TOWNSHIP OF ALSACE

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF 2008

ORDINANCE 2008-03

ENACTED APRIL 16, 2008

ALSACE TOWNSHIP BERKS COUNTY, PA

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ARTICLE 1 - GENERAL PROVISIONS

SECTION 1-1 AUTHORITY

An Ordinance providing for the regulation and control of the subdivision of lots and the development of land; the approval of plans, plots or re-plots of land laid out into building lots; standards for the design of streets, lots, easements, blocks and other improvements; certain minimum improvements and construction standards for streets, sanitary sewers, storm sewers, and other similar man-made improvements, as well as those improvements which may be required to be dedicated to the Township; as well as providing for the administration of this Ordinance by the Alsace Township Planning Commission and the Alsace Township Supervisors; and penalties for the violation of this Ordinance.

SECTION 1-2 ORDINANCE TITLE

This Ordinance shall be known and may be cited as "The Alsace Township Subdivision and Land Development Ordinance of 2008".

SECTION 1-3 PURPOSE

These regulations are adopted to protect, promote and create conditions favorable to the health, safety, convenience and general welfare of the citizens of Alsace Township by:

- A. Ensuring that sites will be suitable for building purposes, human habitation, commercial and industrial operations and other uses for which land may be legally used;
- B. Providing for the orderly, efficient, integrated and harmonious development of land within the Township;
- C. Effectively coordinating the planning, design and construction of proposed transportation and community facilities in conjunction with existing facilities already located within the Township;
- D. Ensuring the conformance of subdivision and land development plans with the public improvement plans of the Township;
- E. Providing for the efficient and orderly extension of community facilities and services;
- F. Ensuring that all subdivision and land development applications are consistent with the goals, objectives and policies of the Alsace Township Comprehensive Plan and Zoning Ordinance;
- G. Providing for adequate open areas for traffic, recreation, light and air, and for proper distribution of population;
- H. Assuring the equitable and just processing of subdivision and land development plans by providing uniform standards and procedures for observance by both the applicant and Township officials and preserving natural features and protecting sensitive environmental areas.

SECTION 1-4 APPLICABILITY

A. No subdivision or land development of any lot, tract or parcel of land shall be made, and no street, sanitary sewer, storm sewer, water main, gas, oil, or electric transmission line, or other improvements in connection therewith shall be laid out, constructed, opened, or dedicated for public use or travel or for the common use of occupants of buildings abutting thereon, except in accordance with this ordinance;

- B. No lot in a proposed subdivision or land development may be sold, and no permit to erect any building upon any land located within any subdivision or land development may be issued unless and until:
- 1. A Final Plan has been approved and recorded, and
- 2. Either:
- a. the Township has been assured by means of an Improvements Agreement acceptable to the Township Supervisors that the improvements will subsequently be installed, or
- b. the required improvements in connection therewith have been entirely completed.
- C. The regulations of this Ordinance shall apply to any and all subdivisions or land developments located within the corporate boundaries of Alsace Township, Berks County, PA.
- D. This Ordinance is not intended to repeal, abrogate, annul or in any way impair or interfere with existing provisions of other laws or ordinances except those specifically repealed by this Ordinance or with private restrictions placed upon property by deed, covenant or other private agreement;

SECTION 1-5 EXEMPTIONS

- A. Agriculture. The subdivision by lease of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street or easement of access or residential dwelling shall be exempted from the regulations of this Ordinance.
- B. Approved subdivisions
- 1. From the time an application for approval of a plat, whether preliminary or final, is duly filed as provided in this Ordinance, and while such application is pending approval or disapproval, no change or amendment of the Zoning Ordinance, this Ordinance or other governing ordinance shall affect the decision on such application adversely to the applicant. Furthermore, the applicant shall be entitled to a decision in accordance with the provisions of the governing ordinance on plans as they stood at the time the application was duly filed.
- 2. When an application for approval of a plat, whether preliminary or final, has been approved without conditions or approved by the applicant's acceptance of conditions, no subsequent change or amendment in the Zoning Ordinance, this Ordinance or any other governing ordinance shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five (5) years from the date of such approval.
- 3. If final plan approval is preceded by preliminary plan approval, the five (5) year period described above shall be deemed to commence from the date upon which the preliminary plan was approved by the governing body.

SECTION 1-6 INTERPRETATION

The provisions of this Ordinance shall be interpreted and applied as minimum requirements for the promotion of the public health, safety, comfort, convenience and general welfare.

Where provisions, standards and specifications of this Ordinance conflict with those of any State statute,

other ordinance or regulations, the more restrictive requirement shall apply, regardless of its source, unless specified to the contrary by this Ordinance or by contravening State or Federal law.

ARTICLE 2 - DEFINITIONS

SECTION 2-1 GENERAL INTERPRETATION

Unless otherwise stated hereafter, words and phrases within this ordinance shall have the meaning assigned in this Article. Terms not defined in this Article shall be interpreted first according to the definitions in the Township Zoning Ordinance, then by common usage or as the context may imply. For the purposes of this Ordinance, certain terms and words have been defined and/or interpreted below:

- A. Words used in the present tense shall include the future tense.
- B. Words in the singular shall include the plural and words in the plural shall include the singular.
- C. Words in the masculine gender include the feminine and the neuter.
- D. The words "shall", "will", and "must" are mandatory.
- E. The words "can" or "may" are permissive.
- F. The word "person" includes "individual", "company", "partnership", "corporation", "association" "unincorporated association", or other similar entities.
- G. The words "used for" include "designed for", "arranged for", "intended for", "maintained for", or "occupied for".
- H. The word "building" and "structure" shall be construed as if followed by the phrase "or part thereof".
- I. The word "lot" shall include the terms "lot", "parcel", "site" and "tract".
- J. The word "Township" shall refer to Alsace Township, Berks County Pennsylvania.
- K. The words "subdivision" and "land development" shall be interpreted to mean the entire scope of the project, regardless of Municipal boundaries or phases of development.

SECTION 2-2 SPECIFIC TERMS

Agriculture

Alley

The commercial production and preparation for market of crops, livestock and livestock products and in the production, harvesting and preparation for market or use of agricultural, agronomic, horticultural, silvicultural and aquacultural crops and commodities. The term includes an enterprise that implements changes in production practices and procedures or types of crops, livestock, livestock products or commodities produced consistent with practices and procedures that are normally engaged by farmers or are consistent with technological development within the agricultural industry, excluding kennels.

A local right-of-way providing secondary vehicular access to the side or rear of two or more properties.

Annexation The act of combining together one (1) common deed two (2) or more

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contiguous lots, or parcels of land, in order to create one, or more, new lots or; the act of subdividing a portion from one tract of land in order to join said portion of land (e.g. annexation parcel) in common deed with an immediately adjacent tract of land provided that, by doing so the donor tract of land does not become a non-conforming, or a more non-conforming, lot through such a reduction in the donor tracts' overall acreage and/or its' road frontage.

Apartment Building

A building on a single lot arranged, intended, or designed to be occupied as a residence for three or more families, and in which the dwelling units may be separated horizontally and/or vertically.

Block

A tract of land or a lot or group of Lots, bounded by streets, public parks, railroad rights-of-way, water courses or bodies of water, boundary lines of the Township, or by any combination of the above.

Board of Supervisors

Board of Supervisors of the Township of Alsace, Berks County, Pennsylvania.

Building

Any structures occupied or intended to support or shelter any type of occupancy. For the purposes of this Ordinance, each portion of a structure which is completely separated from other portions by fire walls shall be considered a separate building.

Building Setback

The minimum distance a building or structure must be set back from a road right-of-way line or lot line

Cartway

The portion of a road right-of-way, designed for vehicular use.

Clear Sight Triangle

An area of unobstructed vision at road and/or driveway intersections defined by lines of sight between points at a given distance from the intersections of the road and/or driveway center lines.

Commission

The Planning Commission of the Township of Alsace, Berks County, Pennsylvania.

Common Open Space

A parcel or area of land or an area of water, or a combination of land and water, within the development site designed and intended for use or enjoyment of all residents of the development in which it is located. Land included within the right-of-way lines of streets or land on which stormwater detention facilities are located shall not be classified as common open space. Common open spaces shall not include required open areas between buildings and between buildings and street rights-of-way, driveways, parking areas and property lines in the development. No dwelling unit, residential accessory buildings, or parking areas may be located within common open spaces.

Common Parking Area

A parking facility designed for use by the occupants, tenants, clients, patients, customers of the particular property upon which same is located. This term does not include the parking facilities provided within the lot lines of a lot on which one single family detached dwelling, one single family semi-detached dwelling, or one townhouse is located.

Community Sewerage System

A sewage facility, whether publicly or privately owned, for the collection of sewage from two or more lots, or two or more equivalent dwelling units and

the treatment or disposal, or both, of the sewage on one or more of the lots or at another site.

- 1. Community on-lot sewage system A system of piping, tanks or other facilities serving two or more lots and collecting, treating and disposing of sewage into a soil absorption area or retaining tank located on one or more of the lots or at another site.
- 2. Community sewerage system A publicly or privately-owned community sewage system which uses a method of sewage collection, conveyance, treatment and disposal other than renovation in a soil absorption area, or retention in a retaining tank.

Community Water
Distribution System

A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Comprehensive Plan

The document entitled the Alsace Township Comprehensive Plan, or any part thereof, adopted by the Alsace Township Board of Supervisors.

Corner Lot

A lot abutting two or more intersecting public streets, or at the point of abrupt change of direction of a single street (an interior angle of less than 135 degrees). Any yard adjoining a street shall be designated the front yard and must meet the front yard requirements of the applicable zoning district, and the yard opposite that yard shall meet the side yard requirements of the applicable zoning district. In the case of a building to be placed on a corner lot such that the front of the building will not be parallel to the street line, yards shall be provided so that no portion of the building will be placed closer to the street than the front yard requirement of the applicable zoning district, so that no portion of the rear of the building will be placed nearer to the lot line than the rear yard requirement of the applicable zoning district, and so that no portion of a side of a building will be placed closer to a lot line that the side yard requirement of the applicable zoning district.

County

The County of Berks, Commonwealth of Pennsylvania.

County Planning
Commission

The Planning Commission of the County of Berks.

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.

DEP

The Pennsylvania Department of Environmental Protection.

Developer

Any individual, partnership or corporation (or agent authorized thereby) which undertakes the subdivision or development of land, as defined by this ordinance, as the owner, equitable owner (or agent authorized thereby) of the land being subdivided or developed.

Dwelling

A building or structure or portion thereof arranged, intended, designed or used as the living quarters for one or more families living independently of each other. Such buildings as hospitals, hotels, boarding houses, rooming houses, lodging houses, nursing homes, motels, and institutional residences are not included in the definition of dwelling.

Easement

A grant by the property owner of a specific trait of land to the public, a corporation, a person, or group of persons, or to another tract of land for the use of the grantor's land for specified purposes.

Engineer

A licensed professional engineer registered by the Commonwealth of Pennsylvania.

Governing Body

The Board of Supervisors of Alsace Township, Berks County, Pennsylvania.

Grade

The inclination, with the horizontal, of a road, unimproved land, etc. which is generally expressed by stating the vertical rise or fall as a percentage of the horizontal distance.

Improvements

Those physical additions and changes to the land that may be necessary to produce usable and desirable lots.

Impervious

Not easily penetrated by water, including but not limited to roads, buildings, structures, sidewalks, access drives, loading areas, parking areas, heavily compacted soils, and paved recreation courts.

Interior Lot

A lot other than a corner lot, the sides of which do not abut a street.

Land Development

Include any of the following activities:

- 1. The improvement of one lot, or two or more contiguous lots for any purpose involving:
- 2. A single nonresidential building on a lot or lots regardless of the number of occupants or tenure, or a group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively; or
- 3. 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 roads, common areas, leaseholds, condominiums, building groups or other features.
- 4. A subdivision of land.
- 5. Establishment of a new Commercial or Industrial use on a lot.
- 6. Expansion of a non-residential building which contains a Commercial or Industrial use unless <u>all</u> of the following requirements are met.
 - a. The expansion is on the rear or side of the existing building
- b. The total expansion area is not more than 20% of the existing building area, or five hundred (500) square feet, whichever is less.
- c. The entire building as expanded will meet all requirements of this Ordinance and the Alsace Township Subdivision and Land Development Ordinance.

Exceptions:

- 1. The conversion of an existing single-family detached dwelling or single-family semi-detached dwelling into not more than three residential units, unless such units are intended to be a condo minimum.
- 2. The addition or expansion of an access story building, including agricultural buildings, on the same lot as the principal use building if the principal use on the lot is residential or Agricultural and if the accessory building use is the same as the principal use on that lot. This exception applies only if the building addition does not need additional parking, impervious area, or stormwater management controls.
- 3. The addition or conversion of buildings or rides within the confines of an enterprise which would be considered an amusement park. For purposes 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 by proper authorities.

Landowner

The legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition). A lessee under a written lease, who has written authorization of the legal owner, or other person having a proprietary interest in the land, shall be deemed to be a landowner for the purpose of this Ordinance.

Lot

A tract or parcel of land, regardless of size, held in single or joint ownership, not necessarily a lot or lots shown on a duly recorded map, which is occupied or capable of being occupied by buildings, structures and accessory buildings, including such open areas as are arranged, designed or required. The term lot shall also mean a designated parcel, tract of area of land established by a plat or otherwise as permitted by law and which is to be used, developed or built upon as a unit.

Lot Area (Gross)

The total area contained within the lot lines.

Lot Area (Net)

The remaining area of a lot after excluding the features defined in "Lot Size" from the gross lot area.

Lot Depth

The mean average horizontal distance between the front and the rear lot lines.

Lot Line

A line forming the front, rear or side boundary of a lot.

Lot Size

The remaining area of a lot after excluding the following features form the gross lot area:

- 1. areas within any public or private street, right-of-way, or other transportation right-of-way
- 2. areas contained within easements surrounding storm water management controls (e.g. detention basins, swales, pipes, catch basins, etc.) excluding however, any stormwater management controls intended to service individual lots (e.g. berms, infiltrators, etc.).
- 3. in Zoning Districts that require a minimum lot size of three (3) acres; that portion or portions of the lot in which the following features individually or cumulatively represent 50% of the gross lot area; areas within the 100 year flood plain, areas of slope in excess of 25%, and all areas delineated as Wetlands.
- 4. in Zoning Districts that require a minimum lot size of two (2) acres; that portion or portions of the lot in which the following features individually or cumulatively represent 25% of the gross lot area; areas within the 100 year flood plain, areas of slope in excess of 25%, and all areas delineated as Wetlands.

Lot Width

The distance between side lot lines, determined by establishing the shortest straight line distance at the road line. The lot width shall be a continuous dimension and not the sum of two or more separate dimensions furthermore, lot width shall be the shortest straight line distance, and it shall never be measured on an arc.

Maintenance Guarantee

A written guarantee accompanied by financial security, by the developer that he shall maintain all improvements in good condition for a period of eighteen (18) months after completion of the construction and installation of all such improvements.

Manufactured Home

A structure or building, transportable in one or more sections, which is built on a permanent chassis and designed to be used as a dwelling with a permanent foundation when connected to the required utilities.

Mobile Home

A transportable, single family 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 transportation and, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations, and is constructed in such matter that it is possible to be used without a permanent foundation.

Modular Home

Any structure designed primarily for residential occupancy which is wholly or in substantial part made, fabricated, formed or assembled in manufacturing facilities for installation or assembly and installation, on the building site. Housing units defined as mobile homes are excluded from this definition.

Monument

A stone or concrete monument with a flat top at least 4" in diameter or square, containing a copper or brass dowel (1/4" drill hole), and at least 24" in length (preferred 30" to 36"). It is recommended that the bottom diameter should be at least 2" greater in circumference than the top, to minimize movements caused by frost.

Municipality

Township of Alsace, Berks County, Pennsylvania.

One Hundred Year Flood

A stormwater event that, on the average, is likely to occur once every one hundred (100) years, or; that, has a one percent (1%) chance of occurring within any given year, (although the one hundred year flood may occur in any year).

On-Lot Sewage System

A system of piping, tanks or other facilities serving a single lot and collecting and disposing of sewage in whole or in part into the soil or into waters of this Commonwealth or by means of conveyance to another site for final disposal. The term includes:

- 1. Individual on-lot sewage system An individual sewage system which uses a system of piping, tanks or other facilities for collecting, treating and disposing of sewage into a soil absorption area or spray field or by retention in a retaining tank.
- 2. Individual sewerage system An individual sewage system which uses a method of sewage collection, conveyance, treatment and disposal other than renovation in a soil absorption area, or retention in a retaining tank.

On-Lot Water Distribution

System

A system for supplying and distributing water to a single dwelling and other building from a source located on the same lot.

Open Area Unoccupied space open to the sky and on the same lot with the principal

use.

Owner Any person, firm, association or syndicate, partnership, or corporation

having a legal and proprietary interest in any land within the corporate

limits of the Township of Alsace.

Parcel See the definition of "Lot".

Parking Lot An off-street paved surface area designed solely for the parking of motor

vehicles, including driveways, passageways and vehicular maneuvering

space appurtenant thereto.

Parking Space A space containing a minimum area of two hundred (200) square feet, with

a minimum width of ten (10) feet and minimum depth of twenty (20) feet for the parking of a motor vehicle. In determining the dimensions of a parking space, access drives and aisles shall not be included. Minimum

vertical clearance within any parking space shall be ten (10) feet.

Paved Area The percentage of a lot covered by paving.

Paving Hard material such as concrete, asphalt, or stone treated to decrease its

permeability applied to a lot in order to smooth or firm the surface of the

lot.

Performance Guarantee A form of financial security (which shall accompany any, and all, forms of

Improvements Agreements) that is posted with the Township, by a developer, and which is used to guarantee that, said developer shall complete certain required improvements within a specific subdivision, and/or/and development, and; within a specific time frame. In the event that, the developer fails to complete said required improvements, as specified in the Improvements Agreement, then; the Township shall have the right, but not the duty, to seize the Performance Guarantee and use same funds to complete the required improvements, in lieu of the developer doing

so.

Plan A formal proposal for any type (e.g. residential, commercial, industrial,

institutional, recreational etc.) of land development, inclusive of a subdivision of land where applicable, presented in the form of drawings, and supplemental data, prepared by either, a Professional Land Surveyor (required when a subdivision is involved) or, a Professional Engineer. The plan shall clearly depict all covenants, grants or easements, and other conditions relating to the proposed land development; such as but not limited to, type, size, and location of all man-made improvements (e.g. buildings, streets, utilities, etc.), density of development, common open

space, recreation areas, and public facilities.

Plan, Final A complete and exact formal subdivision plan (inclusive of all required

supplementary data), officially submitted to the Township for review and approval and, as prepared according to this Ordinance for official recording

of a subdivision by statute, and which defines property rights and depicts proposed streets and other improvements, and as is prepared by a Professional Land Surveyor.

Plan, Land Development

The provisions for development of a planned residential, commercial, or industrial development, including a plat of subdivision, all covenants related to use or density of development, streets, ways and parking facilities, common open space and public facilities. The phrase "provisions of the land development plan" when used in this ordinance shall mean the written and graphic materials referred to in this Ordinance.

Plan, Major Street

That element of the Township Comprehensive Plan, now or hereafter adopted, which shows the general location, alignment, and dimensions, and the identification and classification of existing and proposed major streets, highways, and other thoroughfares.

Plan, Official

The Comprehensive Plan and/or Master Plan and/or Future Land Use Plan and/or Ultimate Right-of-Way Plan and/or Official Map and/or Topographical Survey and/or other such plans, or portions thereof, as may have been adopted, pursuant to statute, for the area of the Township in which the subdivision is located.

Plan, Preliminary

A formal subdivision plan (inclusive of all required supplementary data), prepared to a lesser detail than a final plan, showing approximate proposed street and lot layout and all other information as required by this Ordinance as a basis for review and consideration by the Township, of a major subdivision prior to preparation and submission of a Final Plan prepared by a Professional Land Surveyor.

Plan, Record

The copy of the Final Plan which contains the original endorsements of the County Planning Commission, the Township Planning Commission and the Township Supervisors, and which must be recorded with the County Recorder of Deeds as required by Statute.

Plan, Sketch

An informal plan, not necessarily to exact scale, indicating salient existing features of a tract and its surroundings and the general layout of a proposed subdivision prepared by the developer, an Engineer, a Professional Land Surveyor, or Land Planner.

Planning Commission

Planning Commission of Alsace Township, Berks County, Pennsylvania.

<u>Plat</u>

A map or plan of a subdivision, whether preliminary or final.

Public Grounds

Lands set aside or otherwise dedicated for use by the General Public inclusive of:

(1) parks, playgrounds and other public areas, and (2) sites for publicly owned buildings and facilities.

Public Sewerage System

A publicly owned sanitary sewage, collection, transportation and treatment system in which sewage is carried from individual lots by a system of pipes to a central waste water treatment plant.

Public Water Distribution
System

A system which provides potable water to the public for human consumption and which has at least 15 service connections or regularly serves an

average of at least 25 individuals daily for at least 60 days out of the year. The term includes collection, treatment, storage and distribution facilities under control of the operator of the system and used in connection with the system, as well as collection or pretreatment storage facilities not under control of the operator which are used in connection with the system. The term also includes a system which provides water for bottling or bulk hauling for human consumption. Water for human consumption includes water that is used for drinking, bathing and showering, cooking, dishwashing or maintaining oral hygiene.

