

# Franklin Township Subdivision and Land Development Ordinance

## ARTICLE IV DESIGN STANDARDS

### 400. Application of Standards.

The following subdivision and land development principles, standards and requirements will be applied by the Township Planning Commission, York County Planning Commission (YCPC), Township Staff, and the Township Supervisors in evaluating plans for proposed land developments. The standards and requirements outlined herein shall be considered minimum standards and requirements for the promotion of the public health, safety, and general welfare. All plans submitted for approval under this ordinance shall incorporate these standards.

### 401. Location of Site.

All subdivision and land development plans shall reflect the following requirements and guiding principles that affect the suitability of the site for such development:

- A. Land shall be subdivided or developed only in conformance with all other ordinances and regulations in effect in the Township.
- B. All portions of a tract being subdivided or developed shall be taken upon lots, streets, public lands, or other proposed uses so that remnants and landlocked areas are not created.
- C. Land proposed for land development shall not be developed or changed by grading, excavating, or by the removal or destruction of the natural topsoil, trees, or other vegetative cover unless provisions for minimizing erosion and sedimentation are provided as required by the PA DEP and the York County Conservation District. The developer is responsible for obtaining approval and/or permits from one or both of these agencies as required.
- D. In all developments, developers are encouraged to preserve all natural and historic features. Examples of such features would include, but not be limited to, large trees and stands of trees, historic areas and structures, scenic views, etc. The Township may request the following additional information to be submitted:
  1. The accurate location of the features to be protected.
  2. An explanation of the precautions to be taken by the developer to protect such features.
- E. Any plans for the encroachment of a watercourse shall be incorporated into the design plans and subject to approval by the Township, or where necessary, the U.S. Army Corps of Engineers, and/or PA DEP.
- F. Land subject to hazards of life, health, or property as may arise from fire, floods, disease, excessive noise, falling aircraft, or considered uninhabitable for other reasons shall not be developed unless the hazards have been removed or the plans show adequate safeguards against them.

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### 402. Street and Highway Standards.

#### A. General Standards.

1. The finished elevation of proposed streets shall not be more than one (1) foot below the Regulatory Flood Elevation. The Township may require profiles and elevations of streets to ensure compliance. Drainage structure openings shall be sufficient to discharge flood flows without unduly increasing flood elevations or creating a backwater situation onto adjacent properties.
2. Proposed streets, including functional classification, shall be planned with regard to the existing street system, topographical conditions, public convenience in terms of fire protection and pedestrian traffic, probable volumes of traffic, existing and proposed use of land on abutting properties, and future development extensions of the street systems.
3. No street shall terminate into a dead end. Any street dead ended for access to adjoining property or because of authorized staged construction shall be provided with a temporary cul-de-sac and the use shall be guaranteed to the public until such time as the street is continued. Temporary cul-de-sacs should be designed in accordance with this Ordinance.
4. When a subdivision abuts or contains an existing or proposed arterial streets, the Township may require a marginal access street, reverse frontage, reduction of the number of intersections, and/or separation of local from through traffic or other treatment which will provide protection for abutting properties.
5. Residential streets shall be so laid out as to discourage through traffic; however, the arrangement of streets shall provide for continuation of existing or platted streets and for proper access to adjoining undeveloped tracts suitable for future development.
6. The streets shall be properly located and built with regard to the proposed traffic functions, including the minimization of through-traffic on minor streets and the protection of major street capacities from excessive marginal access.
7. The proposed street system shall extend existing or recorded streets at the same width or at widths required by the Ordinance as determined by the Township, but in no case at less than the required minimum width.
8. The Township may, following completion of a traffic impact study, require multiple accesses to a development. Where a proposed subdivision or land development is provided access by a single street, the Township may require a boulevard style entrance.
9. Applicants for a subdivision or land development abutting a state route shall be responsible for obtaining approval of any proposed improvements, and for obtaining a PA DOT Highway Occupancy Permit.
10. Prior to Final Plan approval, applicants shall certify that title to any street right-of-way is unencumbered by any liens or other obligations and that no prior right-of-way has been granted.

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11. In the event that a private street is proposed, in addition to complying with all Township design and construction standards for public streets, the Developer will be required to submit for approval and record with the approved Final Plan, an agreement outlining the responsibilities for perpetual maintenance of the private street, which also shall release the Township of any liability regarding maintenance and acceptance of dedication. In addition, the Township requires as-built plan, improvement bonding, surety, and inspection in accordance with the procedures of this Ordinance.

