to complete the required improvements, the Township may require that the amount of financial security be increased by an additional ten (10) percent for each one year period beyond the first anniversary date from posting of financial security or to an amount not exceeding one hundred-ten (110) percent of the cost of completing the required improvements as re-established on

or about the expiration of the preceding one year period by using the above procedure for estimating the cost of completion of the required improvements.

- E. Where development is projected over a period of years, the Board of Supervisors may authorize submission of final plans by section or stages of development subject to such requirements or guarantees as to improvements in future stages of development as it finds essential for the protection of any finally approved section of the development. As the work of installing the required improvements proceeds, the Applicant or developer may request that the Township release, from time to time, such portions of the financial security necessary for payment to the contractor performing the work. Any such request shall be in writing, addressed to West Caln Township, and the Board of Supervisors shall have forty-five (45) days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Board of Supervisors that the improvements have been completed in accordance with the approved plan. If the Township fails to act within the forty-five (45) day period, the Township shall be deemed to have approved the release of funds as requested. The Township may, prior to final release at the time of completion and certification by the Township Engineer, require retention of ten (10) percent of the estimated cost of the aforesaid improvements.
- F. Where the Township accepts dedication of all or some of the required improvements following completion, the Township may require the posting of additional financial security to secure the structural integrity of the improvements as well as the functioning of said improvements in accordance with the design and specifications in the final plan for a term not to exceed eighteen (18) months from the date of acceptance of dedication. The amount of this additional financial security shall not exceed fifteen (15) percent of the actual cost of installation of the improvements.
- G. Where adequate financial security has been provided as set forth above, the Township shall not unreasonably withhold the issuance of building, grading or other permits relating to the construction of the improvements, including buildings, upon the lots or land as depicted on the final plan. Moreover, where adequate financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following the Township Engineer's certification provided in accordance with Section 804 herein.

Section 802 Inspections

- A. The construction or installation of all improvements shall at all times be subject to inspections by the Township Engineer and/or representatives of the Township. If such inspection reveals that work is not in accordance with approved plans and specifications, that construction is not being done in a workman-like manner, or that erosion and sediment controls are failing to prevent acceleration erosion or water borne sediment from leaving the site of construction, the Township

Engineer or Township representative shall immediately notify the Township Secretary or Zoning Officer of the violations or infractions. The Township Secretary, or in his absence, the Zoning Officer is empowered to require corrections to be made and/or order the suspension of subdivision approval and to issue a cease and desist order which may include any or all of the following sanctions:

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

The Township Secretary or Zoning Officer shall inform the Township Board of Supervisors of any ordered suspension of subdivision approval or cease and desist order issued, within twenty-four hours of such action.

- B. Any cease and desist order may be terminated upon the determination of the Board of Supervisors that the said defects or deviations from plan requirements have been corrected.
- C. It shall be the responsibility of the Applicant, subdivider, developer, builder, or contractor to notify the Township Secretary, who in turn will notify the Township Engineer or other duly authorized person, a minimum of two working days in advance of the commencement of any construction or installation of any facility or utility required by this Ordinance or by the approved subdivision or land development plan in order that provisions may be made for inspection by the Township.
- D. In addition to the advance notice required in subsection C, above, it shall be the responsibility of the Applicant, subdivider, developer, builder, or contractor to call, at a minimum, for the following specific inspections, by notifying the Township Secretary, who in turn will notify the Township Engineer or other duly authorized person, a minimum of one working day in advance of the time anticipated for the required inspection:
 1. Key trench for stormwater management basins following excavation but prior to the placement of any backfill.
 2. Underground stormwater management facility prior to excavation.
 3. All pipe work, including outlet pipe and anti-seep collars in stormwater management basins, storm drains, and utilities, before backfill begins.

4. Utility work within existing roadways prior to road opening or saw-cutting of roadway.
 5. Footings for structures following excavation but prior to the commencement of any further construction work on the structure.
 6. Fill placement in existing or future Township right-of-ways prior to placement.
 7. Road subgrade when completed, but before the start of installation of curbs or stone base course.
 8. Curbs and/or sidewalks, when stone base is in place, and during the subsequent concrete pours.
 9. Crushed aggregate base course during its installation.
 10. Bituminous surface binder course during its installation.
 11. Bituminous surface wearing course during its installation.
 12. Erosion and sedimentation control facilities removal, including conversion of sediment basins / traps to permanent, prior to conversion.
 13. Final inspection.
- E. The Township Engineer shall be required to make periodic physical inspections of all subdivisions and land developments under construction in West Caln Township. In addition, the Township Engineer shall be responsible for reviewing and approving field construction or any special requirements which may be imposed by the Board of Supervisors at the time of approval of a land development and/or a subdivision plan. The Township Engineer shall report to the Board of Supervisors in writing periodically as to the status of construction and as to the status of any maintenance or bonding responsibilities, which extend beyond the completion date for any subdivision and/or land development.

Section 803 As-built Plans

- A. Each developer shall be required to file with the Township an As-built Plan following completion of the development.
- B. The As-built Plan shall be a corrected copy of the approved subdivision/land development plan showing actual dimensions and conditions of roads and all other improvements, including but not limited to:
 1. Concrete monuments and lot pins.

2. Cartway edges and centerline, location and elevations.
 3. Sanitary sewer mains, manholes, cleanouts and laterals.
 4. Storm sewers, inlets, manholes, and culverts.
 5. Water mains, valves and hydrants
 6. Street lights and utility poles.
 7. All known utilities including gas, electric, cable and telephone.
 8. Stormwater Management facilities.
 9. Landscaping.
 10. Easements
 11. Certification of the accuracy of the plan by the Applicant's or developer's engineer or surveyor.
- C. In addition, the As-built Plan shall indicate that the resultant grading, drainage structures and/or drainage systems and erosion and sediment control practices, including vegetative measures, are in substantial conformance with the previously approved drawings and specification. The Plan shall note all deviations from previously approved drawings. Two (2) copies of the As-built Plan shall be submitted to the Board of Supervisors for distribution to the Township Engineer and for the Township file.
- D. For major subdivisions, in addition to the paper plan submission, the Township may require a digital electronic submission meeting drafting standards, data layer separation requirements and in the format specified by the Township Engineer which shall remain electronically accessible for a minimum period of ten (10) years thereafter.

Section 804 Release from Performance Guarantee

- A. When the Applicant or developer has completed all of the required improvements, and has submitted the As-built Plan in accordance with Sections 803.A through D. above, he shall notify the Board of Supervisors in writing by Certified or Registered Mail of the completion of the improvements, and shall send a copy to the Township Engineer. The Township shall, within ten (10) days after receipt of such notice, direct and authorize the Township Engineer to inspect all of the Applicant's or developer's subdivision or land development improvements. The Township Engineer shall promptly file a report with the Board of Supervisors and

shall mail a copy to the developer by Certified or Registered Mail. The report shall be made and mailed within thirty (30) days after receipt by the Township Engineer of the authorization from the Township. This report shall indicate approval or rejection of the improvements, either in whole or in part, and if the improvements, or any portion thereof, shall not be approved or shall be rejected by the Township Engineer, the report shall contain a statement of reasons for such non-approval or rejection.

