

CAERNARVON TOWNSHIP
Berks County, Pennsylvania

**SUBDIVISION AND LAND DEVELOPMENT
ORDINANCE**

ORDINANCE NO. 108
ADOPTED NOVEMBER 13, 1990
AMENDED SEPTEMBER 12, 2000

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FORMS AND APPENDICES:

- A. APPLICATION FOR REVIEW OF PRELIMINARY, MINOR OR RESUBDIVISION PLAN
- B. APPLICATION FOR REVIEW OF FINAL PLAN
- C. CERTIFICATION OF OWNERSHIP/ACKNOWLEDGEMENT OF PLAN/OFFER OF DEDICATION
- D. CERTIFICATION OF ACCURACY
- E. CERTIFICATE OF MUNICIPAL APPROVAL
- F. CONSTRUCTION DETAILS FOR CISTERNS
- G. SUBDIVISION AND LAND DEVELOPMENT IMPROVEMENTS AGREEMENT

ARTICLE I

AUTHORITY, TITLE AND PURPOSE

SECTION 101. AUTHORITY. An Ordinance establishing the rules, regulations and standards governing the Subdivision and development of land within the Township of Caernarvon, Berks County, Pennsylvania, pursuant to the authority set forth in Article V of the Pennsylvania Municipalities Planning Code, as amended, and setting forth procedures to be followed by the municipal Planning Commission and Board of Supervisors in applying, administering and amending these rules, regulations and standards; and, prescribing penalties for the violation thereof. The basis for review and the approval or disapproval of any Subdivision or Land Development plan shall lie solely within the jurisdiction of the Township Planning Commission and shall be in accordance with the procedures and requirements of this Ordinance.

SECTION 102. TITLE. This Ordinance shall be known, and may be cited as, "The Caernarvon Township Subdivision and Land Development Ordinance of 1990".

SECTION 103. PURPOSE: The purpose of this Ordinance shall be to provide uniform standards to guide the Subdivision, development and Resubdivision of land of the Township in order to promote the public health, safety and convenience and general welfare of the Township. It shall be administered to insure orderly growth and development, the conservation, protection and proper use of land; the proper distribution of population; and, to provide adequate provisions for traffic circulation, recreation, light, air, utilities and services.

ARTICLE II

DEFINITIONS

SECTION 201. TENSE, GENDER AND NUMBER: Words in the singular include the plural and those in the plural include the singular; words in the present tense include the future tense; words in the masculine gender include the feminine and neuter.

SECTION 202. GENERAL TERMS: The words, "person", "Subdivider", "land developer", and "owner", include a corporation, unincorporated association and partnership, or other legal entity, as well as an individual. The word, "Street", includes thoroughfare, avenue, boulevard, court, expressway, highway, freeway, parkway, viaduct, lane, artery and road. The word, "Building", includes structures and shall be construed as if followed by the phrase, "or part thereof". The word, "watercourse", includes channel, creek, ditch, dry run, spring, stream and river. The words, "should" and "may" are permissive; the words, "shall" and "will" are mandatory and directive.

SECTION 203. TERMS OR WORDS NOT DEFINED. Where terms or words are not defined, they shall have their ordinarily accepted meanings or such as the context may imply.

SECTION 204. SPECIFIC TERMS: Terms or words used herein, unless otherwise expressly stated, shall have the following meanings:

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

Alley: A "Service Street", being a minor public Right-of-Way providing secondary vehicular access to the side or rear of two or more properties.

Applicant: The person or agent who is seeking Subdivision or Land Development approval including his heirs, successors and assigns.

Architect: A licensed Architect in the Commonwealth of Pennsylvania.

Authority: A body politic and corporate created pursuant to the Act of May 2, 1945 (PL 382 No. 164) known as the "Municipality Authority's Act of 1945" as amended.

Block: A tract of land bounded by 2 or more Streets, public parks, railroad Rights-of-Way, watercourses, boundary lines of a municipality, unsubdivided land or any combination thereof.

Board of Supervisors (Board of Township Supervisors): The Board of Supervisors of the Township of Caernarvon, Berks County, Pennsylvania.

Building: Any combination of materials forming any structure designated or intended, or arranged for the housing, sheltering, enclosure or structural support of persons, animals or property of any kind.

Building Reserve (Setback) Line: The line within a property defining the minimum required distance between any Building or Structure to be erected and an adjacent Right-of-Way. Such line shall be measured at right angles from the street right-of-way line which abuts the property upon which said Building or Structure is to be located and shall be parallel to said Right-of-Way line.

Cartway (Roadway): The portion of a Street Right-of-Way paved or unpaved, intended for vehicular use.

Cistern: An underground reservoir or tank for storage of water.

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

Common Open Space: A parcel of land or water or combination of both, located within a development site and designated and intended for the use and enjoyment of residents of a Subdivision or Land Development, but not including Streets, required setbacks, off-street parking areas or areas set aside for public facilities, services, Detention Basins or other Improvements.

Conservation District: The Berks County Conservation District.

County: The County of Berks, Commonwealth of Pennsylvania.

County Planning Commission: The Berks County Planning Commission.

Crosswalk (Interior Walk): A publicly or privately owned Right-of-Way for pedestrian use, extending from a Street into a Block or across a Block to another Street.

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

Dedication: A deliberate appropriation of land by its owner for any general or public use, reserving to himself no rights other than those that are compatible with the full exercise and enjoyment of the public use to which the property has been devoted.

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

Detention Basin: A basin designed to retard Storm Water run-off by temporarily storing the Run off and releasing it at a predetermined rate.

Developer: Any Landowner, agent of such landowner or tenant with the permission of such landowner, who makes or causes to be made, a Subdivision of land or a Land Development.

Diversion Terrace: A channel and a ridge constructed to a pre-determined grade across a slope, and designed to collect and/or divert Run-off.

Drainage Easement: A right granted by a Landowner to a grantee, allowing the use of private land for Storm Water management purposes.

Dwelling Unit: Any Structure or part thereof designed to be occupied as living quarters for a single housekeeping unit.

Easement: A Right-of-Way granted, but not dedicated, for the limited use of private land for a public or quasi-public purpose and within which the lessee or owner of the property shall not erect any permanent Structure, but shall have the right to make other use of the land which is not inconsistent with the rights of the grantee.

Endorsement: The application of the Caernarvon Township Seal, together with the signatures of the Caernarvon Township Board of Supervisors upon the Record Plan.

Engineer: A licensed Professional Engineer, registered in the Commonwealth of Pennsylvania.

Erosion: The removal of soil particles by the action of water, wind, ice or other geological conditions.

Forest Management Operations: All activities connected with growing and harvesting of forest products including the site preparation, cultivation and logging of trees, and the construction and maintenance of roads.

Governing Body: The Caernarvon Township Board of Supervisors, Berks County, Pennsylvania.

Grade: Mean curb elevation; or, when curb elevation has not been established, the average finished ground elevation adjoining a Building or Structure.

Groundwater Recharge: The replenishment of existing natural underground water supplies.

Hydraulic Grade Line: A line joining points whose vertical distance from the center of the cross section of the fluid flowing in a pipe are proportional to the pressure in the pipe at the joint.

Hydraulic Gradient: The slope of the Hydraulic Grade Line.

Impervious Surface: Any surface which retards the percolation of the water into the ground, including but not limited to asphalt, concrete, roofs, etc.

Improvements: Those physical additions and changes to the land that may be necessary to provide useable, desirable Lots.

Infiltration Structures: A Structure designed to direct Run-Off into the ground, e.g., french drains, seepage pits, seepage trenches.

Interior Walk: (See "Crosswalk")

Land Development: Any of the following activities:

- (a) The improvement of one Lot or two or more contiguous Lots, tracts or parcels of land for any purpose involving:
 - (1) a group of two or more residential or non-residential Buildings, whether proposed initially or cumulatively, or a single

non-residential Building on a Lot or Lots regardless of the number of occupants or tenure; or

- (2) The division or allocation of land or space whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of, Streets, common areas, leaseholds, condominiums, Building groups or other features.

(b) A Subdivision of land.

(c) Provided, however, that the following shall be exempted:

- (1) the conversion of an existing single-family detached dwelling or single-family semi-detached dwelling into not more than 3 residential units, unless such units are intended to be a condominium;
- (2) The addition of an accessory Building, including farm Buildings, on a Lot or Lots subordinate to an existing principal Building; or
- (3) The addition or conversion of Buildings or rides within the confines of an enterprise which would be considered an amusement park. For purpose of this subclause, an amusement park is defined as a tract or area used principally as a location for permanent amusement Structures or rides. This exclusion shall not apply to newly acquired acreage by an amusement park until initial plans for the expanded area have been approved in accordance with this Ordinance.

Land Disturbance Activity: Any change in the existing contour of the land, e.g., grading, excavating, removal or destruction of the topsoil, trees or other vegetative cover of the land causing exposure to erosion.

Land Planner: A recognized professional individual or firm affiliated with a Registered Engineer, Architect or Surveyor.

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.

Lot: A designated parcel, tract or area of land established by a Plat or otherwise as permitted by law, and to be used, developed or built upon as a unit.

Lot Area: The area contained within the property lines of a Lot, excluding space within all Street Rights-of-Way and within all permanent drainage easements, but including the areas of all other easements.

Maintenance Guarantee: The guarantee by the Applicant that he shall maintain all Improvements in good condition after completion of construction and installation of all Improvements.

Major Property Damage: Damage to property, due to Storm Water Run-Off which either destroys or renders the property unusable.

Marker: A metal pipe or pin of at least 1/2" in diameter, and at least 24" in length above the surface of the ground.

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

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

Mobilehome Park: A parcel or contiguous parcels of land which has been so designated and improved that it contains two or more Mobilehome Lots for the placement thereon of Mobilehomes.

Monument: A stone or concrete Monument with a flat top at least 4" in diameter or square, and at least 36" in length. Stone Monuments shall contain an indented cross or 1/4" drill hole. Concrete Monuments shall contain a copper or brass dowel (plug). It is recommended that the bottom sides or radius be at least 2" greater than the top, to minimize movement caused by frost.

Municipality: Caernarvon Township, Berks County, Pennsylvania.

Municipal Water and/or Sewer Authorities: The Caernarvon Township Authority and/or The Caernarvon Township Municipal Sewer Authority.

Municipal Engineer: A Professional Engineer, licensed as such in the Commonwealth of Pennsylvania, duly appointed by the Governing Body, to represent the Municipality in matters pertaining to this Ordinance, and to act as consultant to the Planning Commission.

Municipal Solicitor: An Attorney-at-Law, duly appointed by the Governing Body to serve as legal counsel to the Planning Commission and to represent the Municipality in matters pertaining to this Ordinance.

Municipal Zoning Ordinance: The Zoning Ordinance of Caernarvon Township, Berks County, Pennsylvania.

Nursery: A tract of land on which trees and plants are raised or stored for transplanting and sale.

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

Performance Guarantee: A deposit with the Municipality of financial security in the amount sufficient to cover the cost of all Improvements. Without limitation as to other types of financial security which the Municipality may approve, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security for the purpose of this Ordinance.

Plan, Final: A complete and exact Subdivision or Land Development plan, including all required supplementary data, prepared by a Registered Engineer, Surveyor or Architect.

Plan, Official: The Comprehensive Plan and/or Official Map and/or Topographical Survey and/or other plans, or portions thereof, as may have been adopted by the Municipality pursuant to statute, for the area in which the Subdivision or Land Development is located.

Plan, Preliminary: A tentative Subdivision or Land Development plan, including all supplementary data, prepared by a Registered Engineer, Surveyor or Architect.

Plan, Record: A copy of the approved Final Plan which contains the original signatures of either the majority of the Planning Commission, or the original signatures of the Chairman and the Secretary of the Planning Commission; and, the original endorsement of the Board of Supervisors, together with the affixation of the Township Seal. The Record Plan is intended to be recorded in the Berks County Courthouse at the office of the Recorder of Deeds, and shall be a blackline print.

Planning Commission or Township Planning Commission: The Planning Commission of Caernarvon Township, Berks County, Pennsylvania.

Plat: A map or plan of a Subdivision.

Private Entity: A partnership, corporation, homeowner's association, condominium association or any other similar association as distinguished from an individual Lot owner.

Public Grounds: Includes: (1) parks, playgrounds, trails, paths or other recreational areas and other Public Grounds; (2) sites for schools, sewage treatment, refuse disposal and other publicly owned or operated facilities; and, (3) publicly owned or operated scenic or historic sites.

Public Hearing: A formal meeting held pursuant to public notice by the Governing Body or Planning Commission, intended to inform and obtain public comment, prior to taking action in accordance with this Ordinance.

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

Rational Formula: A rainfall to Run-Off relation used to estimate peak flow, expressed by the following formula: $Q=CIA$. Q=peak run-off rate in cfs; C=run-off coefficient; I=design rainfall intensity (in/hr) lasting for a critical time; and A=drainage area in acres.

Reserve Strip: A parcel of ground in separate ownership separating a Street from other adjacent properties, or from another Street, either proposed or existing.

Resubdivision: Any replatting or Resubdivision of land, limited to changes in Lot lines on the approved Final Plan or Recorded Plan. Other plattings shall be considered as constituting a new Subdivision of land (See "Subdivision")

Retention Basin: A basin designed to retard Storm Water Run-Off by having a controlled discharge system.

Reverse Frontage Lot: A Lot extending and having frontage on two generally parallel Streets (excluding Service Streets), with vehicular access solely from one Street.

Review: The process of inspecting and evaluating, by the Planning Commission, any plan which is brought before it for

approval, and comparing the information provided on the plan with the requirements of the Subdivision and Land Development Ordinance. During the Review process, the Planning Commission has the authority to submit, or cause to be submitted, a copy of the plan to the Berks County Planning Commission and any other applicable State, Local or adjoining municipal agencies for their Review.

Right-of-Way: The total width of any land reserved or dedicated as a Street, alley, Crosswalk or for other public or semi-public purposes.

Roadway: (See "Cartway").

Run-off: That part of precipitation which flows over the land.

Sanitary Sewage Disposal System, Community: A sanitary sewage collection system in which sewage is carried from individual Lots by a system of pipes to a temporary central treatment and disposal plant, generally serving a neighborhood area.

Sanitary Sewage Disposal System, On-Site: Any structure designed to biochemically treat sanitary sewage within the boundaries of the individual lot.

Sanitary Sewage Disposal System, Public: A sanitary sewage collection system in which sewage is carried from individual Lots by a system of pipes to a municipal treatment and disposal plant, generally serving a neighborhood area.

Sediment: Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by water.

Sediment Basin: A barrier, dam, Retention or Detention Basin designed to retain Sediment.

Seepage Pit (Seepage Trench or French Drain): An area excavated in earth filled with loose stone or similar material and into which surface water is directed for infiltration into the ground.

Seepage Tank: A subsurface concrete tank surrounded by stone into which surface water is directed for infiltration into the ground.

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

Septic Tank: A covered water-tight container designed so that raw sewage is biochemically changed into solid waste and gaseous states to facilitate further treatment and final disposal.

Setback Line: (See "Building Reserve Line").

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 measurements shall be made from a point .5' to a point 4.5' above the centerline of the road surface.

Soil Conservation Service, (SCS) Department of Agriculture, Soil Conservation Service.

Soil-Cover Complex Method: A method of Run-Off computation developed by SCS, and found in its publication "Urban Hydrology for Small Watersheds". Technical Release No. 55, SCS, Jan., 1975, latest revision. (TR-55).

Soil Percolation Test: A field test conducted by the Sewage Enforcement Officer of the Municipality to determine the suitability of the soil for On-Site Sanitary Sewage Disposal facilities by measuring the absorptive capacity of the soil at a given location and depth.

Storm Frequency: The number of times that a given storm "event" occurs or is exceeded on the average in a stated period of years.

Storm Sewer: The conveyance system to carry Storm Water from the point of catchment to the point of discharge.

Storm Water: The excess water from precipitation that does not percolate into the ground nor is absorbed by vegetation.

Storm Water Management Plan: The guidelines for managing Storm Water Run-Off as per the provisions of this Ordinance.

Storm Water Structures: Basins, catch basins, inlets, headwalls, pipes, swales, terraces, etc. designed and installed to collect, transport, detain and/or retain Storm Water.

Street: A strip of land, including the entire right-of-way (i.e., not limited to the Cartway), intended to provide access to more than one Lot:

Collector Street: A Street which, in addition to providing access to abutting properties, intercepts Minor Streets to provide a route and gives access to community facilities and/or other Collector and Major Streets. Streets in

historical, multi-family and commercial developments shall generally be considered Collector Streets.

Cul-de-Sac Street: A Minor Street intersecting another Street at one end, and terminating in a permanent vehicular turnaround.

Half (Partial) Street: A Street generally parallel and adjacent to a property line, having a lesser Right-of-Way width than normally required for improvement and use.

Internal Street: A Minor Street, not required to meet the requirements of this Ordinance, used for circulation and access within a development involving multi-residence, commercial or industrial use.

Major Street: A Street serving a large volume of comparatively high speed and long distance traffic, including all facilities classified as main and secondary highways by the Pennsylvania Department of Transportation.

Marginal Access Street: A Minor Street, parallel and adjacent to a Major Street, but separated from it by a Reserve Strip, which provides access to abutting properties and controls intersections with a Major Street.