**B. Roadway Functional Classification.**

The functional classification for proposed or existing streets shall be determined by the Township Engineer following consultation with the Township Traffic Engineer.

**C. Street Width.**

1. Minimum street right-of-way and cartway widths shall be as follows:

Road Classification	Required Right-of-way (ft.)	Total Cartway Width (ft.) <sup>(1)</sup>	Designated Parking Lanes
Arterial/Collector	Criteria to be as determined by Township with minimum 60 foot required right-of-way, 40 foot cartway width and no parking lanes.		
Neighborhood Collector	60'	28'	None
Minor Neighborhood Street	50' 50' 50'	24' 30' 34'	None One Side Two Side
Boulevard (3)	60'	12-14' (2)	None
Alley	20'	12'	None

(1) Final width to be a recommended by the Township Engineer.

(2) 2-Lanes of 12-14 feet width, each seperated by a 10 foot width median. Cartway or lane width to be 12-feet for Minor Street and 14-feet for a Collector Street.

(3) Median to be maintained by the developer, property owner or HOA.

2. Provisions for additional street width or shoulder (right-of-way, cartway, or both) may be required when determined to be necessary by the Township to facilitate for aspects such as:

- a. In the case of a plan for a land development fronting on an existing public road of improper right-of-way width, the developer shall provide any required dedication of land for widening the existing right-of-way to meet the minimum right-of-way standard as specified above. The right-of-way to be dedicated shall be measured from the centerline of the existing roadway.

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- b. In the case of a land development fronting on an existing public road of improper cartway width, the Township shall require the developer to improve the roadway to meet the minimum cartway standard as specified above. The developer shall also improve shoulders, gutters, berms, curbing, or other standards. The Board of Supervisors in lieu of requiring such improvements at the time of subdivision shall require the payment of a fee to be placed in a road improvement fund to finance road construction in the future. The fee shall be based on an estimate prepared by the Township Engineer.
- c. Public safety and convenience.
- d. Traffic in commercial and industrial areas and in areas of high density.
- e. Where topographical conditions require excessive cuts and fills.
- f. When curbs will not be required.
- g. To accommodate on-street parking.
- h. To accommodate bicycle lanes (5-ft minimum width).

In the case where conditions warrant alternate design standards, the design may be required to consider the parameters as a function of design speed. Alternate design standards may be referenced from either AASHTO or PennDOT.

### D. Street Grades.

The grades of streets shall not be less than the minimum or more than the maximum requirements listed below:

TYPES OF STREETS	MINIMUM GRADE	MAXIMUM GRADE
Arterial streets	As determined by the Township after consultation with PennDOT.	
Collector streets	1.0%	7.0%
Minor streets & Alleys	1.0%	10.0%
Intersections	1.0%	4.0% (for 100' from intersection)

1. In all differential grades exceeding one percent (1%) for a distance of one hundred (100) feet, vertical curves shall be used in changes of grade and shall be designed for proper sight distance.
2. The grade within the diameter of a turnaround at the terminus of a permanent cul-de-sac shall not exceed five percent (5%).

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3. On permission of the Township, minor street grade under special topographic conditions may exceed ten percent (10%) for distances less than one hundred (100) feet provided the grade does not in any case exceed twelve percent (12%).
4. Standards for minimum and maximum grade refer to both positive and negative grades.
5. All streets shall be designed so as to provide for the discharge of surface water from the right-of-way. The slope of the crown on a street shall not be less than one-fourth (1/4) of an inch per foot and not more than three-eighths (3/8) of an inch per foot, as determined by the Township Engineer. Where a curve is banked to reduce lateral vehicular acceleration as required by the design speed of the road, the required crown is eliminated. Adequate facilities shall be provided at all low points along the street and other points necessary to intercept runoff.

### E. Horizontal Curves.

1. Where connecting streets lines deflect from each other at any one point, the lines must be connected with a true, circular curve. Horizontal curves must be justified by a traffic engineering analysis and shall be based on a corrected maximum proposed speed limit. The minimum radius of the centerline for the curve shall be as follows:

TYPE OF STREET	MINIMUM RADIUS
Arterial	As determined following completion of traffic studies and consultation with PennDOT and the Traffic Engineer.
Collector	300 feet
Minor	200 feet

2. Straight portions of the street shall be tangent to the beginning or end of curves. Except for minor streets, there shall be a tangent of at least one hundred (100) feet between reverse curves. For curves on arterial streets (or as otherwise determined by the Township Engineer), proper super-elevation must be provided as required by the Township or the PennDOT. Broken-back curves shall be avoided.
3. The Township may require that Sight Easements be provided in order to maintain adequate stopping sight distances.
4. The Township may require that the development be provided with speed limit signs in which speeds have been determined by the required engineering studies to be recommended for the horizontal curve design.