- B. The Board shall, within fifteen (15) days of receipt of the Township Engineer's report, notify the developer by Certified or Registered Mail of its actions in response to the Township Engineer's review of improvements.
- C. If the Board of Supervisors or the Township Engineer fails to comply with the time limitations set forth in Section 804.A or 804.B, all improvements will be deemed to have been approved and the Applicant or developer shall be released from all liability pursuant to its performance guarantee, bond, or other security agreement.
- D. If any portion of the said improvements shall not be approved or shall be rejected by the Board, the Applicant or developer shall proceed to complete the same and upon completion, the same procedure of notification, as outlined herein, shall be followed.
- E. Improvements bonds or funds in escrow may be released in stages as construction of a significant portion of streets, and all other public improvements, are completed and approved by the Board. Escrow releases must be signed and approved by the Township Engineer who shall be responsible for determination of the amount of escrow to be released. No such amount shall be released, however, until approved by the Board.
- F. The developer shall be responsible for maintenance of all public improvements until such improvements are offered for dedication and are accepted by the Township.
- G. In the event any improvements which may be required have not been installed as provided in this Ordinance or in accordance with the approved final plan, the Board of Supervisors has the power to enforce any escrow, corporate bond or other security by appropriate legal and equitable remedies. If proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all improvements covered by said security, the Board may, at its option, install all or part of the remainder of such improvements covered by said security, and may institute appropriate legal or equitable action to recover any monies spent in the installation thereof and any additional monies necessary to complete the remainder of the improvements. All the proceeds, whether resulting from the security, or from any legal or equitable action brought against the Applicant or developer, or both, shall be used solely for the

installation of the improvements covered by such security and not for any other purpose.

- H. Nothing herein, however, shall be construed in limitation of the Applicant's or developer's right to question or contest, by legal proceedings, any determination of the Board.

Section 805 Dedication and Acceptance of Public Improvements

- A. Upon completion of any public improvements shown on an approved final plan, the Board of Supervisors may require that an Applicant or developer offer such public improvements for dedication. In such a case, the Applicant or developer shall prepare a deed of dedication and forward same to the Secretary of the Township for review by the Solicitor of Deeds of dedication for public improvements may be accepted by resolution of the Board at a regular meeting thereof. No roads or streets in any approved subdivision or development will be accepted as the responsibility of the Township until such time as fifty (50) percent of the lots in any approved subdivision or development have dwellings or other principal buildings erected thereon. Should the above mentioned road or streets, even though constructed according to these specifications, deteriorate before the necessary fifty (50) percent of the lots have buildings erected thereon, such roads or streets shall be repaired in a manner acceptable to the Board of Supervisors before being accepted by the Township.
- B. The Board may require that storm water management facilities remain in private ownership, with the maintenance responsibility placed on individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out such maintenance responsibilities.
- C. Where maintenance of storm water management facilities is to be the responsibility of individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out maintenance responsibilities, the Board may require that an initial escrow maintenance fund be established in a reasonable amount, and/or that maintenance responsibilities be set forth in perpetual covenants or deed restrictions binding on the landowner's successors in interest.

ARTICLE IX

ADMINISTRATION

Section 900 General Administration

All provisions of this Ordinance shall be administered by the Board of Township Supervisors of West Caln Township, or by the Township Secretary, Township Zoning Officer, or other Township official as designated by the Board. All plans, applications, correspondence, complaints, requests for variances, or appeals shall be delivered to the Township Building and submitted through the Township Secretary.

Section 901 Amendments

Any amendment to this Ordinance shall be in accordance with Section 505 of the Pennsylvania Municipalities Planning Code. Resolutions adopted by the Board of Township Supervisors pursuant to the terms and conditions of this Ordinance regarding fees, paving and construction standards and timely changes in other design criteria as specifically permitted by Resolution of the Board shall not require an amendment to this Ordinance.

- A. Power of Amendment. The Board of Supervisors may, from time to time Amend, supplement, change, modify or repeal this Ordinance. When doing so, the Board shall proceed in the manner prescribed in this Article, and in accordance with law.
- B. Sources of Amendment. Proposals for amendment, supplement, change, modification or repeal may be initiated by the Board of Supervisors on its own motion, or by the Planning Commission, as follows:
 - 1. Proposals originated by the Board of Supervisors. The Board shall refer every proposed amendment, supplement, change, modification, or repeal originated by said Board to the Township Planning Commission and the Chester County Planning Commission. Within thirty (30) days of the submission of said proposal, the Township Planning Commission shall submit to the Board of Supervisors a report containing its recommendations including and additions or modifications to the original proposal.
 - 2. Proposals originated by the Planning Commission. The Township Planning Commission may, at any time, transmit to the Board of Supervisors any proposal for the amendment, supplement, change, modification, or repeal of this Ordinance.
- C. Hearings. Before voting on the enactment of any amendment, the Board of Supervisors shall hold a public hearing thereon with notice as required by law. No amendment shall become effective until after such hearing at which parties in

interest and citizens shall have an opportunity to be heard. If, after any public hearing held upon an amendment, the proposed amendment is revised, or further revised, the Board may hold another public hearing, pursuant to public notice, before proceeding to vote on the amendment.

Section 902 Hardship

- A. If any mandatory provisions of this Ordinance are shown by an Applicant, to the satisfaction of the Board, to be unreasonable and cause undue hardship as they apply to his proposed subdivision or land development, the Board may grant a modification to such Applicant from such mandatory provisions, so that substantial justice may be done and the public interest secured; provided that such modification will not have the effect of nullifying the intent and purpose of this Ordinance.
- B. In granting modifications, the Board may impose such conditions as will, in its judgment, secure substantially the objectives of the standards or requirements so modified.

Section 903 Revisions to Recorded Plans

If, during the course of construction or completion of a subdivision or land development, minor changes, alterations or modifications of a Final Plan become necessary, such changes may be approved only after written acceptance by the Township Engineer and written approval of the Board of Supervisors. Substantial revisions to any such Final Plan shall cause the re-recording of the Final Plan after such approvals are obtained.

Section 904 Records

- A. The Township shall assign a subdivision application number to all applications, and all matters referring to each such plan should be identified with and filed in accordance with the subdivision number. The Township shall keep a record of its findings, decisions and recommendations relative to all subdivision plans filed for review.
- B. All such records shall be public records.