Minor Street: A Street used primarily to provide access to abutting properties.

Service Street: A minor public Right-of-Way providing secondary vehicular access to the side or rear of two or more properties.

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

Subdivider: A property owner or agent of a property owner, who makes or causes to be made a Subdivision of land by creating new property lines to be recorded.

Subdivision: The division or redivision of a Lot, tract or parcel of land by any means into two 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 the distribution to heirs or devisees, transfer of ownership or building or Lot Development: Provided however, that the Subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any

new Street or Easement of access or any residential dwelling, shall be exempted.

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

Surveyor: A licensed Surveyor in the Commonwealth of Pennsylvania.

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

Tile Disposal Field: A system of open jointed or perforated pipes laid in the upper strata of the soil to distribute sewage effluent into the soil for absorption and evaporation.

Time of Concentration: The time, in minutes, surface Storm Water Run-Off takes to travel from the most distant point in the drainage basin to the point under design consideration. This time is the combined total of overland flow time and flow time in pipes or channels.

Water Distribution System, Community: A system for supplying and distributing water from a common source to two or more dwellings and other Buildings within a single development.

Water Distribution System, On-Site: A system for supplying and distributing water to a single dwelling or other Building from a source located on the same Lot.

Water Distribution System, Public: A system for supplying and distributing water from a common source to dwellings and other Buildings, owned and/or operated by a private water company, a municipality or a municipal authority.

Wetlands: Lands classified by the Pennsylvania Department of Environmental Resources and/or the U.S. Army Corps of Engineers requiring special permits and restrictive controls.

Zoning Map: The official Zoning Map of Caernarvon Township, Berks County, Pennsylvania.

Zoning Officer: The Caernarvon Township Zoning Officer, Berks County, Pennsylvania.

ARTICLE III

GENERAL PROCEDURES

SECTION 301. SUBMISSION OF PLANS

- 301.1 Prior to submitting a formal plan to the Planning Commission for review, the Applicant is advised to come before the Planning Commission at a regularly scheduled meeting to discuss the Applicant's intentions for subdividing or developing his property.
- 301.2 All formal plans shall be submitted to the Township Clerk during regular business hours at least fourteen (14) days prior to a regularly scheduled meeting of the Planning Commission. The purpose of this regulation is to allow time for the members of the Planning Commission and the Municipal Engineer to become familiar with the plan prior to a formal Review and for the Municipal Engineer to submit a written report of his findings to the Planning Commission concerning the plan in time for the meeting. If plans are not submitted in accordance with this requirement, the Planning Commission shall refuse to Review the plan, and will retain it for Review at a future meeting.
- 301.3 Unless otherwise instructed by the Planning Commission, the Applicant shall submit a plan under the title of "Preliminary Plan" which shall contain all applicable information as required by this Ordinance. It is during this stage of review that all details concerning the proposed Subdivision or Land Development are considered by the Planning Commission.
- 301.4 Within one (1) year of the Planning Commission's approval of the Preliminary Plan, a Final Plan shall be officially submitted to the Township by the Applicant. An extension of time may be granted by the Planning Commission upon written request by the Applicant. Final Plan submitted after the expiration of time and for which an extension had not been granted shall be considered as a new Preliminary Plan and shall be considered as a new Subdivision or Land Development subject to all applicable fees.
- 301.5 The Planning Commission may permit submission of the

Final Plan in sections or phases. Each section in any residential Subdivision except the last section shall contain a minimum of 25% of the total number of Dwelling Units as depicted in the Preliminary Plan.

301.6 Plans shall be submitted on black line prints in the following scales and sheet sizes:

- a. Plans shall be clearly and legibly drawn to a scale of one inch equals fifty feet (1"=50');
- b. If the average size of the proposed Lots is 5 acres or larger, the plan may be drawn to a scale of one inch equals one hundred feet (1"=100');
- c. Plans and all submitted prints thereof shall be made on sheets either:

Eighteen inches by twenty-four inches (18"x24"),
Twenty-Four inches by thirty-six inches (24"x36"),
Thirty inches by forty-two inches (30"x42") or
Thirty-six inches by forty-eight inches (36"x48").

301.7 In the event that the Subdivision or Land Development cannot be drawn on one drawing, the Applicant shall provide an additional plan of the entire property on one sheet, at a legible scale convenient to the Applicant, showing the entire tract boundary and all significant topographical features, such as, but not limited to, roads, streams, tree masses, etc.

SECTION 302. DISTRIBUTION OF PLANS AND SUPPLEMENTARY FORMS AND DATA

302.1 MINOR SUBDIVISION OR RESUBDIVISION PLAN - 12 PLANS;
2 APPLICATIONS; 3 COPIES OF ALL SUPPLEMENTARY DATA

5 Plans.....	1 each to Planning Commission Members
1 Plan; 1 Application; 1 Supplementary....	to Municipal Engineer
1 Plan	to Zoning Officer
1 Plan	to Board of Supervisors
2 Plans; 1 Berks County Review Form;	
1 Supplementary.....	to Berks County Planning Commission
1 Plan	to adjoining munici- pality, if applicable

1 Plan; 1 Application; 1 Supplementary....for Municipality File

302.2. PRELIMINARY PLAN, INITIAL SUBMISSION - 14 PLANS;
2 APPLICATIONS; 3 COPIES OF ALL SUPPLEMENTARY DATA

5 Plans.....1 each to Planning
Commission Members
1 Plan; 1 Application; 1 Supplementary....to Municipal Engineer
1 Planto Zoning Officer
1 Planto Board of Supervisors
2 Plans; 1 Berks County Review Form;
1 Supplementary.....to Berks County
Planning Commission
1 Plan.....Fire Marshall
1 Plan.....Code Enforcement
1 Plan.....Officer;
1 Plan.....School District (if
applicable).
1 Planto adjoining munici-
pality if applicable
1 Plan; 1 Application; 1 Supplementary....for Municipality File.

302.3 PRELIMINARY PLAN, SUBSEQUENT SUBMISSIONS, AND ALL OTHER
PLANS - 8 PLANS; 2 APPLICATIONS

5 Plans.....1 each to Planning
Commission Members
1 Plan; 1 Application.....to Municipal Engineer
1 Planto Zoning Officer
1 Plan; 1 Application.....for Municipality File

302.4 FINAL PLAN - 13 PLANS; 2 APPLICATIONS

5 Plans.....1 each to Planning
Commission Members
3 Plans; 3 Applications.....1 each to Municipal
Engineer, Zoning
Officer, Municipality
File
5 Plans (blackline print)to be returned to the
Applicant following
approval, for purposes
of recording

302.5 Any Preliminary Plan showing a Subdivision or Land

Development consisting of a newly created system of Streets and/or consisting of the development of multi-residential, commercial or industrial Buildings, shall be submitted to the local Fire, Police and Road Departments for their comments. Agents of these departments may either appear at the Planning Commission meeting at which the plans are reviewed to offer their comments, or they may submit written comments, relative to their specific interests.

SECTION 303. REVIEW OF PLANS BY THE PLANNING COMMISSION.

- 303.1 All Subdivision and Land Development plans within the Municipality shall be reviewed by the Planning Commission at a regularly scheduled or special meeting.
- 303.2 During the review process and prior to the approval of any plan, the Planning Commission shall receive and consider comments from the Berks County Planning Commission concerning the plan provided that the comments are received within 30 days from the time the plan was mailed to County Planning Commission. If, after 30 days, the Berks County Planning Commission comments are not received by the Municipality, the Planning Commission shall Review and act upon the plan without regard to this section.
- 303.3 During the Review process, the Planning Commission may invite the Board of Supervisors, or any State, Federal or Local agency to Review the plan, and consider comments and opinions concerning the plan. This action may be taken by the Planning Commission if the plan may have an impact on the health, safety or welfare of the citizenry.
- 303.4 The Planning Commission may hold a Public Hearing concerning any plan. The hearing shall be held pursuant to Public Notice.
- 303.5 In the event the Planning Commission determines it cannot adequately study the plan before its regular meeting, the Commission may decline to Review the plan at that time and the plan shall be retained until a future meeting for a formal Review.
- 303.6 The Planning Commission shall not approve the

Preliminary Plan of any Subdivision or Land Development which requires a Review by the Municipal Water and/or Sewer Authorities; the Fire Marshall; the Zoning Officer; the Pennsylvania Department of Environmental Resources; the Pennsylvania Department of Transportation; or any other affected State, Federal or Local agency (i.e., Section 302.5), until such time as the requirements of those agencies have been met by the Applicant in writing and so noted on the plan, or in the case of certain local agencies, comments have been considered by the Planning Commission.

SECTION 304. APPROVAL OF PLANS BY THE PLANNING COMMISSION

- 304.1 All Subdivision and Land Development plans within Caernarvon Township shall be approved by the Planning Commission, provided that, the plans have met the requirements of this Ordinance. The approval by the Planning Commission is required at each stage of Review.
- 304.2 The Planning Commission shall render its decision in writing to the Applicant no later than ninety (90) days following the date of its regular meeting next following the date the application was filed, provided that, should the said next regular meeting occur more than thirty (30) days following the filing of the application, the said 90-day period shall be measured from the 30th day following the day the application had been filed. Failure of the Planning Commission to render a decision within the time and in the manner required here, shall be deemed an approval unless the Applicant has agreed, in writing, to an extension of time. The decision of the Governing Body or the Planning Commission shall be in writing and shall be communicated to the Applicant personally or mailed to him at his last known address not later than 15 days following the decision. When the application is not approved in terms as filed, the decision shall specify the defects found in the application and describe the requirements which have not been met and shall, in each case, cite to the provisions of the statute or ordinance relied upon.
- 304.3 Approval of a Preliminary Plan shall not constitute acceptance of a Subdivision or Land Development for recording. Approval is only an expression of approval

of the plan to be used in preparing the Final Subdivision or Land Development Plan for final approval and recording upon fulfillment of all requirements of this Ordinance.

- 304.4 When a Preliminary Plan is approved, or approved subject to conditions acceptable to the Applicant, no subsequent change or amendment in the Zoning, Subdivision and Land Development or other Township Ordinance or plan shall be applied to affect adversely the right of the Applicant to commence and to complete any aspect of the approved Subdivision or Land Development in accordance with the terms of such approval within five (5) years of such approval.
- 304.5 Following the approval of the Final Plan, the Planning Commission shall sign the plan, either by a majority of its members or by the Chairman and Secretary. The date of the approval shall be so noted on the plan.

SECTION 305. SUPERVISORS' ENDORSEMENT AND RECORDING OF PLAN.

- 305.1 Following approval of the Final Plan by the Planning Commission, the plan shall be submitted to the Township Board of Supervisors at its next regularly scheduled meeting following that of the Planning Commission at which the plan was approved.
- 305.2 The Board of Supervisors shall sign the plan, either by a majority of its members or by the Chairman and Secretary; and shall affix the Township Seal upon the plan. No Subdivision or Land Development plan may be legally recorded unless it bears the municipal approvals and the municipal seal.
- 305.3 The Applicant shall file the plan with the Berks County Recorder of Deeds within ninety (90) days of the date of the Board of Supervisors' endorsement. Two (2) copies of the plan, showing the Recorder of Deeds certification, including Plan Book Volume and Page Number(s), shall be returned to the Township Secretary and the Zoning Officer.
- 305.4 If the Applicant fails to record the plan within the 90-day time frame, the action of the Planning Commission and the Board of Supervisors shall be null and void, unless an extension of time is granted in writing by the Board of Supervisors after written request to do so is received from the Applicant.

ARTICLE IV

PLANS AND PROCEDURES

SECTION 401. INFORMAL SKETCH PLAN.

- 401.1 In the event that any Caernarvon Township property owner intends to subdivide or to develop his property, and is unsure of the necessary procedures required by the township for such a Subdivision or Land Development; or, when the property owner wishes to inquire as to the feasibility of such a Subdivision or Land Development, he may submit an informal sketch plan to the Planning Commission at a regularly scheduled meeting, for informal discussion concerning the plan. The Planning Commission shall provide this service at no charge to the Land Owner.
- 401.2 The Planning Commission, in its findings, may determine that the sketch plan requires further study and evaluation, and may request the property owner to provide additional copies of the plan to be distributed to all Commission members; and, the Planning Commission may require the plan to be held until the next regular meeting, thus allowing Commission members the opportunity to further evaluate the plan.
- 401.3 In order for the Commission members to understand the intent of the Subdivision or Land Development, the Applicant is advised to show the following information on the informal sketch plan:
- (a) North point;
 - (b) Tract boundaries, including all proposed Lots;
 - (c) Significant topographical and physical features; such as, ponds, streams, quarries, trees masses, railroad tracks, existing Buildings, driveways and flood plain areas;
 - (d) A statement of the existing and proposed uses for each Lot;
 - (e) A statement indicating what methods of water supply and sewage disposal will be used to serve the Subdivision or Land Development; and

- (f) The zoning district(s) in which the proposed Subdivision or Land Development is located.

401.4 At such time as the property owner or Developer has prepared his informal sketch plan in accordance with the abovementioned suggestions, he shall contact the Township Secretary for the plan to be placed on the Planning Commission agenda for the next meeting. No formal action by the Planning Commission shall be taken on the plan, and all proceedings concerning sketch plans are non-binding.

SECTION 402. MINOR SUBDIVISION PLAN.

Where the intent of the Subdivider is to create no more than two parcels, Lots or tracts of land from the original tract, and the land fronts on an existing improved Township or State road, the Planning Commission may permit the Subdivider to prepare a Minor Subdivision Plan. This plan shall show the simple Subdivision including the required data as outlined below. (For convenience, the requirements have been compiled in the form of a checklist to ensure that all applicable requirements are indicated on the plan.)

- _____ (a) The title of the plan (Minor Subdivision);
- _____ (b) Name of the record owner of the property, and the name of the Township;
- _____ (c) Name and seal of the Registered Engineer, Surveyor or Architect responsible for the plan;
- _____ (d) North point; graphic scale; written scale and date; include the month, day and year that the original drawing was completed; and, if applicable, the month, day and year that the original drawing was revised for each revision;
- _____ (e) The source(s) of title to the land being subdivided, as shown by the Recorder of Deeds;
- _____ (f) The location map, down to a scale of 1"=800', with sufficient information to enable the Planning Commission to locate the property being subdivided;
- _____ (g) A Certification of Ownership and Acknowledgement

of Plan shall be lettered on the plan, using the specified form in Appendix C of this Ordinance;

- _____ (h) A Certificate of Municipal Approval to be signed by the Planning Commission, and a Certificate of Municipal Approval to be signed by the Board of Supervisors, as shown in Appendix E of this Ordinance;
- _____ (i) A Certificate of Accuracy to be signed and sealed by the Registered Engineer, Surveyor or Architect responsible for the plan, as shown in Appendix D of this Ordinance;
- _____ (j) A blank space measuring 3" square shall be left along the lower edge of the plan, in order that the Berks County Recorder of Deeds may acknowledge receipt and recording of the plan when it is presented;
- _____ (k) A blank space measuring 3-1/2"x6" shall be left along the lower edge of the plan, preferably adjacent to the township certification, in which the appropriate stamp of the Berks County Planning Commission may be applied;
- _____ (l) Zoning data, including yard, setback and height requirements for each zoning district in which the property is located;
- _____ (m) Tract boundaries, accurately labeled;
- _____ (n) Significant topographical and physical features (i.e., water bodies, flood plain, quarries, tree masses, railroad tracks, wetlands, etc.);
- _____ (o) A statement indicating what methods of water supply and sewage disposal will be used to serve the Subdivision;
- _____ (p) Indicate the location(s) of soil percolation test holes, if applicable;
- _____ (q) Approvals from the Municipal Water and/or Sewer Authorities, or the Township Sewage Enforcement Officer;
- _____ (r) All existing sewer lines, water lines, fire

hydrants, utility transmission lines, culverts, bridges, railroad tracks, water courses, flood plain areas based on a 100 year storm; and, other significant manmade or natural features within the proposed subdivision and within 50 feet from the boundaries of the proposed subdivision;

- _____ (s) Indicate all Easements and/or Rights-of-Way existing and proposed;
- _____ (t) A statement indicating the proposed use of each Lot;
- _____ (u) Show the proposed Building Setback Line for each Lot, including the Right-of-Way for each road on which the property abuts;
- _____ (v) Include the names of all abutting Subdivisions, if any, with the book and page numbers where recorded, and the names of the owners of all adjacent unplatted land, if any, and the book and page numbers where recorded;
- _____ (w) Lots shall be number consecutively;
- _____ (x) Location, size and invert elevations of all sanitary and/or Storm Sewers and municipal water lines;
- _____ (y) Contour lines at vertical intervals not more than 2 feet for land with average natural slope of 4% or less at intervals not more than 5 feet for land with average natural slope exceeding 4%;
- _____ (z) Location and elevation of the datum to which contour elevations refer; where reasonably practical, datum used shall be a known, established bench mark;
- _____ (aa) All existing Buildings and other Structures, and the approximate locations of large individual trees;
- _____ (bb) All existing Streets, including Streets of record (recorded but not constructed) on or abutting the tract, including names, Rights-of-Way widths, Cartway widths and approximate Grades;
- _____ (cc) Such private deed restrictions, including setback

lines, as may be imposed upon the property as a condition of sale, together with a statement of any restrictions previously imposed which may affect the title of land being subdivided;

_____ (dd) All Lot lines shall be completely dimensioned in feet to the second decimal point, if straight, and if curved, with central angle in degrees, minutes and seconds, length of arc and radius. All angles of each Lot shall be shown in degrees, minutes and seconds. Each Lot shall be balanced to an accuracy of 1' for every 10,000'. All internal angles within the Lots shall be designated to the closest second; and

_____ (ee) Include a statement indicating that a Highway Occupancy Permit is required for any proposed driveway which will access to either a State or Township road.