### F. Vertical Curves.

1. Vertical curves are required where the algebraic difference exceeds one percent (1%) or as determined by the Township Engineer.

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2. Proper sight distance shall be provided with respect to vertical road alignments. The minimum sight distance measured along the centerline from three point five (3.5) feet to height of an object point five (0.5) feet above grade shall be as follows:

TYPE OF STREET	SIGHT DISTANCE
Arterial	As required by PennDOT design criteria for the posted speed.
Collector	400 feet
Minor	250 feet
Alley	100 feet

### G. Cul-De-Sac Streets.

1. Cul-de-sac streets designed to be permanent shall not exceed five hundred (500) feet in length measured from the centerline of the intersecting street to the centerpoint of said cul-de-sac and shall not furnish access to more than 20 dwelling units. If a cul-de-sac street intersects another cul-de-sac street, the maximum total length of the sum of the streets shall not exceed one thousand (1,000) feet. The Board of Supervisors may grant a waiver of maximum length requirement with the recommendation of the Planning Commission.
2. A paved turnaround meeting the minimum dimensions of one hundred (100) foot paved and one hundred twenty (120) foot right of way shall be provided. Dimension and/or layout is subject to change where in the opinion of the Township a revised dimension and/or layout is necessary for reasons of safety, maintenance, accessibility, construction, etc.
3. Temporary cul-de-sacs shall be designed to standards of permanent cul-de-sacs.
4. Where required, a designated area shall be shown for disposal of snow. Such area shall be provided with an easement acceptable to the Township.
5. All cul-de-sac circles shall be graded to create a center high point with all flow directed toward its edges.

### H. Loop Roads.

1. In the case of a proposed loop road the maximum length, measured along its centerline from the intersection of a public street to the beginning of the loop, shall be five hundred (500) feet.

### I. Intersections.

1. No intersection shall involve the junction of more than two (2) streets.

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2. Right-angle intersections shall be used wherever possible. In no instance, however, shall streets intersect at an angle of less than seventy-five (75) degrees or more than one hundred five (105) degrees. Intersections of two arterial streets shall be subject to PennDOT standards.
  
3. Intersections shall be improved on all sides by leveling areas. Such leveling areas shall have the minimum length of one hundred (100) feet (measured from the intersection of the centerlines) within which no grade shall exceed a maximum of four percent (4%). Where a through street exists or is proposed, the 4% leveling area may be waived pending review of the Township Engineer.
  
4. All streets intersecting a state road (US, PA or SR) shall be subject to the approval of the PennDOT.
  
5. Proper sight lines shall be provided and maintained at all intersections. Measured along the street centerline, there must be a clear sight triangle of seventy-five (75) feet. Where either of the two (2) streets is a collector street a clear sight triangle of one hundred (100) feet shall be required and where either of the two (2) streets is an arterial, a clear sight triangle of one hundred fifty (150) feet shall be required. Within such triangles, no vision-obstructing object shall be permitted. No building or construction other than utility poles, mail receptacles approved by the U.S. Postal Service, street lights, street signs, or traffic signs, shall be permitted within such triangles. Whenever a portion of such line occurs behind the building setback line, such portion shall be shown on the plan and shall be considered a building setback line.
  
6. Design of curb or edge of pavement shall take into account such conditions as type of turning vehicles, likely speeds of traffic, angle of turn, number of lanes, and whether parking is permitted, etc.; however, curb or edge of pavement shall not be less than the following for the most restrictive roadway class at the intersection:

<b><u>INTERSECTION</u></b>	<b><u>CURVE RADIUS</u></b>
Minor with Minor Street	25 Feet
Minor with Collector	30 Feet
Collector with Collector	35 Feet

7. Street intersection spacing shall be based on a traffic engineering analysis and shall be a function of street classification and proposed design speed limit. The following table contains minimum recommended intersection spacing. Such traffic engineering analysis shall be prepared in accordance with ITE Traffic Engineering Handbook recommendations and shall be subject to the review of the Township Engineer or Township Traffic Engineer. Minimum distance between intersections shall be as follows:

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	<i>Type of Intersection (Distance in Feet)</i>				
	Arterial/ Arterial	Arterial/Collector or Minor	Collector/ Collector	Collector/Minor	Minor/Minor (3)
Min. Distance Separation (1)	800	800	600	500	250
Min Distance Separation (2)		Must be in alignment		500	250

- (1) Minimum distance between centerlines of intersections.
- (2) Minimum centerline separation for streets where intersections are on direct opposite sides of the intersecting street.
- (3) Internal development street intersections.