Section 905 Fees

- A. Subdivision and Land Development applications fees shall be fixed by the Board of Supervisors by Resolution. In addition to such fees, all disbursements by the Township incident to plan review, approval, and inspection of construction, including but not necessarily limited to engineering fees, inspection fees, costs of material or site testing and any maintenance costs prior to acceptance of improvements by the Township, shall be reimbursed to the Township by the applicant on the basis of the Township's actual costs. In addition, any legal fees

incurred by the Township in excess of review of the Township's standard forms, shall be reimbursed in the same manner. A deposit of such review fees may be required at the time of filing.

- B. No application for review of a Preliminary or Final Plan shall be accepted until all fees required have been paid in full. No Final Plan will be approved or signed until all fees as required by the most recent fee schedule have been paid in full.
- C. Inspection fees. The subdivider shall pay directly to the Township a specified fee per hour or portion thereof for field inspection by the Township Engineer as defined herein. Such field inspections shall be made by the Township Engineer as are necessary to insure compliance with the provisions of this Ordinance. The Board may require payment of fees in advance of actual inspection to be maintained in an escrow account.

Section 906 Penalties

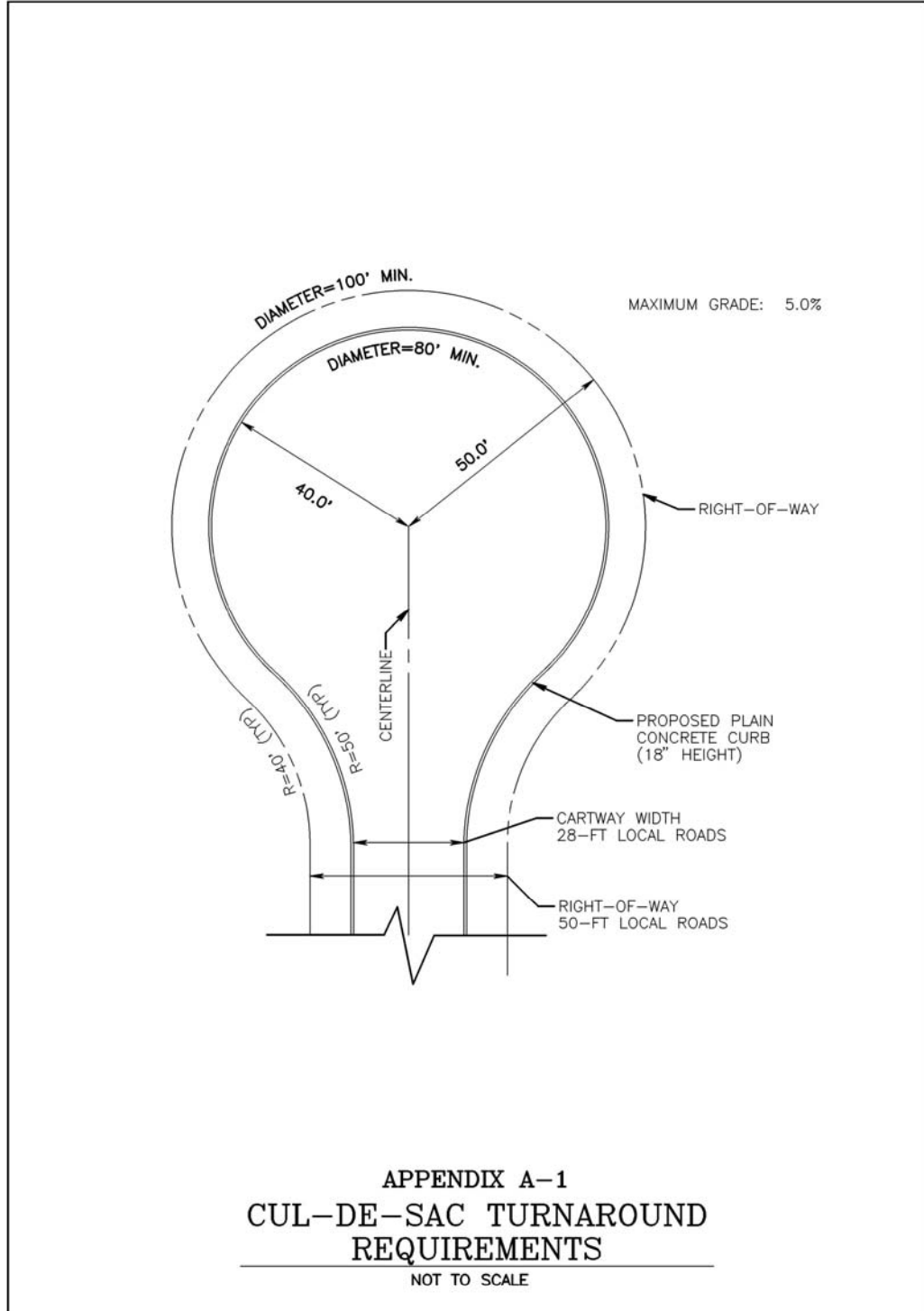
Any person, partnership, or corporation who, or which being the owner or agent of the owner of any lot, tract or parcel of land, shall lay out, construct, open or dedicate any street, sanitary sewer, storm sewer, water main or other improvements for public use, travel or other purposes or for the common use of occupants of buildings abutting thereon, or who sells, transfers or agrees or enters into an agreement to sell any land in a subdivision or land development, whether by reference to or by other use of a plat of such subdivision or land development or otherwise, or erect any building thereon, unless and until a Final Plan has been prepared in full compliance with the provisions of this Ordinance and has been recorded as provided herein, shall be guilty of a misdemeanor, and upon conviction thereof, such person, or the members of such partnership, or the officers of such corporation, or the agent of any of them, responsible for such violation shall pay a fine not exceeding one-thousand dollars (\$1,000.00) per lot or parcel or per dwelling within each lot or parcel. All fines collected for such violations shall be paid to the Township. The description by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