SECTION 403. PRELIMINARY PLAN The Planning Commission shall require a Preliminary Plan to be submitted by the Subdivider or land Developer for any ground within the boundaries of Caernarvon Township, except in the case of a Minor Subdivision or Resubdivision Plan.

SECTION 404. PRELIMINARY PLAN REQUIREMENTS The following items, if applicable, are required on all Preliminary Plans. (For convenience, the requirements have been compiled in the form of a checklist to ensure that all applicable requirements are indicated on the plan.)

_____ (a) Name of the proposed Subdivision or Land Development, and the name of the Township;

_____ (b) North point, graphic scale, written scale and date, including the month, day and year the original drawing was completed. If revised plans are submitted, include the month, day and year the original drawing was revised, for each revision;

_____ (c) Name and address of the record owner of the tract, source of title to the land in question as shown by the records of the Recorder of Deeds;

_____ (d) The name, address and seal of the Registered Engineer or Surveyor responsible for the plan;

- _____ (e) The names of all abutting Subdivisions and Land Developments, if any, with the book and page number where recorded; and the names of the owners of all adjacent unplatted land with the book and page number where recorded;
- _____ (f) A key map for the purpose of convenience in locating the property in question, drawn to a scale of not less than 1"=800', and showing the relation of the property, differentiated by tone or pattern to adjacent property and to all Streets, roads, zoning districts, water courses and municipal boundaries within 1,000' of the Subdivision or Land Development. In addition, a scale and north point shall be indicated;
- _____ (g) The tract boundaries of the property showing bearings and distances and a statement of total acreage of the property;
- _____ (h) Any planned development located within the R-4 or R-5 Zoning Districts shall meet the additional requirements, if any, of those sections of the Caernarvon Township Zoning Ordinance;
- _____ (i) All Lot lines, with approximate dimensions;
- _____ (j) Lots shall be numbered consecutively; and, the total number of Lots, parcels and Dwelling Units shall be included;
- _____ (k) The proposed Building Setback Line for each Lot, plus the Right-of-Way for each road abutting the property;
- _____ (l) A statement of the intended use for all nonresidential Lots, with reference to restrictions of any type which exist, or will exist, in the deed for the Lots contained in the Subdivision or Land Development; and, if recorded, County recording information;
- _____ (m) All existing sewer lines, water lines, fire hydrants, utility transmission lines, culverts, bridges, railroads, water courses, 100 year flood plain areas, Wetlands and other significant manmade or natural features within the proposed subdivision or land development, and within 50' from its boundaries;

- _____ (n) If fire hydrants are not already existing, indicate the closest source(s) of water for fire fighting purposes;
- _____ (o) All existing Buildings and other Structures, and the approximate location of all existing tree masses and large individual trees and rock outcrops on the land;
- _____ (p) All existing Streets, including Streets of record (recorded but not constructed) on or abutting the tract, including names, Right-of-Way widths, Cartway widths and approximate Grades;
- _____ (q) Sanitary and/or Storm Water and other drainage facilities, with the size and material of each indicated, plus water mains and any proposed connections to existing facilities;
- _____ (r) Parks, playgrounds and other areas to be dedicated to the Township shall be noted. Areas to be reserved for public use, but not to be dedicated, shall be noted and any conditions governing such use, and arrangements to be made for the maintenance of these areas shall also be noted;
- _____ (s) Zoning data, including the following: Zoning District lines; area, yard and bulk regulations;
- _____ (t) The proposed placement of each Building in the Land Development in accordance with the Zoning Ordinance;
- _____ (u) The name, number and Cartway widths of all existing public Streets, and the name and location of all other roads within the property;
- _____ (v) All existing or proposed Easements or Rights-of-Way where provided for or owned by public services and any limitations on such Easements or Rights-of-Way. Rights-of-Way shall be shown and accurately identified on the plan, and Easements shall either be shown or specifically described on the plan. Proposed Easements shall be located in cooperation with the appropriate public utilities;
- _____ (w) Location, size and invert elevations of all

sanitary and/or Storm Sewers, and location of all manholes, inlets and culverts;

- _____ (x) Contour lines at vertical intervals not more than 2' for land with average natural slope of 4% or less, and at intervals not more than 5' for land with average natural slope exceeding 4%;
- _____ (y) Location and elevation of the datum to which contour elevations refer; where reasonably practical, datum used shall be a known, established benchmark;
- _____ (z) Location of probes and soil percolation test holes, if applicable:
 - (1) Soil percolation tests shall be performed for all Subdivisions or Land Developments wherein Buildings at the time of construction will not be connected to a live Public or Community Sanitary Sewage Disposal System.
 - (2) Soil percolation tests shall be made in accordance with the procedure required by the Pennsylvania Department of Environmental Resources, and under the jurisdiction of the Township Sewage Enforcement Officer.
- _____ (aa) Location and width of all existing and proposed Streets, private and public Easements; and, a statement of any conditions governing their uses, and suggested types (i.e., Collector);
- _____ (bb) Suggested names for all proposed Streets;
- _____ (cc) The following data shall be shown for the Cartway edges and Right-of-Way lines, and, if required, the ultimate Right-of-Way for all existing Streets, recorded Streets except those to be vacated and/or proposed Streets within or abutting the property to be subdivided or developed. Also include the length and width, in feet to the second decimal point, of all straight lines and the radii of the arc or chord of all curved lines, the length of all arcs, in feet to the second decimal point, and the central angle in degrees, minutes and seconds;
- _____ (dd) All Streets shall be monumented, preferably on the

Right-of-Way line, at the following locations, or 5' distance therefrom;

- _____ (1) At least one Monument at each Street intersection;
- _____ (2) At changes in direction of Street lines, excluding curb arcs at intersections;
- _____ (3) At each end of each curved Street line, excluding curb arcs at intersections;
- _____ (4) At intermediate points wherever topographical or other conditions make it impossible to sight between two otherwise required Monuments; and
- _____ (5) At such other places along the line of Streets as may be determined by the Municipal Engineer to be necessary so that any Street may be readily defined in the future.
- _____ (ee) The location and elevation, if established, of all existing and proposed Street Monuments;
- _____ (ff) The Preliminary Plan shall be accompanied by the following supplementary data, as applicable:
 - _____ (1) Typical cross-section drawings for all proposed Streets. Cross-section drawings may be shown on either the Preliminary Plan or on the profile sheets as noted in the next subsection;
 - _____ (2) Tentative profiles along the top of Cartway edges or along the top of curb for both sides of each proposed Street shown. Such profiles shall show existing and proposed Grades at one of the following sets of scales or any combination thereof:
 - 1"=10' horizontal and 1"=1' vertical; or
 - 1"=20' horizontal and 1"=2' vertical; or
 - 1"=40' horizontal and 1"=4' vertical; or
 - 1"=50' horizontal and 1"=5' vertical.
- _____ (gg) A plan for the surface drainage of the tract in accordance with Articles VIII and IX hereof. Such plan shall include Storm Water Run-Off

calculations for the entire parcel and all property located at a higher elevation in the same watershed when fully developed, and shall show the proposed method of accommodating the anticipated Run-Off;

- _____ (hh) Preliminary designs of any bridges or culverts which may be required. Such designs shall meet all applicable requirements of the Pennsylvania Department of Environmental Resources, the Pennsylvania Department of Transportation and any other applicable State or Township agencies. All designs shall be subject to approval by the Municipality;
- _____ (ii) A Site Investigation and Percolation Test Report whenever soil percolation tests are required, and applicable Planning Module;
- _____ (jj) Where a Preliminary Plan shows the proposed Subdivision or Land Development of only a part of the total property, the plan shall be accompanied by a plan of the proposed Street system for the remainder of the property so that the Street system in the submitted portion can be considered in relation to future connections in the unsubmitted portion. In the case of extremely large properties, the Planning Commission may limit the area for which a prospective street system on adjacent property must be shown. The Developer shall also include a statement indicating proposed land use for the unsubmitted portion of the property;
- _____ (kk) The location and types of Erosion and Sediment control measures as outlined in this Ordinance (Section 512);
- _____ (ll) A statement that a Highway Occupancy Permit is required before driveway or road access to a State or Township road is permitted; and
- _____ (mm) The Planning Commission may require a Subdivider or Developer to submit a separate landscape plan showing the number, location, size and species of all trees and shrubbery that will be planted.

SECTION 405. FINAL PLAN The Applicant shall submit a Final Plan for Review provided that the Planning Commission has instructed the Applicant to do so based on all applicable Preliminary Plan requirements having been met at the time of the Preliminary Plan Review, and any subsequent requirements as deemed necessary by the Planning Commission.

SECTION 406. FINAL PLAN REQUIREMENTS The Final Plan shall include the following requirements if applicable to be included on the plan: (For convenience, the requirements have been compiled in the form of a checklist to ensure that all applicable requirements are indicated on the plan.)

- _____ (a) The total tract boundary lines of the area being subdivided or developed shall be shown with accurate distances to hundredths of a foot and bearings to one-quarter of a minute. These boundaries shall be determined by accurate survey in the field which shall be balanced and closed with an error of closure not to exceed 1' in 10,000; provided that, the boundaries adjoining additional unplatted land of the Applicant are not required to be based upon field survey, and may be calculated. The location and elevation of all boundary or perimeter Monuments shall be indicated, along with a statement of the total area of the property being subdivided or developed;
- _____ (b) All Lot lines shall be completely dimensioned in feet to the second decimal point, and if curved, with central angle in degrees, minutes and seconds and length of arc and radius. All angles of each Lot shall be shown in degrees, minutes and seconds. Each Lot shall be balanced to an accuracy of 1' for every 10,000'. All internal angles within the Lots shall be designated to the closest second;
- _____ (c) All approved items and detail as shown on the approved Preliminary Plan;
- _____ (d) A Certificate of Municipal Approval to be signed by the Township Board of Supervisors (Appendix E);
- _____ (e) A Certificate of Approval to be signed by the Township Planning Commission (Appendix E);

- _____ (f) A Certificate of Ownership and Acknowledgement of Plan and an Offer of Dedication shall be lettered on the plan and shall be duly acknowledged and signed by the owner of the property before a Notary Public (Appendix C);
- _____ (g) A blank space measuring 3-1/2" square shall be left along the lower edge of the plan, in order that the Berks County Recorder of Deeds may acknowledge receipt and record the plan when it is presented;
- _____ (h) A blank space measuring 3-1/2" x 6" shall be left, preferably adjacent to the Township certification, in which the appropriate stamp of the County Planning Commission may be applied;
- _____ (i) Any subsequent requirements as deemed by the Planning Commission and in accordance with this Ordinance; and
- _____ (j) A Certificate of Accuracy to be signed and sealed by the Registered Engineer, Architect or Surveyor responsible for drawing the plan. (Appendix D).

SECTION 407. RESUBDIVISION Any replatting or Resubdivision of land, including changes to recorded plans, shall be considered a Subdivision and shall comply with all Preliminary and Final Plan requirements of this Ordinance; except that if said changes are proposed within one (1) year from the date of recording of Final Plan;

407.1 Lot lines may be changed from those shown on a recorded plan, provided that in making such changes:

- (a) No tract of land shall be created or sold that is smaller than the minimum dimensions required by the Township Zoning Ordinance;
- (b) Easements or Rights-of-Way reserved for drainage shall not be changed;
- (c) Street locations and block size shall not be changed;
- (d) No Lot shall be created which does not abut a Street; and

- (e) The character of the area shall be maintained, keeping Lot sizes and land uses, dimensions and proportions relatively close to those of the contiguous development.

407.2 In every case where Lot lines are changed as permitted above, at the completion of each section the Subdivider shall:

- (a) Submit to the Township copies of the Final Plan revised to show such changes. After this submission the Township Planning Commission will in writing advise the Subdivider and the Municipality if the revised plan complies with Section 407.1.
- (b) When the plan does comply with Section 407.1, the Subdivider shall submit the Record Plan to the Municipality for the endorsements of the Township Planning Commission and the Governing Body. The Subdivider shall after approval by the Municipality submit the Record Plan to the County Planning Commission for its endorsement (which shall specifically identify the previous Record Plan as superseded) and then record the plan. if
- (c) The Record Plan shall be a clear and legible black-on-white print on linen.

407.3 When On-Site Sanitary Sewage Disposal is intended to be utilized, a copy of the Final Plan shall be submitted to the Pennsylvania Department of Environmental Resources for Review, and a report from the Department received by the Township prior to endorsement of the Record Plan.

ARTICLE V

DESIGN AND IMPROVEMENT STANDARDS

SECTION 501. GENERAL REQUIREMENTS

- 501.1 The standards and requirements contained in this Article are intended as the minimum for the promotion of the public health, safety and general welfare, and shall be applied as such by the Planning Commission and Governing Body in reviewing all Subdivision and Land Development plans.
- 501.2 Whenever other municipal ordinances and/or regulations impose more restrictive standards and requirements than those contained herein, such other ordinances and/or regulations shall be observed; otherwise, the standards and requirements of this Ordinance shall apply.
- 501.3 Land which is subject to hazards of life, health or property, such as may arise from fire, floods, disease or other causes, shall not be subdivided or developed for building purposes unless such hazards have been eliminated or unless the Subdivision or Land Development plan shall show adequate safeguards against such hazards, and shall be approved by the appropriate regulatory agencies.
- 501.4 Subdivision and Land Development plans shall give due recognition to the "Official Plan" of the Municipality and of the County, or to such parts thereof as may have been adopted pursuant to statute.
- 501.5 Land proposed for Subdivision or development shall not be developed or changed by grading, excavating or by the removal or destruction of the natural topsoil, trees or other vegetative cover unless adequate provisions for minimizing Erosion and Sediment are provided as per criteria contained in Title 25, Chapter 102, Rules and Regulations, Pennsylvania Department of Environmental Resources, and the requirements of this ordinance.
- 501.6 Physical improvements of the property shall be provided, constructed and installed as shown on the Record Plan, in accordance with the requirements of

this Ordinance or other Municipal ordinances or regulations whichever are more restrictive.

- 501.7 As a condition to approval of a Final Plan by the Planning Commission, the Applicant shall agree with the Municipality as to the installation of all Improvements shown on the Plan and required by this Ordinance or other municipal ordinances or regulations. Before the Record Plan is endorsed by the Planning Commission and Governing Body, the Applicant shall submit a completed original copy of the Subdivision and Land Development Improvements Agreement (Appendix G).
- 501.8 All Improvements installed by the Subdivider or Land Developer shall be constructed in accordance with the design specifications of the Municipality, including any promulgated by the Municipal Water or Sewer Authority. Where there are no municipal specifications, Improvements shall be constructed in accordance with specifications furnished by the Municipal Engineer, County Engineer, Pennsylvania Department of Transportation, Pennsylvania Department of Environmental Resources, Soil Conservation District or such other County or State agency, as applicable. If there are no applicable municipal, county or state regulations, the Governing Body may authorize that specifications be prepared by the Municipal Engineer or an engineering consultant.
- 501.9 Supervision of the installation of the required Improvements shall in all cases be the responsibility of the Municipality or of the appropriate state regulatory agency.

SECTION 502. STREETS

502.1 GENERAL STANDARDS:

- (a) The location and width of all Streets shall conform to the "Official Plan" or to such parts thereof as may have been adopted by the Board of Supervisors.
- (b) The proposed Street system shall extend existing or proposed Streets as described by other ordinances of the Municipality regulating Streets and their construction, at the same or greater

width but in no case at less than the required minimum width in Section 502.3.

- (c) Where, in the opinion of the Municipality, it is desirable to provide for Street access to adjoining property, Street stubs shall be extended by dedication to the boundary of such property.
- (d) New Minor Streets shall be so designed as to discourage through traffic, but the Applicant shall give adequate consideration to provisions for the extension and continuation of Major and Collector Streets into and from adjoining properties.
- (e) Where a Subdivision or Land Development abuts or contains an existing Street of improper width or alignment, the Municipality may require the dedication of land sufficient to widen the Street or correct the alignment.
- (f) Private Streets (Streets not to be offered for dedication) are prohibited unless they meet the Design and Improvement Standards of this Ordinance.

502.2 PARTIAL AND HALF STREETS: New Partial or Half Streets shall be prohibited except where essential to reasonable Subdivision or Land Development of the tract in conformity with other requirements and standards of this Ordinance and where satisfactory assurance for dedication of the remaining part of the Street can be obtained.

502.3 STREET WIDTHS: Minimum Street Right-of-Way and pavement widths shall be as shown in other ordinances of the Municipality regulating Streets, sidewalks and curbs, or, if not shown in such ordinances, shall be as follows:

<u>Street Type</u>	<u>Required Widths (in feet)</u>
Minor Street Right-of-Way.....	53
Minor Street Cartway.....	33
Collector Street Right-of-Way.....	60
Collector Street Cartway.....	36
Major Street Right-of-Way.....	See Note (a)
Major Street Cartway.....	See Note (b)
Permanent Cul-de-Sac Right-of-Way.....	53

Permanent Cul-de-Sac Cartway.....	33
Marginal Access Street Right-of-Way.....	See Note (c)
Marginal Access Street Cartway.....	26
Service Street Right-of-Way.....	34
Service Street Cartway.....	24

(a) Note: As specified by ordinance of the Municipality or determined after consulting with the Municipality, the County Planning Commission and/or the Pennsylvania Department of Transportation.