Reserve Strip

A separately deeded parcel of ground which in turn separates a street from other adjacent properties, or from another street, either proposed or existing.

Reverse Frontage Lot

A lot extending between and having frontage on two generally parallel streets, (excluding service streets), with vehicular access solely from one street.

Right-of-Way

A strip of land, of sufficient width (and/or of the width required by this Ordinance or other Statute), Which is reserved, dedicated or otherwise legally set-aside for use as a road, street, alley, service street, driveway, crosswalk, trail or other public, semi-public, or private purposes, including public utilities.

Roadway

See Street

Sanitary Sewer System

A system designed to collect, treat and dispose of sewage in compliance with local, state, and federal regulations.

Septic Tank

A treatment tank that provides for anaerobic decomposition of sewage prior to its discharge to an absorption area.

Sight Distances

The required length of roadway visible to the driver of a passenger vehicle at any given point on the roadway when the view is unobstructed by traffic. Sight distance measurement shall be made per the requirements found in Appendix "B" of this Ordinance.

Single Family Detached Dwelling

A building arranged, intended or designed to be occupied exclusively as a residence for one family and having no common, or party wall with an adjacent building.

Single Family Semi-Detached Dwelling A building arranged, intended or designed to be occupied exclusively as a residence for two families, one family living on each side of a common, or party, wall.

Street

A transportation right-of-way, excluding driveways, intended as a means of vehicular and pedestrian travel, furnishing access to abutting properties. The word "street" includes thoroughfare, avenue, boulevard, court, drive, expressway, highway, roadway and similar terms.

Street, Arterial

A street serving a large volume of comparatively high-speed and long distance traffic (ADT 5,000 to 9,999).

Street, Cul-De-Sac

A local street intersecting another street at one end, and terminating in a circular turnaround at the other end.

Street, Internal

A street used for circulation and access within a particular development involving residential, commercial and/or industrial land uses.

Street, Local

A street used primarily to provide access to residential properties (ADT 0 to 499).

Street, Major Collector

A street which, in addition to providing access to abutting properties, intercepts local streets and minor collector streets to give access to arterial streets (ADT 1,000 to 4,999).

Street, Marginal Access

A local street, parallel and adjacent to an arterial or collector street (but separated from the arterial or collector street by a reserve strip) which provides access to abutting properties and nearby intersections.

Street, Minor Collector

A street which, in addition to providing access to abutting properties, intercepts local streets to provide a route serving fifty (50) or more dwelling units to give access to community facilities and/or arterial streets or other collector streets. Streets within an industrial or commercial development shall be considered minor collector streets (ADT 500 to 999).

Subdivision

The division or re-division of a lot, tract or parcel of land by 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 distribution to heirs or devisees, transfer of ownership or building or lot development; provided, however, that the division by lease of land for agricultural purposes into parcels of more than ten acres not involving any new street or easement of access, or residential dwelling, shall be exempted. The term subdivision shall refer, as appropriate in these regulations, to the process of subdividing land or to the land proposed to be subdivided. A subdivision also includes division over any period of time after the enactment of this ordinance of a parcel of land having frontage on an existing or proposed street into two or more parcels having frontage on the existing or proposed street.

The term subdivision shall also include any development of a parcel of land, for example, as an industrial park, a shopping center or a multiple dwelling (project), which involves installation of streets and/or alleys, even though the streets and/or alleys might not be dedicated to public use and the parcel might not be divided immediately for purposes of conveyance, transfer, or sale, inclusive of instances where, the owner does not transfer legal or equitable title (for example, structures for rental purposes).

Surveyor

A Professional Land Surveyor registered by the Commonwealth of Pennsylvania.

Through Lot

An interior lot having frontage on two (2) parallel or approximately parallel streets.

Townhouse

A building arranged, intended or designed to be occupied exclusively as a residence for one family and which in turn, is one of a group of three or more such buildings, erected side by side and separated by unpierced

common, or party walls, and, with each dwelling having at least one

separate entrance from the outside.

<u>Township</u> Alsace Township, Berks County, Pennsylvania.

Township Planning Commission

The Planning Commission of Alsace Township.

Two-Family Detached Dwelling (Duplex)

Wetlands

Yard

A building arranged, designed or intended for occupancy of two (2) families living independent of each other in separate dwelling units that are separated by horizontal floors as opposed to vertical walls.

beparation by normalization at opposition (1997)

An area of land exhibiting certain existing natural conditions which cause said land to be identified as wetlands as defined in applicable State and Federal laws and regulations setting forth criteria for the identification and

delineation of wetlands.

The open area of land adjacent to a building And contained on the same lot as said building. The yard shall be open and unobstructed from the ground upward, except as otherwise provided in the Alsace Township Zoning Ordinance, and shall not be less in depth or width than the minimum

required in each zoning district.

Yard, Front An open area between an adjacent street right-of-way and a line drawn

parallel thereto, having a width as specified in the Alsace Township Zoning Ordinance for a particular zoning district, and extending for the full width

of the lot.

Yard, Rear An open area between the rear lot line and a line drawn parallel thereto,

having a width as specified in the Alsace Township Zoning Ordinance for a particular zoning district, and extending for the full width of the lot, except that in the case where the rear lot line is included in a service street, the rear yard shall be between the right-of-way line of the service street nearest the front yard of the lot and a line drawn parallel to such right-of-way line of

the service street.

Yard, Side An open area between the side lot line and a line drawn parallel thereto,

having a width as specified in the Alsace Township Zoning Ordinance for a particular zoning district, and extending from the front yard to the rear yard, except that in the case where the side lot line is included within a service street, the side yard shall be between the right-of-way line of the service street nearest the principal use or building on the lot and a line drawn

parallel to such right-of-way line of the service street.

Zoning Ordinance The Alsace Township Zoning Ordinance, as amended.

ARTICLE 3 - APPLICATION PROCEDURES

SECTION 3-1 GENERAL PROCEDURES

This Article provides an overview of the general procedures for the application, submission, review and the approval of proposed subdivision plans or land development plans within Alsace Township.

- A. All subdivision and land development plans within Alsace Township shall be reviewed by the Alsace Township Planning Commission, the Berks County Planning Commission and other Township, State or County officials as deemed necessary, and shall be approved or disapproved by the Alsace Township Board of Supervisors in accordance with the procedures specified within this Ordinance and within PA Act 247 Pennsylvania Municipalities Planning Code.
- B. For all proposed subdivision and land development plans, except those that qualify as Minor Subdivisions or Revised Plans of Record, a Preliminary Plan and a Final Plan must be submitted to the Township for review and approval. Those plans exempted from this standard procedure shall comply with the procedures identified under Sections 3-4 or Section 3-7 of this Ordinance.

SECTION 3-2 JURISDICTION

- A. The Alsace Township Board of Supervisors shall have jurisdiction over subdivision and land development within the corporate limits of Alsace Township. In order to assist the Board of Supervisors in its consideration of subdivisions and land developments, the Board of Supervisors hereby decrees that the Alsace Township Planning Commission shall serve the following functions:
- 1. All plans proposing subdivision, annexation or land development, upon submission to the Township shall be referred to the Planning Commission for review.
- 2. The Planning Commission shall make recommendations to the Board of Supervisors concerning approval, conditional approval, or disapproval of such plans.
- 3. The Planning Commission shall also make recommendations to the Board of Supervisors concerning the interpretation of both this Ordinance and the Alsace Township Zoning Ordinance.
- B. The Alsace Township Board of Supervisors shall have the right, but not the duty, to consider the recommendations offered by the Planning Commission prior to taking action on any proposed subdivision or land development plan.

SECTION 3-3 INFORMAL SKETCH PLAN REVIEW

A. Pre-plan Consultation

- 1. Prior to submission of a Sketch Plan, applicants for larger developments are encouraged to discuss their intent with the Township Zoning Officer and/or Township Planning Commission.
- 2. The Township shall make available to developers copies of this Ordinance, the Zoning Ordinance, street maps, and other related ordinances, maps and information which may affect the development of the property under question, provided that, the developer pays the Township for the customary charges for all requested documents.

B. Sketch Plan Submission

- 1. Prior to the submission of a Preliminary Plan (or a Final Plan where a Preliminary Plan is not required), applicants are very strongly encouraged to submit a Sketch Plan. A Sketch Plan review allows an applicant to save substantial time and engineering costs by resolving issues concerning layout and Township regulations prior to detailed engineering.
- 2. A Sketch Plan shall be considered an unofficial submission to the Township for the sole and

expressed purpose of informal review and discussion between the applicant and the Township. If a Sketch Plan is submitted, a copy will be kept by the Planning Commission for reference.

3. For maximum usefulness, Sketch Plans should contain the information specified in Section 4-1.

C. Sketch Plan Review

- 1. The Alsace Township Planning Commission shall meet with the applicant and informally discuss the conceptual suitability of the proposed development, its relationship to existing streets and utilities, the proposed arrangement and density of the development, and the compatibility of the proposed Plan with the Township's Comprehensive Plan.
- 2. At said meeting, the Planning Commission may inform the applicant of apparent deficiencies in the plan, offer recommendations regarding changes or modifications or recommend the submission of a Preliminary Plan (or a Final Plan, in instances where a Preliminary Plan is not required). The Planning Commission shall not take formal action to either approve or disapprove a Sketch Plan.
- 3. Due to the informal nature of a Sketch Plan application, the recommendation of the Planning Commission to submit a Preliminary Plan (or a Final Plan) shall not be deemed to constitute a formal approval of any kind.
- 4. Neither the Planning Commission nor the Board of Supervisors shall be required to take any action with respect to any, and all, Sketch Plans.

SECTION 3-4 MINOR SUBDIVISION

A. Classification

- 1. The proposed division of a parcel of land which adjoins an existing public street and does not involve the opening, widening, extension or improvement of any street or the installation of any public utility outside the frontage road, and includes all the contiguous land under one ownership, shall be considered a Minor Subdivision for the purposes of this Ordinance.
- 2. A Minor Subdivision shall not result in the creation of more than two (2) residential lots. Subdivisions which propose commercial or industrial uses shall not qualify as Minor Subdivisions.
- 3. Where the sole purpose of the proposed plan is to annex a lot or parcel to an adjacent lot or parcel, the plan shall qualify as a Minor Subdivision.

B. Application

- 1. A Final Plan complying with the submission requirements of Section 3-6 and the plan requirements of both Sections 4-2 and Section 4-3 shall be prepared for a Minor Subdivision.
- 2. All submissions shall be accompanied by the proper application forms and review fees, as determined by the Township.

C. Review and Approval

The review and approval of a Final Plan for a Minor Subdivision shall be conducted in accordance with the provisions of Section 3-6.B and 3-6.C.

SECTION 3-5 PRELIMINARY PLAN APPLICATION AND REVIEW

- A. Preliminary Plan Submission
- 1. The applicant shall submit ten (10) complete copies of the Preliminary Plan to Alsace Township Planning Commission. Plans must be submitted at least fifteen (15) business days prior to a regularly scheduled meeting of the Alsace Township Planning Commission.
- 2. All submissions shall be accompanied by the proper application forms and review fees as determined by the Township.
- 3. When required, the applicant shall be responsible for submitting the plan to the Berks County Conservation District, the Pennsylvania Department of Environmental Protection and all other pertinent reviewing bodies, as specified by this Ordinance or as may be required by law.
- 4. No application shall be deemed filed and accepted for review until all supplementary data, reports, and studies as may be required under Articles 4 and 5 have been received, application fees have been fully paid, and any, and all, other submissions requirements specified herein have been met.
- B. Preliminary Plan Review
- 1. The Township Administrator, and where required by law, the Township Engineer shall review the Preliminary Plan to determine its conformance to the Township Zoning Ordinance and Subdivision and Land Development Ordinance. Both, the Township Administrator, and, the Township Engineer may recommend changes, alterations or modifications, as they may deem necessary. The reports of both, the Township Administrator, and the Township Engineer shall be in writing and shall be submitted to the Township Planning Commission prior to the regularly scheduled or special meeting at which the Preliminary Plan is to be considered by the Township Planning Commission.
- 2. When a Preliminary Plan has been officially accepted for review by the Township, the Township shall forward two (2) complete copies of the proposed Plan to the Berks County Planning Commission for their review and comment. Failure of the Berks County Planning Commission to act within the time allowed by law shall constitute a waiver of their right to review the Plan as submitted and the Township may officially act on the basis of such a waiver.
- 3. When a Preliminary Plan has been officially accepted for review by the Township, such Plan shall be reviewed by the Township Planning Commission at its next regularly scheduled meeting, or at the discretion of the Planning Commission, at a special meeting. During the review of the Preliminary Plan, the Township Planning Commission shall consider any written reports of the Township Engineer, Township Solicitor, Township Zoning Officer, Township Code Enforcement Officer, Township Administrator, the Berks County Planning Commission, and other designated agencies or authorities, before rendering its decision on the proposed Preliminary Plan.
- 4. Upon completion of its review, the Planning Commission shall promptly submit its recommendations to the Township Board of Supervisors for their consideration. This recommendation shall be forwarded to the Board of Supervisors prior to ninety (90) days from the date the Preliminary Plan was officially accepted for review by the Township.
- 5. During the course of the Planning Commissions review of the Preliminary Plan and prior to any action by the Board of Supervisors being taken upon said plan, the proposed Preliminary Plan may be revised by the applicant. Upon the submission of a revised Plan the applicant shall sign a statement withdrawing any previously submitted Plans from consideration and a new ninety (90) day time period for formal review and notification shall commence from the date of submission of the revised Plan. The revised Plans shall be submitted to the Township in accordance with Section 3-5.

C. Preliminary Plan Approval

- 1. Following the review of the Preliminary Plan by the Township Administrator, Township Solicitor, Township Zoning Officer, Township Code Enforcement Officer, Township Planning Commission, and the Berks County Planning Commission, the Board of Supervisors shall approve, approve with conditions, or reject the proposed Preliminary Plan. Conditions for approval must be clearly stated in writing and accepted by the Applicant. If rejected, the Township Board of Supervisors shall specify the reasons for rejection, including citation of or reference, to the pertinent sections of this and/or other Township Ordinances.
- 2. The Board of Supervisors shall notify the developer or his agent of the action taken by the Supervisors within ninety (90) days of the Planning Commission accepting a Preliminary Plan for review. This review period may be extended by mutual agreement of the applicant and the Township.
- 3. Approval or approval with conditions of a Preliminary Plan shall not constitute approval of the Final Plan. Rather, it shall be deemed an expression of approval of the layout shown on the Preliminary Plan as a guide to the preparation of the Final Plan. The Final Plan must also be reviewed by the Township as outlined under Section 3-6.

SECTION 3-6 FINAL PLAN APPLICATION AND REVIEW

A. Final Plan Submission

- 1. Within one (1) year of receiving approval or approval with conditions of a Preliminary Plan, the applicant shall submit to the Township ten (10) complete copies of the Final Plan and all supplementary data as required by this Ordinance. Plans must be submitted for review at least fifteen (15) business days prior to a regularly scheduled meeting of the Alsace Township Planning Commission.
- 2. All submissions shall be accompanied by the proper application forms and review fees as determined by the Township.
- 3. When required, the applicant shall be responsible for submitting the plan to the Berks County Conservation District, the Pennsylvania Department of Environmental Protection and all other pertinent reviewing body or bodies, as specified by this Ordinance or as may be required by law.
- 4. No application shall be deemed filed and accepted for review until any supplementary data, reports, and studies as may be required under Articles 4 through 7 (including revisions required during the Preliminary Plan review) have been received, application fees have been fully paid, and any and all, other submission requirements specified herein have been met.
- 5. At the discretion of the Township, additional copies of the proposed Final Plan may be requested from the applicant for review and comment.

B. Final Plan Review

- 1. The Township Administrator, and where required by law, the Township Engineer shall review the proposed Final Plan to determine its conformity to the Township Zoning Ordinance and Subdivision and Land Development Ordinance. Both, the Township Administrator and, the Township Engineer may recommend changes, alterations or modifications, as they may deem necessary. The reports of both the Township Administrator and, the Township Engineer shall be in writing and shall be submitted to the Township Planning Commission prior to the regularly scheduled or special meeting at which the Final Plan is to be considered by the Township Planning Commission.
- 2. If required, the Township shall forward two (2) complete copies of the proposed Final Plan to the

Berks County Planning Commission for their review and comment. Failure of the Berks County Planning Commission to act within the time allowed by law shall constitute a waiver of their right to review the Plan as submitted and the Township may officially act on the basis of such a waiver.

- 3. When a Final Plan has been officially accepted for review by the Township, such Plan shall be reviewed by the Alsace Township Planning Commission at its next regularly scheduled meeting. During the review of the Final Plan, the Township Planning Commission shall consider any written reports of the Township Engineer, Township Solicitor, Township Zoning Officer, Township Code Enforcement Officer, the Berks County Planning Commission, and other designated agencies or authorities, before rendering its final decision on the proposed Final Plan.
- 4. Upon completion of its review, the Planning Commission shall promptly submit its recommendations to the Alsace Township Board of Supervisors for their consideration. This recommendation shall be forwarded to the Board of Supervisors prior to ninety (90) days from the date the Final Plan was officially accepted for review by the Township.
- 5. During the course of the Planning Commissions review of the Final Plan and prior to any action being taken upon said Plan, by the Board of Supervisors, the proposed Final Plan may be revised by the applicant as directed by the Alsace Township Planning Commission. Upon the submission of a revised plan the applicant shall sign a statement withdrawing any previously submitted plans from consideration and a new ninety (90) day time period for formal review and notification shall commence from the date of submission of the revised plan. The revised Plans shall be submitted to the Township in accordance with Section 3-6.

C. Final Plan Approval

- 1. Following review of the proposed Final Plan and the accompanying data by the Township Administrator, Township Engineer, Township Solicitor, Township Planning Commission, and the Berks County Planning Commission, the Board of Supervisors shall approve, approve with conditions, or reject the Final Plan.
- 2. Any conditions for approval must be clearly stated in writing and accepted by the applicant. If the Plan is rejected, the Board shall specify the reasons for rejection, including citation of or reference to the pertinent Sections of this and other Township ordinances. Copies of the statement shall be forwarded to the applicant and all concerned parties no more than fifteen (15) days following the Board of Supervisors decision.
- 3. The Board of Supervisors shall notify the developer or his agent of the action taken by the Supervisors within ninety (90) days of the Planning Commission accepting a Final Plan for review. This review period may be extended by mutual agreement of the applicant and the Township.
- 4. All pertinent agreements, contracts, fees, deeds of dedication and contributions shall be satisfactorily completed and/or executed by the applicant prior to municipal approval.

SECTION 3-7 REVISED PLAN OF RECORD

Any revision, replatting or re-subdivision of land which includes changes to a Recorded Plan (aka, Plan of Record) shall be considered a subdivision and shall comply with all regulations within this Ordinance, except that:

- A. Lot lines may be changed from those on a Recorded Plan, provided that in making such changes:
- 1. No lot or tract of land shall be created or sold that is smaller than the minimum dimensions required by the Alsace Township Zoning Ordinance.

- 2. Easements or rights-of-way shall not be changed.
- 3. Street locations and block sizes shall not be changed.
- 4. No lot shall be created which does not abut an existing or proposed public street.
- 5. Common open space and recreational areas shall not be reduced.
- B. In every case wherein lot lines are changed as permitted above, the applicant shall:
- 1. Prepare and submit a Revised Plan of Record to the Township for review and approval. The Revised Plan of Record shall be submitted and prepared in accordance with the Final Plan requirements of Sections 3-6 and 4-3 of this Ordinance.
- 2. The Revised Plan of Record shall specifically identify by name and record references, the previous Plan of Record which it supersedes.
- 3. The review and approval of a Revised Plan of Record shall be in accordance with the provisions of Sections 3-6.B and 3-6.C.
- 4. After the Revised Plan of Record has been approved by the Township, the applicant shall then record said plan in accordance with the requirements of the law and this Ordinance.

SECTION 3-8 LAND DEVELOPMENT PLANS

- A. Land Development plans shall be prepared and submitted for review and approval pursuant the requirements of this Ordinance for both, Preliminary and Final Plans.
- B. Occasionally, situations may arise whereby it is unclear whether or not a Land Development Plan is required by the Ordinance. In this event the developer may present information regarding the development to the Planning Commission. The information shall be sufficient to illustrate the type and extent of the development and the potential impact of the proposal upon traffic, stormwater management, sewage disposal, water supply, and similar concerns. The Planning Commission shall review the information and make a recommendation to the Governing Body as to whether or not the Land Development procedures of this Ordinance should be followed. The Planning Commission shall consult the Township Administrator, Engineer, and Solicitor prior to making its recommendation. The Governing Body shall, after consideration of the Planning Commission's recommendation, render the final decision, as to whether or not a Land Development Plan will be required.

SECTION 3-9 APPROVAL AND RECORDING OF PLANS

- A. After the completion of the procedures required within this Ordinance, the Alsace Township Planning Commission shall place their endorsements on at least ten (10) copies of the Plan which is to be recorded. Plans containing multiple drawing sheets and plans containing supplemental data, reports, etc. shall be recorded in their entirety. The Plans shall be dated and signed by a majority of the Planning Commission.
- B. After the completion of the procedures required within this Ordinance, the Alsace Township Board of Supervisors shall place their endorsements on at least ten (10) copies of the Plan which is to be recorded. The Plans shall be dated, sealed and signed by a majority of the Township Supervisors.
- C. No changes, erasures, modifications or revisions shall be made to any Subdivision or Land

Development Plan after the Plan has been approved by the Township, unless the Plan has been resubmitted to the Township for review as required by this Ordinance. Any such changes, erasures, modifications or revisions shall render any prior approval of the Plan null and void.