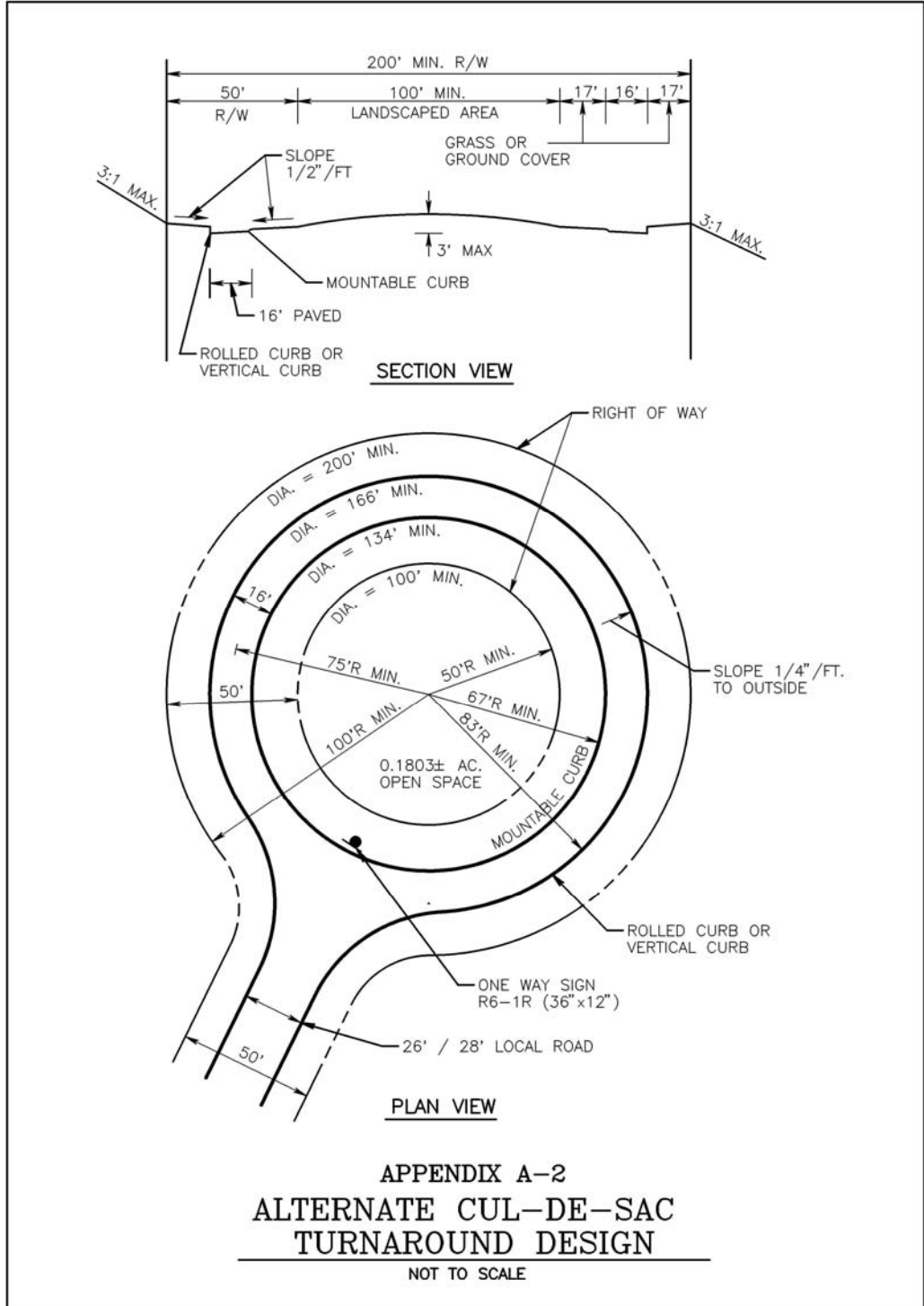
ORDINANCE APPENDIX A

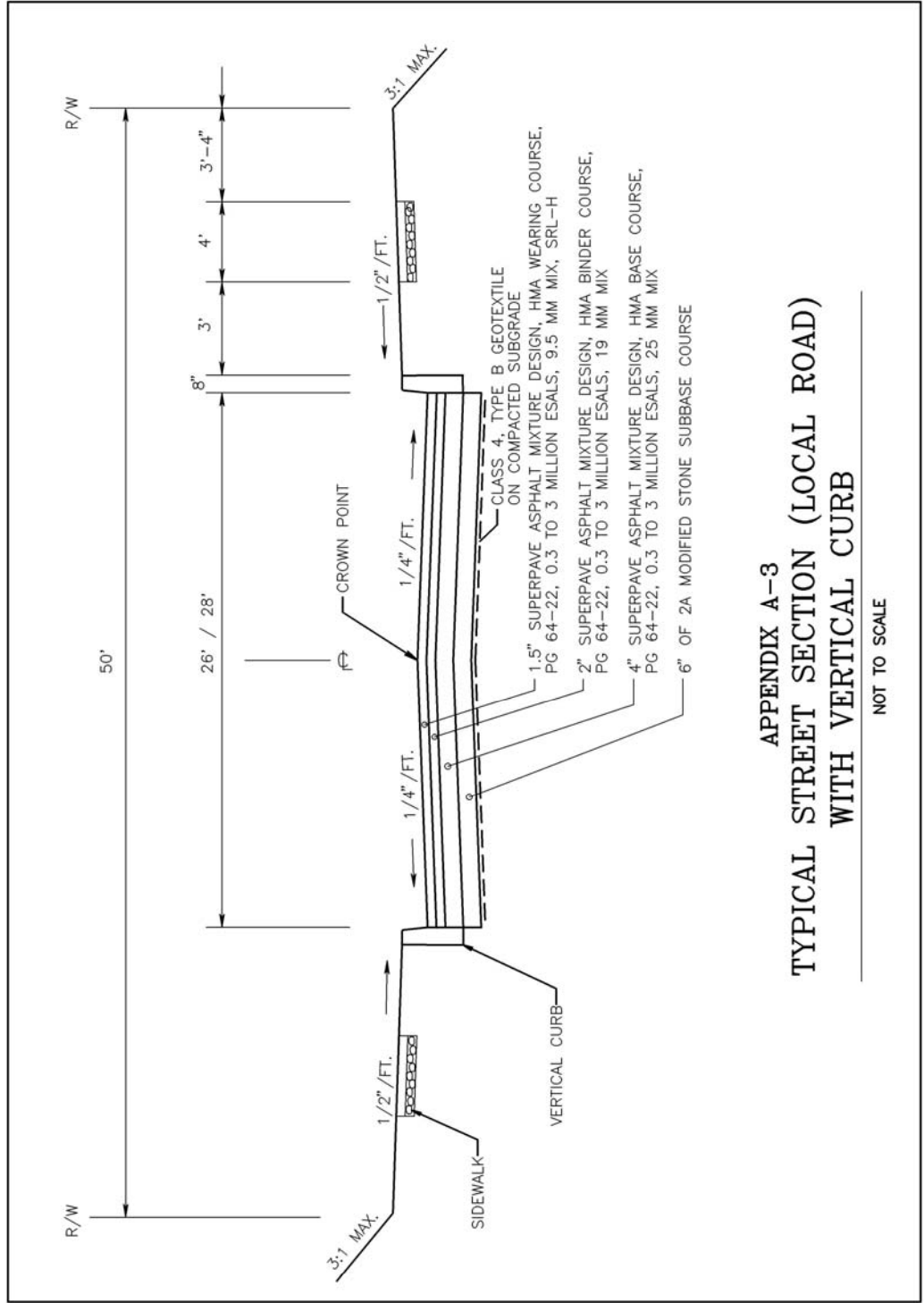
**APPENDIX A-1
CUL-DE-SAC TURNAROUND REQUIREMENTS**