(b) Note: Variable depending upon the width of the Right-of-Way, but not less than thirty-six feet (36').

(c) Note: Variable, depending upon the width of the adjacent Right-of-Way, but not less than thirty-six feet (36').

502.4

RESTRICTIVE AREA: Whenever a Subdivision or Land Development abuts or contains an existing or proposed Street with an ultimate Right-of-Way of eighty feet (80') or more, or contains or abuts an existing or proposed Collector Street, the Planning Commission may require restriction of access to said Street by:

- (a) Provision of Reverse Frontage Lots; or
- (b) Provision of Service Streets along the rear of the abutting Lots, together with prohibition of private driveways intersecting the Major Streets; or
- (c) Provision of Marginal Access Streets, provided that the Reserve Strips establishing such Marginal Access Streets shall be placed within the jurisdiction of the Municipality under an agreement, meeting the approval of the Municipality.
- (d) Except as specified under paragraph (c) above, Reserve Strips shall be prohibited.

502.5

STREET GRADES:

- (a) There shall be a minimum centerline Grade of three-quarters percent ($3/4\%$).
- (b) Centerline Grades shall not exceed the following:

1. Minor Street.....10 percent (10%)
2. Collector Street..... 6 percent (6%)
3. Major Street..... 6 percent (6%)
4. Street Intersection..... 5 percent (5%)

(c) Grades up to twelve percent (12%) may be permitted on a through Minor Street where access to the Street is possible over Streets with grades of ten percent (10%) or less.

(d) All Streets shall be graded to the full Right-of-Way width.

502.6 CARTWAY PAVING: All Streets shall be paved to the full Cartway width as shown on the Final Plan.

502.7 CURBS: Curbs shall be installed along both sides of all Streets, except along Service Streets, in accordance with municipal requirements. Curbs shall be the vertical type.

502.8 HORIZONTAL CURVES:

(a) Whenever Street lines are deflected in excess of five (5) degrees, connection shall be made by horizontal curves.

(b) To insure adequate Sight Distance, minimum centerline radii for horizontal curves shall be as follows:

1. Minor Streets.....One Hundred Fifty Feet (150')
2. Collector Streets.....Three Hundred Feet (300')
3. Major Streets.....Five Hundred Feet (500')

(c) A tangent of at least one hundred feet (100') shall be introduced between all horizontal curves on Collector and Major Streets.

(d) To the greatest extent possible, combinations of the minimum radius and maximum Grade shall be avoided.

502.9 VERTICAL CURVES: At all changes of Street Grades where

the algebraic difference exceeds one percent (1%), the following vertical curves shall be provided to permit minimum sight distances:

- (a) Minor Streets.....Two Hundred Feet (200')
- (b) Collector Streets.....Three Hundred Feet (300')
- (c) Major Streets.....Four Hundred Feet (400')

502.10

INTERSECTIONS:

- (a) Streets shall intersect as nearly as possible at right angles, and no Street shall intersect another at an angle of less than sixty (60) degrees or more than one hundred twenty (120) degrees.
- (b) No more than two Streets shall intersect at the same point.
- (c) Streets intersecting another street shall either intersect directly opposite to each other or shall be separated by at least one hundred fifty feet (150') between centerlines measured along the centerline of the Street being intersected.
- (d) Intersections shall be approached on all sides by a straight leveling area, the Grade of which shall not exceed five percent (5%) within fifty feet (50') of the intersection of the nearest Right-of-Way line.
- (e) Intersections with Major Streets shall be located not less than one thousand feet (1,000') apart measured from centerline to centerline along the centerline of the Major Street.
- (f) Street curb intersections shall be rounded by a tangential arc with a minimum radius of:
 - 1. Twenty feet (20') for intersections involving only Minor Streets.
 - 2. Thirty feet (30') for all intersections involving a Collector Street.
 - 3. Forty feet (40') for all intersections involving a Major Street.

4. Ten feet (10') for all intersections involving only Service Streets.

(g) Street Right-of-Way lines shall be parallel to (concentric with) curb arcs at intersections.

502.11

SIGHT DISTANCE AT INTERSECTIONS:

(a) Clear sight triangles shall be provided at all street intersections. Within such triangles, no vision-obstructing object other than utility poles, street lights, street signs or traffic signs shall be permitted which obscures vision above a height of thirty inches (30") and below ten feet (10'), measured from the centerline Grade of intersecting Streets. Such triangles shall be established from a distance of:

1. Seventy-five feet (75') from the point of intersection of the centerlines, except that,

2. Clear sight triangles of one hundred fifty feet (150') shall be provided for all intersections with Collector or Major Streets.

(b) Wherever a portion of the line of such triangle occurs behind (i.e., from the street) the Building Reserve Line, such portion shall be shown on the Preliminary Plan of the Subdivision or Land Development, and shall be considered a Building setback (reserve) Line.

502.12

CUL-DE-SAC STREETS:

(a) Dead-end Streets are prohibited unless designed as Cul-de-Sac Streets or designed for future access to adjoining properties.

(b) Any temporarily dead-ended Street shall be provided with a temporary all-weather turnaround, within the Subdivision or Land Development, until such time as the Street is extended.

(c) Cul-de-Sac Streets, permanently designed as such, shall be a minimum of two hundred fifty feet (250'), and a maximum of five hundred feet (500'), measured from the center of the turnaround to the center of the intersecting Street and shall not

furnish access to more than twenty (20) Dwelling Units. The Planning Commission or Governing Body may permit lengths in excess of five hundred feet or Cul-de-Sac streets serving more than twenty Dwelling Units where ridge lines, steep valleys or other physical features allow no alternative road system.

- (d) Unless future extension is clearly impractical or undesirable, the turnaround Right-of-Way shall be placed adjacent to the tract boundary line to permit extension of the Street at full width.
- (e) All Cul-de-Sac Streets, whether permanently or temporarily designed as such, shall be provided at the closed end with a fully paved turnaround. The minimum radius of the pavement edge or curb line shall be fifty feet (50'), and the minimum radius of the Right-of-Way line shall be sixty feet (60').
- (f) Drainage of Cul-de-Sac Streets shall preferably be towards the open end. If drainage is toward the closed end, it shall be conducted away in an underground Storm Sewer.
- (g) The centerline Grade on a Cul-de-Sac shall not exceed eight percent (8%), and the Grade of the diameter of the turnaround shall not exceed five percent (5%).

502.13 STREET NAMES:

- (a) Proposed Streets which are in alignment with others already existing and named, shall bear the names of the existing Streets.
- (b) In no case shall the name of a proposed Street be the same as or similar to an existing Street name in the Municipality and in the same postal district irrespective of the use of the suffix Street, road, avenue, boulevard, drive, way, place, court, lane, etc.
- (c) All Street names shall be subject to approval by the Governing Body and the postmaster having jurisdiction.

502.14 SERVICE STREETS (ALLEYS):

- (a) Service Streets may be permitted, provided that the Applicant produces evidence satisfactory to the Planning Commission of the need for such Service Streets, and such Service Streets are not the primary means of access.
- (b) No part of any dwelling, garage or other Structure shall be located within twenty feet (20') of the centerline of a Service Street.
- (c) Dead-end Service Streets shall be avoided, but where approved by the Planning Commission such Service Streets shall terminate with a paved circular turnaround with a minimum radius to the outer pavement edge (curb line) of fifty feet (50').
- (d) Service Street intersections and sharp changes in alignment shall be avoided, but where necessary, corners in excess of 5 degrees shall be rounded by means of horizontal curves.

502.15 SIDEWALKS: Sidewalks having a minimum width of four feet (4') shall be installed in accordance with municipal requirements along both sides of existing or proposed Streets, except that no sidewalks shall be required along Service Streets.

502.16 STREET SIGNS: Street name signs shall be installed at all Street intersections. The design and placement of such signs shall be subject to approval by the Municipality and all costs shall be borne by the Applicant.

502.17 STREET LIGHTS: In accordance with conditions to be agreed upon by the Applicant, the Municipality and the appropriate public utility Street lights are required to be installed in all Subdivisions and Land Developments. The Applicant shall provide utility Easements for future Street lighting installations upon consultation with the public service utility company involved in the event Street lights are not required to be installed initially.

502.18 DRIVEWAYS:

- (a) Private driveways on corner lots shall be located at least forty feet (40') from the point of intersection of the nearest Street curb line.
- (b) In order to provide a safe and convenient means of access, Grades on private driveways shall not exceed fifteen percent (15%)
- (c) Driveways shall be installed in accordance with municipal requirements.

SECTION 503. BLOCKS

503.1 LAYOUT: The length, width and shape of blocks shall be determined with due regard to:

- (a) Provisions of adequate sites for Buildings of the type proposed;
- (b) Zoning requirements;
- (c) Topography; and
- (d) Requirements for safe and convenient vehicular and pedestrian circulation including the reduction of intersections with Major Streets.

503.2 LENGTH:

- (a) Blocks shall have a maximum length of one thousand, six hundred feet (1,600') and a minimum length of five hundred feet (500'), provided, however, that the Municipality may increase the maximum and/or decrease the minimum lengths of blocks if topography of the land in question and/or surface water drainage conditions warrant such a change.
- (b) In the design of blocks longer than 1,000', special consideration shall be given to the requirements of satisfactory fire protection.
- (c) Where practical, blocks along Major and Collector Streets shall not be less than 1,000' in length.

503.3 CROSSWALKS:

- (a) Crosswalks shall be required whenever necessary to facilitate pedestrian circulation and to give access to community facilities, as well as in blocks of over 1,000' in length.
- (b) Crosswalks shall have a width of not less than 10', and a paved walk of not less than 4'.

503.4 DEPTH: Residential blocks shall be of sufficient depth to accommodate two tiers of lots, except where prevented by the size, topographical conditions or other inherent conditions of the property, in which case, the Municipality may approve a single tier of lots.

503.5 COMMERCIAL AND INDUSTRIAL BLOCKS: Blocks in commercial and industrial areas may vary from the elements of design detailed above as required by the nature of the use. In all cases, however, adequate provision shall be made for off-street parking and loading areas, as well as for traffic circulation and parking for employees and customers.

SECTION 504. LOTS AND PARCELS:

504.1 GENERAL STANDARDS:

- (a) Insofar as practical, side Lot lines shall be at right angles to straight street lines or radial to curved Street lines.
- (b) Where feasible, Lot lines should follow municipal boundaries, rather than crossing them, in order to avoid jurisdictional problems.
- (c) The depth of a residential Lot shall not be less than one (1), nor more than two and one-half (2-1/2) times its width.
- (d) Depth and width of parcels intended for non-residential uses shall be adequate for the use proposed and sufficient to provide satisfactory space for on-site parking, loading and unloading, setbacks, landscaping, etc.
- (e) If, after subdividing, there exist remnants of

land, they shall be either:

1. Incorporated in existing or proposed lots; or
2. Legally dedicated to public use, if acceptable to the Municipality.

504.2

LOT FRONTAGE:

- (a) All Lots shall front on a public Street, existing or proposed, or on a private Street, if it meets the requirements of this Ordinance.
- (b) Double or Reverse Frontage Lots shall be avoided except where required to provide separation of residential development from Major Streets or to overcome specific disadvantages of topography or orientation.
- (c) All residential Reverse Frontage Lots shall have a rear yard with a minimum depth of seventy-five feet (75') measured at the shortest distance from the proposed Dwelling Unit to the ultimate Right-of-Way, and shall have within such rear yard and immediately adjacent to the Right-of-Way, a planting screen Easement of at least ten feet (10') in width, across which there shall be no right of access.
- (d) At the Street lines of both Streets, all Reverse Frontage Lots shall have the minimum lot width as required by the Township Zoning Ordinance.

SECTION 505. SANITARY SEWAGE DISPOSAL:

505.1

All Lots shall be connected to an approved Public Sanitary Sewage Disposal System, if accessible. Where public sewer is not accessible but is planned for extension to the Subdivision or Land Development, the Applicant shall install sewer lines, including lateral connections as may be necessary to provide adequate service to each Lot or Building when connection with the sewer system is made. The sewer lines shall be suitably capped at the limits of the Subdivision or Land Development, and the laterals shall be capped at the Street Right-of-Way line. When capped sewers are provided, On-Site Sanitary Sewage Disposal Systems shall also be provided. Design of capped sewer systems

shall be subject to approval by the Municipal Sewer Authority.

- 505.2 Sanitary sewers shall be designed and constructed in strict accordance with the requirements of the Pennsylvania Department of Environmental Resources and the Municipal Sewer Authority. A letter of the approval of such systems, or a copy thereof, shall be submitted with the Preliminary Plan.
- 505.3 Sanitary sewers shall not be used to carry Storm Water.
- 505.4 All principal uses and Lots which cannot be connected to a Public or Community Sanitary Sewage Disposal System in operation at the time of construction, shall be provided with a sanitary sewage disposal system meeting the design standards of Title 25, Chapter 73, Rules and Regulations of the Pennsylvania Department of Environmental Resources, and any applicable municipal standards.
- 505.5 If an On-Site Sanitary Sewage Disposal System is to be utilized, the Planning Commission may require the Applicant to submit an Economic Feasibility Report. Such report shall compare the cost of providing on-site facilities and the cost of a Community Sanitary Sewage Disposal System with a temporary sewage treatment plant, and the cost of connecting to the public system. Based on the analysis of this report, the Planning Commission may require the installation of a Community Sanitary Sewage Disposal System or connection to the public system.
- 505.6 Each On-Site Sanitary Sewage Disposal System shall be located entirely within the boundaries of the Lot it serves.
- 505.7 Where an On-Site Sanitary Sewage Disposal System is to be utilized, each Lot so served shall be a size and shape to accommodate the necessary length of tile fields at a safe distance from, and at a lower elevation than, the proposed Building in accordance with municipal and state regulations.
- 505.8 The proposed method of sanitary sewage disposal shall be in accordance with the Act 537 Township Sewage Facilities Plan.
- 505.9 Whenever, according to Title 25, Rules and Regulations

of the Pennsylvania Department of Environmental Resources, a revision is necessary to the Act 537, Township Sewage Facilities Plan, the procedures set forth in those rules and regulations shall apply.

- 505.10 Whenever an Applicant proposes that individual On-Site Sanitary Sewage Disposal Systems shall be utilized, the Applicant shall obtain approval for each Lot from the Department of Environmental Resources or the Municipality's Sewage Enforcement Officer.
- 505.11 In all cases where the Applicant proposes to provide a Community or Public Sanitary Sewage Disposal System, the design and installation of such system shall be subject to the approval of the Municipal Sewer Authority and shall be subject to the approval of the Pennsylvania Department of Environmental Resources. Such system shall be further subject to satisfactory provision for the maintenance thereof.
- 505.12 Where studies by the Municipality or the Municipal Sewer Authority indicate that construction or extension of sanitary trunk sewers to serve the property being subdivided or developed appear probable within a reasonably short time (up to 5 years), the Governing Body shall require the installation and capping of sanitary sewer mains and house connections, in addition to the installation of temporary, individual, On-Site Sanitary Sewage Disposal Systems.

SECTION 506. SOIL PERCOLATION TEST REQUIREMENTS:

- 506.1 Soil percolation tests and probes shall be performed for all Lots within the Subdivision or Land Development wherein principal uses, at the time of construction, will not be connected to a Public or Community Sanitary Sewage Disposal System in operation.
- 506.2 Soil percolation tests and probes shall be made by the Municipality's Sewage Enforcement Officer in accordance with the procedure required by the Pennsylvania Department of Environmental Resources.
- 506.3 Copies of the Site Investigation and Percolation Test Report shall be submitted with the Preliminary Plan. Where the approval of the proposed sanitary sewage disposal system is otherwise required by the Pennsylvania Department of Environmental Resources, two

(2) copies of the report of investigation and approval may be submitted in lieu of the Site Investigation and Percolation Test Report.

- 506.4 The results of the soil percolation tests and probes shall be analyzed in relation to the physical characteristics of the tract and of the general areas surrounding the tract, and the Final Plan layout shall be based on this analysis.

SECTION 507 TRENCH STANDARDS FOR PROPOSED DEDICATED STREETS

- 507.1 Trench backfill cross-sections shall be shown on the Preliminary Plan. The plan shall show the type and length of each type of trench backfill.

- 507.2 Underground Utilities: All Streets intended for dedication to public use shall have all trenches within the proposed public Right-of-Way backfilled as follows:

- (a) Only material approved by the Municipal Engineer shall be used for backfilling along the sides of the pipe, and to a height of one foot (1') above the top of the pipe.
- (b) All water mains, force mains, sanitary sewers and Storm Sewers shall be bedded on six inches (6") of AASHTO No. 8. All pipes shall be covered to a depth of one foot (1') above the top of the pipe with AASHTO No 8 stone. The remainder of the trench shall be backfilled in lifts with AASHTO Select Granular material as required in Caernarvon Township Ordinance No. 86, as amended.
- (c) All underground direct buried or conduit enclosed cables shall be a minimum of thirty-six inches (36") below finished Grade. The cable or conduit bed shall consist of three inches (3") of AASHTO No. 8 stone covered with a two inch (2") sand bed. The cables or conduits shall be covered with a two inch (2") sand cover. The remainder of the trench shall be backfilled in accordance with Caernarvon Township Ordinance No. 86, as amended. Marker tape shall be laid in the trench backfill, twenty-four inches (24") above the cables or conduit.