- D. After the Plan has been properly endorsed by the Township, the applicant shall submit the Plans to the Berks County Planning Commission for their endorsement. No Plan may be legally recorded unless it has been properly endorsed by both, the Township, and the Berks County Planning Commission and only if, the Plan complies with the recording requirements of the Berks County Recorder of Deeds Office.
- E. After the Plan has been properly endorsed by the Township and the Berks County Planning Commission, the applicant shall record the Plans with the Berks County Recorder of Deeds within ninety (90) days of the date the Plan was endorsed by the Township. If the applicant fails to record the Plan within the ninety (90) day time period, the action of the Township will become null and void.
- F. After the Plan has been recorded, the applicant shall provide the Township with one (1) certified copy of the Recorded Plan.

ARTICLE 4 - PLAN REQUIREMENTS

SECTION 4-1 SKETCH PLANS

The scale and sheet size of the Sketch Plan of a subdivision should conform, as closely as possible, to the requirements found in Section 4-2 of this Ordinance. The Sketch Plan should contain the following data, legibly drawn to scale but not necessarily showing precise dimensions.

- A. Tract boundaries.
- B. North point.
- C. Written and graphic scales.
- D. Significant topographical and physical features (i.e., water bodies, quarries, steep slopes, etc.)
- E. Proposed general street and lot layout.
- F. A location map with sufficient information to enable the Planning Commission to locate the property.
- G. General site data including acres of entire tract and number of proposed lots.
- H. Tax map parcel identification number (PIN).

SECTION 4-2 PRELIMINARY PLANS

A Preliminary Plan application shall not be considered complete unless all provisions specified herein, and as found in Section 3-5.A, have been completed and all information specified below has been provided to the township, as well.

A. The Preliminary Plan of a proposed Major Subdivision shall be clearly and legibly drawn to a minimum scale of one (1) inch equals fifty (50) feet with all dimensions shown in feet and hundredths of a foot except that:

- 1. If the average size of the proposed lots in the subdivision is five (5) acres or larger, the plan shall be drawn to a minimum scale of one (1) inch equals one hundred (100) feet, or
- 2. If the subdivision proposes lots with an average frontage of less than fifty (50) feet, the plan shall be drawn to a scale of one (1) inch equals twenty (20) feet.
- B. The original drawing, and all submitted copies thereof, shall be made on sheets twenty-four (24) inches by thirty-six (36) inches.
- C. If the Preliminary Plan requires more than one sheet, a key diagram showing relative locations of the several sections shall be drawn on each sheet.
- D. The Preliminary Plan shall depict:
- 1. The name of the proposed subdivision.
- 2. A north point, graphic scale, written scale, and date of plan origin, including the month, day and year that the original drawing was completed, and the month, day and year that the original drawing was revised, for each plan revision,
- 3. The name and address of record owner (and developer),
- 4. The name of the Professional Land Surveyor responsible for the preparation of the subdivision plan, or any part thereof,
- 5. The names of all abutting subdivisions, if any, with the plan book and page numbers where recorded, and the names of the owners of all adjacent unplatted land, if any, and the deed book and page numbers where recorded,
- 6. A key map for the purpose of locating the property being subdivided, drawn to a scale of one (1) inch equals eight hundred (800) feet and showing the relation of the property, differentiated by tone or pattern, to adjoining property and to all streets, roads, municipal and zoning district boundaries and watercourses within one thousand (1000) feet of the subdivision. In addition, a scale and a north pointer shall be indicated,
- 7. The total tract boundaries of the property being subdivided, showing bearings, distances, and a statement of total acreage of the property,
- 8. Zoning data, including the following:
- a. applicable lot area, width, lot coverage, height regulations and minimum yard requirements,
- b. existing and proposed zoning district boundary lines,
- 9. The contour lines at vertical intervals of no more than two (2) feet for land with an average natural slope of four (4) percent or less, and at intervals of no more than five (5) feet for land with an average natural slope exceeding four (4) percent. The contours shall be based upon a field survey or photogrametric procedure at a scale of one (1) inch equals one hundred (100) feet or larger,
- 10. The location and elevation of the datum to which contour elevations refer; where reasonably practicable, datum used shall be known, established benchmark,
- 11. Any areas located upon the subject property with slopes between fifteen (15) percent and twenty five (25) percent and slopes greater than twenty five (25) percent shall be shown by cross hatching.

- 12. The complete parcel identification number (PIN), as assigned to the parent tract by the Berks County Tax Assessment Office, for the tract being subdivided,
- 13. All existing sewer lines, water lines, wells, fire hydrants, utility transmission lines, easements and rights of way, culverts, bridges, railroads, watercourses, wetlands, flood plain areas (based on a one hundred (100) year storm) and other significant manmade or natural features within the proposed subdivision and within one hundred (100) feet of the boundaries of the proposed subdivision,
- 14. The approximate locations and names of soil types,
- 15. Any areas of hydric soils, or soils with hydric components (see Berks County Soil Survey) and wetlands located on the tract being subdivided along with notations regarding restrictions upon their use as well as the appropriate buffer zone as required per Section 5-10 of this Ordinance,
- 16. All existing buildings or other structures, and the approximate location of all existing tree masses including individual trees over eight (8) inches in caliper within the proposed subdivision,
- 17. All existing streets, including streets of record (recorded but not constructed), on or abutting the tract, including names, right-of-way widths, cartway (pavement) widths and approximate grades,
- 18. All recording information if the property was previously subdivided,
- 19. And; the full plan of the proposed development including:
- a. location and width of all streets and rights-of-way with a statement of any conditions governing their use,
- b. clear sight triangles at all intersections,
- c. suggested street names and all public utility and private easement locations,
- d. the proposed building setback, side yard(s), and rear Yard setback lines for each lot, and the proposed location of each building upon each lot in accordance with the proposed location.
- e. lot lines with approximate dimensions,
- f. approximate net and gross lot areas,
- g. a statement indicating the intended use of all lots and parcels,
- h. lot numbers and a statement of the total number of lots and parcels,
- i. sanitary sewers, storm sewers (and other drainage facilities), with the location, size, elevation and material of each indicated, and any proposed connections with existing facilities,
- j. underground natural gas, electrical, telephone, cable TV and any other proposed utility lines and easements for such utilities,
- k. well locations, including test wells required per Section 5-7D of this Ordinance, along with the following notation: "Any well intended to be utilized for an individual on-lot water supply for any lot shown

on this plan shall be installed at the location indicated. Any deviation from this location shall not be permitted with the prior approval of the Township."

- 1. parks, playgrounds and other areas dedicated or reserved for public use, with any conditions governing such use.
- m. the proposed location for any, and all driveways.
- 20. location of any, and all, soil probes and soil percolation test holes, as may be required by Section 4-4, of this Ordinance,
- a list of any waivers of, or modifications requested to the requirements of this Ordinance and any variances or special exceptions granted by the Zoning Hearing Board to the subject property, or project,
- 22. street addresses for each lot, except large residue lots, shall be shown on the plan. Addresses shall conform to the requirements of the Berks County 911 Emergency Management System and shall otherwise be consistent with the existing street address system used by the Township.
- 23. list of any and all state and federal permits needed or secured for the plan as well as copies of same for review by the Township.
- 24. title blocks and signature blocks for the Township Supervisors and the Planning Commission placed in a location that will be visible when the plans are folded.
- 25. a legend block depicting all symbols used on the plan.
- 26. if the subdivision proposes new street or driveway intersections with a State Route, or proposes improvements within the right-of-way of a State Route, the Highway Occupancy Permit number(s) shall be indicated on the plan. The Township shall be provided with a copy of all such permit applications.
- E. The Preliminary Plan shall be accompanied by the following supplementary data as applicable:
- 1. typical street cross-section drawing(s) for all proposed streets,
- 2. tentative profiles cut along the centerline of each proposed street shown on the Preliminary Plan. These profiles shall show natural and finished grades drawn at a ten (10) to one (1) exaggeration following the scale of the original subdivision plan.
- 3. Profiles shall show all vertical curve data including length, elevations and minimum sight distance as required by Section 5-3F of this Ordinance. Profiles shall also show all existing and proposed utilities located within the road right-of-way including but not limited to water mains, storm sewer and sanitary sewer lines, with stationing, elevations (inverts and tops), lengths, slopes, material, sizes, etc., and all line crossings of other utilities.
- 4. Construction detail drawings and/or construction notations for the following items, where applicable:
- a. drainage swale cross-sections and construction materials,
- b. pipe bedding materials,
- c. storm drainage structures, including any detention basin outlet structure and emergency spillway,
- d. sanitary sewer structures,
- e. curb and sidewalk details,
- f. landscaping details,

- 5. if the submitted plans do not include all undeveloped adjacent or abutting lands owned by the same landowner or under the control of the same developer, then the Planning Commission may require that a Sketch Plan be submitted at an appropriate scale covering all holdings. The Sketch Plan should include a reasonable future street system to demonstrate that the proposed subdivision provides for the orderly development of any residual lands and/or does not adversely affect their potential development,
- 6. a plan for grading and stormwater management on the tract being subdivided. The plan shall show all information required under Section 4-2F and shall meet all design requirements of Section 5-8 of this Ordinance,
- 7. an Erosion and Sedimentation Control Plan for the proposed development. The plan shall provide all information required under Section 4-2G and shall meet all design requirements of Section 5-9 of this Ordinance,
- 8. preliminary designs of any bridges or culverts which may be required. Such designs shall meet all applicable requirements of this ordinance, the Pennsylvania Department of Environmental Protection and/or the Pennsylvania Department of Transportation. All such designs shall be approved, and permits shall be issued, by the appropriate agency prior to Municipal approval of any plan,
- 9. a Traffic Impact Study when required, as specified by Section 4-2H of this Ordinance,
- 10. a Hydrogeologic Impact Study when required, as specified by Section 4-2I of this Ordinance,
- 11. when required by the Township, six (6) completed copies of the appropriate planning modules for land development for submittal to the Pennsylvania Department of Environmental Protection. The Planning Modules must be reviewed and approved by DEP prior to municipal approval of the Final Plan,
- 12. when required by the township, written review of the proposed development by the Fire Marshall, Fire Chief, EMS coordinator, or other qualified EMS professional as may be designated by the Township.
- F. Stormwater Management Plan
- 1. Stormwater Management Plans shall be prepared in accordance with the design requirements of Section 5-8 of this Ordinance.
- 2. The following information shall be provided either on the plans or in the calculations:
- a. existing and proposed storm drainage facilities or structures, including detention basins (with depth and capacity), swales, pipes (with sizes), culverts and inlets,
- b. watershed areas for each drainage structure or swale,
- c. locations and widths of any proposed or existing stormwater easements,
- d. intended design year standards for culverts, bridges, structures and other stormwater facilities,
- e. locations of all underground utilities,
- f. entity responsible to maintain/own any detention basin or other facilities to be located outside of public road rights-of-way,
- g. existing contour lines,

- h. proposed contour lines for lots, roads and drainage facilities
- i. stationing of any storm sewers, corresponding to profile stationing,
- any other information required to be provided by Section 5-8 of this Ordinance.
- G. Erosion and Sedimentation Pollution Control Plans
- 1. Erosion and Sedimentation Pollution Control Plans shall be prepared in accordance with the requirements of Section 5-9 of this Ordinance and applicable state and federal laws.
- 2. All proposed facilities and procedures shall comply with the regulations and standards of the County Conservation District and the Pennsylvania Department of Environmental Protection.
- 3. The plan shall consist of drawings showing locations and types of all proposed erosion control measures along with a narrative describing their function, construction, maintenance and sequence of installation.
- H. Traffic Impact Study
- 1. The submittal of a Traffic Impact Study shall be required at the discretion of the Township. The Traffic Impact Study will allow the Township to determine the safety and congestion impacts of proposed land developments.
- 2. Applicants will be required to respond with reasonable proposals to resolve the negative traffic impacts that their proposed uses may cause.
- 3. The submittal of a Preliminary Plan for any of the following uses shall require the submission of a Traffic Impact Study when deemed necessary by the Alsace Township Planning Commission. Any such Traffic Impact Study shall focus upon specific intersections, as identified by the township, and shall include an estimated average daily traffic volume for the entire overall project.
- a. Residential: 10 or more dwelling units,
- b. Non-Residential: 10,000 square feet or more of total floor area,
- c. Whenever the Township determines that a proposed use will generate volumes or types of traffic that could negatively impact upon the existing street system within the Township,
- d. Whenever the Township determines that there is a clear, existing, substantial traffic problem in proximity of the proposed project.
- 4. The costs of completing any such Traffic Impact Study and the review of same by the Township shall be borne, in their entirety, by the applicant.
- 5. The Traffic Impact Study shall be prepared by a qualified professional traffic engineer or traffic planner possessing verifiable experience in the preparation of such studies.
- 6. The Traffic Impact Study shall address the following elements:
- a. <u>Study Area</u>. The study area for the Traffic Study shall be based on engineering judgment and an understanding of existing traffic conditions at the site and shall represent the area which is likely to be affected by the development. Prior to initiation of the study, the traffic engineer or planner shall meet with the Township Administrator and/or the Township Engineer to establish the limits of the area to be studied.

- b. <u>Project Description</u>. Any study shall include a description of the proposed development, its proposed access and the surrounding street system. If a development is proposed to occur in stages, all stages shall be described and taken into account in the study.
- c. Existing Traffic Conditions. The traffic volumes and service levels during the three peak hour conditions (A.M., P.M. and site generated) shall be presented for all streets and intersections in the study area that can reasonably be expected to be significantly impacted. Traffic volumes shall be based upon actual counts that occurred within the prior two years, and not upon state estimates. Schematic diagrams depicting peak hour(s) traffic volumes and turning movements shall be presented for roadways within the study area. Assessments of the relative balance between roadway volumes and capacities are to be described. The analysis shall be performed for existing conditions (roadway geometry and traffic signal control) for the appropriate peak hours. The locations of all accidents reported to the Police within the study area during the most recent five (5) year period proceeding the date of the study shall be noted.
- d. <u>Expected Traffic Generation</u>. The study shall include an estimate of the traffic volumes expected to be generated by the use and any future stages during the three peak hour conditions. Such estimates shall be based upon the latest published estimates of the Institute of Transportation Engineers, or its successor entity. The author(s) of the study shall clearly indicate the methods and assumptions used to forecast future traffic volumes. Schematic diagrams, similar to those required for existing conditions, shall be used to depict future traffic volumes.
- e. <u>Projected Effects</u>. The ability of the existing roadway system to accommodate the future traffic shall be described. The study shall take into account not only the proposed use by the applicant, but also other uses and developments that have received building permits or preliminary and/or final subdivision or land development approval from a municipality. Future levels of service shall be determined for all affected streets and intersections in the study area. The study shall include the projected directions of generated traffic. Assessments of the relative balance between roadway volumes and capacities shall be performed for future conditions.
- f. <u>Levels of Service</u>. The study shall use the description of the levels of service (A, B, C, D, E and F), for streets and intersections established by the Federal Highway Administration of the USA Included shall be a description of typical operating conditions at each level of service.
- g. <u>Signal Warrants</u>. Heavily traveled intersections at entrances to the development and any other intersections, as specified by the Township within the study area, shall be studied to determine whether a traffic signal is warranted by PaDOT criteria.
- h. <u>Needed Improvements</u>. The study shall include suggestions on how each congested or hazardous intersection in the study area should be improved to reduce the hazard or congestion, and a rough estimate of the costs of that improvement.
- i. <u>Applicants Proposal</u>. The applicant shall respond to the traffic study with proposals on what traffic improvements, right-of-way dedications or commitments of financing for specific projects the applicant proposes to commit to resolve the negative traffic impacts of the proposed development. Such improvements or financing may be phased in relation to the proposed phasing of the development.
- j. <u>Completion of Improvements</u>. Any traffic improvements, including but not limited to traffic signals, that are required as a condition of any approval under this Ordinance shall be in place, or sufficient funds committed by the developer in escrow acceptable to the Township prior to the issuance of any needed occupancy permit, or within a specific time-frame agreed upon, between the Applicant and the Township, at the time of approval.
- I. Hydrogeologic Impact Study

- 1. Based upon the recommendation of the Township Administrator and/or the Township Engineer, the Planning Commission may require an applicant to provide a study to determine whether a proposed project would have significant negative impact upon groundwater quality or quantity.
- 2. A Hydrogeologic Study may be required for any of the following uses:
- a. Residential: 6 or more dwelling units,
- b. Whenever the Township determines that a proposed use could negatively impact upon groundwater quality or quantity,
- c. Whenever a study may be required by other local, state or federal laws, ordinances or regulations.
- 3. The study shall be completed by a qualified engineer or hydrogeologist. The study shall be signed and sealed by the professional who prepared the study.
- 4. The study shall include the following:
- a. a map showing the location of the site and proposed on-site sewage disposal systems and wells. Narrative descriptions of the types of these systems shall also be furnished,
- b. a description of the geologic conditions on and around the site, including factors which would affect the groundwater recharge rate and the degree of groundwater renovation. Site geology, including stratigraphy, structure and soils shall be analyzed. Hydrogeology, including aquifer characteristics, groundwater movement, local water use, aquifer yield and water quality shall be analyzed. Groundwater impacts, including impact from on-lot septic systems, availability of groundwater, well interference, water quality, and yield availability shall be analyzed,
- c. results of any test wells required under Section 5-7D of this Ordinance, including quality of water and flow rate,
- d. a map and narrative description of the area that will be affected by the proposed use of on-lot wells and sewage disposal systems determined from the surface topography and known geologic conditions. The analysis shall describe anticipated water quality/quantity impacts upon areas located downgradient and/or along any geologic strike or fault. These anticipated impacts shall also consider existing and potential land uses located within the affected area,
- e. should it be determined that the proposed use(s) would result in a degradation of groundwater quality, or eliminate the potential groundwater use at nearby properties, the study shall present measures that shall be employed to prevent or remediate this type of situation.

SECTION 4-3 FINAL PLANS

- A. The scale and sheet size of the Final Plan of a Subdivision and/or Land Development Plan shall be as required in Sections 4-2A and 4-2B for Preliminary Plans.
- B. If the Final Plan requires more than one sheet, a key diagram showing relative locations of the several sections shall be drawn on each sheet.
- C. The Final Plan shall show all information required to be shown on Preliminary Plans as listed under Section 4-2 of the Ordinance, and shall show the following:
- 1. name and address of the record owner (and Developer) of the tract, and the source(s) of title to the land being subdivided, including the date and name of the grantor(s), as shown on the records of the County Recorder of Deeds,

- 2. name, address, original signature and impression seal of the Professional Land Surveyor, or professional Engineer in the case of a Land Development Plan, responsible for the plan, or any part thereof,
- 3. a key map for the purpose of locating the property being subdivided, drawn to a scale of one (1) inch equals eight hundred (800) feet and showing the relation of the property, differentiated by tone or pattern, to adjoining property and to all watercourses, streets, roads and municipal and zoning district boundaries within one thousand (1000) feet of the subdivision. In addition, a scale and north point shall be indicated,
- 4. the total tract boundaries of the area being subdivided with accurate dimensions in feet and hundredths of a foot and bearings in degrees, minutes and seconds. These boundaries shall be determined by an accurate boundary line retracement survey in the field, which shall be balanced and closed with an error of closure not to exceed one (1) foot in ten thousand (10,000) feet; provided, however, that the boundaries of adjoining additional unplatted land in excess of ten (10) acres are not required to be based upon field survey with a positional closure of a "Class I" survey as established by the Pennsylvania Society of Land Surveyors, and the boundaries for such lands may be shown from deed information. The location and elevation, if established, of all boundary line (perimeter) monuments shall be indicated, along with a statement of the total area of the property being subdivided,
- 5. the name, number, cartway width, existing and proposed right-of-way widths for all existing and proposed public streets,
- 6. the following mathematical data for the cartway edges (curb lines) and right-of-way lines of all proposed streets, and for the ultimate right-of-way lines of all existing streets within the property,
- a. the lengths of all straight lines in feet and hundreds of a foot,
- b. all curve data (central angle, radius, arc length) in degrees, minutes and seconds or feet and hundredths of a foot,
- 7. all straight lot lines with dimensions in feet and hundredths of a foot and bearings in degrees, minutes and seconds. Curved lot lines shall have central angles, radii and arc lengths in degrees, minutes and seconds or feet and hundredths of a foot. Each lot shall be calculated to an accuracy of one (1) foot in twenty-five thousand (25,000) feet,
- 8. lot numbers (numbered consecutively), street address numbers as assigned by the Township and total number of lots (or parcels),
- 9. a statement of the intended use of any, and all, lots, with reference to restrictions of any type which exist or will exist as covenants in the deed for the lots contained in the Subdivision and, if recorded, including the book and page number in the County Deed Book.
- 10. the proposed building setback, side and rear yard lines for each lot, and the proposed placement of each building upon each lot in accordance with Zoning ordinance requirements.
- 11. the location (and elevation, which shall be derived by a topographic survey that is mathematically tied into a known, establish benchmark) of all existing and proposed street monuments as required by Section 6-3H of this Ordinance.
- 12. a grading and utility plan, for any subdivision which proposes six (6) or more lots, clearly depicting the proposed grades across the entire site (inclusive of all lots, streets, roads, storm water controls and detention basins, etc.) and the location of all existing and proposed utilities (inclusive of all water, sewer, storm sewer, electric, gas, cable, telephone and other utilities which shall service the subject site).