- 8. Where determined to be necessary due to speed considerations, clear sight triangle side may increase. Increased values shall be in accordance with PennDOT or AASHTO Standards.
- 9. Safe sight distances shall be provided at all intersections. Standards for design shall comply with the intersection sight distance criteria presented in *A Policy on the Geometric Design of Highways and Streets* by AASHTO.

### J. Slope of Banks Along Streets.

- 1. The slope of banks along streets measured perpendicular to the street shall be no steeper than the following:
  - a. One (1) foot of vertical measurement for three (3) feet of horizontal measurement for fills.
  - b. One (1) foot of vertical measurement for two (2) feet of horizontal measurement for cuts.
  - c. Such slopes shall be suitably planted with perennial grasses or other vegetation to prevent erosion and minimize maintenance.

### K. Partial and Half-Streets.

The dedication of half-streets at the perimeter of new developments is prohibited, except to complete existing half-streets.

### L. Names Of Streets.

Names of new streets shall not duplicate or approximate existing or platted street names, or approximate such names by the use of suffixes such as "lane, "court", or "avenue". In approving the names, consideration shall be given to existing or platted street names within the postal delivery district served by the local post office. New streets shall bear the same name or number of any continuation or alignment with an existing street. All street names shall be subject to Township approval.

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### M. Reserve Strips.

Controlling access to streets by reserve strips is prohibited except where their control is definitely placed in the Township under control approved by the Township. A reserve strip is a parcel of ground in separate ownership separating a street from other adjacent properties or from another street.

### N. Alleys.

1. Alleys are permitted in single family, detached or semi-detached residential development to provide access to the rear of lots that have frontage on public minor, collector, or arterial streets.
2. While the use of dead end alleys is generally discouraged, where alleys dead end, they shall be provided with a Township approved turn-around and shall be subject to maximum cul-de-sac street length requirement.
3. Alleys shall be permitted provided that they are not proposed to be dedicated to the Township and that the developer must make adequate provision for the perpetual maintenance of the alley. The applicant shall in addition, provide for an easement enabling the Township to perform emergency maintenance in the event that the property owner should fail to do so and shall establish a procedure whereby the Township shall be able to assess the cost of such emergency maintenance upon the land owner.

### O. Alternate Design Criteria for Low-Volume Roads.

1. Subject to the recommendation of the Township Engineer, the following alternate criteria may be permitted for minor/local streets located within proposed subdivisions and land developments in which the streets are not proposed to be dedicated to the Township. These streets shall generally have an estimated ADT (average daily traffic) volume of two hundred fifty (250) vehicles per day or less. The proposed ADT shall be determined by a traffic impact study. Alternate standards must be supported by AASHTO or other recognized standard. The following standards shall apply:
  - a. For greater speeds a specific design and traffic study shall be submitted for review and recommendation by the Township Engineer.

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		Design Speed (mph)			
		15	20	25	30
Minimum	(no parking)	20'	20'	20'	20'
Cartway	(parking 1-side)	28'	28'	28'	28'
Width	(parking 2-sides )	34'	34'	34'	34'
Minimum	Centerline Radius	45'	90'	165'	260'
Safe-Stopping	Sight Distances	80'	115'	155'	200'
Minimum Rate of	(Sag)	10	17	26	37
Vertical Curvature	(Crest)	3	7	12	19
Curb Radii		15'	15'	15'	15'

2. Cul-de-sacs without center islands shall have a turn-around diameter of sixty (60) feet while cul-de-sacs with center islands shall have a minimum diameter of ninety (90) feet and minimum travel lanes of twenty (20) feet. Rights-of-way shall extend a minimum of ten (10) feet from the edge of pavement.
3. Design criteria not specifically addressed in this section shall be in accordance with the general road design standards set forth in this Ordinance.
4. Provisions for additional street width (right-of-way, cartway, shoulders etc.) may be required when determined to be necessary by the Township in specific cases for:
  - a. Public safety and convenience.
  - b. Traffic in commercial and industrial areas and in high-density residential development.
  - c. Widening of existing streets where the width does not meet the requirements of the preceding paragraphs.
  - d. Where topographic conditions require excessive cuts and fills.
  - e. When curbs are required

### 403. Off Street Parking.

- A. Off street vehicular parking facilities shall be provided in accordance with the Franklin Township Zoning Ordinance.