SECTION 508 WATER SUPPLY

- 508.1 Whenever an existing public or approved community water system is geographically and economically accessible to a proposed Subdivision or Land Development, a distribution system shall be designed to furnish an adequate supply of water to each Lot or principal use, with adequate main sizes and fire hydrants located to meet the specifications of the Municipal Water Authority. A letter of approval of such system by the Municipal Water Authority shall be submitted with the Preliminary Plan. Suitable agreements shall also be established for the design, specifications, construction, ownership and maintenance of such a distribution system.
- 508.2 Whenever water supply is proposed to be provided by means other than by private wells owned and maintained by individual Lot owners within a Subdivision or Land Development, the Applicant shall present evidence that the Subdivision or Land Development is to be supplied by a certified public utility, a bona fide cooperative association of Lot owners or by a municipal corporation, authority or utility.
- 508.3 A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certification, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.
- 508.4 Wherever feasible, the tract shall be provided with a complete public or community water distribution system. The design and installation of such systems shall be subject to the approval of the Municipality and of the Pennsylvania Department of Environmental Resources. Such system shall be further subject to satisfactory provision for the maintenance thereof.
- 508.5 Where such systems are not accessible, and where On-Site Sanitary Sewage Disposal Systems are to be used, a community water system may be required. A community water supply system shall be designed in accordance with the Pennsylvania Safe Drinking Water Act, approved by the Pennsylvania Department of Environmental Resources, and appropriate measures shall be provided to insure adequate maintenance. Suitable agreements shall also be established for the

construction, ownership and maintenance of such a distribution system.

508.6 Where individual on-site water supply systems are to be utilized, each Lot so served shall be of a size and shape to allow safe location of such a system, and the wells shall be placed uphill from sewage disposal systems and shall not be within one hundred feet (100') of any part of the absorption (tile) field of any On-Site Sanitary Sewage Disposal System and not within fifty feet (50') of any lakes, streams, ponds, quarries, etc.

508.7 Where individual on-site water supply systems are to be utilized, it is recommended that the Applicant provide at least one test well for each ten (10) proposed Dwelling Units. Such wells should be drilled, cased and grout-sealed into bedrock at least fifty feet (50') deep having a production capacity of at least five (5) gallons per minute of safe, potable drinking water, as certified by State regulations.

SECTION 509 FIRE PROTECTION::

(a) Wherever a public or community water system is provided, fire hydrants suitable for the coupling of equipment serving the Municipality shall be installed within six hundred feet (600') of all existing and proposed Structures, measured by way of accessible Streets (as specified by the Middle Department Association of Fire Underwriters). Locations of hydrants shall be approved by the fire company officials serving the Municipality and the Municipal Engineer.

(b) In all other cases involving the construction of 20,000 square feet of gross floor area for any commercial or industrial Structure or the creation of ten (10) or more Lots or the construction of ten (10) or more Dwelling Units, from or on a tract of land existing at the time of the adoption of this Ordinance, regardless of timing or phasings of development, the Developer or Subdivider shall provide Cisterns for fire protection.

(i) Cisterns shall be installed as part of the

Municipal Improvements and shall be installed or guaranteed through an Improvements Agreement.

- (ii) Cisterns shall be located so that the maximum distance, measured along the centerline of the Street(s) beginning at the pumping nozzle to the nearest Lot line of the furthest Lot or to the furthest Structure, in the case of Land Developments, does not exceed one thousand (1000) feet.
- (iii) Cisterns shall have a minimum capacity of 30,000 gallons available through the suction piping systems.
- (iv) Suction piping system shall be capable of delivering one thousand (1000) gpm for three-quarters of the system capacity.
- (v) All construction shall be in accordance with the details contained in Appendix F of this Ordinance. Option A is a single shell fiberglass tank meeting PS-15 and ASTM D-3299, Option B is a precast concrete tank meeting American Concrete Institute 344-T, and Option C shall be a poured in place, reinforced concrete tank meeting American Concrete Institute 301, all latest revisions. All plans, details and specifications shall be signed and sealed by a professional Engineer registered in the Commonwealth of Pennsylvania.
- (vi) Each Cistern shall have a level indicator system installed that shall indicate the following:
 - (a) Yellow light - 300 gallons low
 - (b) Red light - 600 gallons low

This indicator system shall be battery operated with a solar powered charging system. The level probes shall be tethered float level probes and shall only light the appropriate light when the level falls below the predetermined amount. The system shall be a 12 volt D.C. system and the solar

charger shall be as manufactured by Integrated Power Corp., Rockville, Maryland, or equal. All conduits shall be steel conduits. The solar charging unit shall be on a pole that will also support the battery and the indicator lights as shown on the drawing.

A pump down test must be completed at least two (2) months prior to issuance of the first occupancy permit. The pump down test shall consist of filling the Cistern with Municipal Water Authority water paying prevailing rates. The tank shall rest full for one (1) month to test for leaks. Then test for low alarms and pump down test of 1000 gpm for 20 minutes shall be performed by the Friendship Fire Company of Morgantown, PA. All costs for filling, testing and re-filling shall be born by the Developer. Tank must then sit full for one (1) additional month and, if no leaks occur, the Cistern will be accepted.

- (c) All fire protection plans shall be submitted by the Applicant to the appointed Township Fire Marshall who shall review and approve the fire protection plan to ensure that it meets with these requirements.

SECTION 510 STORM DRAINAGE

- (a) Storm Sewers, culverts and related installations shall be designed and installed, as necessary, to:
 - 1. Permit unimpeded flow of natural water courses;
 - 2. Insure adequate drainage of all low points along a line of Streets;
 - 3. Intercept Storm Water Run-Off along Streets at intervals related to the extent and Grade of the area drained;
 - 4. Provide positive drainage away from On-Site Sewage Disposal Facilities.

- (b) Storm Sewers and related installations shall be required when in the opinion of the Municipal Engineer, the Run-Off of Storm Water cannot be satisfactorily handled within the Street Cartway. Design criteria and guidelines are contained in this Ordinance under Article IX "Stormwater Management Requirements".
- (c) Where existing Storm Sewers are reasonably accessible, proposed Subdivisions and Land Developments shall be required to connect therewith, if necessary.
- (d) In the design of Storm Water facilities, special consideration shall be given to avoidance of problems which may arise from the concentration of Storm Water Run-Off onto adjacent properties.
- (e) Storm drainage facilities should be designed not only to handle the anticipated Peak Discharge from the property being developed, but also the anticipated increase in Run-Off that will occur when all the property at a higher elevation in the same watershed is fully developed.
- (f) Where a Subdivision or Land Development is traversed by a water course, drainageway, channel or stream, there shall be provided a Drainage Easement conforming substantially with the line of such water course, etc., which shall be of such width as will be adequate to preserve the unimpeded flow of natural drainage, or for the purpose of widening, deepening, relocating, improving or protecting such drainage facilities. The owner shall properly grade and seed slopes, and shall fence any open ditches when it is deemed necessary by the Planning Commission. Any changes in the existing drainageway shall be subject to the approval of the Pennsylvania Department of Environmental Resources or any succeeding department or agency as applicable laws and/or regulations shall require.
- (g) All Streets shall be so designed as to provide for the discharge of surface water from the Rights-of-Way.

- (h) Adequate facilities shall be provided at low points along Streets and where necessary to intercept Run-Off.

SECTION 511 PUBLIC USE AND SERVICE AREAS

511.1 PUBLIC OPEN SPACES:

- (a) In reviewing Subdivision and Land Development plans the Planning Commission shall consider whether community facilities in the area are adequate to serve the needs of the additional dwellings proposed by the Subdivision or Land Development, and shall make any recommendations thereon to the Board of Supervisors as deemed necessary in the public interest.
- (b) Applicants and the Planning Commission shall give earnest consideration to providing facilities or reserving areas for facilities normally required in residential neighborhoods, including churches, libraries, schools and other public Buildings, parks, playgrounds and playfields, shopping and local business centers. Areas provided or reserved for such community facilities shall be adequate to provide for Building sites, landscaping and off-street parking as appropriate to the use proposed, and shall be suitably prepared for this use at the expense of the Subdivider or Developer. Prior to the preparation of plans, Subdividers and Developers of large tracts of land should review with the Planning Commission the minimum standards for various community facilities applicable to the tract.
- (c) The Planning Commission shall consider the need for suitable common open space for recreation and shall make a determination thereon. The minimum standards to be used by the Planning Commission in requiring the reservation of common open space shall be as follows:

<u>Density</u>	<u>% of Tract in Open Space</u>
1-3 d.u./ac.	5%
3.1-6	10%
6.1-10	15%
10.1-15	20%

25%

The above-mentioned percentages shall apply in Subdivisions or Land Developments which intend to provide housing for the following number of families by unit type:

<u>Unit Type</u>	<u>Open Space Required</u>
Single-Family.....	50 units or more
Townhouse/Multi-Family...	Densities in excess of 4.0 d.u./ac/ and/or involving 20 or more units
Mobilehome Park.....	Always required

When mixed unit types are proposed within a development (ex: single-family and townhouses) open space shall be required where there are 50 or more total units and/or a density in excess of 4.0 Dwelling Units per acre.

- (d) When required by subsection (c) above, the Subdivider or Land Developer shall be required to dedicate the open space to the Municipality and shall be required to expend \$200.00 per Dwelling Unit for recreational Improvements to the open space to be dedicated. The Municipality may, at its option, accept \$500.00 per Dwelling Unit in lieu of the Subdivider or Developer providing the Improvements or of the private reservation of the land to be dedicated. The fee, in lieu of the dedication and/or improvement of land for recreational use, shall be held by the Municipality and utilized in accordance with Section 503(11) of the Pennsylvania Municipalities Planning Code, as amended.

511.2 COMMUNITY ASSETS: Consideration shall be shown for all natural features such a large trees, water courses, historic sites and areas, and similar community assets which, if preserved, will add attractiveness and value to the remainder of the tract and surrounding areas.

511.3 SHADE TREES: Effort shall be made by the Applicant to preserve existing shade trees and, in addition, deciduous hardwood trees with a minimum caliper of one and one-half inches (1-1/2") should be provided in

accordance with conditions to be agreed upon by the Municipality, and, if necessary, the appropriate public utility. Where provided, such trees should be planted between the Street Right-of-Way line and the building setback line, and at least ten feet (10) from the public Street Right-of-Way. No trees or shrubs shall be planted between the sidewalk and the Right-of-Way line.

- (a) Any tree planted in commercial or industrial areas shall have a minimum caliper of three inches (3"); and
- (b) A Street tree plan shall be furnished for approval by the Municipality as to kind, size and location of trees.

511.4

UTILITY EASEMENTS:

- (a) All electric distribution lines shall be installed underground in all residential developments (including Mobilehome Parks) of five (5) or more family units, as per Public Utility Commission requirements. In compliance with this requirement and with the cooperation of local utility companies, the following procedure will be followed in reviewing plans subject to underground electric service:
 - (1) Upon filing of a Preliminary Plan for Review, the Applicant will forward to the appropriate utility company a copy of the plan.
 - (2) Upon receipt of the approved Preliminary Plan, the Applicant is directed to contact the utility company and secure an approval of plans for an underground electric system. Receipt of a letter from the utility company indicating receipt of plans will be required prior to municipal endorsement of any plan for recording. Securing the approval and coordinating the plan with the utility company is the Applicant's responsibility.
- (b) Easements with a minimum width of twenty feet (20') shall be provided for poles, wires, conduits, storm and sanitary sewers, gas, water and heat mains and/or other utility lines intended to serve abutting Lots or Buildings. No

structures or trees shall be placed within such Easements.

- (c) Easements shall be centered on or adjacent to rear or side Lot lines.
- (d) There shall be a minimum distance of fifty feet (50'), measured in the shortest distance, between any proposed Dwelling Unit and any petroleum products or natural gas transmission lines which traverse the Subdivision or Land Development.
- (e) Applicants are urged to avail themselves of the services provided by the various public utility companies in determining the proper locations for utility line easements.
- (f) Petroleum products or natural gas transmission lines shall be located in a fifty foot (50') minimum Right-of-Way, such lines to be installed in the center of the Right-of-Way. The Applicant shall provide a fifty foot (50') Right-of-Way for all existing transmission lines within the Subdivision or Land Development.
- (g) Utility service for residential development not subject to the regulations of the Pennsylvania Public Utility Commission is recommended to be provided through the use of underground facilities in accord with the standards and approval of the utility company having appropriate jurisdiction.

SECTION 512 EROSION AND SEDIMENT CONTROLS AND GUIDELINES:

- 512.1 Erosion and Sediment control measures shall meet the Requirements of Title 25, Chapter 102, Rules and Regulations of the Pennsylvania Department of Environmental Resources, or the County Conservation District standards and specifications, as applicable.
- 512.2 Land proposed for Subdivision or Land Development shall not be developed or changed by grading, excavating or by the removal or destruction of the topsoil, trees or other vegetative cover unless adequate provisions for minimizing Erosion and Sediment are provided by the plan.
- 512.3 Unless there has been a waiver approved by the Planning

Commission, Erosion and Sediment control, as approved, shall be installed to implement the plan or shall be guaranteed before Final Plan approval.

512.4

The following guidelines shall be applied in developing Erosion and Sediment control measures:

- (a) Stripping of vegetation, grading, filling, excavating or other alteration of the landscape shall be done in such a way as to minimize Erosion.
- (b) Whenever feasible, natural vegetation shall be retained, protected and supplemented.
- (c) The disturbed area and the duration of exposure shall be kept to a practical minimum.
- (d) Disturbed soils shall be stabilized as quickly as practical.
- (e) Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.
- (f) The permanent vegetation and mechanical Erosion control and drainage measures shall be installed as soon as practical.
- (g) Provisions shall be made to effectively accommodate the increased Run-Off caused by changed soil and surface conditions during and after development. Where necessary, the rate of surface water Run-Off will be mechanically retarded.
- (h) Sediment in the Run-Off water shall be trapped until the disturbed area is stabilized by the use of debris basins, Sediment Basins, silt traps or similar measures.

512.5

The following guidelines shall be applied in excavation and fill as part of Erosion and Sediment controls:

- (a) All Lots, tracts or parcels of land shall be graded to provide positive drainage away from Buildings, without ponding.

- (b) Grading and cut-fill operations shall be kept to a minimum to ensure conformity with the natural topography, to minimize the Erosion hazard and to adequately handle the surface Run-Off.
- (c) Cut and fill slopes shall not be steeper than 2:1 unless stabilized by a retaining wall or cribbing.
- (d) Adequate provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surfaces of fills.
- (e) Cut and fill shall not endanger adjoining properties.
- (f) Fill shall be placed and mechanically compacted to minimize sliding or Erosion of the soil.
- (g) Fill shall not encroach on natural water courses or constructed channels.
- (h) Fill placed adjacent to natural water courses or constructed channels shall have suitable protection against Erosion during periods of flooding.

512.6

The following guidelines shall be applied in establishing Easements as part of Erosion and Sediment control measures:

- (a) Nothing shall be permitted to be placed, planted, set or put within the area of an Easement. The area shall be kept as lawn.
- (b) Where Storm Water or surface water will be gathered within the Subdivision or Land Development, and discharged or drained in volume over land within or beyond the boundaries of the Subdivision or Land Development, the Applicant shall reserve or obtain Easements over all lands affected thereby. Easements shall be adequate for such discharge or drainage and for the carrying off of such water and for the maintenance, repair and reconstruction of the same, including the right of passage over and upon the same by vehicles, machinery or other equipment for such purposes, and which shall be sufficient width for such passage and work. The owner shall grant,

free of charge or cost, such Easements to the Municipality upon demand.

SECTION 513 MONUMENTS

- 513.1 Monuments shall be accurately placed at the intersection of all lines forming right angles and at changes in directions of lines in the boundary (perimeter) of the property being subdivided or developed. The Applicant shall notify the Township in order that an inspection may be made of the placement of the Monuments before they are covered.
- 513.2 All Monuments shall be placed by a Registered Surveyor so that the scored (by an indented cross or drill hole) point shall coincide exactly with the point of intersection of the lines being monumented.
- 513.3 Monuments shall be set with their tops level with the finished Grade of the surrounding ground, except:
- (a) Monuments which are placed within the lines of existing or proposed sidewalks shall be so located (preferably beneath sidewalks) that their tops will not be affected by lateral movement of the sidewalks.
 - (b) Where Monuments are located beneath the sidewalks, proper access shall be provided for their use.
- 513.4 All streets shall be monumented at the Right-of-Way lines of the Street, or five feet (5') distant therefrom and at the following locations:
- (a) At least one Monument at each intersection;
 - (b) At changes in direction of Street lines, excluding curb arcs at intersections;
 - (c) At each end of each curbed Street line, excluding curb arcs at intersections;
 - (d) At such places where topographical or other conditions make it impossible to sight between two otherwise required Monuments, intermediate Monuments shall be placed; and

- (e) At such other places along the line of Streets as may be determined by the Planning Commission to be necessary so that any street may be readily defined in the future.