- 13. all easements or rights-of-way where provided for or owned by public services and any limitations on such easements or rights-of-way. Such easements and rights-of-way shall be accurately identified and shown on the plan with sufficient information to accurately and complete reproduce on the ground,
- 14. a list of any waivers or modifications requested to the requirements of this Ordinance and any variances or special exceptions granted by the Zoning Hearing Board.,
- 15. if the subdivision proposes new street or driveway intersections with a State Route, or proposes improvements within the right-of-way of a State Route, the Highway Occupancy Permit number(s) shall be indicated on the plan. The Township shall be provided with a copy of all such permits,
- 16. where deemed appropriate by the Township, a statement requiring that individual lot owners obtain approval for erosion and sedimentation pollution control prior to obtaining any building permits or performing any earth-moving on the site,
- 17. a certification of ownership, acknowledgment of plan and offer of dedication shall be lettered on the plan, using the form specified in this Ordinance and shall be duly acknowledged and signed by the owner(s) of the property before a Notary Public.
- 18. The following items shall be placed in such a location that they are visible when the plan is folded in a standard manner.
- a. certificates of approval of the plan by the Township Board of Supervisors and the Township Planning Commission,
- b. a blank space measuring three and one-half by six (3-1/2 x 6) inches square shall be left, preferably adjacent to the Township certification, in which the appropriate stamp of the County Planning Commission may be applied,
- c. a blank space measuring three (3) inches square shall be left along the lower edge of the sheet, in order that the Recorder of Deeds may acknowledge receipt and recording of the plan when it is presented.
- D. The Final Plan shall be accompanied by the following Supplementary data, when required by the Township:
- 1. deed descriptions for all affected lots, properties, easements, streets, and other related chattel for review by the Township Solicitor and Township Engineer,
- 2. typical street cross-section drawing(s) for all proposed streets,
- 3. profiles along centerlines and cross sections of each proposed street shown on the Final Plan. The profiles shall show all information required for Preliminary Plans under Section 4-2.E.2 of this Ordinance, and shall be drawn to the scale specified in that Section. Both profiles and cross sections shall show natural and finished grades along both cartway edges of each street,
- 4. all offers of dedication, and covenants governing the reservation and maintenance of undedicated open area, which shall be reviewed by the Township Solicitor,
- 5. any such private deed restrictions, including building 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 to the land being subdivided, for review by the Township Solicitor

- 6. a letter of adequacy from the County Conservation District for the proposed erosion and sedimentation control plan, and a copy of the NPDES permit, where required,
- 7. copies of all required permits from the Pennsylvania Department of Environmental Protection, including but not limited to wetland and flood plain encroachments, watercourse obstructions and dam permits (all such permits, and their permit numbers, shall be listed on the plan),
- 8. a landscape plan, when required by the Township, showing the number, location, size and species of all shrubbery and vegetation that will be planted,
- 9. final designs of any bridges or culverts which may be required. Such designs shall meet all applicable requirements of this ordinance, the Pennsylvania Department of Environmental Protection and/or the Pennsylvania Department of Transportation. All such designs shall be approved by the appropriate agency prior to municipal approval,
- 10. Development Agreement and Performance Guarantee in accordance with the requirements of Article 7 of this Ordinance,
- 11. written evidence of a plan review by the Alsace Township Fire Marshall or other qualified EMS professional as designated by the Township.

SECTION 4-4 SOIL PERCOLATION TEST REQUIREMENTS

- A. Soil probes and percolation tests shall be performed for both a primary and an alternate sewage disposal system site on each lot of all subdivisions where such lots shall be utilizing on-lot water and sewer services.
- B. Soil descriptions and percolation tests shall be performed in accordance with the procedures and requirements of the Pennsylvania Department of Environmental Protection (PA DEP), as amended.
- C. The results of the test shall be recorded on the appropriate PA DEP form and shall be submitted with the Preliminary Plan.
- D. The soil percolation tests must be performed at the exact location of the proposed drain field. The test holes must be spaced evenly throughout the area of the proposed drainfield.

ARTICLE 5 - DESIGN STANDARDS

SECTION 5-1 APPLICATION

- A. The standards and requirements contained in Articles 5 and 6 of this Ordinance are intended as the minimum for the promotion of the public health, safety and welfare, and shall be applied as such by the Township Planning Commission and the Township Supervisors in reviewing all subdivision plans.
- B. Whenever other Township regulations impose more restrictive standards and requirements than those contained herein, such other regulations shall prevail; otherwise, the standards and requirements of these regulations shall apply.

SECTION 5-2 GENERAL STANDARDS

- A. Land shall be suited to the purpose for which it is intended to be subdivided or developed, as determined by Township ordinances, Township Supervisors, or any other applicable regulatory agencies.
- B. Land subject to hazards to life, health or property (such as open quarries, limestone solution channels, unconsolidated fill, floods, vacant buildings, trash, miscellaneous debris, buildings within rights-of-way, excessive erosion, unsafe water supply, or other causes) shall not be subdivided for building purposes unless such hazards have been eliminated or unless the subdivision plan shall show adequate safeguards mitigating the affects of the hazards which shall be approved by the appropriate regulatory agency and the Township.
- C. The subdivision or land development shall be designed in consideration of any applicable provisions of the Township Comprehensive Plan.
- D. All aspects of the proposed subdivision or land development shall conform to the Township Zoning Ordinance and all other Township ordinances and specifications, unless specific relief is granted by a variance or waiver, as the case may be.
- E. No subdivision or land development shall be designed in such a way that would significantly threaten the public health and safety, including hazards of toxic substances, traffic hazards, explosive hazards and fire hazards. The Township may require that structures, material, or other features that are fire or safety hazards be removed or made safe, at the discretion of the Township, prior to Final approval of a plan.
- F. Land with non-conforming uses shall not be subdivided in any manner which shall cause said non-conforming uses to become more non-conforming, in any way.
- G. Approval of plans and specifications provided within this Ordinance shall be of equal force and effect. In the case of any discrepancy between the plans and these specifications, the decision of the Township, or its authorized representative shall be final and conclusive as to which is preferred.

SECTION 5-3 STREETS

A. General Standards

- 1. All proposed subdivisions and land developments shall have adequate and safe access to the public street system and, any proposed subdivision having more than ten (10) lots shall have, at a minimum, two (2) means of access to the public street system.
- 2. Proposed streets shall be adjusted to the contour of the land to produce usable lots and streets of reasonable gradient.
- 3. The location and width of all streets shall conform to the "official plans", or to such parts thereof, as may have been adopted by the Township.
- 4. A subdivision or land development and its street pattern shall be coordinated with existing or proposed nearby developments or neighborhoods to help develop the area harmoniously and to help prevent conflicts between neighboring development. The proposed street system shall extend existing or recorded streets at the same width, but in no case less than the required minimum street width as established by this Ordinance.
- 5. Where, in the opinion of the Township Planning Commission, it is desirable to provide street access to adjoining property, proposed streets shall be extended to the boundary line of the tract being

subdivided to eventually provide for normal circulation of traffic within the vicinity.

- 6. Where a subdivision abuts an existing street of improper width or alignment, the Township may require the dedication of land sufficient to widen the street or correct said improper alignment.
- 7. Private streets (streets not offered for dedication) are hereby prohibited.
- 8. Where a proposed subdivision or land development is of sufficient size to warrant an interior circulation system, a clear hierarchy of streets shall be designed and established.
- 9. Proposed streets shall be laid out to avoid environmentally sensitive areas such as flood plains, wetlands, sinkholes and steep slopes.
- 10. New half or partial streets shall be prohibited
- When internal streets or roads serve a lot in a subdivision, access to that lot must be from the internal street or road, unless other access is specifically approved by the Township.
- B. Loop Roads
- 1. Where practical, minor streets shall be designed as "loop roads" so that all abutting lots shall have two directions of access.
- 2. In areas where site topography and/or tract configuration hinder the design of "loop minor streets", the Township may allow the use of cul-de-sac streets. The number of such cul-de-sac streets within a subdivision shall be limited to that necessary to serve the areas having the topographic or tract restrictions. All cul-de-sac streets shall meet the design requirements of Section 5-3I of this Ordinance.
- C. Street Widths
- 1. Street right of way and cartway (pavement) widths shall be as shown on the "official plans" or Comprehensive Plan, or if not shown on such plans, shall be as follows:

Street Type:	Right of Way Width (in feet)	Cartway Width (in feet)
Local Street	50	20
Minor Collector Street	60	30
Major Collector Street (See no	te 5a, b and c) (S	see note5a, b and c)
Cul-De-Sac Street (see note d)	50	20

NOTES:

- a. As specified in the "official plans", or Comprehensive Plan, or as determined by the Township.
- b. When a tract to be subdivided or developed abuts the legal right of way of a state highway, additional right of way may be required by the Pennsylvania Department of Transportation.
- c. Additional right of way and cartway widths may be required by the Township for the purpose of promoting the public safety and convenience, or to provide parking in commercial and industrial areas and in areas of high density residential.

- d. Cul-De-Sac streets shall have a paved turn-around with a radius of, at least, fifty (50) feet.
- D. Street Grades
- 1. There shall be a minimum centerline grade of one (1) percent.
- 2. Centerline grades shall not exceed the following:
- a. Local Streets: ten (10) percent.
- b. Minor Collector Streets: six (6) percent.
- c. Major Collector Streets: five (5) percent.
- d. Cul-De-Sac Streets: eight (8) percent.
- E. Horizontal Curves
- 1. Whenever street lines are deflected in excess of two (2) degrees, connection shall be made by horizontal curves.
- 2. To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be as follow:
- a. Local and Cul-De-Sac Streets: one-hundred fifty (150) feet;
- b. Minor Collector Streets: three-hundred (300) feet;
- c. Major Collector Streets: five-hundred (500) feet
- 3. A tangent of at least one-hundred (100) feet shall be introduced between all horizontal curves on minor collector and major collector streets
- 4. To the greatest extent possible, combinations of the minimum radius and the maximum grade shall be avoided.
- 5. A tangent of at least one-hundred (100) feet, measured from edge of cartway, shall be required between a horizontal curve and a street intersection where one of the intersecting streets is an arterial, a minor collector, or a major collector street.
- F. Vertical Curves
- 1. Vertical curves shall be designed to the following minimum sight distances:
- a. Local and Cul-De-Sac Streets: two-hundred (200) feet;
- b. Minor Collector Streets: three-hundred (300) feet;
- c. Major Collector Streets: four-hundred (400) feet;
- 2. Sight distance shall be measured from a point 3.5 feet above the road surface to a point 6 inches above the road surface, and shall be based upon standards of the American Association of State Highway and Transportation Officials (AASHTO).
- 3. Vertical curves shall be used at all changes in grade exceeding one (1) percent.
- G. Intersections

- 1. Streets shall intersect as nearly as possible at right angles, and no street shall intersect another at an angle of less than seventy-five (75) degrees or more than one-hundred five (105) degrees.
- 2. No more than two streets shall intersect at the same point and no driveway may intersect a street or road within eighty (80) feet of an intersection with another street or road.
- 3. Streets intersecting another street shall either intersect directly opposite each other, or shall be separated by at least one-hundred fifty (150) feet between centerline, measured along the centerline of the street being intersected.
- 4. Intersections shall be approached on all sides the grade of which shall not exceed five (5) percent within fifty (50) feet of the intersection of the nearest right of way lines. The five (5) percent grade shall be provided on the cartway surface, and not upon the tangent line of a vertical curve.
- 5. Intersections with arterial and major collector streets shall be located not less than one-thousand (1000) feet apart, measured between centerline, along the centerline of the arterial or major collector street.
- 6. Street curb intersections shall be rounded by a tangential arc having a minimum radius of:
- a. twenty (20) feet for all intersections involving only local streets.
- b. thirty (30) feet for all intersections involving a minor collector street;
- c. forty (40) feet for all intersections involving a major collector street.
- d. Street right-of-way lines shall be parallel to, and concentric with, curb arcs at intersections.
- H. Sight Distance at Intersections
- 1. New street intersections proposed as part of any subdivision or land development shall be designed to meet PaDOT standards for sight distance (see Appendix B).
- 2. Wherever a portion of any such "clear sight distance triangles" occurs behind (i.e., from the street) the building setback line, such portion shall be shown on the Final Plan of the subdivision, and shall be considered a building setback line.
- 3. Clear sight triangles shall be located so that they do not extend onto adjoining property not owned by the developer, unless the written approval of such adjoining property owner has been obtained by the developer.
- I. Cul-De-Sac Streets
- 1. Dead-end streets are prohibited unless designed as cul-de-sac streets or designed for future access to adjoining properties.
- 2. Any street which is terminated (i.e. "dead-end") prior to providing access to an adjoining property or is otherwise terminated due to an authorized, approved phased subdivision or land development shall be provided with a fully-paved turnaround, within the subdivision, and the use of such turnaround shall be guaranteed to the public.
- 3. The length of the cul-de-sac street shall be measured from the edge of the cartway of an intersecting street to the center of the turnaround of the cul-de-sac. The minimum length of a cul-de-sac street shall be two-hundred fifty (250) feet.
- 4. The maximum length of a cul-de-sac street shall be eight hundred (800) feet.

- 5. Unless further extension is clearly impractical or undesirable, the turnaround right of way shall be placed adjacent to the tract boundary with sufficient additional width provided along the boundary line to permit extension of the street at full width.
- 6. All cul-de-sac streets shall be provided at the closed end with a fully paved turnaround with a radius to the pavement edge or curb line of fifty (50) feet, and the radius of the right of way line shall be sixty (60) feet. The sidewalk area within the right of way shall conform to both the straight and curved edges of cartway.
- 7. The centerline grade of a cul-de-sac street shall not exceed eight percent (8%) and the grade across the turnaround shall not exceed five percent (5%).
- 8. A maximum of ten (10) residential lots shall be permitted on any cul-de-sac street,
- 9. Cul-De-Sac streets shall not be intersected by other streets except at the open end,
- 10. The terminus of any cul-de-sac street shall either, be centered or, offset to the left. Right offsets shall only be used with specific approval of the Township.
- J. Street Names
- 1. Proposed streets which are obviously in alignment with existing, named streets shall bear the names of the existing streets.
- 2. In no case shall the name of a proposed street duplicate an existing street name existent within either, the Township or the postal district, irrespective of the use of the suffix street, road, avenue, boulevard, drive, way, place, court, lane, etc.
- 3. All street names shall be subject to the approval of the Township and the Postmaster having jurisdiction.

SECTION 5-4 BLOCKS

A. Layout

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

- 1. Provision of adequately graded "pad sites" for buildings of the type proposed,
- 2. zoning requirements,
- 3. topography,
- 4. requirements for safe and convenient vehicular and pedestrian circulation, including the reduction of intersections with major streets.
- B. Length
- 1. Blocks shall have a maximum length of two thousand six-hundred (2,600) feet and a minimum length of one thousand five-hundred (1,500) feet.

2. In the design of blocks longer than two thousand (2,000) feet, special consideration shall be given to the requirements of satisfactory fire protection and will be subject to approval by both the regional fire department and the Township.

C. Crosswalks

- 1. Crosswalks may be required wherever the Township deems them necessary to facilitate pedestrian circulation and to give access to community facilities, as well as within blocks.
- 2. Crosswalks shall have a width not less than ten (10) feet and a paved walk with a width not less than four (4) feet.

D. Depth

Residential blocks shall be of sufficient depth to accommodate two tiers of lots, except where reverse frontage lots are required along major streets, or property, in which case the Township may approve a single tier of lots.

E. Commercial and Industrial Blocks

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

SECTION 5-5 LOTS AND PARCELS

A. General Standards

- 1. The size, shape and orientation of lots shall be appropriate for the type of development and use intended, and in accordance with the Township Zoning Ordinance.
- 2. Side lot lines shall abut and be approximately at right angles to straight streets and on radial lines to curved streets, unless otherwise approved by the Township. Pointed or very irregularly shaped lots shall be avoided.
- 3. Lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
- 4. The depth of residential lots shall not be more than two and one-half (2-1/2) times their widths nor, less than (1) one times their width.
- 5. The depth and width of parcels intended for non-residential uses shall be adequate for the use proposed and sufficient to provide adequate space for on-site parking, loading and unloading, setbacks, landscaping, etc.
- 6. If, after subdividing, there exists remnants of land, they shall be either:
- a. incorporated into existing or proposed lots, or
- b. legally dedicated to public use, if acceptable to the Township.
- 7. Where additional right-of-way width has been offered to be dedicated for the purpose of widening of existing streets, lots shall begin at such extra width lines, and all setbacks shall be measured from such lines.

- B. Lot Frontage
- 1. All lots shall front on either an existing or, a proposed public street.
- 2. Double or reverse frontage lots shall be avoided except where needed to either avoids direct vehicular access onto major streets or, to overcome specific disadvantages of topography or orientation.
- 3. All residential reverse frontage lots shall have rear yards with a minimum depth of seventy-five (75) feet, measured in the shortest distance from the proposed dwelling unit to the ultimate right of way line and shall, within such rear yard and immediately adjacent to the right of way, have a planting screen easement of at least ten (10) feet in width, across which there shall be no right of access. The planting screen within this easement shall be included in the plan and shall be subject to approval by the Township.
- C. Driveways and Off-Street Parking
- 1. Each proposed dwelling unit within a subdivision shall be provided with at least three (3) off-street parking spaces, as follows:
- a. In the case of single family or two family dwellings, such off-street parking spaces shall be provided behind the street right of way line and may be provided for within an attached or detached garage(s), carport(s) or driveways.
- b. In the case of multiple family dwellings, such off-street parking spaces may be provided in the form of parking compounds or lot(s) located adjacent to or near the multi-family structure, providing at least three (3) off-street parking spaces per dwelling unit.
- c. Each off-street parking space shall provide a usable parking area having minimum dimensions of ten (10) feet by twenty (20) feet, and, where access to such an area is from a collector or major street, adequate turnaround space shall be provided behind the right of way line.
- d. The grade of any proposed parking area shall not exceed five percent (5%).
- e. Any, and all, off-street parking shall comply with requirements of the Zoning Ordinance, as well.
- 2. All subdivisions shall provide off-street parking in accordance with the requirements of both this Ordinance, and the Township Zoning Ordinance.
- 3. Private driveways on corner lots shall be located at least fifty (50) feet from the point of intersection of the nearest street curb lines or edge of cartway.
- 4. In order to provide a safe and convenient means of access, grades on private driveways shall not exceed fourteen percent (14%). The grade of the private driveway shall not exceed five percent (5%) within twenty (20) feet of the edge of cartway of the existing or proposed public street.
- 5. Private driveways shall be paved within twenty (20) feet of the existing or proposed public street and at any location within one-hundred (100) feet of the existing or proposed public street where the driveway grade is equal to or greater than ten percent (10%).
- 6. In order to provide safe and convenient ingress and egress, private driveway entrances should be rounded at a minimum radius of five (5) feet, or should have a flare constructed that is equivalent to this radius, at the point of intersection with the cartway edge (and/or the curb line).
- 7. Common driveways serving more than one single family detached dwelling shall be prohibited.

- 8. Driveways providing access to lots within a subdivision shall gain access from proposed "internal" streets rather than existing public streets along the outer boundary of the subdivision. Where lots front on the existing public street but gain access internally, the driveway shall be located within a strip of land, with a minimum width of twenty (20) feet, held in fee simple ownership by the owner of the lot gaining access. Access shall not be provided by an easement or right of way across property of another party.
- 9. Driveways shall meet all requirements of all ordinances and design standards used by the Township.
- Driveways entering onto a Township street shall meet PA DOT standards for sight distance and no driveway may intersect a street or road within fifty (50) feet of an intersection with another street or road. In cases where the required sight distance or safe sight stopping distance (SSSD) can only be obtained by the removal of certain physical features (earthen banks, trees, stumps, and other obstructions) the Township will require that these items be removed (and the corresponding sight distance or safe sight stopping distance (SSSD) be provided) before the plan is approved.
- 11. A Township Driveway Permit is required whenever access is proposed onto a Township-owned public road or whenever encroachment is proposed within a Township right of way.
- 12. No part of a driveway shall be closer than ten (10) feet to any side or rear property line.

SECTION 5-6 SANITARY SEWAGE DISPOSAL

A. General Standards

- 1. All subdivisions and land developments within Alsace Township shall be served with an adequate sewage disposal system (either, publicly-owned sanitary sewer, community on-lot, or individual on-lot) that conforms to both, the standards and requirements of the Pennsylvania Department of Environmental Protection and the Township.
- 2. The developer shall provide the most cost effective method of sanitary sewage disposal utilizing the best available technology to achieve the maximum level of treatment resulting in the most pollution free and environmentally safe discharge standards. The selected method shall conform to both, the existing physical site conditions and the applicable local, state, and federal laws and regulations.
- 3. The installation of all public or community sanitary sewage disposal systems shall be the responsibility of the developer.
- 4. The installation of all on-lot sanitary sewage disposal systems shall be the responsibility of the lot owner. The Township shall require location of a suitable alternate on-lot sewage disposal system on each lot.
- B. Public Sewage Disposal System
- 1. Any building or use within a subdivision or land development that generates wastewater and that in the determination of the Governing Body could reasonably connect into a public sewage disposal system shall be required to connect into that system. The applicant shall be responsible to pay all expenses that are necessary for such connection.
- 2. Where public sewer services are accessible, the developer shall construct a sanitary sewage collection and conveyance system in order to provide adequate sanitary sewer service to each lot or dwelling unit within the subdivision or land development via connection of the newly constructed collection and conveyance system to the existing public sewer system (provided that, said public sewer system has adequate, available capacity.