**APPENDIX A-2
ALTERNATE CUL-DE-SAC TURNAROUND DESIGN**

**APPENDIX A-3
TYPICAL STREET SECTION (LOCAL ROAD) W/ VERTICAL CURB**







APPENDIX A-3
 TYPICAL STREET SECTION (LOCAL ROAD)
 WITH VERTICAL CURB
 NOT TO SCALE

**ORDINANCE APPENDIX B
VOLUNTARY STORMWATER MANAGEMENT PROCEDURES
FOR PROJECTS MEETING THE LAND COVER EXEMPTION CRITERIA**

Voluntary stormwater management procedures for projects with less than minimum proposed impervious area per Section 603 or less than five thousand (5,000) square feet of earth disturbance.

What are the Act 167 stormwater management requirements?

Pennsylvania Act 167 was authorized on October 4, 1978 (32 P.S., P.L. 864) and gave Pennsylvania Municipalities the power to regulate activities that affect stormwater runoff and surface and groundwater quantity and quality.

Who is affected by these requirements?

The requirements of this Ordinance affect all NEW development in the Township. Projects which result in less than the minimum proposed impervious area per Section 603 (including the building footprint, driveway, sidewalks, and parking areas) or less than five thousand (5,000) square feet of earth disturbance are not required to submit formal drainage plans to the Township or County; however, they are still encouraged to address water quality and groundwater recharge criteria specified in this Ordinance (Ord. Sections 608 and 609).

Do I require professional services to meet these requirements?

This brochure has been developed to assist the individual homeowner in meeting the voluntary water quality and groundwater recharge goals of the Ordinance. If the guidelines presented in this brochure are followed, the individual homeowner will not require professional services to comply with these water quality and groundwater recharge goals.

What do I need to send to the Township?

Even though a formal drainage plan is not required for individual lot owners, a brief description of the proposed infiltration facilities, including types of material to be used, total impervious areas and volume calculations as shown above, and a simple sketch plan showing the following information shall be submitted to the contractor prior to construction:

- Location of proposed structures, driveways, or other paved areas with approximate size in square feet.
- Location of any existing or proposed on-site septic system and/or potable water wells showing rough proximity to infiltration facilities.

Determination of Recharge Volume

The amount of recharge volume that should be provided can be determined by following the simple steps below. Impervious area calculations should include all areas on the individual lots that are covered by roof area or pavement which would prevent rain from naturally percolating into the ground, including sidewalks, driveways, or parking areas (including gravel and crushed stone areas).

Example Recharge Volume:

STEP 1 – Determine Total Impervious Surfaces:

House Roof (Front)	12 ft. x 48 ft.	=	576 sq. ft.
House Roof (Rear)	12 ft. x 48 ft.	=	576 sq. ft.
Driveway	12 ft. x 50 ft.	=	600 sq. ft.
Parking Pad	12 ft. x 12 ft.	=	144 sq. ft.
Walkway	6 ft. x 20 ft.	=	120 sq. ft.

			2,016 sq. ft.

STEP 2 – Determine Required Infiltration Volume (Rv) Using the Following Equation

$$Rv = \frac{1 \text{ inch} \times (\text{total impervious area in square feet})}{12} = \text{_____ cubic feet of recharge}$$

$$Rv = \frac{1.0 \times 2,016 \text{ sq. ft.}}{12} = 168 \text{ cu. ft.}$$

STEP 3 – Sizing of Select Infiltration Method

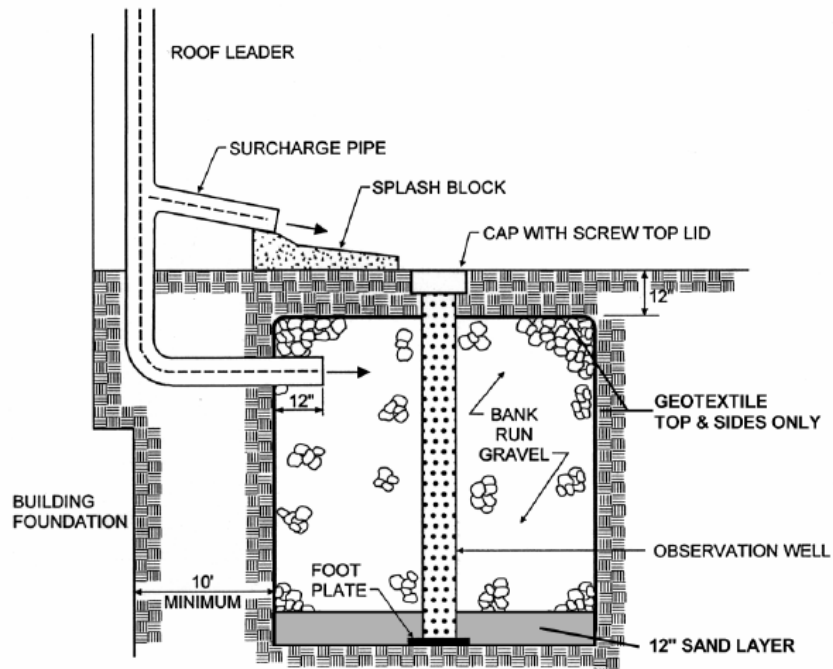
The following pages show several methods of infiltrating stormwater runoff from residential areas. Their appropriateness depends on the amount of infiltration volume required and the amount of land available. More than one method can be implemented on a site, depending on site constraints. Dry wells should be used only for receiving runoff from roof drains. Infiltration trenches are appropriate for receiving runoff from driveways, sidewalk, or parking areas. Other methods may be appropriate, but these should be discussed with the Township Engineer prior to installation.

Dry Wells

Dry wells are effective methods of infiltrating runoff from roof leaders. These facilities should be located a minimum of ten (10) feet from the building foundation to avoid seepage problems. A dry well can be either a structural prefabricated chamber or an excavated pit filled with aggregate. Construction of a dry well should be performed after all other areas of the site are stabilized to avoid clogging. During construction, compaction of the subgrade soil should be avoided, and construction should be performed with only light machinery. Depth of dry wells in excess of three and one half (3½) feet should be avoided. Gravel fill should be an average one and one half to three (1.5 – 3.0) inches in diameter. Dry wells should be inspected at least four (4) times annually as well as after large storm events.