SECTION 514 MARKERS Metal Markers shall be accurately placed at all Lot corners; and, alongside each Marker, a flagged wooden or metal stake with a vertical dimension of four feet (4') above ground, shall be securely but temporarily placed for inspection of Lot lines by Township personnel. Stakes shall remain in place until such time as a Use and Occupancy Permit will have been issued to the property owner.

SECTION 515 LOT IDENTIFICATION NUMBERS All Lots shall bear Lot identification numbers, corresponding with lot numbers as identified on the approved Final Plan. Lot identification numbers shall be clearly visible from the road and placed at the front Lot line until such time as a Use and Occupancy Permit will have been issued to the individual property owner.

ARTICLE VI
MOBILEHOME PARKS

SECTION 601 GENERAL REQUIREMENTS: Mobilehome Parks shall be subject to all plan requirements, design standards and improvement specifications contained in this Ordinance, the Township Zoning Ordinance or a Mobilehome Park Ordinance, if same has been adopted prior to a submission of plans for a Mobilehome Park.

SECTION 602 MOBILEHOME REQUIREMENTS:

- 602.1 All Mobilehomes must bear proof of State approval prior to placement within the Mobilehome Park.
- 602.2 Each Mobilehome space shall be provided with a hard surfaced Mobilehome stand providing a foundation that will not heave, shift, settle or move due to frost action, inadequate drainage, vibration or other forces acting on the superstructure. Each Mobilehome stand shall be equipped with approved utility connections. The space between the Mobilehome stand and the Mobilehome floor shall be permanently enclosed to conceal all supports and utility connections. The stand shall be located at such elevations, distance and angle in relation to the access Street and Mobilehome accessway that the placement and removal of the Mobilehome is practical.
- 602.3 Each Mobilehome shall be provided with a patio, the minimum size of which shall be two hundred (200) square feet. The patio shall be located conveniently to the entrance of the Mobilehome.

SECTION 603 SERVICE AND ACCESSORY BUILDINGS:

- 603.1 All service and accessory Buildings including management offices, storage areas, laundry buildings and indoor recreation areas shall conform to the requirements of the Municipality's Building Code. Attachments to Mobilehomes in the form of sheds and leantos are prohibited.
- 603.2 The Mobilehome Park shall have a Structure designed and

clearly identified as the office of the Mobilehome Park manager.

- 603.3 Occupants of each Mobilehome unit shall be provided with a minimum of one hundred fifty (150) cubic feet of storage space in a common storage Building within the Mobilehome Park.
- 603.4 Service and accessory Buildings located in a Mobilehome Park shall be used only by the occupants of the same or their guests.

SECTION 604 WALKS:

- 604.1 All Mobilehome Parks shall provide pedestrian walks which shall provide access between individual Mobilehomes, service and accessory Buildings and public Rights-of-Way.
- 604.2 All pedestrian walks shall have a minimum width of four feet (4').
- 604.3 All pedestrian walks shall be constructed of hard surfaced material in accordance with Township specifications.
- 604.4 All pedestrian walks shall be provided with lighting units spaced, equipped and installed to conform with Township specifications to allow safe movement of pedestrians at night.

SECTION 605 LANDSCAPING: Ground surfaces in all parts of a Mobilehome Park shall be paved or covered with grass or other suitable vegetation capable of preventing soil Erosion and emanation of dust.

ARTICLE VII

IMPROVEMENTS GUARANTEE

SECTION 701 METHODS: Prior to final approval of the Final Plan, the Subdivider or land Developer shall guarantee the installation of all required Improvements by one of the following methods:

- 701.1 By installing the Improvements required by Article V of this Ordinance to the satisfaction of the Municipal Engineer and the Governing Body, and obtaining a certificate from the Municipal Engineer that all Improvements have been installed in accordance with the standards and requirements of this Ordinance or other requirements of the Municipality.
- 701.2 In lieu of the completion of any Improvements required as a condition for the final approval of a Plat, the Subdivider or Developer may deposit with the Municipality financial security in an amount sufficient to cover the costs of any Improvements or common amenities including, but not limited to, roads, Storm Water Detention and/or Retention Basins and other related drainage facilities, recreational facilities, open space Improvements, or buffer or screen plantings which may be required.
- 701.3 When requested by the Subdivider or land Developer, the Governing Body will furnish a signed copy of a Resolution indicating approval of the Final Plan contingent upon obtaining financial security. The contingent approval shall expire and be deemed to be revoked if a financial security agreement is not executed within ninety (90) days.
- 701.4 Without limitation as to other types of financial security which the Municipality may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institutions' irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security for purposes of this section.
- 701.5 Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial

security, provided said bonding company or lending institution is authorized to conduct said business within the Commonwealth.

701.6 Such bond, or other security, shall provide for, and secure to the public, the completion of any Improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of the Improvements.

701.7 The amount of financial security to be posted for completion of the required Improvements shall be equal to one hundred ten percent (110%) of the cost of completion estimated as of ninety (90) days following the date scheduled for completion by the Subdivider or Developer. Annually, the Municipality may adjust the amount of the financial security by comparing the actual cost of Improvements which have been completed and the estimated cost for completion of the remaining improvements as of the expiration of the ninetieth (90th) day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the Municipality may require the Subdivider or Developer to post additional security in order to assure that financial security equals said one hundred ten percent (110%). Any additional security shall be posted by the subdivider or Developer in accordance with this subsection.

701.8 The amount of financial security required shall be based upon an estimate of the cost of completion of the required Improvements, submitted by the Subdivider or Developer, and prepared by a Professional Engineer and certified by such Engineer to be a fair and reasonable estimate of such costs. The Municipality, upon the recommendation of the Municipal Engineer, may refuse to accept such estimate for good cause shown. If the Subdivider or Developer and the Municipality are unable to agree upon an estimate, the estimate shall be recalculated and recertified by another Professional Engineer chosen mutually by the Municipality and the Subdivider or land Developer. The third Engineer's certified estimate shall be presumed fair and reasonable, and shall be the final estimate. In the event that a third Engineer is so chosen, fees for services of said Engineer shall be paid equally by the Municipality and the Subdivider or Developer.

- 701.9 If the party posting the financial security requires more than one (1) year from the date of posting of the financial security to complete the required Improvements, the amount of financial security may be increased by an additional ten percent (10%) for each one (1) year period beyond the first anniversary date from posting of the financial security or to an amount not exceeding one hundred ten percent (110%) 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 bidding procedure.
- 701.10 In the case where development is projected over a period of years, the Governing Body may authorize submission of final plats by section or stages of development subject to such requirements or guarantees as to Improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.
- 701.11 As the work of installing the required Improvements proceeds, the party posting the financial security may request the Governing Body to release or authorize the release from time to time, such portions of the financial security necessary for payment to the contractor(s) performing the work. Any such request shall be in writing addressed to the Governing Body, and the Governing Body shall have forty-five (45) days from receipt of such request within which to allow the Municipal Engineer to certify, in writing, to the Governing Body that such portion of the work upon the Improvements has been completed in accordance with the approved Plat. Upon such certification, the Governing Body shall authorize release by the bonding company or lending institution of an amount as estimated by the Municipal Engineer fairly representing the value of the Improvements completed or, if the Governing Body fails to act within the forty-five (45) day period, the Governing Body shall be deemed to have approved the release of funds as requested. The Governing Body may, prior to final release at the time of completion and certification by its Engineer, require retention of ten percent (10%) of the estimated cost of the aforesaid Improvements.
- 701.12 If water mains or sanitary sewer lines, or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the

rules and regulations of a public utility or Municipal Water or Sewer Authority separate and distinct from the Municipality, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling public utility or municipal authority, and shall not be included within the financial security as otherwise required by this section.

701.13 If financial security has been provided in lieu of the completion of Improvements required as a condition for the final approval of a Plat, as set forth in this section, the Municipality shall not condition the issuance of Building, grading or other permits relating to the erection or placement of Improvements, including Buildings, upon the Lots or land as depicted upon the final Plat upon actual completion of the Improvements depicted upon the approved final Plat. Moreover, if said financial security has been provided, occupancy permits for any Building(s) to be erected shall not be withheld following the improvement of the Streets providing access to and from existing public roads to such Building(s) to a mud-free or otherwise permanently passable condition, as well as the completion of all other Improvements as depicted upon the approved Plat, either upon the Lot(s) or beyond the Lot(s) in question, if such Improvements are necessary for the reasonable use of or occupancy of the Building(s).

701.14 In the event that any Improvements which may be required have not been installed as provided in this Ordinance or in accord with the approved final Plat, the Governing Body may enforce any corporate bond, or other security, by appropriate legal and equitable remedies. If proceeds of such bond, or other security are insufficient to pay the cost of installing or making repairs or corrections to all the Improvements covered by said security, the Governing Body may, at its option, install part of such Improvements in all or part of the Subdivision or Land Development, and may institute appropriate legal or equitable action to recover the moneys necessary to complete the remainder of the Improvements. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the Developer, or both, shall be used solely for the installation of the Improvements covered by such security, and not for any other municipal purpose.

SECTION 702 RELEASE OF IMPROVEMENTS GUARANTEE

- 702.1 When the Subdivider or land Developer has completed all of the necessary and appropriate Improvements, he or she shall notify the Governing Body, in writing, by certified or registered mail, of the completion of the aforesaid Improvements and shall send a copy thereof to the Municipal Engineer. The Governing Body shall, within ten (10) days after receipt of such notice, direct and authorize the Municipal Engineer to inspect all of the aforesaid Improvements. The Municipal Engineer shall, thereupon, file a report, in writing, with the Governing Body, and shall promptly mail a copy of the same to the Subdivider or land Developer by certified or registered mail.
- 702.2 The report shall be made and mailed within thirty (30) days after receipt by the Municipal Engineer of the aforesaid authorization from the Governing Body. Said report shall be detailed and shall indicate approval or rejection of said Improvements, either in whole or in part, and if said Improvements, or any portion thereof, shall not be approved or shall be rejected by the Municipal Engineer, said report shall contain a statement of reasons for such nonapproval or rejection.
- 702.3 The Governing Body shall notify the Subdivider or Developer within fifteen (15) days of receipt of the Engineer's report, in writing, by certified or registered mail of their action.
- 702.4 If the Governing Body or the Municipal Engineer fails to comply with the time limitation provisions contained herein, all Improvements will be deemed to have been approved and the Subdivider or Developer shall be released from all liability, pursuant to his performance guaranty bond or other security agreement.
- 702.5 If any portion of the said Improvements shall not be approved or shall be rejected by the Governing Body, the Subdivider or Developer shall proceed to complete the same, and upon completion, the same procedure of notification as outlined herein shall be followed.
- 702.6 The Subdivider or Developer shall reimburse the Municipality for the reasonable and necessary expenses incurred for the inspection of Improvements. Such reimbursement shall be based upon a fee schedule

established by the Municipality. Any dispute in connection with such fees shall be resolved in accordance with Section 510.g of the Pennsylvania Municipalities Planning Code, as amended.

702.7

Where the Governing Body accepts dedication of all or some of the required Improvements following completion, the Governing Body may require the posting of financial security to secure structural integrity of said Improvements as well as the functioning of said Improvements in accordance with the design and specification as depicted on the final Plat for a term not to exceed eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this Ordinance with regard to installation of such Improvements, and the amount of the financial security shall not exceed 15% of the actual cost of installation of said Improvements.

ARTICLE VIII

STORM WATER MANAGEMENT CONTROLS

SECTION 801:

801.1. CONTROLS: All Storm Water management controls must be shown on a plan and described, including:

1. Groundwater Recharge facilities such as Seepage Pits, Seepage Tanks, beds or trenches. When such Structures are used, the location of Septic Tank infiltration areas and wells must be shown, and a cross section shall be provided.
2. Other control devices or methods such as roof-top storage, Semi-impervious paving materials, grass Swales, parking lot ponding, vegetated strips, Detention or Retention Basins, Storm Sewers, etc.
3. Schedule for installation of the control measures and devices.
4. All calculations, assumptions and criteria used in the design of control devices or other method proposed must be shown.
5. Construction details of all Storm Water facilities shall be shown in sufficient clarity for construction to proceed from details provided. The details shall be shown on plans accompanying the Storm Water management control plan.

801.2 MAINTENANCE PROGRAM: A maintenance program for all Storm Water management control facilities shall be included. This program must include the proposed ownership of the facilities and shall detail the financial responsibility for any required maintenance.

The following methods for facility ownership and maintenance may be utilized:

1. The facilities may be incorporated within individual Lots so that the respective Lot owners will own and be responsible for maintenance in accordance with recorded deed restrictions. Such deed restrictions shall include necessary maintenance requirements by the Lot owner.

Owners of multi-family, commercial or industrial properties shall own and be responsible for maintenance in accordance with the agreement covering said plan approval.

2. Ownership and maintenance may be the responsibility of a Home Owners Association. The stated responsibilities of the Home Owners Association for ownership and maintenance of Storm Water management facilities shall be submitted to the Municipality for determination of adequacy, and upon approval shall be recorded with the Recorder of Deeds of Berks County, Pennsylvania. In addition, the approved plan and all deeds shall contain a condition that it shall be mandatory for the owner or owners of the property to be members of the Home Owners Association.
3. Storm Water Management facilities may be dedicated to the Township, if acceptable to the Township.

801.3 PLAN SUBMISSION: The Applicant shall submit one (1) copy of the plan and other supporting documentation to the Berks County Conservation District for review and approval.

801.4 INSPECTIONS: The Municipal Engineer shall inspect all phases of the work including, but not limited to:

1. Completion of preliminary site preparation including stripping of vegetation, stockpiling of topsoil, and construction of temporary Storm Water management and Erosion control facilities.
2. Completion of rough grading, but prior to placing topsoil, permanent drainage or other site development Improvements and ground cover.
3. During construction of the permanent Storm Water facilities at such times as deemed necessary by the Municipal Engineer.
4. Upon completion of installation of permanent Storm Water management facilities, and soil Erosion controls including established ground cover and plantings.

5. Upon completion of any final grading, vegetative control measures or other site restoration work done in accordance with the approved plan.

801.5 RESPONSIBILITY:

1. It shall be the responsibility of the Applicant to notify the Municipal Engineer seventy-two (72) hours in advance of the completion of each identified phase of development.
2. Any portion of the work which does not comply with the approved plan must be corrected by the Applicant. No work may proceed on any subsequent phase of the Storm Water management facility until the required corrections have been made.
3. If at any stage of the work, the Municipal Engineer determines that the soil or other conditions are not as stated or shown in the approved application or plan, he may refuse to approve further work until a revised plan is submitted and approved in accordance with this Ordinance.

SECTION 802 PROJECT COMPLETION:

- 802.1 Within forty-eight (48) hours after completion of the work, the Applicant shall notify the Municipal Engineer of the completion of the work so that the Engineer may conduct a final inspection. If the work has not been performed in accordance with the drawings and specifications as approved, the Applicant shall be directed by the Zoning Officer, in writing, to correct the work so that it complies with the approved drawings and specifications.
- 802.2 The Applicant must submit with his request for final inspection a certification by a Registered Professional Engineer certifying that all elements of the approved plan have been constructed as designed and approved.

SECTION 803 AS-BUILT DRAWINGS: Following construction and final approval of all Storm Water management facilities which are to be dedicated to the Municipality, the Applicant shall submit drawing(s) bearing the seal of a Registered Professional Engineer

showing "As-Built" Improvements which had been proposed in the application and approved plan.

SECTION 804 MODIFICATION OF PLANS: A modification to an approved Storm Water management plan which involves a change in control methods or techniques, or which involves the relocation or design of control measures, or which is necessary because soil or other conditions are not as stated on the approved application shall be considered after resubmission and reapproval of the plan under the procedures contained in this Ordinance.

ARTICLE IX

STORM WATER MANAGEMENT REQUIREMENTS

SECTION 901

- 901.1 METHOD OF COMPUTATION: Computations for determining Storm Water Run-Off and Peak Discharge for the design of Storm Water management facilities shall be based upon the Soil Cover Complex Method described in TR-55, Urban Hydrology for Small Watersheds; the United States Department of Agriculture, Soil Conservation Service Engineering Field Manual; or TR-20, where appropriate; excepting that the Rational Method may be used for computing roof and driveway water Run-Off figures for Seepage Trench, Seepage Tank, Seepage Pit use, etc. for individual residences or drainage areas less than ten (10) acres.
- 901.2 RAINFALL FREQUENCY DATA: The frequency of rainfall shall be a two (2) year base frequency; a five (5) year base frequency; a ten (10) year base frequency; a twenty-five (25) year base frequency; a fifty (50) year base frequency; and a one hundred (100) year frequency.
- 901.3 MAINTENANCE OF NATURAL DRAINAGEWAYS: All natural streams, channels, Swales, drainage systems and/or areas of surface water concentration shall be maintained in their existing condition unless a modification is approved by the Municipality. All encroachment activities shall comply with Chapter 105 Water Obstructions and Encroachments of Title 25, Rules and Regulations of the Pennsylvania Department of Environmental Resources, latest revision.
- 901.4 METHODS OF STORM WATER RUN-OFF DETENTION AND CONTROL:
The following is a list of detention and control methods suitable for Storm Water management systems:
- a. Seepage Pits, trenches, Seepage Tanks or other Infiltrations Structures.
 - b. Detention and/or retention structures.
 - c. Cisterns and underground reservoirs.
 - d. Grass channels and vegetative strips.