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### B. The following additional standards shall apply:

1. Multi-Family, Commercial, and Industrial Parking Facilities shall be adequately illuminated if designed for use by more than eight (8) cars after dusk.
2. Multi-Family, Commercial, and Industrial Parking Facilities shall be surfaced with a bituminous or concrete paving material.
3. All Multi-Family, Commercial, Public, and Industrial uses shall provide handicapped parking spaces by the applicable regulatory agency or by the Americans with Disabilities Act.
4. For uses which are not addressed in the Zoning Ordinance, the required parking spaces shall be based on a study as prepared by the developer and approved by the Township Engineer. The study shall address the following:
  - a. The type of use and estimated number of trips generated during peak conditions (inbound and outbound).
  - b. Estimated parking duration per vehicle (turnover rate).
  - c. Based on estimated number of trips generated and average parking duration per trip, calculate the number of spaces required. In addition one space shall be provided for every two employees working during the maximum shift.
5. The minimum isle width for 90 degree parking shall be twenty five (25) feet. For angled parking, isle width shall be as approved by the Township Engineer.

### 404. Driveways.

#### A. Residential.

Access to any public street or highway for a proposed residential use shall be governed by the Franklin Township Driveway and Street Excavation Ordinance and the following:

1. Within ten (10) feet of a street right-of-way line, a driveway may not exceed twenty (20) feet in width nor be less than ten (10) feet in width.
2. The number of driveways on a street frontage may not exceed one (1) per lot or tract unless circumstances prove that a second access is justified. Additional access points must be approved by the Township Board of Supervisors.
3. Where a driveway enters a bank through a cut, the shoulders of the cut may not exceed fifty percent (50%) in slope within twenty five (25) feet of the point at which the drive intersects the street right-of-way.
4. All driveways shall have a minimum safe sight distance in accordance with the PennDOT Rules and Regulations. Furthermore, all driveways which access Township roads shall be required to obtain a driveway permit from Franklin Township.

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5. Width, turning radius, and slope requirements shall conform to chapter 441 of the PennDOT rules and regulations.
6. The minimum angle between the centerline of the driveway and the street shall be not less than sixty-five (65) degrees.
7. A clear sight triangle of seventy five (75) feet along the street and driveway centerline and ten (10) feet into the driveway shall be maintained. Permanent obstructions other than mailboxes and utility poles shall be prohibited.
8. All accesses shall be provided with a drainage culvert or gutter/swale as may be directed by the Roadmaster. The stormwater management plan for a proposed development (where required by the Roadmaster, Township Engineer or Township) shall include calculations for sizing of driveway culverts. Drainage structures within the PennDOT right-of-way (where applicable) shall be subject to the review and approval of the PennDOT.
9. To prevent drainage and erosion problems and to minimize future maintenance, access driveways shall be surfaced with a stabilized material within the public street right-of-way. Where access is to a paved roadway, driveways shall be surfaced with Bituminous or Concrete material within the legal right-of-way.
10. Driveways shall be constructed so that motorists are not required to back on to the roadway.
11. Driveway access shall be provided to the street of lesser classification when there is more than one (1) street classification involved.

### B. Multi-family, Commercial and Industrial.

1. Driveways to any public street or highway in the case of a commercial or industrial development shall at a minimum conform to the standards for residential driveways, with the exception that all commercial or industrial drives shall be paved (at full width) meeting the design criteria of the Franklin Township Driveway and Street Excavation Ordinance. Additional standards shall be as follows:
  - a. All access ways to any public street or highway shall be located at least two hundred (200) feet from the intersection of any two street right-of-way lines, and shall be designed in a manner conducive to safe ingress and egress. Where practicable, exits shall be located on minor, rather than major streets or highways.
  - b. No design shall be approved which is likely to create a traffic hazard which has the potential to endanger public safety. Safety requirements which may be imposed in such a review shall include traffic control devices, acceleration or deceleration lanes; turning lanes, traffic and lane markings, and signs. The developer shall be responsible for the construction of any such traffic control devices which shall meet PennDOT approval.
  - c. All design standards of the PennDOT as may be amended, are hereby incorporated into this Ordinance.