FIGURE B-1

TYPICAL DRY WELL CONFIGURATION



Source: Maryland Stormwater Design Manual

Example Sizing:

STEP 1 – Determine Total Impervious Surfaces

House Roof Area: 12 ft. x 48 ft. = 576 sq. feet

STEP 2 – Determine Required Infiltration Volume Using Equation

$$\frac{1.0 \times 576 \text{ sq. ft.}}{12} = 48 \text{ cu. ft.}$$

$$48 \text{ cu. ft.} / 0.4^* = 120 \text{ cu. ft.} \text{ (* assume 40\% void ratio in gravel bed)}$$

STEP 3 – Sizing of Select Infiltration Method

Volume of facility = Depth x Width x Length

Set D = 3.5 ft; Set W = L for a square chamber

120 cu. ft. = 3.5 x L x L

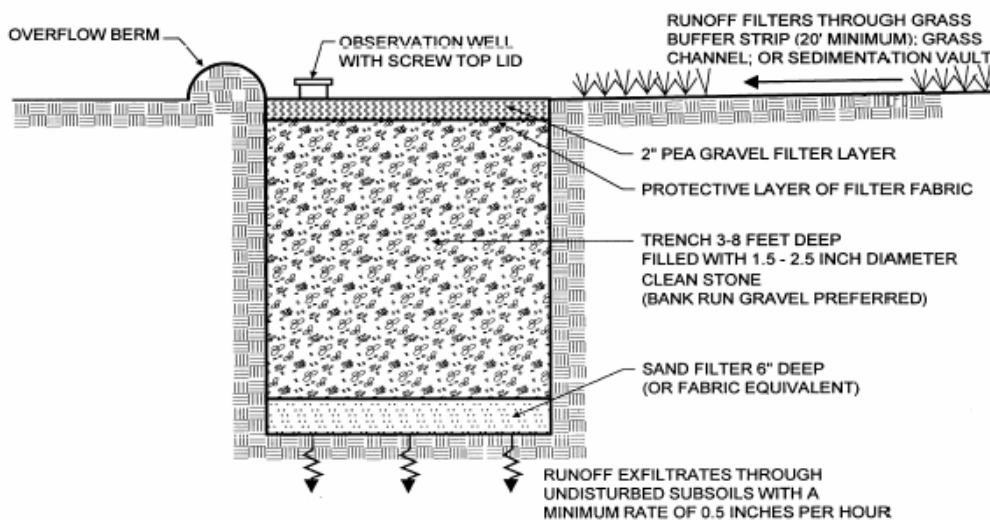
Final facility dimensions: 3.5 ft (D) x 5.9 ft. (W) x 15.9 ft. (L)

Infiltration Trenches

An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. Runoff is stored in the void space between the stones and infiltrates through the bottom and into the soil matrix. Infiltration trenches perform well for removal of fine sediment and associated pollutants. Pretreatment using buffer strips, swales, or detention basins is important for limiting amounts of coarse sediment entering the trench which can clog and render the trench ineffective.

FIGURE B-2

TYPICAL INFILTRATION TRENCH CONFIGURATION



Source: Maryland Stormwater Design Manual

Example Sizing:

STEP 1 – Determine Total Impervious Surfaces

Driveway	12 ft. x 50 ft.	=	600 sq. ft.
Parking Pad	12 ft. x 12 ft.	=	144 sq. ft.
Walkway	6 ft. x 20 ft.	=	120 sq. ft.

			864 sq. ft.

STEP 2 – Determine Required Infiltration Volume Using Equation

$$\frac{1.0 \text{ inch} \times 864 \text{ sq. ft.}}{12} = 72 \text{ cu. ft.}$$

$$72 \text{ cu. ft.} / 0.4^* = 180 \text{ cu. ft.} \text{ (* assume 40\% void ratio in gravel bed)}$$

STEP 3 – Sizing of Select Infiltration Method

$$\text{Volume of facility} = \text{Depth} \times \text{Width} \times \text{Length}$$

Set D = 3.0 ft: determine required surface area of trench

$$180 \text{ cu. ft.} / 3.0 \text{ ft.} = 60 \text{ sq. ft.}$$

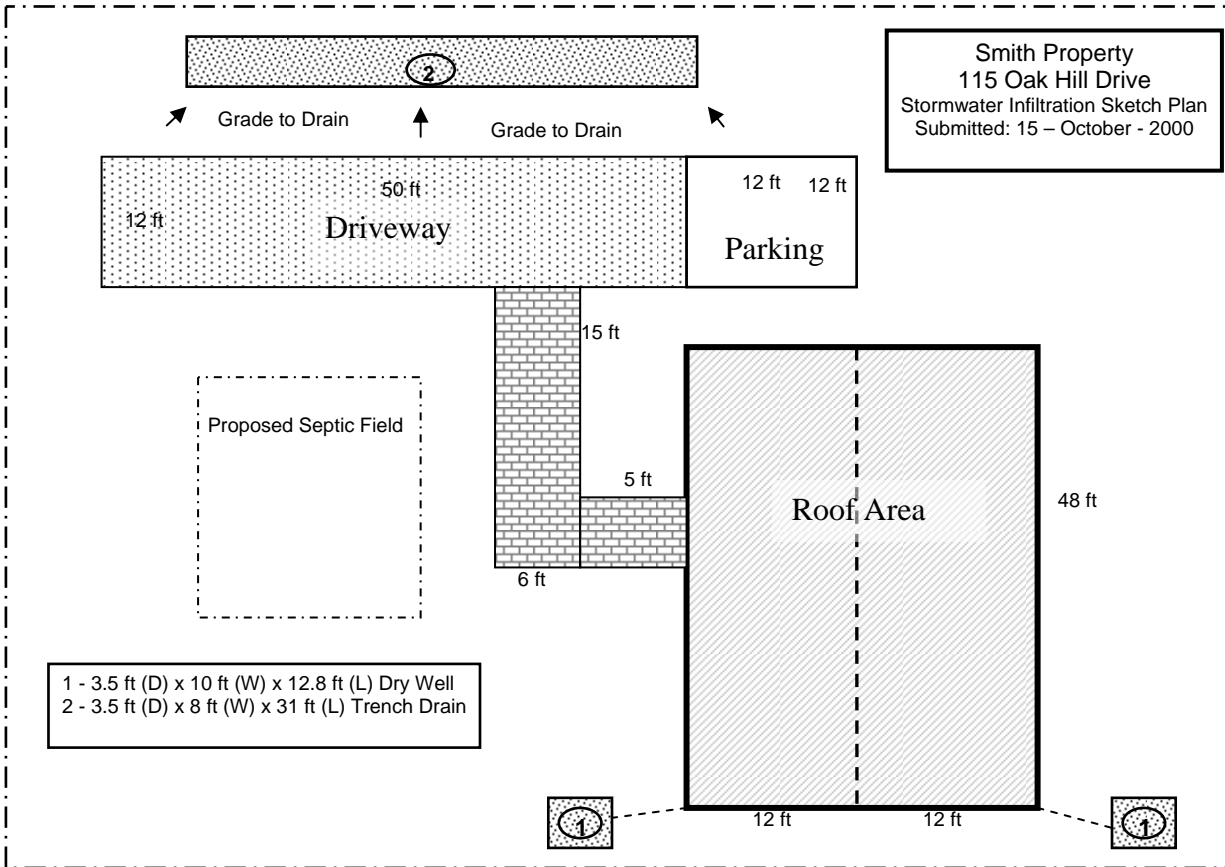
The width of the trench should be greater than 2 times its depth (2 x D); therefore, in this example a trench width of 6 feet is selected;

$$\text{Determine trench length: } L = 60 \text{ sq. ft.} / 6 \text{ ft.} = 10.0 \text{ ft.}$$