- e. Routed flow over grass.
- f. Decreased impervious areas coverage.
- g. Porous pavement and concrete lattice block surface.
- h. Roof top storage.
- i. Parking lot and Street ponding.
- j. Other control methods which meet the criteria of this section, when approved by the Municipal Engineer.

SECTION 902 DESIGN CRITERIA:

902.1 TOTAL SYSTEM REQUIREMENTS: All pre-development calculations shall be based upon existing land use features, however, agricultural lands shall be considered as using conservation treatment or in good condition irrespective of the current use. Pre-development Storm Water Run-Off shall be calculated for all Storm Frequencies.

- a. Release rates shall be based on the Run-Off from the two year pre-development storm event.
- b. Storage structures shall be designed that the post-development 10 year Peak Discharge will not exceed the pre-development 2 year Peak Discharge. 25 year, 50 year and 100 year Peak Discharge rates shall not exceed the pre-development Peak Discharge for that storm event. The height of the impoundment embankment shall be at least 2 feet above the discharge elevation of the emergency spillway.

Detention or Retention Basins in carbonate areas shall be lined so that the permeability of all wetted areas shall not exceed a permeability factor of $K=1 \times 10^{-6}$.

Basins designated to be "wet bottom" ponds shall have sufficient constant flow to eliminate stagnation and health hazards. Alternate mechanical means will be deemed suitable if approved by the Municipal Engineer.

- c. All storage structures or facilities will be designed with emergency spillways sufficient to handle the 100 year post-development storm event without causing major property damage even when the principal spillway is completely blocked. The emergency spillway shall be at least six inches (6") above the principal spillway.
- d. Culverts, pipes and other water carrying structures shall be designed to handle the Peak Discharge from the 25 year post-development storm event. All pipes shall be provided with end section or end wall.
- e. All storage structures shall be designed that the post-development 25 year, 50 year and 100 year Peak Discharges will not exceed the equivalent pre-development Peak Discharge.

902.2

STORM WATER RUN-OFF VOLUMES: Storm Water Run-Off shall be based on the following 24-hour storm events; or other valid data as deemed suitable by the Municipal Engineer:

<u>Storm Frequency</u>	<u>Storm Volume in inches of rainfall</u>
2 year	3.1 inches
5 year	4.1 inches
10 year	4.9 inches
25 year	5.5 inches
50 year	6.1 inches
100 year	7.0 inches

Rational Method - Storm volumes shall be in accordance with PennDOT Field Manual, Storm Intensity Duration, Frequency Charts, last revision for Region 5.

902.3

STORM WATER INLETS: The maximum spacing between Storm Water inlets shall be designed according to the 25 year storm flow and the capacity of the inlets, taking into account maximum allowable Street flooding and drainageway capacity. When a possibility of clogging of grates, side opening or combination inlets exists, the capacity reduction factors shown in Table 1 must be applied to the theoretical capacity of the inlet. The maximum amount of water that shall be bypassed on to the next downstream inlet or inlets on continuous grades is ten percent (10%).

- 902.4 PIPES: The minimum allowable pipe diameter shall be fifteen (15) inches unless reduced pipe size is approved by the Municipal Engineer. Horizontal and vertical curves with radii of one hundred (100) feet or greater are allowed for all pipe sizes thirty (30) inches in diameter or greater. Friction losses in the pipe shall be calculated using the Manning formula. Values for "n" are shown in Table 2. The minimum value for "v" in pipes shall be 3.0 feet per second. The maximum value for "v" in pipes shall be based on engineering judgment and experience. Pressure flow is permitted in Storm Sewers. The elevation of the Hydraulic Gradient shall be at least one (1) foot below ground level. Pressure heads up to twenty-five (25) feet can be used with concrete pipe with rubber gasketed joints.
- 902.5 SPACING OF STRUCTURES: The maximum allowable spacing between Structures to be used for inspecting and cleaning Storm Sewers shall be based on the pipe size and spacing shown in Table 3. Manholes, catch basins or junction boxes shall be installed at all changes in Grade or horizontal alignment except as noted in Section 902.4.
- 902.6 OPEN CHANNELS: Maximum allowable velocities of flow in swales, open channels, and ditches as relating to slope and grass cover are shown in Pennsylvania Department of Environmental Resources Soil Erosion and Sedimentation Control Manual, latest revision. Higher velocities require invert stabilization. Velocity dissipators may be used, if approved by the Municipal Engineer.
- 902.7 SEEPAGE PITS: Where Seepage Pits, Seepage Tanks, Seepage Trenches and/or french drains are proposed, the Applicant shall include an analysis of the potential for accelerated sinkhole development in the specific geology of the site due to the concentration of water introduction to the subsurface.
- 902.8 SEEPAGE REPORT: The Applicant shall submit a seepage report containing a test pit soils analysis, prepared by a soil scientist, and percolation test results. The bottom of the test pits shall be the elevation at which the soil/seepage interface is designed, i.e. the bottom of the trench, pit, etc. Percolation tests shall be run at this interface. Percolation rates shall be fifteen (15) minutes per inch maximum and ninety (90) minutes per inch minimum.

902.9 EQUIVALENT DISCHARGE: Alternative means of Storm Water discharge and retention, resulting in the equivalent discharge as required by this Ordinance, may be permitted when approved by the Municipal Engineer.

SECTION 903.

TABLE 1

INLET CAPACITY REDUCTION FACTORS

ASSUMING PARTIAL CLOGGING

<u>Condition</u>	<u>Inlet Type</u>	<u>Reduction Factors*</u>
Sump	Side Opening	0.80
Sump	Grate	0.50
Sump	Combination	0.65
Continuous Grade	Side Opening	0.80
Continuous Grade	Side Opening with Deflector	0.75
Continuous Grade	Longitudinal Bars	0.60
Continuous Grade	Transverse Bars	0.50
Continuous Grade	Combination	0.60

*Percentage of theoretical capacity

SECTION 904

TABLE 2

"n" VALUES FOR MANNING FORMULA

<u>Type of Pipe</u>	<u>"n" Value*</u>
Concrete Culvert Pipe	0.013
Concrete Sewer Pipe	0.013
Cast/Ductile/Steel Iron	0.013
Corrugated Metal (plain)	0.024
Corrugated Metal (coated)	0.021
Corrugated Metal (lined)	0.013
Plastic	0.011
Vitrified Clay	0.013

* Adjustments for specific conditions shall be based on engineering experience and judgment, and submitted to the Municipal Engineer for approval.

SECTION 905

TABLE 3

SPACING OF INSPECTION AND CLEANOUT
STRUCTURES FOR STORM SEWERS

<u>Size of Pipe (inches)</u>	<u>Maximum Allowable Spacing (feet)</u>
15	400
18 - 36	500
42 - 60	700
66 or larger	Unlimited

ARTICLE X

ADMINISTRATION

SECTION 1001 MODIFICATIONS:

- 1001.1 The Planning Commission may grant a modification of the requirements of one or more provisions of the Subdivision and Land Development Ordinance, if the literal enforcement of such requirement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of the Ordinance is observed.
- 1001.2 All requests for modification shall be in writing and shall accompany and be a part of the application for development. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the Ordinance involved and the minimum modification necessary.
- 1001.3 The Planning Commission shall keep a written record of all action on all requests for modification.

SECTION 1002 VIOLATIONS AND REMEDIES:

1002.1 PREVENTIVE REMEDIES

- (a) In addition to all other remedies, the Municipality may institute and maintain appropriate actions at law or in equity to restrain, correct or abate violations of the Ordinance, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a Building, Structure or premises.
- (b) The Municipality may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a Subdivision of real property in violation of this Ordinance. This authority to deny such permit or approval shall apply to any of the following Applicants:

1. The owner of record at the time of such violation;
2. The vendee or lessee of the owner of record at the time of such violation without regard to whether such vendee or lessee had actual or constructive knowledge of the violation;
3. The current owner of record who acquired the property subsequent to the time of violation without regard as to whether such current owner had actual or constructive knowledge of the violation;
4. The vendee or lessee of the current owner of record who acquired the property subsequent to the time of violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

As an additional condition for issuance of a permit or the granting of an approval to any owner, current owner, vendee or lessee for the development of any such real property, the Municipality may require compliance with the conditions that would have been applicable to the property at the time the Applicant acquired an interest in such real estate.

1002.2 ENFORCEMENT REMEDIES: Any person, partnership or corporation who or which has violated the provisions of this Subdivision and Land Development Ordinance shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Municipality, pay a judgment of not more than \$500.00 plus all court costs including reasonable attorneys' fees incurred by the Municipality as a result thereof. Each day that a violation continues shall constitute a separate violation. District Justices shall have initial jurisdiction in proceedings brought under this section. The commencement, imposition and enforcement of actions for violations shall be governed by the provisions of the Municipalities Planning Code, as amended.

1002.3 FEES: The Governing Body shall establish by resolution a collection procedure and Schedule of Fees to be paid by the Subdivider or Land Developer at the time of filing a Subdivision or Land Development plan. The Schedule of Fees may be obtained in the office of the Township Clerk, and shall be posted therein and in

such other places as the Governing Body may designate. No Final Plan shall be approved unless and until all fees and charges have been paid in full

1002.4 CONFLICTS: Whenever there is a difference between the minimum standards specified herein and those included in other official Township regulations the more stringent requirements shall apply. All existing ordinances or parts of ordinances which are contrary to the provisions of this Ordinance are hereby repealed to the extent necessary to give this Ordinance full force and effect.

1002.5 SEVERABILITY: Should any article, section, subsection, paragraph, clause, phrase or provision of this Ordinance be declared by a court of competent jurisdiction to be invalid, such judgment shall not affect the validity of the Ordinance as a whole or any part or provision thereof other than the part so declared to be invalid or unconstitutional.

SECTION 1003 EFFECTIVE DATE: This Ordinance shall become effective ten (10) days after adoption by the Governing Body.

DULY ENACTED AND ORDAINED by the Board of Supervisors of the Township of Caernarvon, Berks County, Pennsylvania, this 13th day of November, 1990, in lawful session duly assembled.

CAERNARVON TOWNSHIP
BOARD OF SUPERVISORS

/s/ Harry Smith

/s/ Earl Grubb

/s/ Norman Rhoads

ATTEST:

APPLICATION FOR REVIEW OF PRELIMINARY,
MINOR OR RESUBDIVISION PLAN

1. Name of Subdivision/Land Development: _____
2. Date of Original Plan or Latest Revision: _____
3. County Record Book No. _____
4. Page No. _____
5. Name of Property Owner(s): _____
6. Individual to contact: _____
7. Address: _____
8. Telephone: (____) _____
9. Name of Applicant (if other than owner) _____
10. Address: _____
11. Telephone: (____) _____
12. Applicant's Interest (if other than owner) _____
13. Engineer, Architect or Surveyor: _____
14. Address: _____
15. Telephone: (____) _____
16. Total Acreage: _____
17. Total Number of Lots: _____
18. Acreage of Adjoining Land in Same Ownership, if any, _____
19. Water Supply Proposed: _____
20. Sanitary Sewage Disposal Proposed: _____
21. Type of Development: Single-Family _____ Two-Family _____
Multi-Family _____ Commercial _____ Industrial _____
Other _____
22. Are Streets Proposed for Dedication? _____

23. If so, List Streets: _____

24. Acreage Proposed for Open Space, Public or Semi Public Use: _____

25. Have Appropriate Public Utilities been Consulted? _____

26. Material Accompanying this Application:

	<u>Number of Copies</u>	<u>Item</u>
(a)	_____	Preliminary Plan
(b)	_____	Minor Subdivision Plan
(c)	_____	Resubdivision Plan
(d)	_____	Copies of Deed Restrictions
(e)	_____	Street Cross-Sections
(f)	_____	Site Investigation/Percolation Test Report
(g)	_____	Stormwater Management Plan

27. Signature of Owner or Applicant: _____

28. Date: _____

APPLICATION FOR REVIEW OF FINAL PLAN

1. Date of Subdivision/Land Development: _____
2. Date of Original Plan or Latest Revision: _____
3. County Record Book No. _____
4. Page No. _____
5. Name of Property Owner(s): _____
6. Individual to Contact: _____
7. Address: _____
8. Telephone: (____) _____
9. Name of Applicant (if other than owner): _____
10. Address: _____
11. Telephone: (____) _____
12. Applicant's Interest (if other than owner): _____
13. Engineer, Architect or Surveyor: _____
14. Address: _____
15. Telephone: (____) _____
16. This Application is in Reference to:

☐ Minor Subdivision
☐ Resubdivision Plan
☐ Regular Subdivision
☐ Land Development
17. List Any Supplementary or Other Material Accompanying this Application: _____

18. List All Subdivision or Land Development Standards or Requirements Which Have Not Been Met: _____
19. The undersigned represents that to the best of his/her knowledge and belief, all statements indicated on the original application for Review of said Subdivision or Land Development, and the statements indicated on this application for final review are true, correct and complete. Further, the undersigned represents that, if applicable, all proposed public Improvements and facilities as shown on the Final Subdivision or Land Development Plan are to be improved, constructed and completed, or security posted with the Municipality in sufficient amount to cover full estimated cost of construction thereof, prior to the erection of any Building or prior to the sale, transfer or agreement of sale of subdivided parcels as shown on the plan.
20. Signature or Owner(s) or Applicant(s): _____
21. Date: _____

CERTIFICATION OF OWNERSHIP AND ACKNOWLEDGEMENT
OF PLAN AND OFFER OF DEDICATION

The following certification, in the wording shown, must be labeled and completed on the Final Plan:

Commonwealth of Pennsylvania:

:ss

County of Berks

:

On this, the _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who being duly sworn according to law, deposes and says that he/she is the _____ (1) _____ of the property shown on this plan, that the subdivision and/or land development plan thereof was made at his/her/its direction, that he/she acknowledges the same to be his/her/its act and plan _____ (2) _____, and that all streets _____ (3) _____ shown and not heretofore dedicated are hereby dedicated to the public use _____ (4) _____.

_____ (5) _____ (6) _____

(7)

_____ (8) _____

(9)

My Commission Expires: _____

- (1) Insert either: Owner, Equitable Owner, President of the Corporation which is the owner.
- (2) Whenever applicable, insert: and desires the same to be recorded as such according to law
- (3) Whenever applicable, insert: and open spaces contained in lots number
- (4) If necessary, insert: except those labeled "not for dedication" and any other restrictions or reservations
- (5) Where necessary, signature of secretary of corporation
- (6) Signature of individual, partners, or president of corporation
- (7) If necessary, affix corporate seal
- (8) Signature and (9) seal of notary public or other officer

CERTIFICATE OF ACCURACY

The following certification in the wording shown, shall be labeled and completed on the Final Plan:

I hereby certify that the plan shown and described hereon, as well as all drawings bearing my seal, are true and correct to the accuracy required by the Caernarvon Township Subdivision and Land Development Ordinance and were prepared by me or under my direction and for which I accept full responsibility. The perimeter and street monuments have been accurately placed as required by this Ordinance.

(1)

_____ (2) _____ (3) _____

- (1) Apply seal of Registered Engineer, Registered Surveyor or Registered Architect
- (2) Date
- (3) Signature of the Registered Engineer, Registered Surveyor or Registered Architect responsible for the preparation of the plan.

NOTE: Property survey and setting of perimeter/street Monuments shall be performed by the individual who signs and seals this Certificate of Accuracy.

If more than one discipline is involved in the preparation of the plan to which this Certificate of Accuracy applies, all design professionals shall be required to sign and seal the Certificate of Accuracy.

CERTIFICATE OF MUNICIPAL APPROVAL

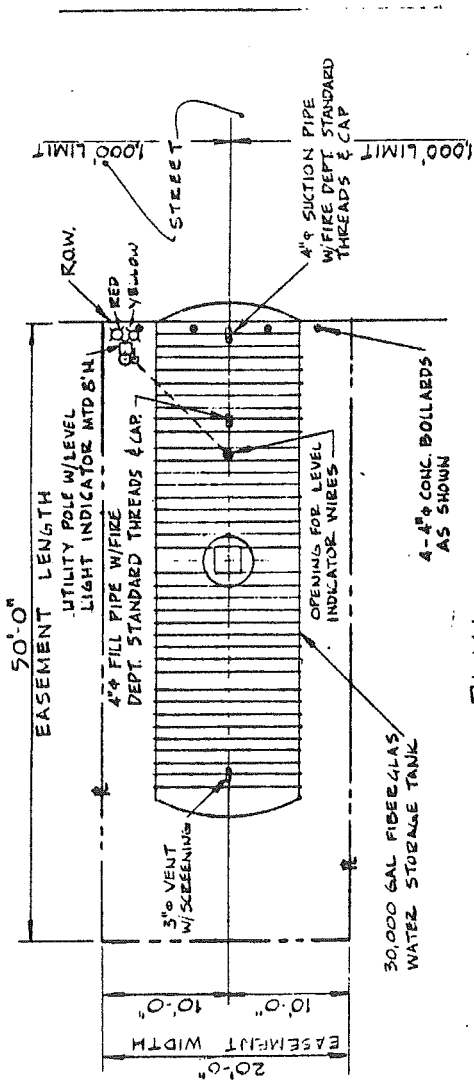
The approval of the Final Plan by each municipality in which a Subdivision and/or Land Development is located must be indicated on the Record Plan, in the following form:

At a meeting held on _____, 19____, the
_____ (1) _____ of the
_____ (2) _____ of
_____ (3) _____ by motion, duly
enacted, approved the _____ (4)
plan of the property of _____ (5)
as shown hereon.