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- d. A clear sight triangle, meeting the requirements of the Street and Highway Standards section of this Ordinance, shall be provided.

### 405. Blocks.

#### A. General.

1. The length, width and shape of blocks shall be determined with due regard to the following:
  - a. The provision of adequate sites for buildings of the type proposed.
  - b. Topography.
  - c. Any other codes, plans and ordinances.
  - d. Requirements for safe and convenient vehicular and pedestrian circulation, including the reduction of intersections with major streets.

#### B. Block Length.

1. Blocks shall have a maximum length of one thousand six hundred (1,600) feet and a minimum length of five hundred (500) feet, provided that the Township Supervisors may increase the maximum and/or decrease the minimum length of blocks if the topography of the land in question, surface water drainage conditions or other pertinent circumstance(s) warrant such a change.
2. In the design of blocks longer than one thousand one hundred (1,100) feet, special consideration shall be given to the requirements of satisfactory fire protection.
3. Blocks along major and collector streets should not be less than one thousand (1,000) feet long.

#### C. Pedestrian Crosswalks.

1. Crosswalks shall be required wherever necessary to facilitate pedestrian circulation and to give access to community facilities.
2. Such crosswalks shall comply with the Americans With Disabilities Act of 1990 (or as most recently amended).
3. Crosswalks in mid blocks shall be provided with warning devices. The Township may also require that the developer provide the necessary engineering studies to justify the placement of crosswalks.

#### D. Block Depth.

1. Residential blocks shall be of sufficient depth to accommodate two (2) tiers of lots, except:

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- a. Where reverse frontage lots are required along a major street.
- b. Where prevented by the size, topographical conditions, or other inherent conditions of property, in which case the Township may approve a single tier of lots.

### E. Commercial and Industrial Blocks.

1. 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, adequate provision shall be made for off-street parking for employees and customers and loading areas as well as for traffic circulation.

## 406. Lots.

### A. General Standards.

1. The size, shape, and orientation of lots shall be appropriate for the type of development and use contemplated.
2. Where feasible, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdiction problems.
3. All lots, or potential lots, must have suitable access. Land locked lots are not permitted.
4. If after subdividing, there exists substandard remnants of land they shall either be incorporated into existing or proposed lots, or legally dedicated to public use, if acceptable to the Township.
5. No lots shall be created in any manner whatsoever which does not meet the minimum requirements of this or other Township Ordinances.
6. Where dictated by topography, location, sewage disposal requirements, slopes, or other such conditions, the Township may require that the minimum lot size be increased.

### B. Lot Frontage.

1. All lots shall front on a dedicated public street (existing or proposed), or upon a private street constructed to the Township's Specification and Ordinances.
2. When a residential subdivision or land development is proposed, a maximum of four (4) proposed lots or dwellings units shall gain access in whole or in part via driveways connecting to existing streets for each parent tract in existence as of November 21, 2006. The remaining proposed lots or dwelling units must gain access via driveways connecting to a proposed internal street system, or internal driveway system. In the event that a proposed lot frontage on two streets of different classification, driveway access shall be provided from the street of lesser classification.

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3. Double or reverse frontage lots are prohibited except where required to provide separation of residential development from major streets or to overcome specific disadvantages of topography, orientation, or location.
4. All residential double or reverse frontage lots shall have a planting screen easement parallel to the accepted rear lot line and twenty (20) feet in width across which there shall be no right of access.

### C. Lot Soils Evaluation Tests.

1. Soil probe and percolation tests shall be performed for each lot of a proposed subdivision wherein buildings at the time of construction will not be connected to an existing public sewage disposal system. Each lot must be found satisfactory for on-site sewage disposal including an acceptable reserve or back-up area prior to the approval of the Preliminary Plan.
2. The soils tests called for above shall be performed in accordance with the regulations of the PA DEP. The Township Sewage Enforcement Officer will perform the tests and certify the results.
3. A planning module for land development for any new subdivision or land development shall be prepared by the developer and approved by the Township and the PA DEP prior to the approval of the Preliminary Plan.

### D. Lot Sizes, Building Setbacks, and Standards: Lot dimensions, sizes, and building setback requirements shall not be less than specified by the applicable Zoning Ordinance or as dictated by the this Ordinance as it relates to on-site sewage disposal or additional standards, whichever shall be more restrictive.