Final trench dimensions: 3.0 ft. (D) x 6 ft. (W) x 10 ft. (L)

FIGURE B-3

SAMPLE SITE SKETCH PLAN



Source: Maryland Stormwater Design Manual

**ORDINANCE APPENDIX C
LOW IMPACT DEVELOPMENT (LID) PRACTICES**

ALTERNATIVE APPROACH FOR MANAGING STORMWATER RUNOFF

Natural hydrologic conditions can be altered radically by poorly planned development practices such as introducing unnecessary impervious surfaces, destroying existing drainage swales, constructing unnecessary storm sewers, and changing local topography. A traditional drainage approach of development has been to remove runoff from a site as quickly as possible and capture it in a detention basin. This approach leads ultimately to the degradation of water quality as well as expenditure of additional resources for detaining and managing concentrated runoff at some downstream location.

The recommended alternative approach is to promote practices that will minimize proposed conditions runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities. To simulate pre-development hydrologic conditions, infiltration is often necessary to offset the loss of infiltration by creation of impervious surfaces. The ability of the ground to infiltrate depends upon the soil types and its conditions.

Preserving natural hydrologic conditions requires careful alternative site design considerations. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces, and protecting natural depression storage. A well-designed site will contain a mix of all of those features. The following describes various techniques to achieve the alternative approach:

- **Preserving Natural Drainage Features.** Protecting natural drainage features, particularly vegetated drainage swales and channels, is desirable because of their ability to infiltrate and attenuate flows and to filter pollutants. However, this objective is often not accomplished in land development. In fact, commonly held drainage philosophy encourages just the opposite pattern -- streets and adjacent storm sewers are typically located in the natural headwater valleys and swales, thereby replacing natural drainage functions with a completely impervious system. As a result, runoff and pollutants generated from impervious surfaces flow directly into storm sewers with no opportunity for attenuation, infiltration, or filtration. Developments designed to fit site topography also minimize the amount of grading on site.
- **Protecting Natural Depression Storage Areas.** Depressional storage areas either have no surface outlet or drain very slowly following a storm event. They can be commonly seen as ponded areas in farm fields during the wet season or after large runoff events. Traditional development practices eliminate these depressions by filling or draining, thereby obliterating their ability to reduce surface runoff volumes and trap pollutants. The volume and release rate characteristics of depressions should be protected in the design of the development site. The depressions can be protected by simply avoiding the depression or by incorporating its storage as additional capacity in required detention facilities.

- **Avoiding Introduction of Impervious Areas.** Careful site planning should consider reducing impervious coverage to the maximum extent possible. Building footprints, sidewalks, driveways, and other features producing impervious surfaces should be evaluated to minimize impacts on runoff.
- **Reducing the Hydraulic Connectivity of Impervious Surfaces.** Impervious surfaces are significantly less of a problem if they are not directly connected to an impervious conveyance system (such as a storm sewer). Two basic ways to reduce hydraulic connectivity are routing of roof runoff over lawns and reducing the use of storm sewers. Site grading should promote increasing travel time of stormwater runoff and should help reduce concentration of runoff to a single point in the development.
- **Routing Roof Runoff Over Lawns.** Roof runoff can be easily routed over lawns in most site designs. The practice discourages direct connection of downspouts to storm sewers or parking lots. The practice also discourages sloping driveways and parking lots to the street. By routing roof drains and crowning the driveway to run off to the lawn, the lawn is essentially used as a filter strip.
- **Reducing the Use of Storm Sewers.** By reducing use of storm sewers for draining streets, parking lots, and back yards, the potential for accelerating runoff from the development can be greatly reduced. The practice requires greater use of swales and may not be practical for some development sites, especially if there are concerns for areas that do not drain in a “reasonable” time. The practice requires educating local citizens and public works officials who expect runoff to disappear shortly after a rainfall event.
- **Reducing Street Widths.** Street widths can be reduced by either eliminating on-street parking or by reducing roadway widths. Township planners and traffic designers should encourage narrower neighborhood streets which ultimately could lower maintenance.
- **Limiting Sidewalks to One Side of the Street.** A sidewalk on one side of the street may suffice in low-traffic neighborhoods. The lost sidewalk could be replaced with bicycle/recreational trails that follow back-of-lot lines. Where appropriate, backyard trails should be constructed using pervious materials.
- **Using Permeable Paving Materials.** These materials include permeable interlocking concrete paving blocks or porous bituminous concrete. Such materials should be considered as alternatives to conventional pavement surfaces, especially for low use surfaces such as driveways, overflow parking lots, and emergency access roads.
- **Reducing Building Setbacks.** Reducing building setbacks reduces impervious cover associated with driveway and entry walks and is most readily accomplished along low-traffic streets where traffic noise is not a problem.
- **Constructing Cluster Developments.** Cluster developments can also reduce the amount of impervious area for a given number of lots. The biggest savings occurs with street length, which also will reduce costs of the development. Cluster development groups the

construction activity in less-sensitive areas without substantially affecting the gross density of development.

In summary, a careful consideration of the existing topography and implementation of a combination of the above mentioned techniques may avoid construction of costly stormwater control measures. Benefits include reduced potential for downstream flooding and water quality degradation of receiving streams/water bodies, enhancement of aesthetics, and reduction of development costs. Other benefits include more stable base flows in receiving streams, improved groundwater recharge, reduced flood flows, reduced pollutant loads, and reduced costs for conveyance and storage.