- 3. The entire system shall be designed in accordance with all applicable standards and specifications established by the federal, state and local governments.
- 4. The applicant shall comply with all procedural permit requirements established by the Pennsylvania Department of Environmental Protection (PA DEP). The applicant shall complete and submit to the Township the necessary components of the PA DEP Planning Module(s) for Land Development.
- 5. If public sewage service is not accessible to an approved subdivision or land development, but is planned to be accessible within five (5) years of final approval, the developer shall install approved capped sewer collection lines within the limits of the subdivision or land development, in addition to approved onlot sewage facilities. Such sewer lines shall be capped at the limits of the subdivision or land development and the laterals serving each lot and/or building shall be capped at the street right-of-way.
- 6. The developer shall warrant any, and all, components of the sewage system for a period of five (5) years from the date of final inspection approval, covering both materials and workmanship. If repairs are required during the warrantee period, the developer will have the option to perform the corrective action or reimburse Alsace Township for corrections done by the Township.
- 7. All plans and reports shall bear the impression seal, and dated signature, of the Registered Professional Engineer responsible for the design of the system.
- C. Private Sewage Disposal Systems (Community or On-Lot)
- 1. Where public sewage services are either unavailable or inaccessible, the developer shall provide a sanitary sewage disposal system on either, an individual on-lot or, community basis in accordance with the standards and provisions established by both, the Township and the Pennsylvania Department of Environmental Protection.
- 2. Permits are required for the design, construction, installation, alteration, replacement, repair and/or extension of any community sewage disposal system or individual on-lot sewage disposal system. All such permits for private sewage disposal systems shall be subject to the approval of both, the Pennsylvania Department of Environmental Protection and the Township Sewage Enforcement Officer (SEO)>
- 3. The permit for a community sewage disposal system or an individual sewage disposal system shall not become effective until the installation is completed to the satisfaction of the SEO.
- 4. The use of an on-lot sewage disposal system will require the submittal of soil percolation test results at the Preliminary Plan stage as required by Section 4-4 of this Ordinance.
- 5. In the case of a community sewage disposal system, the applicant shall provide a proposal for financially securing the operations and maintenance of the subject facility. The time period and the amount shall be as determined by the Township, based upon the recommendations of the Township Engineer, but shall be no less than a period of ten (10) years worth of anticipated maintenance and operations costs. Such security shall be posted by the applicant prior to issuance of the permit and operation or use of the subject facility.
- 6. The use of an on-lot sewage disposal system shall require the location of a suitable alternate sewage disposal system on each lot.
- 7. All plans and reports shall bear the impression seal, and dated signature, of the Registered Professional Engineer responsible for the design of the system.

SECTION 5-7 WATER SUPPLY

A. General Standards

- 1. All subdivisions and land developments shall be served with an adequate water supply system that will meet the standards and requirements of the Pennsylvania Department of Environmental Protection.
- 2. Whenever public water supply is neither, available nor accessible, adequate water supply shall be furnished by the landowner on either an individual on-lot basis or, via a community water supply system.
- 3. All subdivisions or land developments providing public or community water supplies shall be required to provide fire protection as deemed necessary by the Township. All distribution systems for community or public water systems shall be equipped with adequately sized mains and the appurtenances required to provide fire protection.
- 4. Planned residential developments, single family cluster developments, mobile home parks and developments containing multifamily dwelling units, single family semidetached dwelling units or two-family detached dwelling units shall be served by either, a public or a community water system.

B. Public Water Supply

- 1. Any building or use within a subdivision or land development that will require a water supply and that in the determination of the Governing Body could reasonably connect into a public water supply system shall be required to connect into that system. The applicant shall be responsible to pay all expenses that are necessary for such connection.
- 2. Subdivisions and land developments proposed to be served by existing public water supplies shall be provided with water distribution facilities designed in accordance with, both the regulations of the Pennsylvania Department of Environmental Protection (PA DEP) and the standards and specifications of the public water supplier.
- 3. The distribution facilities shall be designed to provide fire protection at a minimum flow rate of 1000 gpm with a minimum residual pressure at 40 psi or, the minimum NFPA standards in effect at the time the subdivision or land development is submitted for review by the Township.
- 4. The developer shall provide the Township with a copy of a letter of intent from the public water supplier prior to Preliminary Plan approval and with a copy of an approved Water Service Agreement prior to Final Plan approval.
- 5. All plans and reports shall bear the impression seal, and dated signature, of the Registered Professional Engineer responsible for the design of the system.

C. Community Water Supply

1. Community water systems shall be developed and maintained so as to meet the established standards and specifications of the Pennsylvania Department of Environmental Protection, the Environmental Protection Agency, the Delaware River Basin Commission and/or the Public Utility Commission (P.U.C.). At a minimum the community water supply shall be designed in accordance with the DEP (Division of Water Supplies) Public Water Supply Manual latest revision. All community water supply systems shall be organized in such a manner as to fall within the jurisdiction of the Pennsylvania Public Water Commission.

- 2. Whenever a community on-site water supply system is proposed, the developer shall engage the services of a hydrogeologist, who shall make a determination as to the feasibility and location of such groundwater withdrawals, the availability of the groundwater supply through geological study and who shall also gauge, through drawn-down testing, the affect that any such groundwater withdrawals will have upon the existing wells of any adjoining properties. The Township shall further determine whether a review and/or approval of the proposed groundwater withdrawals will be required by any of the agencies listed under Section 1 above.
- 3. Wherever a community water supply system is proposed to serve a subdivision or land development, a feasible water supply and distribution system shall be proposed before preliminary approval of the subdivision or land development. Detailed plans, specifications, supply and demand shall be submitted to and approved by the municipal engineer before final approval. A permit for the system must be granted by the PA DEP, and any other agency having jurisdiction over the work, before Final Plan approval can be granted.
- 4. The water source shall be capable of supplying 150 percent of the average daily demand based on 80 gallons per day per person (GPD) and/or 300 (GPD) per dwelling unit, for the design population of the development or the service area.
- 5. In the case of nonresidential developments, the applicant shall demonstrate the adequacy of the proposed water supply to meet the projected demand of the specific project.
- 6. The quality of the source shall conform to the water quality requirements of the PA DEP (Division of Water Supplies) <u>Public Water Supply Manual</u>. Treatment of the water supply shall be done in accordance with requirements set forth in the PA DEP's Public <u>Water Supply Manual</u>.
- 7. All plans and reports shall bear the impression seal, and dated signature, of the Registered Professional Engineer responsible for the design of the system.
- D. On-Lot Water Supply
- 1. When no public water supply is either available or accessible, adequate water supply shall be furnished by the developer on an individual on-lot basis.
- 2. Where on-lot water supply systems are proposed, the developer shall either install such facilities or shall require (by deed restriction or otherwise) as a condition of the sale of each lot or parcel, that the facilities shall be installed by the purchaser of such lot or parcel at the time that a principal building is constructed. A Township Well Permit is required for each new well.
- 3. Each lot to be served by an individual on-lot water supply shall be of a size and shape to permit the safe location for each well. No proposed wells shall be located within one hundred (100) feet of any existing or proposed on-lot sewage disposal system, within fifty (50) feet of the centerline of any street or road, or property line; or within any other limitations as may be set forth in other Township Ordinances.
- 4. The applicant shall provide at least one test well for each ten (10) proposed dwelling units. The yield of each test well shall be no less than ten (10) gallons per minute per dwelling unit. A sample shall be obtained from each test well and tested to ensure that the well is free of bacteriological contaminants; and each shall comply with all PA DEP and US EPA restrictions for minerals and metals. The Township shall be provided with documentation from a licensed well driller verifying the yield of each test well and from a state certified laboratory verifying that the sample(s) constitute potable Water.
- 5. The applicant may be required by the Township, to submit a study prepared by a professional hydrogeologist certifying that the proposed individual wells will be able to supply each lot with a dependable water supply and that the proposed wells will not adversely affect the groundwater table or

existing wells near the project site. The study shall examine the possibility of contamination to the proposed wells due to existing environmental factors.

- 6. The installation of a well to be utilized for an individual on-lot water supply shall be at the location shown on the approved subdivision or land development plan. Any deviation from this location cannot occur without the explicit prior approval of the Township.
- E. Fire Hydrants
- 1. All subdivisions and land developments that are to be serviced by a public or community water supply system shall provide fire hydrants.
- 2. Fire hydrants shall be located no further than six hundred (600) feet apart, as measured along the centerline of each road. All residential dwelling units and non-residential principal buildings shall be located no farther than four hundred (400) feet from any active fire hydrant.
- 3. Fire hydrants shall be located in a manner to provide both, complete accessibility to the hydrant by the Fire Company and such that the possibility of damage to the hydrant from vehicles or injury to pedestrians will be minimized.
- 4. The type and location of all required fire hydrants are subject to the review and approval of the Township, the public water supply company and the regional fire company.
- 5. All subdivisions and land developments which propose six (6) or more lots (without public or community water supplies) shall provide cisterns approved by the Fire Department with a minimum storage capacity of 10,000 gallons. The actual storage capacity will be determined by the Fire Department and other Township authorities as required. Access to the cistern for repair and maintenance shall be guaranteed by easement. Cisterns should be placed to take advantage of any natural conditions which would maintain the necessary water levels. Cistern installation shall be guaranteed via a developer's improvement agreement.

SECTION 5-8 STORMWATER MANAGEMENT

A. The management of stormwater on the site, both during and after completion of the construction activities associated with the proposed subdivision or land development, shall be accomplished in accordance with the standards and criteria of this section. All stormwater management designs, construction activities and post-construction monitoring activities shall comply with all applicable federal and state laws and regulations as well as, the <u>Alsace Township Schuylkill River Watershed Stormwater Management Ordinance (2005-3)</u> (as may be amended from time to time) for water quality and quantity controls.

All plans and reports shall bear the impression seal, and dated signature, of the Registered Professional Engineer responsible for the design of the system.

- B. The developer shall design, construct, install and maintain any, and all, stormwater management structures as necessary to:
- 1. Prevent erosion damage and to satisfactorily control the rate of release and water quality of storm waters, associated with the developer's project, through the use of the various design methodologies, including groundwater recharging via stormwater infiltration, as permitted by this Ordinance, other pertinent Township Ordinances, and applicable state and federal laws, regulations, and guidelines.
- 2. Carry surface water to the nearest adequate street, storm drain, detention basin, natural water-course, drainage facility and/or infiltration facility without causing storm water run-off to flow onto Township roads.

3. Maintain the adequacy of any natural stream channels and protect the natural character of any watercourse. Accelerated stream bank erosion shall be prevented by controlling the rate and velocity of

runoff discharge to these water courses, so as to avoid increasing occurrence of stream bank overflow and to protect down stream properties from flooding.

- 4. To insure adequate drainage of all low points along the line of streets.
- 5. To intercept stormwater runoff along streets at intervals reasonably spaced in relation to the extent and gradient of the area to be drained in order to prevent stormwater from flowing across intersections.
- 6. Control the anticipated peak discharge from the property being subdivided or developed, inclusive of any stormwater runoff contributed from any land located at a higher elevation in the same watershed, to an amount equal to or less than the pre development condition.
- 7. Preserve the adequacy of existing culverts and bridges by suppressing the new flood peaks created by new land development.
- 8. All stormwater detention/retention facilities and erosion and sedimentation control measures shall be in place and functioning prior to any other earth-moving activities.
- C. All storm water management plans and calculations shall include a detailed, site specific narrative which contains at a minimum, the following information:
- 1. A general description of the project.
- 2. A description of any storm drainage problems within, adjacent to or downstream of the project site.
- 3. A description of the overall storm water management system.
- 4. A description of all design assumptions, calculation methods, computer models, etc.
- 5. A summary of the pre-development versus post-development runoff at all points of discharge from the site.
- D. All subdivision and land development activities involving any increase in impervious coverage shall be conducted in conformance with the following performance standards (unless other analysis standards are approved by the Township prior to their use):
- 1. All plans and designs for stormwater management facilities shall be reviewed by the Township Engineer unless specified differently in any other local, state or federal law, ordinance or regulation having specific jurisdiction over stormwater related issues. Plans for facilities-other than storm sewers shall determine storm water peak discharge and runoff by the use of the Soil Cover Complex Method as set forth in Urban Hydrology for Small Watersheds, Technical Release No. 55 with specific attention given, to antecedent moisture conditions, flood routing and peak discharge specifications included therein, and Hydrology National Engineering Handbook Section 4, both by the Soil Conservation Service. The Rational Method, in accordance with the provisions of Section 5-8D6, may be used for the design of detention facilities with drainage areas of twenty-five (25) acres or less.
- 2. After installation of impervious cover, post-construction peak discharges from the site shall not exceed the pre-construction peak discharge rate from a 2-year, 24-hour storm of 3.1 inches of rainfall for all storms up to a 10-year, 24-hour storm of 4.9 inches of rainfall. Peak discharges for any storms of greater than 10- year frequency up to and including a 100-year storm shall not exceed the peak discharges from the site of such storms before development including:

- a. a 25-year, 24-hour storm of 5.5 inches of rainfall,
- b. a 50-year, 24-hour storm of 6.1 inches of rainfall, and
- c. a 100-year, 24-hour storm of 6.9 inches of rainfall.
- 3. In establishing the antecedent conditions while calculating runoff prior to development, the following assumptions shall apply:
- a. Woodland shall be used as the prior condition for those portions of the watershed with trees of greater than six inches DBH, inclusive of any areas or where such trees existed within 18 months of application.
- b. Meadow shall be used for all other areas, including areas which are presently covered by impervious surfaces.
- Average antecedent moisture conditions.
- d. A type II distribution storm.
- 4. Post-development runoff hydrographs shall be routed through the proposed detention and retention basin(s) using storage indication procedures to ensure that the basin discharge does not exceed the allowable discharge. Allowable basin discharge shall be determined by subtracting the flows bypassing the basin from the pre-development runoff flow.
- 5. Where applicable, post-development time of concentration to a detention or retention basin shall be the time of concentration in the storm sewer to its point of discharge into the basin. overland flow from the discharge point to the outlet structure shall not be included in the time of concentration.
- 6. Time of concentration calculations shall be submitted based upon current design methods outlined in SCS Technical Release No. 55, latest edition. The time of concentration flow paths (pre- and post-development) shall be shown on the grading plan, and shall be representative of the drainage area. The pre-development sheet flow length shall be 150 feet, unless a shorter length is justified. The maximum post-development sheet flow length for unpaved surfaces shall be 100 feet for most situations (150 feet for areas which will remain undisturbed). Use of maximum flow lengths shall be justified, and all flow lengths are subject to approval by the Township.
- 7. The Rational Method may be used in lieu of the Soil Cover Complex Method to compute design flows for the sizing of storm sewers, inlets and swales.

The following runoff coefficients shall be used for calculating runoff using the Rational Method:

Runoff Coefficients For The Rational Method * Hydrologic Soil Group And Slope Range

Land Use	<u>A</u> 0-6%	<u>6%+</u>	<u>B</u> 0-6%	<u>6%+</u>	<u>C</u> <u>0-6%</u>	<u>6%+</u>	<u>D</u> 0-6%	<u>6%+</u>
Cultivated	0.25^{a} 0.30^{b}	0.35	0.30	0.40	0.35	0.45	0.40	0.50
Land		0.40	0.35	0.45	0.40	0.50	0.50	0.60
Meadow	0.10	0.13	0.13	0.19	0.16	0.23	0.19	0.26
	0.14	0.16	0.16	0.22	0.20	0.26	0.23	0.30

Forest	0.08 0.11	0.11 0.14	0.11 0.14	0.14 0.18	0.13 0.16	0.16 0.20	0.16 0.20	0.20 0.25
Open area (Lawn) 0.16	0.10 0.20	0.14 0.20	0.15 0.25	0.19 0.25	0.20 0.30	0.24 0.30	0.25 0.35	0.28
Impervious Surfaces	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95

- * Different coefficients may be required by the Township due to local soil conditions
- 8. All applicants shall use the maximum impervious coverage requirements, as defined in the Alsace Township Zoning Ordinance, when designing all stormwater related features for their particular project.
- E. Storm sewers, culverts, bridges and related installations shall be provided:
- 1. To permit unimpeded flow of natural watercourses. Such flow may be redirected as required, subject to the approval of the PA DEP.
- 2. To insure adequate drainage of all low points along the line of streets.
- 3. To intercept stormwater runoff along streets at intervals reasonably spaced in relation to the extent and gradient of the area to be drained, in order to prevent both, stormwater from flowing across intersections and, the flooding of intersections during stormwater events.
- 4. To insure adequate and unimpeded flow of storm water under driveways in, near or across both, natural watercourses and, man-made drainage swales. Suitable pipes or other waterway openings shall be provided as required by the Township.
- F. Design of storm sewers and related installations:
- 1. Storm sewers within the street right-of-way, as required, shall be placed outside of the street cartway when parallel to the street. When located in undedicated land, they shall be placed within an easement, of not less than twenty (20) feet in width, as approved by the Township Engineer.

Properly designed, graded and turfed drainage swales shall be permitted in lieu of storm sewers, where approved by the Township Engineer. Swales shall be located within an easement of sufficient width to allow access for maintenance but, in no instances shall the easement width be less than twenty (20) feet.

Such swales shall be designed not only to carry the required discharge without excessive erosion, but also to increase the time of concentration, reduce the peak discharge and velocity and permit, wherever possible the water to percolate into the soil. The minimum gradient of any swale shall be one percent (1%) and all swales shall be designed with a minimum of six (6) inches of freeboard.

For grassed swales, the designs shall meet the following standards:

- a. Maximum capacity 10 cfs.*
- b. Maximum velocity 4 fps.*
- c. Minimum velocity 2 fps.
- d. Maximum slope 5%.
- e. Maximum sideslope 3:1.

- * Erosion resistant swale linings approved by the Township shall be required whenever velocities exceed 4 fps.
- * Whenever capacities exceed 10 cfs and slopes exceed 5%, storm sewer pipes shall be used to convey the resultant stormwater.
- 2. Storm sewer piping shall be installed in accordance with the following requirements:
- a. All storm sewer piping shall be constructed per PA DOT Form 408 Specifications and Design Manual, Part 2, Highway Design and Standards for Roadway Construction, as may be amended or replaced it its entirety from time to time by PA DOT, unless otherwise directed by the Township.
- b. Storm sewer pipes shall have a minimum diameter of eighteen (18) inches and shall be installed within a minimum pipe slope of one-half (1/2 %) percent.
- c. Reinforced concrete and corrugated polyethylene pipe are generally acceptable for all storm sewer construction. All headwalls and end sections must be constructed using reinforced concrete. Any and all pipe materials shall be subject to approval by the Township.
- d. All storm sewer pipe within street cartways or other paved areas shall be bedded and backfilled with 2RC stone placed in six (6) inch lifts and compacted to the satisfaction of the Township.
- e. In all instances, the Township reserves the right to require watertight piping connections.
- 3. Storm sewers shall be designed based upon the following criteria:
- a. Any changes in alignment shall be accomplished utilizing straight sections connected by inlets or manholes.
- b. Whenever there is a change in pipe size through a structure, the top inside elevation of the outlet pipe shall either be set at, or below the elevations of all incoming pipes.
- c. Storm sewer sizes shall be determined based upon the following design storm frequencies:
- 1) ten (10) years in all residential subdivisions or land developments with an average gross density of less than six (6) units per acre, and
- 2) twenty-five (25) years in all other subdivisions or land developments, unless otherwise specified by the Township.
- d. Storm sewer design shall be based upon PA DOT design methods. Inlet efficiency and bypass flow shall be determined for all inlets, and the gutter flow spread shall not exceed one-half (1/2) the travel lane width.
- e. Storm sewers and culverts shall be evaluated for inlet and outlet control restrictions.
- f. Rainfall intensity curves and other hydraulic design data, as provided by the manufacturers of the various storm drainage structures shall be used for design purposes.
- 4. Inlets shall conform to both, PA DOT standards and the following guidelines, as well:
- a. Inlets shall generally be located at the lowest point of street intersections to intercept the storm water before it reaches pedestrian crossings or at sag points of vertical curves in the street alignment which provides a natural point of ponding of surface storm water.