1. For condominium or PUD units the developer shall submit the following for review and approval by the Township
  - a. A Declaration Plan in accordance with Act 117 of 1963, the Unit Property Act. All condominiums shall be subject to the provisions of the Unit Property Act. The Declaration and Declaration Plan must be recorded along with the Final Plan in the County Records Office.
  - b. An agreement which outlines the responsibilities of the property owner or developer.
2. For industrial developments no design shall be approved which does not conform to appropriate Federal, State, Regional, and local standards relative to water and air pollution, particle emission, noise, electrical disturbances, waste disposal, light, glare, heat, vibration, radioactivity, and outdoor storage of materials:
  - a. Fire and explosive hazards as governed by the Department of Labor and Industry and the laws of the Commonwealth of Pennsylvania.
  - b. Liquid and solid wastes as governed by the PA DEP.
  - c. Smoke as governed by the Pennsylvania Air Pollution Control Commission.

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- d. Other forms of air pollution as governed by the United States Environmental Protection Agency.
  - e. All applicable environmental permits must be obtained and copies submitted to the Township prior to Preliminary Plan approval.
3. Water and sewer facilities shall be public systems or approved private systems. No individual on-site systems shall be approved for attached row, townhouse, or condominium units.
  4. For attached row or townhouse units a permanent easement shall be provided where the rear property line abuts any property other than a street for the purpose of ingress and egress by center property owners (including maintenance purposes). Minimum width of said easement shall be ten (10) feet.

### 407. Easements.

- A. Easements shall be provided for drainage facilities and overhead or underground public and private utility facilities in consultation with the Township Engineer, the electric, telephone, sewer and water utilities, the PennDOT, and the applicable Municipal Authority. No structures or trees shall be placed within such easements.
  1. The minimum width of such easements shall be twenty (20) feet for drainage facilities and underground utilities and ten (10) feet for overhead utilities. Larger widths may be required as recommended by the Township Engineer.
  2. Wherever possible such easements shall be centered on the side or rear lot lines, or along the front lot lines.
- B. Where a subdivision or land development is traversed by a watercourse, drainage way, channel, or stream, there shall be provided a drainage easement, width to be as determined by the Township Engineer, conforming substantially to the line of such watercourse, drainageway, channel, or stream and of such width as will be adequate to preserve the unimpeded flow of natural drainage or for the purpose of widening, deepening, relocating, improving, or protecting such drainage facilities or for the purpose of installing a storm sewer or to accommodate a one-hundred (100) year design storm. Under no circumstances shall the easement be less than twenty five (25) feet.
- C. Electric, telephone, and all other utility facilities shall be installed underground unless conditions require otherwise. The developer shall be required, prior to Final Plan approval, to obtain a letter from the appropriate utility company confirming that the developer has entered into an agreement to provide for an underground electric and telephone system in accordance with the Pennsylvania Public Utility Commission Investigation Docket #99, as amended, or has obtained a waiver from said Pennsylvania Public Utility Commission to allow overhead electric and telephone facilities.
- D. Drainage easements shall be required between all lots within a subdivision. They shall be centered on property lines wherever possible. Such easements shall preserve the

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unimpeded flow of natural drainage or provide for the construction of drainage facilities. In no case shall they be less than twenty (20) feet in width.

- E. Petroleum, Gas, and Electric Transmission Lines - Where any petroleum, petroleum products, natural gas, or electric transmission line traverses a land development, the developer shall confer with the applicable transmission or distribution company to determine the minimum distance which shall be required between each structure and the centerline of such transmission line. Transmission lines rights-of-way shall not be permitted to be included within residential lots. Furthermore, all land grading and development activities proposed near such facilities shall be minimized to the greatest extent possible. Additionally, the Township will require, with the preliminary plan application, a letter from the owner of the transmission line stating any conditions on the use of the tract and the right-of-way width, or a copy of the recorded agreement which shall contain the above data.
- F. Floodproofing of all Utilities - All new or replacement public and/or private utilities and facilities in floodprone areas shall be elevated or floodproofed up to the Regulatory Flood Elevation.
- G. No company intending to install any petroleum products or natural gas transmission line shall be allowed to construct the line on less than a fifty (50) foot right-of-way, such line to be installed approximately in the center of the right-of-way for the connection to all existing transmission lines within the development.
- H. Where necessary to access to public or common lands, a pedestrian easement shall be provided with a width of no less than ten (10) feet. Additional width may be required by the Township depending on the purpose and the use of the easement.
- I. In the case of sanitary sewer and water lines, the required right-of-way or easement should be as required by the applicable authority.