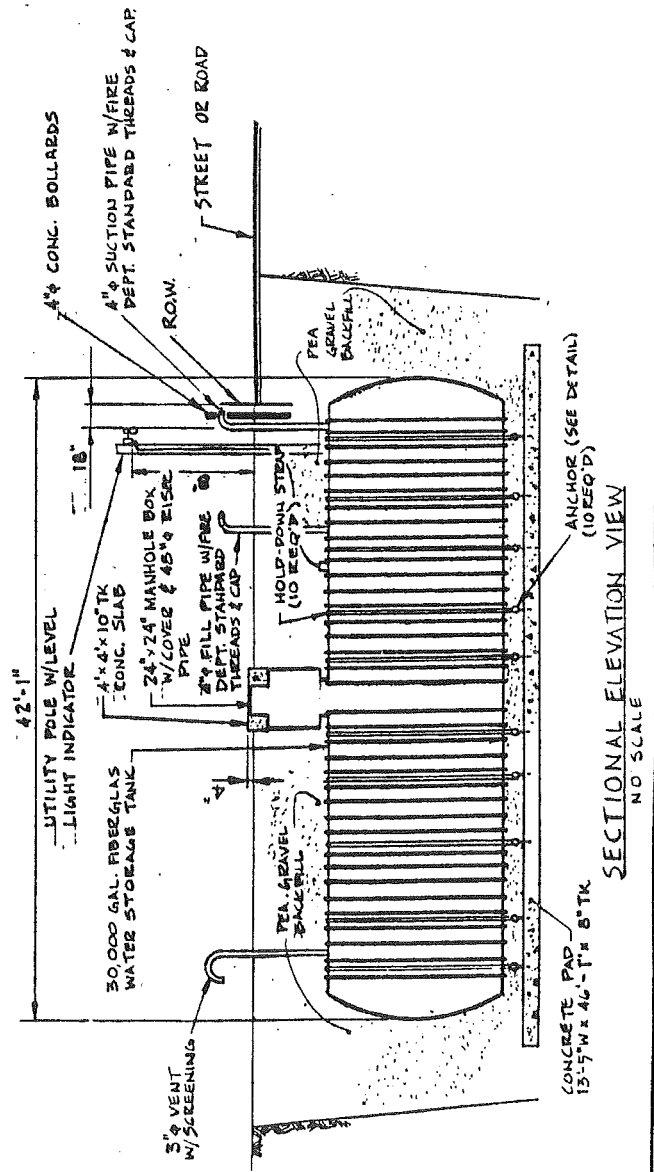
_____ (6) _____

(7)

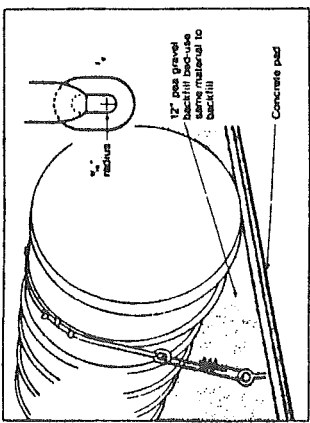
- (1) Insert either Township Planning Commission, Board of Supervisors or Borough Council
- (2) Insert either Township or Borough
- (3) Insert name of municipality
- (4) Insert either Subdivision or Land Development
- (5) Insert Name of Property Owner
- (6) Signatures of the Governing Body or Planning Commission
- (7) Municipal Seal



PLAN
NO SCALE



SECTIONAL ELEVATION VIEW
NO SCALE



Minimums per anchor location	12' @
Tank Diameter	12'
Wire rope (recommended 6 x 19 improved plow steel) Diameter	1 1/4"
Turnbuckle diameter	3/4"
Hook Type	
Jaw or Eye Type	

ANCHOR DETAIL
NO SCALE

NOTES:

1. IN ACCORDANCE WITH PS-15 AND ASTM D-3299
2. ALL PIPING SHALL BE SCHEDULE 40 STEEL

TOWNSHIP OF CAERNARVON
BERKS COUNTY, PENNSYLVANIA

SCALE AS SHOWN	APPROVED BY: <i>[Signature]</i>	DRAWN BY: C E M
DATE: AUG. 1990	REVISED: 7 SEPT 1990	
ENGINEERING MANAGEMENT, INC. WYOMISSING, PA 19610		
FIRE CISTERN STORAGE FIBERGLASS OPTION		DRAWING NUMBER 109/024-A

SUBDIVISION AND LAND DEVELOPMENT IMPROVEMENTS AGREEMENT

In consideration of the mutual covenants contained herein, it is hereby agreed between the Board of Supervisors of the Township of Caernarvon, Berks County, Pennsylvania and _____, the Subdivider or land Developer of the property shown on the plan of _____, dated _____, 19____, that in accordance with municipal requirements and specifications, the responsibility for the provision of the Improvements shown on the plan will be as follows:

<u>Improvement</u>	<u>To be provided by</u>			
	<u>Est. Cost</u>	<u>Subdivider/ Land Developer</u>	<u>Municipality</u>	<u>Other (Specify)</u>
Street grading	_____	_____	_____	_____
Street base	_____	_____	_____	_____
Street Paving	_____	_____	_____	_____
Curbs	_____	_____	_____	_____
Sidewalks	_____	_____	_____	_____
Storm sewer	_____	_____	_____	_____
Facilities	_____	_____	_____	_____
Sanitary Sewers:				
Trunk Lines	_____	_____	_____	_____
Mains	_____	_____	_____	_____
House	_____	_____	_____	_____
Connections	_____	_____	_____	_____
On-Site sewage				
Facilities	_____	_____	_____	_____
Water Distribution:				
Mains	_____	_____	_____	_____
Meters	_____	_____	_____	_____
Service	_____	_____	_____	_____
Connections	_____	_____	_____	_____
On-Site water				
supply	_____	_____	_____	_____
Fire Hydrants	_____	_____	_____	_____
Monuments	_____	_____	_____	_____
(Street/ perimeter)	_____	_____	_____	_____
Street signs	_____	_____	_____	_____

SUBDIVISION AND LAND DEVELOPMENT IMPROVEMENTS AGREEMENT (Cont'd)

<u>Improvement</u>	<u>To be provided by</u>			
	<u>Est. Cost</u>	<u>Subdivider/ Land Developer</u>	<u>Municipality</u>	<u>Other (Specify)</u>
Street Lights	_____	_____	_____	_____
Recreational facilities	_____	_____	_____	_____
Parking Lots or other facilities	_____	_____	_____	_____
Underground electric service	_____	_____	_____	_____
Supervision of all installation	_____	_____	_____	_____
Total Estimated Cost	_____	_____	_____	_____

Prior to the Municipal Planning Commission and Governing Body's endoresement of the Record Plan of this aforementioned Subdivision or Land Development, an original copy of this agreement shall be filed with the Municipality, notwithstanding other completion guarantees (in the form of a bond or the deposit of funds or securities in escrow) as may be required.

This agreement shall be subject to such modifications as may be mutually agreed upon by the Subdivider or Land Developer and the Governing Body.

(witness)

(signature of Subdivider
or land Developer)

(witness)

Approved by resolution of the _____ at a
meeting on _____, 19__.

COPY

ORDINANCE NO. 174

AN ORDINANCE OF THE TOWNSHIP OF CAERNARVON, BERKS COUNTY, PENNSYLVANIA, AMENDING THE CAERNARVON TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF 1990, AS SUBSEQUENTLY AMENDED, BY ADDING A NEW SECTION 516 TO REQUIRE A TRAFFIC IMPACT STUDY UNDER CERTAIN CIRCUMSTANCES DESCRIBING THE STANDARDS TO BE MET AND METHODOLOGY TO BE USED, AND REQUIRING IMPROVEMENTS TO BE INSTALLED CONSISTENT WITH THE STUDY

BE IT ENACTED by the Caernarvon Township Board of Supervisors, Berks County, Pennsylvania, and it is hereby ENACTED and ORDAINED by authority of the same as follows:

SECTION 1. The Caernarvon Township Subdivision and Land Development Ordinance of 1990, as subsequently amended, is hereby further amended by adding the following phrase at the end of Section 404(nn) entitled Preliminary Plan Requirements:

"When recommended by the Township Engineer and warranted by the intensity of the proposal, provide traffic impact studies as required by Section 516".

SECTION 2. The Caernarvon Township Subdivision and Land Development Ordinance of 1990, as subsequently amended, is hereby further amended by adding a new Section 516 entitled "Traffic Impact Studies" to read as follows:

SECTION 516 TRAFFIC IMPACT STUDIES

SECTION 516.1 Purpose. Whenever a proposed project will generate seventy-five (75) new vehicle trips in the peak direction (inbound or outbound) during the site peak traffic hour, the applicant shall perform a traffic impact study. Based on this study, certain improvements may be identified to provide safe and efficient access to the development.

In addition, a traffic impact study shall be prepared whenever either one of the following conditions exists within the impact study area:

- A. Current traffic problems exist in the local area, such as a high-accident location, confusing intersection, or a congested intersection which directly affects access to the development.
2. The ability of the existing roadway system to handle increased traffic, or the feasibility of improving the roadway system to handle increased traffic is limited.

SECTION 516.2 Traffic Impact Study.

Traffic Impact studies shall be prepared in accordance with the standards and methodology set forth in the Manual of Transportation Engineering Studies published by the Institute of Transportation Engineers (ITE) latest edition.

- 516.2.01 **Area of Traffic Impact Study.** The traffic impact study area shall be based on the characteristics of the surrounding area. Intersections and roadway segments to be included in the study shall be adjacent to the site or have direct impact upon the access to the site. The intersections shall be mutually agreed upon by the Township and the traffic engineer preparing the study.
- .02 **Preparation by Transportation Engineer Required.** Traffic impact studies shall be prepared under the supervision of qualified and experienced transportation engineers with specific training in traffic and transportation engineering and at least two years of experience related to preparing traffic studies for existing or proposed developments.
- .03 **Horizon Year.** The traffic forecasts shall be prepared for the anticipated opening year of the development, assuming full buildout and occupancy. This year shall be referred to as the horizon year in the remainder of this ordinance.
- .04 **Non-Site Traffic Estimates.** Estimates of non-site traffic shall be made, and will consist of through traffic and traffic generated by all other developments within the study area for which preliminary or final plans have been approved. Non-site traffic may be estimated using any one of the following three methods: "Build-up" technique, area transportation plan data or modeled volumes, and trends or growth rates. Growth rates shall be consistent with those collected by the Pennsylvania Department of Transportation for this area of the state and highway classification.

516.2.10

If a thorough analysis is required to account for pass-by trips, the following procedure should be used:

1. Determine the percentage of pass-by trips in the total trips generated.
2. Estimate a trip distribution for the pass-by trips.
3. Perform two separate trip assignments, based on the new and pass-by trip distributions.
4. Combine the pass-by and new trip assignment.

Upon completion of the initial site traffic assignment, the results should be reviewed to see if the volumes appear logical given characteristics of the road system and trip distribution. Adjustments should be made if the initial results do not appear to be logical or reasonable.

.11 Total Traffic Impacts. Traffic estimates for any site with current traffic activity must reflect not only new traffic associated with the site's redevelopment, but also the trips subtracted from the traffic stream because of the modification of a land use. The traffic impact report should clearly depict the total traffic estimate and its components.

.12 Capacity Analysis. Capacity analysis must be performed at each of the major street and project site access intersection locations (signalized and unsignalized) within the study area. In addition, analyses must be completed for roadway segments, deemed sensitive to site traffic within the study area. These may include such segments as weaving sections, ramps, internal site roadways, parking facility access points, and reservoirs for vehicles queuing off site and on site. Other locations may be deemed appropriate depending on the situation.

Capacity analyses shall be performed for AM, PM and Off-peak periods. Weekend analyses may be required for certain land uses and traffic patterns. The requirement for weekend analyses shall be determined by the Township Engineer.

The recommended level-of-service analysis procedures detailed in the most recent edition of the Highway Capacity Manual must be followed. The Township considers the overall level-of-service ratings A, B, C and D to be acceptable for signalized intersections (Levels C or better are considered desirable); level-of-service E or F is considered to be unacceptable.

The operational analyses in the Highway Capacity Manual should be used for analyzing existing conditions, traffic impacts, access requirements, or other future conditions for which traffic, geometric, and control parameters can be established.

- .05 **Trip Generation Rates Required.** The traffic impact study report shall include a table showing the categories and quantities of land uses, with the corresponding trip generation rates or equations (with justification for selection of one or the other), and resulting number of trips. The trip generation rates used must be either from the latest edition of Trip Generation by ITE, or from a local study of corresponding land uses and quantities. All sources must be referenced in the study.
- .06 **Consideration of Pass-By Trips.** If pass-by trips or shared trips are a major consideration for the land use in question, studies and interviews at similar land uses must be conducted or referenced.
- .07 **Rate Sums.** Any significant difference between the sums of single-use rates and proposed mixed-use estimates must be justified in the study report.
- .08 **Explanations Required.** The reasoning and data used in developing a trip generation rate for special/unusual generators must be justified and explained in the report.
- .09 **Definition of Influence Area.** Prior to trip distribution of site-generated trips, an influence area must be defined for commercial, retail developments, which contains eighty (80%) percent or more of the trip ends that will be attracted to the development. A market study can be used to establish the limits of an influence area, if available. If no market study is available, an influence area should be estimated based on a reasonable documented estimate. The influence area can also be based on a reasonable maximum convenient travel time to the site, or delineating area boundaries based on locations of competing developments.

Other methods such as using trip data from an existing development with similar characteristics or using an existing origin-destination survey of trips within the area can be used in place of the influence area to delineate the boundaries of the impact.

This requirement may be waived for residential, industrial and office developments.

- .10 **Trip Assignments.** Assignments must be made considering logical routings, available roadway capacities, left turns at critical intersections, and projected (and perceived) minimum travel times. In addition, multiple paths should often be assigned between origins and destinations to achieve realistic estimates rather than assigning all of the trips to the route with the shortest travel time. The assignments must be carried through the external site access points and in large projects (those producing five hundred (500) or more additional peak direction trips to or from the site during the development's peak hour) through the internal roadways. When the site has more than one access driveway, logical routing and possibly multiple paths should be used to obtain realistic driveway volumes. The assignments can be accomplished manually or with applicable computer models.

- .13 **Required Levels of Service.** The recommendations of the traffic impact study shall provide safe and efficient movement of traffic to and from and within and past the proposed development, while minimizing the impact to non-site trips. The current levels of service must be maintained if they are C or D, not allowed to deteriorate to worse than C if they are currently A or B, and improved to D if they are E or F.

516.2.14

Documentation Required. A traffic impact study report shall be prepared to document the purpose, procedures, findings, conclusions, and recommendations of the study.

1. The documentation for a traffic impact study shall include, at a minimum:
 - (1) Study purpose and objectives.
 - (2) Description of the site and study area.
 - (3) Existing conditions in the area of the development.
 - (4) Recorded or approved nearby development.
 - (5) Trip generation, trip distribution, and modal split.
 - (6) Projected future traffic volumes.
 - (7) An assessment of the change in roadway operating conditions resulting from the development traffic.
 - (8) Recommendations for site access and transportation improvements needed to maintain traffic flow to, from, within, and past the site at an acceptable and safe level of service.
2. The analysis shall be presented in a straight forward and logical sequence. It shall lead the reader step-by-step through the various stages of the process and resulting conclusions and recommendations.
3. The recommendations shall specify the time period within which the improvements should be made (particularly if the improvements are associated with various phases of the development construction), and any monitoring of operating conditions and improvements that may be required.
4. Data shall be presented in tables, graphs, maps, and diagrams wherever possible for clarity and ease of review.
5. The report documentation outlined above provides a framework for site traffic access/impact study reports. Some studies will be easily documented using this outline. However, the specific issues to be addressed, local study requirements, and the study results may warrant additional sections.

SECTION 516.3 Improvements.

516.3.01 Responsibility for Improvements. The applicant shall be responsible for the improvements required to provide safe and convenient ingress and egress to the development site.

516.3.02 Coordination with Municipal Requirements. The applicant shall be responsible for other improvements as may be agreed to with the Township or which are required by any municipal impact fee ordinance to be installed or paid for by the applicant consistent with provisions of Article V-A of the Pennsylvania Municipalities Planning Code, Act 247 of 1968, as amended.

SECTION 3. In all other respects the Caernarvon Township Subdivision and Land Development Ordinance of 1990, as amended, shall retain in full force and effect.

ENACTED AND ORDAINED this 12th day of SEPTEMBER, 2000.

CAERNARVON TOWNSHIP BOARD OF SUPERVISORS

Paul L Whiteman

James W Bee

(SEAL)

Charles E Byle

Randall T McEwen

Val M Hitz

CERTIFIED to be a true and correct copy of Ordinance No. 174 adopted by the Caernarvon Township Board of Supervisors on SEPT 12, 2000.

Don B. Burns
Secretary