- b. At street intersections, inlets shall be placed in the tangent and not the curved portion of the curbing.
- Whenever the Township deems it necessary due to unique land requirements, special inlets shall be used.
- d. The interval between inlets serving stormwater runoff flow along the curb shall not exceed a maximum of 1,000 feet when located along any one continuous curb line. More frequent spacing shall be required when the entrance capacity of any individual inlet warrants closer spacing as determined by calculations which incorporate consideration of the area to be drained, intensity of rainfall, slope or grade, runoff coefficient of imperviousness and cross-sectional area of the gutter.
- e. When inlets are used in a storm system within the right-of-way limits of a street in lieu of manholes, the spacing of such inlets shall not exceed the maximum distance of 300 feet along any one continuous line.
- 5. Manholes shall be installed in accordance with the following requirements:
- a. The locations of manholes, as constructed, shall be as indicated on the subdivision drainage plan as approved by the Township, unless an alternate location has been approved by the Township.
- b. Manholes shall be located within a storm sewer system at all abrupt changes of grade, at all locations where a transition in storm sewer pipe sizing is required, at all angle points and at all points of convergence of two or more influent storm sewer mains.
- c. Manholes shall not be more than three hundred feet (300') apart on storm sewer pipelines which are up to twenty-four inches (24") in diameter and not more than four hundred and fifty feet (450') apart on any larger sizes. Catch basins and/or junction boxes may be substituted for manholes with the approval of the Township.
- 6. Headwalls shall be required at the inlet end and endwalls shall be required at the terminal end of all storm water conveyance pipes.
- a. Generally, headwalls, endwalls and wing walks shall be built of 3000 psi concrete, except in special cases where 3500 psi may be required by the Township. Special care shall be used by the design engineer to select the proper structure to fit site conditions.
- b. Energy dissipaters shall be required at endwalls whenever the discharge velocity (with pipe flowing full) is more than one (1) foot per second (fps).
- 7. Storm water roof drains shall discharge into on-lot infiltration devices wherever possible and shall not discharge water directly over a sidewalk or into any sanitary sewer line.
- G. Bridges and culverts shall have ample waterway openings to carry expected flows, based on a minimum storm frequency of 50 years. Bridge and/or culvert construction shall be in accordance with the PA DOT specifications and shall meet the requirements of the PA DEP.
- 1. Culverts shall be provided with wing walls and shall be constructed for the full width of the right-of-way. The cartway area over the bridge shall be 24 inches wider, on either side, than the road connecting with the bridge, or if the character of the road is expected to change for future planning, the cartway of the bridge shall be made to anticipate this condition. On either side of the bridge cartway, the bridge railing must be set back from the edge of the final cartway and this area may be used for the placement of sidewalks.

- H. All existing data related to the one hundred (100) year floodplain shall be delineated on all plans. The floodplain delineation's shall be based upon the following criteria:
- 1. Where available, the floodplain shall be depicted upon the plans, as mapped by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (NFIP).
- 2. If the drainage course has not been mapped by FEMA, the horizontal and vertical limits of the floodplain shall be determined by the Standard Step Method (i.e., HEC-2 or similar approved computer
- model). If the HEC-2 model is used, the applicant shall submit a compact disc containing all input files which were used for the HEC-2 calculations.
- 3. Where allowed by the Township, the Manning Equation may be used for relatively small drainage areas.
- 4. An average of three (3) of the methods below may be used to compute the design flow(s) upon prior approval by the Township:
- a. The graphical and tabular hydrograph methods in Technical Release No. 55, "Urban Hydrology for Small Watershed", latest edition, by the United States Department of Agriculture Soil Conservation Service. The graphical method may be used for streams whose drainage area at the point of interest is no larger than 2,000 acres, and the tabular hydrograph method may be used for drainage areas up to twenty (20) square miles.
- b. The Rational Method may be used for streams whose drainage area at the point of interest is no larger than 320 acres.
- c. The method in Water Protection Bulletin Number 13, <u>Floods in Pennsylvania</u>, issued by the Pennsylvania Department of Environmental Protection, may be used for streams whose drainage area at the point of interest is larger than two (2) square miles.
- d. The Procedure PSU-IV for Estimating Design Flood Peaks on Ungaged Pennsylvania Watersheds".
- e. The Penn State Runoff Model.
- f. The requirements of the Alsace Township Schuylkill River Watershed Stormwater Management Ordinance (2005-3), as may be amended from time to time, shall be followed where applicable by any, and all, applicants and their design engineers. In any instances where there is a conflict between the requirements of this Ordinance and the Alsace Township Schuylkill River Watershed Stormwater Management Ordinance (2005-3), the requirements of the Alsace Township Schuylkill River Watershed Storm Water Management Ordinance shall take precedence.
- I. Detention or retention basins for the control of stormwater peak discharges shall meet the following requirements:
- 1. Basins shall be installed prior to any earth-moving or land disturbances which they will serve. The phasing of their construction shall be noted in both the narrative and upon the plan.
- 2. Whenever a basin will be located in an area underlain by limestone, a geological evaluation of the proposed location will be conducted to determine susceptibility to sinkhole formations. The design of all facilities over limestone formations shall include measures to prevent groundwater contamination and, where necessary, sinkhole formation. Soils used for the construction of basins shall have low erodibility factors ("K" factors). The Township may require an impermeable liner to be installed up to the 100-year storm design water surface elevation.

- 3. Energy dissipaters and/or level spreaders shall be installed at points where pipes or drainageways discharge to or from basins. Generally, outlet pipes designed to carry the pre-development, 2 year storm flow will be permitted to discharge to a stream using an energy dissipater. Storms of a 10 year or greater intensity shall be spread across the floodplain by properly designed and constructed level spreaders.
- 4. The following slope restrictions shall apply to basins:
- a. Exterior slopes of compacted soil shall not exceed one (1) foot vertical for three (3) feet horizontal, and the slope shall be further reduced if the soil has unstable characteristics.
- b. Interior slopes of the basin shall not exceed one (1) foot vertical for every three (3) feet horizontal except with approval of the Township.
- 1) Where maximum water depth will not exceed 3 feet; or
- 2) When a two (2) inch rainfall in one (1) hour will not fill the basin in one (1) hour; or
- 3) Where concrete, stone or brick walls are used with side slopes proposed to be steeper than one (1) foot vertical for every three (3) feet horizontal, in all instances, stormwater detention basins shall be contained within a permanent wire fence of no less than 48 inches in height. Furthermore, a ramp of durable, non-slip materials, for use by maintenance vehicles to drive into the basin, shall be provided for access into the basin.
- c. Where applicable, the requirements of the <u>Alsace Township Schuylkill River Watershed Stormwater Management Ordinance (2005-3)</u>, as may be amended from time to time shall be followed by any, and all, applicants and their design engineers. In any instances where there is a conflict between the requirements of this Ordinance and the <u>Alsace Township Schuylkill River Watershed Stormwater Management Ordinance (2005-3)</u>, the requirements of the latter Ordinance shall take precedence
- 5. Detention and retention basins shall also be designed to meet the following requirements:
- a. The minimum top of berm width shall be eight (8) feet.
- b. Outlet pipes shall have a minimum diameter of eighteen inches (18") with a concrete endwall. For single stage primary outlet structures, orifice plates shall be a three-eighths (3/8) inch thick steel plate, secured with four (4) one-half (1/2) inch expanding anchors. For multiple stage outlet structures, PA DOT 2x4 precast inlet boxes shall be utilized. For pipe lengths exceeding one hundred feet (100') the minimum diameter shall be twenty-one inches (21").
- c. Properly spaced anti-seep collars shall be installed on all basin outlet pipes. Design calculations shall be provided.
- d. All basins shall be constructed with a compacted, relatively impervious (Unified Soil Classification CL-ML or ML) key trench and core. The key trench shall extend at least two feet (2') into undisturbed subsoil (below topsoil layer). The minimum bottom width of the trench shall be six feet (6') and the minimum top width of the core shall be four feet (4'). The side slopes of the compacted core and trench shall not exceed one (1) horizontal foot to one (1) vertical foot, and the top elevation of the core shall be set at or above the 25-year storm design water elevation.
- 6. Outlet structures within basins which will control peak discharge flows and distribute the flows by pipes to discharge areas shall be constructed of reinforced concrete, and shall have childproof, non-clogging trash racks over all design openings exceeding 8 inches in diameter, except those openings designed to carry perennial stream flows. Emergency spillways shall be designed to safely convey the 100-year storm basin inflow hydrograph through the basin assuming the principal outlet is completely blocked, and a

minimum six inch (6") freeboard shall be provided. The spillway shall be lined with suitable erosion resistant material, as approved by the Township.

- 7. Inlet and outlet structures shall be located as far from one another as possible. The Township may require a rock filter berm or rock-filled gabbions between inlet and outlet areas when the distance is deemed insufficient for sediment trappings.
- 8. Permanent grasses, or other suitable stabilization measures as may be approved by the Township, shall be established on the sides of all earthen basins by hydroseeding The Township may also require erosion control matting to be installed inside the basin and upon the basin embankment.
- 9. If the basin will not discharge to a suitable natural drainage course, the developer shall provide facilities to safely and efficiently convey the discharge to a suitable drainage course. Securing of necessary drainage easements for this purpose shall be the sole responsibility of the Developer.
- When PA DEP requires facilities to have a State permit, the Developer shall submit all information to PA DEP and obtain all necessary approvals and permits. In no instances, shall a stormwater facility create health or sanitation problems. Consideration shall be given to safety standards by the Developer.
- 11. All detention facilities (public or private, except for a facility installed for the sole purpose of serving a single family dwelling) shall be surrounded by a galvanized chain link fence of a minimum height of four (4) feet with a suitable vehicular access gate for maintenance purposes. All fence posts shall have a minimum embedment, in concrete, of three (3) feet.
- J. All calculations shall be submitted to the Township Engineer on computation sheets for approval. If, in the opinion of the Township Engineer, the size of any pipes or detention pond is insufficient, the Township may require the developer to increase the size of pipes or the capacity of the detention pond. If the storm drainage system design is completed using a computer program, sufficient supporting data shall be provided to allow comprehensive review by Township officials.
- K. Intercepting underdrains shall be required at all locations where subsurface water is encountered which may permeate or endanger the subgrade of the street. Underdrains shall be required in road cuts of three (3) feet deep and greater, and in all other locations stipulated by the Township Engineer. Underdrains shall be parallel to the established street grade to outlet in approved drainage structures. Underdrains shall consist of a trench excavated to a minimum depth of twenty-four (24) inches below the street's subgrade and to the minimum width of eighteen (18) inches in which a six (6) inch diameter perforated pipe underdrain shall be laid. The trench shall be backfilled with AASHTO #57 Aggregate, or its equivalent, to its full depth around and above the laid pipe.
- 1. If the length of pipe underdrain exceeds 600 feet in one run, the minimum diameter of six (6) inches shall be increased to eight (8) inches beyond that point. Any, and all such underdrain pipe shall meet PA DOT Specifications.

L. Drainage Easements

- 1. Within all subdivisions in which off street storm or sanitary sewers are to be constructed, or are anticipated for future construction, a twenty (20) foot wide maintenance easement shall be provided for any, and all, such sewers as shown in the subdivision plans which are submitted to the Township for their approval. Existing watercourses which are located within the subdivision shall require an easement which shall follow the path of said watercourse and, which shall be of sufficient width to adequately contain the 100 year floodplain which is associated with said watercourse.
- 2. The Developer shall be responsible for the control of surface water from his property to a point of natural disposal. Downstream easements may be required, as well as the construction of both, onsite and

offsite improvements necessary to control runoff and prevent property damage. Whenever practical, the maintenance easement shall be parallel with and conjunctive to property lines of the subdivision.

- M. All streets shall be designed to provide for the positive drainage and discharge of surface water from their rights-of-way.
- N. The slope of the crown on proposed streets shall not be less than one eighth (1/8") per foot and not more than one third of an inch (1/3") per foot.
- O. Maintenance and repair of detention basins, drainage facilities, or other stormwater controls shall be the sole responsibility of either the property owner(s) upon whose lot said facilities are located or, a duly formed and adequately funded homeowners association. There shall be clearly worded language indicating the parties responsible for said perpetual maintenance placed in the deed(s) of the affected property (ies) and shall be indicated on the approved plans. Persons installing detention basins, drainage facilities, or stormwater controls shall be required to pay a specified amount to the Township to execute an Operations and Maintenance Agreement with Township including the posting of funds with the Township to defray the costs of periodic inspections and maintenance and repair expenses in the event that, the Township has to assume responsibility for same.
- 1. The amount of the financial security to be posted with the township shall be determined as follows:
- a. If the detention basin, drainage facility, or stormwater control is to be privately owned and maintained, the deposit shall cover the cost of periodic inspections and any necessary repairs and maintenance performed by the Township for a minimum period of twenty-five (25) years, as estimated by the Township Engineer, and subject to approval of the Township Board of Supervisors.
- b. If the detention basin, drainage facility, or stormwater control is to be owned and maintained by the Township, the deposit shall cover the estimated cost for maintenance, repairs and inspections for a minimum period of fifteen (15) years, as estimated by the Township Engineer, and subject to the approval of the Township Board of Supervisors.
- c. Prior to Final Plan approval, the property owner(s) shall sign an Agreement with the Township setting forth all necessary maintenance standards and other items determined by the Township to be necessary to guarantee the satisfactory maintenance of all facilities. The Maintenance Agreement shall be subject to review and approval of the Township Solicitor and Board of Supervisors and a formally executed copy of the Agreement shall be recorded.
- 2. If at some future time the detention basin, drainage facilities or stormwater control (whether publicly or privately owned) is eliminated due to the installation of storm sewers or other storage facility, the unused portion of the maintenance deposit will be allied to the cost of abandoning the facility and connecting to the storm sewer system or other facility.
- 3. Any duly authorized agent or representative of the Township may enter at reasonable times upon any property within the Township which contains stormwater management controls, to inspect the condition of said stormwater controls.
- 4. The Township may perform necessary maintenance and repairs to detention basins, drainage facilities, or other stormwater controls if the owner(s) fails to do so. The Township shall have the right to recover the cost of such necessary maintenance and repairs from the property owner. Said costs shall constitute a charge and lien against the property affected and may be collected in the same manner as other municipal liens. Such lien shall continue in full force and effect until the amount thereof, together with interest at the rate of six percent (6%) per annum, is paid in full.

SECTION 5-9 EROSION AND SEDIMENTATION POLLUTION CONTROL

- A. Land proposed for subdivision 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 sedimentation pollution are provided for by the Developer.
- B. Prior to commencement of any of the above mentioned activities the developer must obtain a Letter of Adequacy from the Berks County Conservation District for the Erosion and Sedimentation Pollution Control Plan.
- C. The plan for erosion and sedimentation control shall be designed in accordance with all provisions of both, PA Act 102 and the "Erosion and Sediment Pollution Control Program Manual" published by PA DEP, Bureau of Soil and Water Conservation.
- D. Where state or federal law requires additional permits or approvals for erosion and sedimentation control, those permits or approvals shall be obtained prior to commencement of any earth disturbance activities.
- E. Installation of the erosion and sedimentation control facilities specified by the plan shall be considered as a required improvement by the Township and, such controls shall be installed prior to any earthwork activity commencing on the project.

SECTION 5-10 WETLANDS

A. The US Army Corps of Engineers in conjunction with the United States Environmental Protection Agency have defined the term "wetlands" as follows:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

The three major characteristics of wetlands include hydrophytic vegetation, hydric soil, and wetlands hydrology.

- B. All land designated as "wetlands" within Alsace Township are subject to both, state and federal laws, as well as the regulations promulgated by the Pennsylvania Department of Environmental Protection and United States Army Corps of Engineers.
- C. For all subdivision and land development applications involving hydric soils, streams, floodplains, or other areas where a 'wetland' may exist, the applicant shall have a qualified professional perform a presence / absence determination the result of which shall be noted on the plans. If 'wetlands' are determined to be present, a complete delineation shall be performed, and the following certification, signed and dated by the professional(s) who performed the delineation shall be added to the plan:

"I do hereby certify, to the best of my knowledge and belief, that the wetland(s), as depicted on this plan represent the true and correct limit and extent of wetland(s) that are present on the subject property as of the date of the delineation and were delineated in a manner that is currently accepted by all applicable federal and state agencies having jurisdiction in this matter."

Wetland delineation's shall be accompanied by a technical report containing both, data forms and the credentials of the person or persons performing the delineation.

D. Within all subdivisions, a buffer zone shall be applied to all areas delineated as wetlands. Within

this buffer no removal of existing, natural vegetation or installation of sewage disposal systems will be permitted. The minimum width of the buffer zone shall be fifty (50) feet.

E. If the applicant disputes any provision specified under this Section, the applicant shall be responsible for applying to the U.S. Army Corps of Engineers for a Jurisdictional Determination. All pertinent costs incurred shall be the responsibility of the applicant and not the Township.

SECTION 5-11 SOLID WASTE MANAGEMENT

- A. To insure incorporation of adequate provision for solid waste management practices in the design of land developments and subdivisions, the following minimum requirements shall be depicted upon all land development and subdivision plans where deemed necessary by the Township.
- 1. The location, size, and type of bulk storage containers shall be shown and said containers shall be adequately sized to contain all wastes generated between collections.
- 2. All bulk containers shall be located to permit efficient use of collection equipment and to permit maneuverability of such equipment.
- 3. All bulk storage containers shall be appropriately screened from view.
- 4. A statement of the method and frequency of refuse collection to be used shall be included on the plan.
- B. Where no bulk storage is proposed and individual households are expected to individually establish appropriate collection service, a statement shall be placed upon the plan clearly stating that, "Solid waste storage and collection is an individual household responsibility".
- C. In a subdivision or land development located in an area presently served by municipal collection or municipal contract collection system, and for which no bulk storage methods are proposed, a statement indicating the availability of an existing solid waste collection system shall be placed upon the plan in lieu of information required in Section 5-11A or Section 5-11B of this ordinance.

ARTICLE 6 - IMPROVEMENT SPECIFICATIONS

SECTION 6-1 GENERAL REQUIREMENT

- A. Physical improvements to the property being subdivided shall be provided, constructed and installed by the Developer as shown upon the duly approved Final Plans and in accordance with the requirements of the Township.
- B. As a condition of approval of a Final Plan by the Township Board of Supervisors, the Developer shall enter into a Development Agreement, which shall guarantee that the improvements shown on the Plan and required by these regulations Shall be properly installed by the Developer. The Development Agreement shall conform to the requirement of Article VII Improvements Guarantees.
- C. All improvements installed by the developer shall be constructed in accordance with the current PA DOT standard and the construction standards of the Township. Where required, the specifications of other applicable State agencies shall be used.

SECTION 6-2 GENERAL PROCEDURES

- A. The Township Board of Supervisors, or the Board's duly assigned representative, shall be notified prior to the start of any construction and/or excavation, including removal of topsoil, or the performance of any work within any street, right-of-way, utility easement, storm drainage easement, and waterway located within any approved subdivision or land development in Alsace Township.
- B. A preconstruction conference shall be required for all subdivision and land developments where there is a Development Agreement covering improvements costs, or for any other construction or earthmoving activities when deemed necessary by the Township. The developer or his representative and the contractor or contractors who will perform the work shall attend said preconstruction conference along with the Township Engineer and/or other Township representatives.
- C. Proof of all required permits, certifications and approvals shall be provided at the preconstruction meeting as well as compliance with the utility notification requirement of Act No. 172/287. Construction shall not commence until all permits and approvals are obtained.
- D. Work being performed on any and all existing public highways, streets, rights-of-way and easements, shall require a Highway Occupancy Permit from the proper authority, inclusive of all required safety protection, including flag persons, signage, barricades, flashing warning devices and other required devices. All safety protection methods and devices and procedures shall be in accordance with both PA Dot's and the FHWA's Work Zone Traffic Control requirements. Any, and all such controls shall be furnished and maintained solely by the applicant.

E. Inspections Required

- 1. Inspections by the Township shall be performed by the Township to guarantee the proper procedures and methods of installation of all approved improvements. The cost of all inspections shall be the responsibility of the developer/owner.
- 2. Inspections shall be required prior to starting construction, during the installation of materials and structures, and upon completion of all improvements. All improvements shall be installed in accordance with both all required regulations and specifications and the approved final plans.
- 3. Any and all unsatisfactory work, faulty procedures and methods, and defective materials that have been installed shall be rejected by the Township and noted for the record on the inspection report, and said faulty work shall be corrected before final acceptance of the required improvements is given by the Township.
- 4. The placement of all improvements shall be in accordance with the survey controls set by a Professional Land Surveyor, to ensure installation of improvements at the proper location, elevation, alignment and profile.
- 5. Scheduling of required inspections shall be the responsibility of the Developer, or his contractor and shall be in accordance with the procedures described at the preconstruction conference.

SECTION 6-3 REQUIRED IMPROVEMENTS

The following improvements, as shown on the approved plans, shall be provided by the developer:

A. Streets

1. In General. The construction of streets in Alsace Township shall be done in conformity with the specifications, regulations and provisions set forth in this Ordinance, in PA DOT's current specifications,

and pursuant to the Townships' Road and Street Ordinance (as may be amended from time to time by the Township).