**ORDINANCE APPENDIX D
STORMWATER MANAGEMENT DESIGN CRITERIA**

**TABLE D-1
RUNOFF CURVE NUMBERS**

**TABLE D-2
RATIONAL RUNOFF COEFFICIENTS**

**TABLE D-3
MANNING'S ROUGHNESS COEFFICIENTS**

**TABLE D-4
NONSTRUCTURAL STORMWATER MANAGEMENT MEASURES**

TABLE D-1
RUNOFF CURVE NUMBERS

LAND USE DESCRIPTION	Hydrologic Condition	HYDROLOGIC SOIL GROUP			
		A	B	C	D
Open Space					
Grass cover < 50%	Poor	68	79	86	89
Grass cover 50% to 75%	Fair	49	69	79	84
Grass cover > 75%	Good	39	61	74	80
Meadow		30	58	71	78
Agricultural					
Pasture, grassland, or range – Continuous forage Cor grazing	Poor	68	79	86	89
Pasture, grassland, or range – Continuous forage for grazing	Fair	49	69	79	84
Pasture, grassland, or range – Continuous forage for grazing	Good	39	61	74	80
Brush—brush-weed-grass mixture with brush the major element	Poor	48	67	77	83
Brush—brush-weed-grass mixture with brush the major element	Fair	35	56	70	77
Brush—brush-weed-grass mixture with brush the major element	Good	30	48	65	73
Fallow Bare soil	-----	77	86	91	94
Crop residue cover (CR)	Poor	76	85	90	93
	Good	74	83	88	90
Woods – grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77

West Caln Township SALDO Appendices

Commercial	(85% impervious)	89	92	94	95
Industrial	(72% impervious)	81	88	91	93
Institutional	(50% impervious)	71	82	88	90

Residential districts by average lot size:

	% Impervious				
1/8 acre or less * (townhouses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Farmstead		59	74	82	86
Smooth surfaces (concrete, asphalt, gravel, or bare compacted soil)		98	98	98	98
Water		98	98	98	98
Mining/newly graded areas (pervious areas only)		77	86	91	94

* Includes multi-family housing unless justified lower density can be provided.

Note: Existing site conditions of bare earth or fallow ground shall be considered as meadow when choosing a CN value.

Source: NRCS (SCS) TR-55

Notes: Values are based on SCS definitions and are average values.

Values indicated by ---* should be determined by the design engineer based on site characteristics.

Source :New Jersey Department of Environmental Protection, Technical Manual for Stream Encroachment, August 1984

TABLE D-4

NONSTRUCTURAL STORMWATER MANAGEMENT MEASURES

Nonstructural Stormwater Measure	Description
Natural Area Conservation	Conservation of natural areas such as forest, wetlands, or other sensitive areas in a protected easement, thereby retaining their existing hydrologic and water quality characteristics.
Disconnection of Rooftop Runoff	Rooftop runoff is disconnected and then directed over a pervious area where it may either infiltrate into the soil or filter over it. This is typically obtained by grading the site to promote overland flow or by providing bioretention on single-family residential lots.
Disconnection of Nonrooftop Runoff	Disconnect surface impervious cover by directing it to pervious areas where it is either infiltrated or filtered through the soil.
Buffers	Buffers effectively treat stormwater runoff. Effective treatment constitutes capturing runoff from pervious and impervious areas adjacent to the buffer and treating the runoff through overland flow across a grassy or forested area.
Grass Channel (Open Section Roads)	Open grass channels are used to reduce the volume of runoff and pollutants during smaller storms.
Environmentally Sensitive Rural Development	Environmental site design techniques are applied to low-density or rural residential development.

Source: Maryland Department of the Environment, "Maryland Stormwater Design Manual," Baltimore, MD, 2000

**ORDINANCE APPENDIX E
STORMWATER CONTROLS AND BEST MANAGEMENT PRACTICES
OPERATIONS AND MAINTENANCE AGREEMENT**

**STORMWATER CONTROLS AND BEST MANAGEMENT PRACTICES
OPERATIONS AND MAINTENANCE AGREEMENT**

THIS AGREEMENT, made and entered into this _____ day of _____, 200__, by and between _____, (hereinafter the “Landowner”), and West Caln Township, Chester County, Pennsylvania, (hereinafter “Township”);

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of _____ County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter “Property”).

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the Stormwater Controls and BMP Operations and Maintenance Plan approved by the Township (hereinafter referred to as the “Plan”) for the property identified herein, which is attached hereto as Appendix A and made part hereof, provides for management of stormwater within the confines of the Property through the use of Best Management Practices (BMPs); and

WHEREAS, the Township and the Landowner, his successors, and assigns agree that the health, safety, and welfare of the residents of the Township and the protection and maintenance of water quality require that on-site stormwater BMPs be constructed and maintained on the Property; and

WHEREAS, for the purposes of this agreement, the following definitions shall apply:

BMP – “Best Management Practice”-activities, facilities, designs, measures, or procedures used to manage stormwater impacts from land development, to protect and maintain water quality and groundwater recharge, and to otherwise meet the purposes of the Township Stormwater Management Ordinance, including but not limited to infiltration trenches, seepage pits, filter strips, bioretention, wet ponds, permeable paving, rain gardens, grassed swales, forested buffers, sand filters, and detention basins.

- Infiltration Trench – A BMP surface structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,
- Seepage Pit – An underground BMP structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,
- Rain Garden – A BMP overlain with appropriate mulch and suitable vegetation designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or underground aquifer, and

WHEREAS, the Township requires, through the implementation of the Plan, that stormwater management BMPs as required by said Plan and the Township Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, his successors, and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The BMPs shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.
2. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Township and in accordance with the specific maintenance requirements noted on the Plan.
3. The Landowner hereby grants permission to the Township, its authorized agents, and employees to enter upon the property, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) whenever it deems necessary. Whenever possible, the Township shall notify the Landowner prior to entering the property.
4. In the event that the Landowner fails to operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Township, the Township or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow the Township to erect any permanent structure on the land of the Landowner. It is expressly understood and agreed that the Township is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Township.
5. In the event that the Township, pursuant to this Agreement, performs work of any nature or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Township for all expenses (direct and indirect) incurred within ten (10) days of receipt of an invoice from the Township. If the Landowner fails to pay the invoice, the Township may collect the amount due plus costs and attorney's fees by any available remedy at law or equity, including the filing of a municipal lien against the property.
6. The intent and purpose of this Agreement is to ensure the proper maintenance of the on-site BMP(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability on any party for damage alleged to result from or be caused by stormwater runoff.
7. The Landowner, his or her executors, administrators, assigns, and other successors in interest, shall release the Township's employees and designated representatives from liability for all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Township. In the event that a claim is asserted against the Township, its designated representatives, or employees, the Township shall promptly notify

the Landowner, and the Landowner shall defend, at his own expense, any suit based on the claim. If any judgment or claims against the Township, the Township's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Chester County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude and shall be binding on the Landowner, his or her administrators, executors, assigns, heirs, and any other successors in interest, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Township:

(SEAL)

For the Landowner:

ATTEST:

_____ (Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20__, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20__, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 20__.

NOTARY PUBLIC

(SEAL)