- 2. Street Grading. All streets shall be graded to their full right-of-way width, unless otherwise specified by the Township.
- 3. Cartway Paving. All streets shall be paved to full cartway width (as shown on the Final Plan), in accordance with Township requirements.
- 4. Existing Streets. Improvements to existing Township roads shall be made when deemed necessary by the Board of Supervisors for safety, drainage or other purposes. These improvements may include, but are not limited to, clearing and grading of right-of-way, shoulder construction, installation of drainage facilities, road widening, resurfacing, reconstruction and sealing.
- B. Curbs
- 1. Curbs, if required by the Township, shall be installed along both sides of all streets.
- 2. Curbs shall be the standard straight (vertical) type having, at least, eight (8) inches of curb reveal after the final wearing course of paving has been applied.
- 3. Standard straight curb (machine slip form) shall be a minimum eighteen inch (18") structure height, installed on a minimum 4-inch layer of (AASHTA #57) crushed aggregate stone bed. Expansion joints shall be installed every 60 feet, at every drainage structure, ten feet (10 feet) away from each side of a structure, and at the end of a day's work. Contraction joints shall be saw cut every ten feet (10 feet), a minimum of 2 inches in depth. Concrete having a minimum 3,000 psi compressive strength shall be used to construct said curbs.
- 4. Standard straight curb (type hand form) shall be a minimum eighteen inch (18") structure height and as a minimum installed on compacted subgrade. Expansion joints shall be installed every ten feet (10 feet), at structures, ten feet (10 feet) away from each side of a structure, and at the end of a day's work. Concrete having a minimum 3,000 psi compressive strength shall be used to construct said curbs.
- 5. A depressed curb for driveway entrances is permitted rather than a horizontal radius. The curb shall be depressed by rounding the edge from the top of the curb to a lip two (2) inches above the gutter line. The bottom line of the curb shall be maintained.
- 6. Where curbs are not required, a graded and stabilized shoulder of at least ten (10) feet in width shall be required on both sides of the street. The stabilized shoulder shall be designed and constructed in accordance with the Township Road and Street Ordinance, as amended.
- 7. All areas adjacent to curbs shall be sealed with a product which meets current PA DOT standards.
- 8. Rain leader sleeves shall be installed where necessary
- C. Sidewalk
- 1. Sidewalks, if required by the Township, shall be installed along both sides of all streets.
- 2. Wherever sidewalks are required, curbs shall also be required, in accordance with the specifications of Section 6-3B of this Ordinance.
- 3. Sidewalk shall be 4 feet wide, 4 inches thick and placed upon a minimum 4 inch layer of (#2B) crushed aggregate stone bedding. Expansion joints shall be installed every 20 feet with contraction joints cut every 4 feet a minimum of one (1) inch in depth. Additional expansion materials shall be placed

between any curb and driveway aprons and in the sidewalk at the driveway limits.

4. Driveways over sidewalks shall be at least six inches (6 inches) thick and welded wire fabric, 6" x 6" by 10 gauges, shall be installed in all driveway apron/sidewalk areas. Concrete having a minimum 3,500 psi compressive strength shall be used to construct all sidewalks. The sloped portion of the driveway on all new construction shall terminate at the closest edge of sidewalk and at the two (2) inch curb lip above the gutter line.

D. Storm Sewers

Storm sewers and related facilities shall be installed consistent with acceptable design principles and the requirements contained in Section 5-8 of this Ordinance.

E. Sanitary Sewage Disposal

- 1. Sanitary sewage disposal systems shall be provided consistent with the design standards and requirements contained in Section 5-6 of this Ordinance.
- 2. Whenever a developer proposes that individual on-site sanitary sewage disposal systems shall be utilized within a subdivision, the developer shall either install such facilities or shall require (by deed restriction or otherwise), as a condition of the sale of each lot or parcel within the subdivision, that such facilities shall be installed by the purchaser of such lot or parcel at the time that a principal building is constructed and in accordance with these regulations.
- 3. In all other cases, the developer shall provide a complete community or public sanitary sewage disposal system. The design and installation shall be subject to the approval of the Township Engineer. The design and installation of any such community sewage disposal system shall be subject to the approval of the Pennsylvania Department of Environmental Protection and shall be further subject to satisfactory provision for the maintenance thereof.

F. Water Supply

- 1. Water supply system(s) shall be provided consistent with the standards and requirements contained in Section 5-7 of this Ordinance.
- 2. Whenever the developer proposes that on-site water supply systems shall be utilized within the subdivision, the developer shall either install such facilities or shall require (by deed restriction or otherwise), as a condition of the sale of each lot or parcel within the subdivision, that the facilities shall be installed by the purchaser of such lot or parcel at the time that a principal building is constructed, and in accordance with these regulations.
- 3. Wherever economically feasible, the subdivision shall be provided with a complete public or community water distribution system. The design and installation of such public system shall be subject to the approval of the engineer of the appropriate water utility company and/or the Township Engineer; furthermore, the design and installation of such community distribution system shall be subject to the approval of the Pennsylvania Department of Environmental Protection and shall be further subject to satisfactory provision of the maintenance thereof.
- G. Fire Hydrants. All subdivisions and land developments that will be served by either a public or, community water system shall be provided with fire hydrants having appropriate water pressure and, being located such that all dwelling units and principal buildings are within 400 feet of an active fire hydrant. Final locations for the fire hydrants shall be determined by the Fire Marshal or other qualified professional as may be designated by the Township.

H. Monuments

- 1. Permanent, concrete reference monuments shall be located along street right-of-way lines at the following locations:
- a. At least one (1) monument at each street intersection;
- b. At changes in direction of street lines, excluding arcs at intersections;
- c. At each end of each curved street line, excluding arcs at intersections;
- d. An intermediate monument wherever topographical or other conditions make it impossible to sight between any two (2) monuments as named above.
- e. At such other places along the line of streets as may be determined by the Township Engineer.
- 2. With the approval of the Township Engineer the developer may install monuments on only one side of the street provided that enough monuments are set to permit a surveyor to accurately stakeout any building lot shown on the plan.
- 3. For all subdivisions of five (5) lots or less, at least two (2) monuments shall be required. For all subdivisions greater than five (5) lots an additional monument shall be required for each two (2) additional lots.
- 4. All monuments shall be made of concrete with a steel reinforcing bar and, all such monuments shall be placed by a Professional Land Surveyor so that the center of the monument shall coincide exactly with the point of intersection of the lines being monumented.
- 5. All monuments shall be placed so that the top of the monument is flush with the surrounding grade.
- I. Lot Pins. All lot corners shall be permanently monumented by the placement of a "steel pin". The "steel pin" shall be at least three quarters of an inch (3/4") steel diameter re-bar with a minimum length of 24 inches,(24") set in the ground with the top of the "steel pin" set flush with the existing grade. Lot pins shall be placed prior to Final Plan approval, unless an appropriate escrow amount is established and set aside with the Township.
- J. Signs. Street name signs shall be installed at all street intersections. Other traffic control and advisory signs may also be required by the Township. The design and placement of such signs shall be subject to approval by the Township. The Developer shall bear all costs associated with the placement of any such signs.

K. Street Lights:

- 1. Street lights shall be placed along streets within and abutting a proposed subdivision or land development where the Township deems them necessary to provide safe traffic or pedestrian circulation. When required, street lights shall be provided, at a minimum, at all street intersections, curves in the streets and in the more isolated areas of a development.
- 2. Street lights shall meet the design standards established by the public utility. The location and number of street lights shall meet the approval of both the Township and the public utility.

L. Shade Trees

1. Shade trees shall be planted by the developer, outside the street right-of-way and not closer than twenty-five (25) feet from the street pavement edge nor closer than fifteen (15) feet from the sidewalk pavement edge, where sidewalks are present, in no event shall trees be planted closer than five (5) feet to

the street right-of-way line. Trees shall be spaced not less than forty (40) feet nor more than sixty (60) feet apart, staggered along both sides of all streets. These shade trees shall conform to all of the following:

- a. two (2) inch or greater caliper measured six (6) inches above the root flair,
- b. eight (8) feet or greater in total height above finish grade,
- c. clear trunk height of at least five (5) feet,
- d. a single straight trunk of at least seven (7) feet,
- e. when planted, the top of the root ball will be slightly above finish grade,
- f. a list of the tree species which are proposed for the development shall be filed with the Township for review. Upon approval of the Township, the submitted tree species shall be planted in the development, at the expense of the Developer.

M. Utilities and Utility Easements

- 1. All utilities including, but not limited to electric, gas, cable television, and telephone shall be placed underground. Installation of all utilities shall be in strict accordance with the engineering standards and specifications of the public utility concerned.
- 2. In accordance with the provisions of Act 287 of 1974, as amended by Act 187 of 1996, all developers, contractors, etc., shall contact all applicable agencies and accurately determine locations and depth of all underground utilities within the lot boundaries prior to excavation.
- 3. An easement ten (10) feet in width shall be provided abutting all side and rear property lines of all lots in a subdivision that abut another lot in the subdivision. An easement twenty (20) feet in width shall be provided abutting all side and rear property lines of all lots in a subdivision that do not abut another lot in the subdivision. Such easements shall be provided for wires, conduits, storm and sanitary sewers, gas and water mains, and other utilities.
- 4. There shall be a minimum distance of fifty (50) feet, measured at the closest point, between any proposed dwelling unit and any petroleum products or natural gas transmission right of way which abuts and/or traverses the subdivision or land development.

ARTICLE 7 - MOBILE HOME PARKS

SECTION 7-1 GENERAL REQUIREMENTS

All mobile home parks shall comply with the plan requirements, design standards, and improvement specifications of this Ordinance and the applicable provisions of the Alsace Township Zoning Ordinance, as amended.

SECTION 7-2 STREET LAYOUT AND CONSTRUCTION

- A. There shall be at least (1) one street in the mobile home park which is circumferential and from which lesser streets shall radiate, in a regular and logical pattern, so as to provide direct access to each lot and to each common space area within the tract.
- B. Cul-de-sacs shall not exceed 600 feet in length and shall terminate in a turnaround having a (50)

fifty foot radius to the outer edge of the cartway.

- C. There shall be at least (2) two entrances from a public street into the mobile home park. Additional entrances may be required by the Township, if traffic conditions would warrant them.
- D. All streets shall be designed to meet the requirements of this Ordinance.
- E. All streets shall be constructed in accordance with Township specifications.
- F. Every mobile home lot shall abut and have access to an approved street.

SECTION 7-3 ENTRANCE TO MOBILE HOME PARK

- A. The main mobile home park entrance shall conform to the standards of the Pennsylvania Department of Transportation (PA DOT) whenever such entrance intersects with a state road. A PA DOT Highway Occupancy Permit shall be obtained in such cases. When the entrance intersects with a Township road, the entrance's design shall conform to the specifications of the Township.
- B. The entrance shall take into account the traffic on the public street and the traffic that will be generated by the mobile home park residents. Acceleration and deceleration lanes and two-lane entrances and two-lane exits may be required by the Township, dependent upon site and traffic conditions.

SECTION 7-4 PARKING STANDARDS

- A. Off-street parking areas shall be provided in all mobile home parks for the use of park residents and guests.
- B. Each mobile home lot within a mobile home park shall contain at least two (2) off-street parking spaces. No on-street parking shall be permitted within the park.
- C. Off-street common parking areas shall also be provided in addition to the required two (2) parking spaces per each mobile home lot. Such off-street common parking area shall be located as to provide convenient access to the mobile homes, but shall not exceed a distance of two hundred (200) feet from the mobile homes that it is intended to serve.
- D. Additional parking spaces for vehicles of non-residents shall be provided as off-street common parking at the minimum rate of one (1) space for each mobile home lot.
- E. Design and construction of off-street common parking areas shall comply with the design standards and specifications of this Ordinance.

SECTION 7-5 STORMWATER MANAGEMENT

Stormwater management shall be in accordance with the requirements set forth in Section 5-8 of this Ordinance.

SECTION 7-6 UTILITIES

- A. Sewage Disposal
- 1. All mobile home parks shall be served by either a public or a community sewage disposal system,

approved by the appropriate local and state agencies, and which shall be constructed and certified by the appropriate authorities before occupancy permits are issued.

2. Individual lateral connections to the sewage collection system shall conform to the International Plumbing Code as well as to other applicable Township and state regulations.

B. Water Supply

1. All mobile home parks shall be served by either, a public or a community water supply system. The system shall conform to Section 502.1 "Standards for Mobile Home Parks" publication of the National Fire Protection Association (NFPA) and any other applicable codes. The system shall be approved by the

appropriate local and state agencies, and shall be constructed and certified by the appropriate authorities before occupancy permits are issued.

- 2. Individual connections to the water supply system shall conform to the International Plumbing Code, as well as to other applicable Township and state regulations.
- 3. The water supply system shall also provide for fire protection in mobile home parks of ten (10) or more units.

C. Electrical Distribution System

The electrical distribution system shall be underground and shall conform to the NFPA standards for mobile home parks and any other applicable codes. Each mobile home shall have not less than an one hundred (100) amp service.

D. Gas Service

If the mobile home park is to have gas service to individual homes, the same shall conform to the applicable NFPA regulations and any other applicable codes.

E. Telephone and Television Service

Telephone and television lines shall be installed underground. No outside antenna shall be permitted on a mobile home. If cable television service is not available, a central antenna system with underground service to each mobile home shall be provided.

F. Lighting Standards

All streets and common walkways shall be illuminated at a maximum level of 0.6 foot-candles. The electrical service to all lighting fixtures and standards shall be installed underground.

SECTION 7-7 PEDESTRIAN WALKWAYS

All mobile home parks shall provide and maintain safe, durable, convenient, all-season pedestrian walkways of adequate width for their intended uses, between the mobile home park streets and all common facilities provided for mobile home park residents.

SECTION 7-8 REFUSE DISPOSAL

Exterior storage areas for refuse stations shall be properly screened. All containers shall be airtight, verminproof and have adequate storage capacity to accommodate the projected volumes of solid waste. The mobile home park shall have a solid waste management plan in accordance with all applicable Township, State and Federal regulations and standards.

SECTION 7-9 LANDSCAPING

A. Shade Trees

Shade trees shall be provided on all streets within a mobile home park in accordance with Section 6-3L of this Ordinance.

B. Ground Cover

Except for paved areas, areas beneath mobile homes, and patio areas, all other ground surfaces shall be planted, with a suitable grass cover. The grass shall be regularly cut. No weeds or wild growth, except for existing native trees, shall be permitted anywhere in the mobile home park.

C. Park Screening

The mobile home park shall have an evergreen planting screen along the property lines at the periphery of the development to protect the privacy of adjacent residents.

D. Park Buffer

The mobile home park shall provide a twenty-five (25) foot wide buffer yard along all of the perimeter property lines at the periphery of the development. The buffer yard shall be planted with both, an all-season ground cover and, the evergreen planting screen mentioned above. No structures of any kind shall be permitted within the buffer yard.

SECTION 7-10 MOBILE HOME UNIT SIZE

All mobile homes located in the mobile home park shall have a minimum building area of eight-hundred (800) square feet.

SECTION 7-11 ADMINISTRATION

- A. Mobile home parks of twenty-five (25) or more units shall employ the services of a qualified manager. The manager shall reside in the mobile home park and shall be responsible for the operation and maintenance of the park.
- B. The developer of the mobile home park shall make arrangements, provisions, and/or agreements to insure that the common open spaces shall be adequately managed and maintained. Prior to municipal approval of any Final Plans for any mobile home park, the Township's Solicitor shall review these agreements.
- C. It shall be unlawful to operate a mobile home park within the Township unless the Board of Supervisors has issued a license and unless the Pennsylvania Department of Environmental Protection has issued a certificate of registration. Such licenses and certificates shall be issued annually.
- D. Licenses are not transferable. Notice in writing shall be given the to Board of Supervisors within ten (10) days after a mobile home park has been sold, transferred, given away, leased, or the controlling interest otherwise disposed of. A transfer certificate by the Pennsylvania Department of Environmental Protection shall be required and a new application to the Township shall be made for an operating license.
- E. The park shall furnish the Township a list of tenants of the park. Any change in tenancy shall be

reported to the Township within one (1) week. The Board of Supervisors shall have the power to inspect the park register (a document which shall contain a record of all residents of the mobile home park) at any reasonable time.

F. All applications to the Township for a mobile home park shall be subject to all applicable review procedures for subdivision and land development and shall further be subject to the appropriate fees established from time to time, by resolution of the Township Board of Supervisors.

ARTICLE 8 - IMPROVEMENTS GUARANTEES

SECTION 8-1 GUARANTEE OF IMPROVEMENTS INSTALLATION REQUIRED

- A. Before approving any subdivision or land development plan for recording, the Governing Body shall require that the Township be assured (by means of a proper Improvements Agreement and Performance Guarantee as described in Section 8-3 of this Ordinance) that the improvements required by both this Ordinance and the improvements appearing on the plan will be installed in strict accordance with the standards and specifications of both, the plan and this Ordinance.
- B. Purpose of Bond. The bond and other surety agreements shall stand as security for compliance with all Township ordinances, other laws, covenants, stipulations, conditions and rules applicable to the subdivision for which it is filed.
- C. No construction of buildings or paving of streets, or sales of any individual lot or condominium unit within a subdivision shall take place in any subdivision unless there is on file, with the Township, both, a duly executed Improvements Agreement, and a duly executed performance bond (and security escrow agreement if necessary), unless all site grading is complete and all required public improvements, utilities, streets, drainage facilities, sewer, street lights, monuments, and lot pins have been completely installed and the work has been accepted by the Township.
- D. If a developer chooses to install all of the required improvements prior to construction of any building in place of using performance guarantees, the Township shall require the developer to have adequate insurance, hold harmless agreements and an escrow account to cover the costs of inspections of said improvements by the Township.
- E. The developer shall provide a deed of dedication together with 8-1/2" x 11" plan(s), for any improvements which the Developer intends to dedicate to the Township.

SECTION 8-2 IMPROVEMENTS TO BE PROVIDED BY THE APPLICANT

- A. In all cases, the developer shall be responsible for the installation of all improvements required by this Ordinance.
- 1. The Township Engineer or the Township's designee shall make such inspections of the required improvements at such intervals as deemed reasonably necessary by the Township, to assure compliance with this Ordinance.
- 2. The costs of any, and all inspections performed by the Township Engineer or the Township's designee shall be borne by the developer, and financial security for same shall be held in an escrow account with the Township.

SECTION 8-3 IMPROVEMENTS AGREEMENT

A. All applicants proposing any subdivision or land development which provides for the installation

of improvements required by this Ordinance or any improvements or amenities which appear on the plan shall be required to enter into a legally binding Improvements Agreement and Performance Guarantee with the Township prior to Final Plan approval by the Board of Supervisors. The Improvements Agreement shall guarantee the installation of said improvements in strict accordance with all Township requirements.

- B. The Improvements Agreement shall be prepared in the manner and form as both, described in this Ordinance and, as directed by the Township Solicitor and, it shall consist of at least the following terms, where applicable:
- 1. A narrative description of the construction depicted upon the approved plans in itemized format.
- 2. Requiring the construction of streets with related curbs, street signs, drainage facilities and related improvements.
- 3. Requiring the installation of all utilities (e.g. waterlines, sanitary sewer lines, electric lines, telephone and cable lines, natural gas lines, etc.).
- 4. A work schedule setting forth the beginning and ending dates and such other details as the Township deems fit and appropriate for the improvements covered by the Improvements Agreement, and
- 5. An inspection schedule approved by either, the Township Engineer or the Township's designee.
- 6. The provision of a Performance Guarantee for completion of required improvements, which complies with Section 8-3 of this Ordinance.
- 7. A professional Engineer's estimate of the cost of the improvements, including a detailed breakdown in a form acceptable to the Township, and stating the total amount of the Performance Guarantee.
- 8. Requiring that, all improvements subject to the Improvements Agreement shall be installed according to the approved inspection schedule pursuant to and Section 8-3 of this Ordinance.
- 9. Stating that, the Developer is responsible for damage to other property that may be caused by construction activity associated with the particular subdivision or land development.
- 10. Requiring that, the Developer shall secure or maintain public liability insurance and workers' compensation insurance for the duration of improvements construction. A copy (or other evidence of coverage) of these insurance policies shall be submitted to the Township.
- 11. A hold harmless clause to protect the Township from liability.
- 12. Requiring the prevention of erosion, sedimentation and water damage to both the subject property and adjacent properties.
- 13. Requiring where applicable, the dedication of streets, water and sewer lines inclusive of any, and all easements.
- 14. Requiring that, after completion of all required improvements, the developer shall provide the Township with a set of reproducible completed improvement plans prepared by and certified by a Professional Engineer or Land Surveyor showing all streets, storm and sanitary sewers, water distribution facilities and street monuments complete with elevations, as constructed. The scale of these plans shall be at least one (1) inch equals fifty (50) feet.
- 15. Stating that, the Developer shall be responsible for all engineering and legal costs and expenses for review, inspection, consultations and preparation of agreements.

- 16. Provisions for violation of the Improvements Agreement.
- 17. Any other lawful terms which the Township may require to carry out the provisions of this Ordinance.
- 18. The Improvements Agreement shall be signed by both, the Township and the developers.
- C. Ownership of Land and Guarantee.

A certificate of ownership in the form found in the Appendix of this Ordinance shall be executed in the exact name in which title is held. If the developers) of a subdivision is someone other than the landowners)

of the subdivision, the developer shall also execute the affidavit mentioned above, along with posting the required performance bond, security agreements and improvements agreements.

SECTION 8-4 PERFORMANCE GUARANTEE

The Performance Guarantee for completion of required improvements shall meet the following requirements:

- A. Security.
- 1. The Guarantee shall be financially secured by the credit of any of the following:
- a. An irrevocable and unconditional letter of credit of a Federal or State chartered lending institution,
- b. A restrictive or escrow account in a Federal or State chartered lending institution, or
- c. Such other financial security as may be approved by the Township (which approval shall not be unreasonably withheld).
- 2. Such bond, or other security shall provide for, and secure to the public, the completion of any improvements which may be required within one year of the date stipulated in the Improvements Agreement for the completion of such improvements.
- 3. Such financial security shall be posted with a bonding company or federally insured or State chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the State.
- a. The Township may require that evidence be provided that such institution or company has sufficiently adequate and secure assets to cover the security.
- b. The Township shall be an authorized signatory on any account in which the escrow funds are held and all escrow funds from sales of lots shall be paid directly to such fund, and a monthly statement shall be furnished to the Township.
- B. Amount
- 1. The amount of financial security to be posted for the completion of the require 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 developer in the official Improvements Agreement, and within the process for increases to cover inflation as permitted by the Pennsylvania Municipalities Planning Code.

- 2. The cost of the improvements shall be established by an estimate prepared by a Pennsylvania Registered Professional Engineer employed by, or under contract with, the Developer (pursuant to the applicable revisions of the Pennsylvania Municipalities Planning Code).
- 3. 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 shall be increased by an additional ten percent (10%) for each one (1) year period beyond the first anniversary date of the posting of financial security or to an amount not exceeding one hundred (110) percent of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one (1) year period.

C. Multi-Year or Multi-Stage Development

In the case where a development is projected to be constructed over a period of years, the Township may authorize submission of final plans by sections or phases of the development subject to such requirements or guarantees as to both, improvements depicted within the section of phase where final plan approval is sought by the Developer as well as, improvements in future sections or phases of development which the Township finds essential for the protection of any finally approved section of the development.

SECTION 8-5 APPROVAL OF IMPROVEMENTS

- A. As the work of installing the required improvements proceeds, the party posting the financial security may request the Township to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractors performing the work.
- B. When the developer has completed an improvement; the developer shall notify the Township in writing by certified or registered mail of such completion and the Developer shall have the right to submit a request for release of escrow funds, associated with said specific improvement.
- C. Engineer's Report.
- 1. Within thirty (30) days of the receipt of such request, the Township Engineer or, the Township's designee shall submit a written report to the Township, certifying which improvements have been completed in accordance with the approved plan.
- 2. This report shall be based on the inspections made according to the approved inspection schedule included in the Improvements Agreement and shall recommend approval or rejection of the improvements, either in whole or in part.
- 3. If the Township or the Township's designee finds any or all of the improvements to have not been constructed as required, he shall include a statement of the reasons why he believes said improvements are deficient.
- D. Release of Funds. See Section 510 of the Pennsylvania Municipalities Planning Code, as amended.
- E. Completion of Unapproved Improvements. The Developer shall proceed to complete any improvements not approved by the Township and, upon completion of same, request approval of said improvements by the Township, in conformance with the procedures specified in this section.
- F. Final Release.
- 1. When the developer has completed all the necessary and appropriate improvements, the developer

shall request Final Release of Escrow, less the amount required for the Maintenance Agreement, in conformance with the procedures specified in both, this Section of this Ordinance and pursuant to the time limitations and procedures set forth in Section 510 of the Pennsylvania Municipalities Planning Code, as amended.

- 2. A Maintenance Agreement must be in place before final release.
- G. Appeal. Nothing herein, however, shall be construed as a limitation of the developer's right to contest or question by legal proceedings or otherwise, any determination of either the Township, the Township Engineer or the Township's designee.

SECTION 8-6 REMEDIES TO EFFECT COMPLETION OF IMPROVEMENTS

- Enforcement of Security.
- 1. In the event that any improvements which may be required have not been installed as provided for in this Ordinance or in accord with the approval Final Plan, or in the event of the bankruptcy of the owner or developer, the Township is hereby granted the power to elect to enforce any corporate bond (or other security) by appropriate legal and equitable remedies.
- 2. Enforcement remedies may include taking all actions necessary to obtain moneys under said bond, including but not limited to seizure of undeveloped lots, confession of judgment, suit on the bond, seizure of escrow funds, revocation of building permits and prosecution under this Ordinance and pursuant to the applicable state and federal laws and regulations/
- B. Rate of Construction.

Failure of a developer to construct streets and other public improvements in full accordance with this Ordinance and at the same rate in time, in which the buildings located upon the subject property are constructed, shall constitute a violation of this Ordinance and shall be a cause for default.

- C. Completion by Township. If the 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 monies necessary to complete the remainder of the improvements.
- D. Proceeds for Installation of 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 shall not be used for any other Township purpose.

SECTION 8-7 MAINTENANCE AGREEMENT

- A. Maintenance Agreement Required.
- 1. All applicants proposing any subdivision or land development which provides for the installation of any improvements or amenities which appear on the Plan or are required by Ordinance, and which in turn are proposed for dedication to the Township, shall be required to enter into a legally binding Maintenance Agreement with the Township prior to acceptance of dedication of said improvements by the Township.
- 2. The dedication of any improvement shall not be accepted by the Township prior to the execution

of a Maintenance Agreement and the delivery of the Maintenance Guarantee.

- B. Terms of Maintenance Agreement.
- 1. The Maintenance Agreement shall be drawn up in the manner and form approved by the Township Solicitor.
- 2. The Maintenance Agreement shall require the Applicant to make any repairs to, or reconstruction of any improvement stipulated in the Maintenance Agreement which is specified by the Township as necessary by reason of faulty construction, workmanship, or materials prior to acceptance of such improvement by the Township.
- 3. The Maintenance Agreement shall require the Applicant to maintain at his/her own cost all improvements stipulated in the Maintenance Agreement. This period shall not exceed eighteen (18) months from the date of acceptance or dedication by the Township, except for any special purpose escrow or maintenance agreements required by the Township.
- 4. The Maintenance Agreement shall require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plan for a term not exceeding eighteen (18) months from the date of acceptance of dedication.
- 5. Snow plowing. It shall be the responsibility of the developer to plow snow and maintain all streets until such time as the Township has accepted dedication of such streets.
- C. <u>Public Utilities and Authorities</u>. If water mains or sanitary sewer lines or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the rules and regulations of a public utility or municipal authority separate and distinct form the Township, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling public utility or municipal authority and shall not be included within the financial security as otherwise required by this Section.

SECTION 8-8 MAINTENANCE GUARANTEE

- A. The Maintenance Guarantee shall be secured by the credit of any of the following:
- 1. An irrevocable and unconditional letter of credit of a Federal or State chartered lending institution.
- 2. A restrictive or escrow account in a Federal or State chartered lending institution, or,
- 3. Such other financial security as may be approved by the Township (which approval shall not be unreasonably withheld).
- B. Such Maintenance Guarantee shall be in the form approved by the Township Solicitor and Township, made payable to the Township, to guarantee the maintenance and repair of the streets and other public improvements in the subdivision for five (5) years from the date of acceptance thereof by the Township. The applicant shall prove to the satisfaction of the Township that there will be an acceptable system for the long-term maintenance of any storm water detention basins.
- C. The amount of the Maintenance Guarantee shall be determined by the Township, but shall not exceed 15 percent of the actual cost of installation of such improvements.

D. After the expiration of eighteen (18) months from the date of acceptance of said improvements, the Township shall release said Maintenance Guarantee to the party posting said Maintenance Guarantee if all improvements are in satisfactory condition.

ARTICLE 9 - ADMINISTRATION AND AMENDMENT

SECTION 9-1 FEE SCHEDULE

- A. The Township Supervisors shall establish by resolution a collection procedure and Schedule of Fees to be paid by the developer at the time of filing both a Preliminary Plan and a Final Plan in the case of a Major Subdivision, and prior to filing a Final Plan in the case of a Minor Subdivision. The Schedule of Fees may be modified periodically by the Township Supervisors.
- B. The schedule of fees shall be obtained from the Township office, and shall be posted therein and in such other places as the Township Supervisors may designate.
- C. The applicant is also required to pay any review fees required by the Berks County Planning Commission, the Berks County Conservation District and any other reviewing agency.
- D. Plans shall not be considered filed until all fees are paid and the applications are properly signed as required.
- E. If the Township expenses associated with reviewing a subdivision or land development exceed the total fees that have been paid by an applicant, the applicant shall pay such excess expenses prior to the release of the approved Final Plans by the Township.

SECTION 9-2 MODIFICATIONS

- A. The provisions of this Ordinance are intended as minimum standards for the protection of the public health, safety and welfare. The Township Supervisor may modify or extend said provisions conditionally in individual cases as may be deemed necessary in the public interest, provided however, that such variation shall not have the effect of nullifying the intend and purpose of this Ordinance. The list of such modifications and the reasons therefore shall be entered in the minutes of the meeting of the Township Supervisors pertaining thereto, and shall be clearly defined and entered on the Final Plan.
- B. The Township Supervisors, after receiving a written request for a modification, including the grounds for such modification, and after providing the Planning Commission with an opportunity to provide a recommendation, shall have the power to pass a written resolution to grant a waiver or modifications to the specific requirements of this Ordinance, where the applicant proves to the satisfaction of the Township Supervisors that, owing to special conditions, a waiver or modification is needed to:
- 1. avoid an undue hardship that was not self-created and that would result because of the peculiar and uncommon conditions pertaining to the land in question, or
- 2. avoid the imposition of a clearly unreasonable requirement that would not serve any valid public purpose, or
- 3. allow an alternative standard that is clearly proven by the applicant to provide equal or better results, or
- 4. allow a layout or improvements that would clearly be more in the public interest than what would

occur if the modifications were not granted.

C. No changes, erasures, modifications or revisions shall be made in any plan of a subdivision after approval has been made by the Township Supervisors and endorsed on the plan, unless the said plan is resubmitted to and approved by the Township Supervisors.

SECTION 9-3 CHALLENGES

A landowner desiring to challenge the validity of any provision of this Ordinance, or any amendment thereof, shall make such challenge in accordance with the provisions of Article VIII of the Act of the General Assembly No. 247 of 1968, as amended by Act 170 of 1988.

SECTION 9-4 RECONSIDERATION APPEAL

- A. Any developer aggrieved by a finding, decision or recommendation of the Township Planning Commission may request and shall receive an opportunity to appear before the Township Planning Commission to present additional relevant information and request, in writing, reconsideration of the original finding, decision or recommendation.
- B. Any person aggrieved by a finding, decision or recommendation of the Township Planning Commission may present to the Township Supervisors any relevant information at the time the Township Supervisors consider action on the subject plans.
- C. Affirmative action by the Township Supervisors shall authorize the developer to continue the application process from the point at which it was interrupted.
- D. Any person aggrieved by action of the Township Supervisors may appeal within thirty (30) days to the Court of Common Pleas of Berks County, as provided in Section 512 of Article V of the Act of the General Assembly No. 247 of 1968, as amended by act 170 of 1988.

SECTION 9-5 PENALTIES

- A. In addition to other remedies, Alsace Township may institute and maintain appropriate actions by law or in equity to restrain, correct or abate violations, to prevent unlawful construction, to recover damages and the prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or the remedies herein provided. Develop any real property which has been developed or which has resulted from a subdivision of real property in violation of any ordinance adopted pursuant to this article. 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 as 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 such owner, current owner, vendee or lessee for the development of any such real property, Alsace Township may require compliance with the conditions that would have been applicable to the property at the time the applicant acquired an interest in such real property.

B. Enforcement Remedies

- 1. Any person, partnership or corporation who or which has violated of this Ordinance shall, upon being found liable therefore in a civil enforcement proceeding commenced by Alsace Township, pay a judgment of not more than \$600.00 plus all court costs, including attorney fees incurred by Alsace Township as a result thereof. No judgment shall commence or be imposed, levied or be payable until the date of the determination of a violation by the district justice. If the defendant neither pays nor timely appeals the judgment, Alsace Township may enforce the judgment pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the district justice determining that there has been a violation further determines that there was a good faith basis for the person, partnership or corporation violating the Ordinance to have believed that there was no such violation, in which event, there shall be deemed to have been only one such violation until the fifth day following the date of the determination of a violation by the district justice and thereafter each day that a violation continues shall be considered a separate violation.
- 2. The court of common pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per them judgment pending a final adjudication of the violation and judgment.
- 3. Nothing contained in this section shall be construed or interpreted to grant any person or entity other than Alsace Township the right to commence any action for enforcement pursuant to this section.
- C. In addition to the penalties above, the Township Supervisors may initiate and maintain civil action:
- 1. To obtain a writ of injunction against the owner or agent who attempt the improper sale or conveyance of land.
- 2. To set aside and invalidate any conveyances of land made prior to Final Plan approval of any subdivision.
- D. Nothing herein shall prevent the Township from taking such other action necessary to prevent or remedy any violation.

SECTION 9-6 KEEPING OF RECORD

The Township Planning Commission and the Township Supervisors shall keep a record of their findings, decisions and recommendations relative to all subdivision plans filed for review. Such records shall be made available to the public for review.

SECTION 9-7 RESPONSIBILITY

The developer shall be responsible for observing the procedures established in this Ordinance and for submitting all plans and documents as may be required.

SECTION 9-8 CONFLICTS

- A. Whenever there is a difference between the minimum standards specified herein and those included in other official Township regulations the most stringent requirements shall apply.
- B. 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.

SECTION 9-9 REVISION AND AMENDMENT

- A. The Township Supervisors may, from time to time on its own motion revise, modify or amend these regulations or order to increase their effectiveness or to expedite the approval of subdivision plans.
- B. Any revisions, modifications or amendments to these regulations shall be made in accordance with the procedures established by Section 505 of Article V of the Act of the General Assembly No. 247 of

1968, as amended by Act 170 of 1988, after a public hearing on the proposed revisions, modifications or amendments.

SECTION 9-10 SEVERABILITY

- A. If a court of competent jurisdiction declares any provisions of this Ordinance to be invalid or ineffective in whole or in part, the effect of such decision shall be limited to those provisions which are expressly stated in the decision to be invalid or ineffective, and all other provisions of this Ordinance shall continue to be separately and fully effective.
- B. The Township Supervisors hereby declare that they would have passed this Ordinance and each section or part thereof irrespective of the fact that any one or more sections or parts thereof be declared invalid.

SECTION 9-11 STATE PLANNING CODE AMENDMENTS

The provisions of this Ordinance that only repeat summarize or reference provisions of the Pennsylvania Municipalities Planning Code shall be deemed to be automatically superseded and replaced by any applicable amendments to the Pennsylvania Municipalities Planning Code.

SECTION 9-12 ENACTMENT

"SEAL"

Enacted and ordained by the Board of Supervisors of Alsace Township, Berks County, Pennsylvania, the
Board of Supervisors Alsace Township
Joseph E. Williams, Chairman
Phillip Kline, Vice-Chairman
Keith Blankenbiller, Supervisor
Attest:
ane M Buda
Alsace Township Secretary/Treasurer

APPENDIX A

ALSACE TOWNSHIP BERKS COUNTY, PA

APPLICATION FORM FOR SUBDIVISION AND LAND DEVELOPMENT REVIEW

NAME OF DEVELOPMENT:
LOCATION:
DATE OF APPLICATION:
TYPE OF PLAN: PRELIMINARY PLAN (a) NEW SUBMISSION (b) RE-SUBMISSION FINAL PLAN REVISED PLAN OF RECORD
NAME OF LAND OWNER: ADDRESS: TELEPHONE NUMBER:
NAME OF APPLICANT: ADDRESS: TELEPHONE NUMBER: INTEREST: EQUITABLE OWNER/AGENT:
ENGINEER OR SURVEYOR RESPONSIBLE FOR PLAN PREPARATION: ADDRESS: TELEPHONE NUMBER: FAX NUMBER:
TOTAL ACREAGE: ACREAGE BEING DEVELOPED: TOTAL NUMBER OF LOTS/UNITS:
TYPE OF LAND USE PROPOSED: RESIDENTIAL AGRICULTURAL COMMERCIAL INDUSTRIAL OTHER
WATER SUPPLY: ON-LOTPUBLIC OTHER SEWAGE DISPOSAL: ON-LOTPUBLIC OTHER
STORM DRAINAGE PLAN INCLUDING CALCULATIONS EROSION AND SEDIMENT CONTROL PLAN STREET DETAIL: CROSS-SECTION PLAN
ZONING DISTRICT(S): ZONING CONFLICTS/CHANGES:

·		

LINEAR FEET OF NEW STREETS PROPOSED:

TYPE OF OFF-STREET PARKING PROPOSED:

GARAGES

DRIVEWAYS

OTHER (SPECIFY)

ACREAGE PROPOSED FOR RECREATION OR COMMON OPEN SPACE:

I HEREBY ACKNOWLEDGE AND REQUEST REVIEW OF THIS APPLICATION. TO THE BEST OF MY KNOWLEDGE, ALL THE INFORMATION IDENTIFIED ABOVE IS TRUE, CORRECT AND COMPLETE. IN ADDITION, I HEREBY AUTHORIZE THE BOARD OF SUPERVISORS, PLANNING COMMISSION, ZONING OFFICER, CODE ENFORCEMENT OFFICER, TOWNSHIP ENGINEER, TOWNSHIP SOLICITOR AND TOWNSHIP SEWAGE ENFORCEMENT OFFICER TO ENTER THE PREMISES OF THE PROPERTY WHILE THE PROPOSED PLAN IS BEING CONSIDERED FOR MUNICIPAL APPROVAL.

APPLICANT'S SIGNATURE:	DATE	DATE:		
LAND OWNER'S SIGNATURE:	DATE	∄ :		
FOR MUNICIF	 PAL USE ONLY			
NAME OF APPLICATION:				
APPLICATION DATE:	FILE NUMB	ER:		
MUNICIPAL REVIEW FEE COLLECTED:				
<u>RESPONSE</u>	DATE SUBMITTED	DATE OF		
BERKS COUNTY PLANNING COMMISSION		-		
ALSACE TOWNSHIP PLANNING COMMISSION		-		
ALSACE TOWNSHIP BOARD OF SUPERVISORS				
PaDEP - SEWAGE MODULE				
BERKS COUNTY SOIL CONSERVATION DISTRICT				
PaDEP - WATER MODULE				
ADDITIONAL MUNICIPAL DEVIEW EEES				

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN AND OFFER OF DEDICATION

On this, the day of, 20, before appeared (Name of Owner) known to me or satisfactor according to law, deposes and says that he is the owner shown on this plan, that the plan was prepared at his consume to be his act and plan, and desires the same to be that all streets shown and not heretofore dedicated are	rily proven, who being duly sworn er or equitable owner of the property direction, and that he acknowledges the be recorded as such according to law, and
Owner/Equitable Owner	
	Notary Public Name/Seal
	Commission Expiration Date
CERTIFICATE OF A	CCURACY
I hereby certify that the Plan shown and descr accuracy required by the Alsace Township Subdivision	
Surveyor	Date
CERTIFICATE FOR APPROVAL BY TH	E PLANNING COMMISSION
At a meeting held on the day of Commission, by motion, recommended for approval th hereon.	
CERTIFICATE FOR APPROVAL BY TH	E BOARD OF SUPERVISORS
At a meeting held on the day of Supervisors, by motion, approved this (Plan Name), as	

APPENDIX B

Determination Of Sight Distance Triangles

The calculated SSSD shall be obtainable and measured from a point ten (10) feet back from the pavement edge and 3.5 feet above the road surface to a point 4.25 feet above the road surface.

If the minimum SSSD's cannot be achieved, the Township may exercise options including but not limited to the following:

- 1. Prohibit left turns by exiting vehicles;
- 2. Restrict turning movements to right turn in and out of driveways;
- 3. Require installation of a right turn acceleration or deceleration lane;
- 4. Require installation of a separate left turn standby lane;
- 5. Require alteration of the horizontal or vertical geometry of the roadway; or
- Deny access to the road or street.

Formula

The following formula for calculating SSSD is reproduced from the Pennsylvania Code Title 67, Chapter 441 (Access to and Occupancy of Highways by Driveways and Local Roads).

SSSD = 1.47 Vt +
$$V^2$$
 30(f + 0.01g)

SSSD = Minimum safe stopping sight distance (feet)

V = Velocity of vehicle (miles per hour)

t = Perception time of motorist (average = 2.5 seconds)

f = Wet friction of pavement (average = 0.30)

g = Percent grade of roadway approaching intersection,
 Positive (+) for uphill or negative (-) for downhill
 (See example below)

Sample Using Formula

A new driveway will be created along an existing road with an 8% grade on which the dominant vehicle speed is 45 miles per hour. Determine the SSSD for vehicles approaching from both directions towards the new intersection.

For vehicles approaching uphill towards the intersection, use q = +8. (Note that q is positive)

SSSD =
$$1.47 \times 45 \times 2.5 + \frac{(45)^2}{30 [.30 + .01(8)]} = 343 \text{ feet}$$

For vehicles approaching downhill towards the intersection, use g = -8. (Note that g is negative)

SSSD =
$$1.47 \times 45 \times 2.5 + \frac{(45)^2}{30 [.30 + .01(-8)]} = 472 \text{ feet}$$

Tables 1 and 2

Tables 1 and 2 give SSSD's calculated using the above formula for vehicles approaching downhill and uphill respectively towards intersections for various speeds and road grades. For

circumstances not covered adequately by the tables, the formula above should be used.

Table 1 SSSD's for vehicles approaching downhill towards an intersection

Grade		Speed (
	25	35	40	45
Level	161	265	325	390
1%	163	270	331	398
2%	166	275	337	406
3%	169	280	345	415
4%	172	286	352	425
5%	175	292	360	435
6%	178	299	369	446
7%	181	306	379	458
8%	186	315	389	472
9%	191	323	401	486
10%	196	333	414	502
11%	202	344	428	521
12%	207	356	443	540
13%	214	369	461	562
14%	222	384	480	587

 Table 2
 SSSD's for vehicles approaching uphill towards an intersection

Grade		Speed		
	25	35	40	45
Level	161	265	325	390
1%	159	260	319	383
2%	157	256	314	376
3%	155	252	309	370
4%	153	249	304	363
5%	151	245	299	358
6%	150	242	295	353
7%	148	239	291	348
8%	147	236	287	343
9%	145	233	284	338
10%	144	231	280	334
11%	143	228	277	330
12%	141	226	274	326
13%	140	224	271	322
14%	139	221	268	319