### 408. Land Grading Requirements.

- A. General: No land or parcel of land within the Township shall be graded or filled by any landowner, developer, or subdivider unless and until there has been compliance under the provisions of this Ordinance.

In the case of a subdivision and land development, the grading plan shall be submitted, reviewed, and approved as part of the Preliminary Plan process. The Land Grading Plan shall be subject to the review and approval of the Township Engineer in accordance with his or her recommendations and applicable local, state, and federal guidelines.

- B. Applicability: The provisions of this Section shall apply if the existing condition of any land is proposed to be changed by any one (1) of the following:
  - 1. Land is to be graded or filled to alter the existing contours more than an average of two (2) feet in elevation over an area in excess of five thousand (5,000) square feet.
  - 2. Land is to be filled to a depth of five (5) feet or more over any area in excess of one thousand (1,000) square feet.

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3. Land is to be graded or filled within an existing watercourse (whether an intermittent or flowing stream, or any normally dry swale which carries any amount of water during rainfall).
  4. In any event the Township shall reserve the right to require that a Land Grading Plan be prepared and submitted when it is determined by the Township Engineer that the nature of the land disturbance, based on soils, slopes, proximity to sensitive areas, etc. justifies the need.
- C. Approval of Land Grading Plan: The Land Grading Plan and all information and procedures relative thereto, shall in all respects be in compliance with the provisions of this Section.
- D. Drawing Requirements for Land Grading Plan: The following data shall be shown on the Land Grading Plan:
1. The Plan shall be prepared and certification made as to its accuracy by a registered surveyor or registered professional engineer.
  2. Property boundary consistent with the requirements for a preliminary plan under this ordinance.
  3. Existing topographic contours of the area to be graded or filled at contour intervals of no more than one (1) foot and depicted by a broken line unless the Planning Commission determines that a different contour interval is required. The proposed finished-grade contours shall be shown at contour intervals of one (1) foot and depicted by solid line.
  4. All existing watercourses within five hundred (500) feet of the area to be graded or filled, whether on land owned by the applicant or by others, shall be shown on the Plan.
  5. Total acreage of tract.
  6. Location and identification of all existing and proposed public and private easements.
  7. Location of all existing and proposed structures, roads, utilities, parking areas, and development appurtenances.
  8. Existing and proposed street names.
  9. All proposed temporary and permanent erosion and sediment control stormwater management facilities.
  10. Traverse map of the perimeter of the land or parcel of land. The traverse shall have an error of closure of not greater than one (1) in five thousand (5,000).
  11. Construction staging narrative.
  12. Detail drawings and specifications for all temporary and permanent erosion and sediment control and stormwater management facilities.

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13. All supporting calculations, documentation, and manufacturer's literature.

E. Additional Drawing Requirement for Land Grading Plan: In addition to the Drawing Requirements previously stated, the following data shall be shown on the Land Grading Plan:

1. The plan shall be drawn to scale of not less than one inch equals fifty feet (1" = 50'), shall indicate the magnetic north point, and owner's name and address.
2. Abutting property lines and the names of abutting landowners.
3. In cases of heavily wooded areas, the outline of the wooded areas and the location of trees which are to remain shall be shown.
4. A location map at a scale of one inch equals two thousand feet (1" = 2000') shall be drawn showing:
  - a. Relation of tract to adjoining property.
  - b. Related road and highway system within one thousand (1,000) feet of tract.
5. Statement that the applicant is the owner, equitable or authorized by the owner in writing to make application for the proposed land grading.

F. Construction Requirements

1. Fill: Fill shall not contain boulders or fractured rock or broken concrete over one (1) foot in largest dimension, or any organic material, trash, garbage, or broken asphalt paving. Fills of more than five (5) feet deep shall be compacted while being placed by a method approved by the Township Engineer.
2. Slopes: All constructed slopes shall not exceed the following:
  - a. Cut slopes in earth – Two (2) horizontal, one (1) vertical foot.
  - b. Cut slopes in rocks – One (1) horizontal, one (1) vertical foot.
  - c. Fill slopes – Three (3) horizontal, one (1) vertical.

Slope limitations and allowances are subject to change pending review of the Township Engineer. The Township reserves the right to make limitations more stringent where public safety or protection of waterways, streets, and slopes are involved.

3. Drainage: All drainage construction shall meet the requirements of the Franklin Township Stormwater Management Ordinance.

G. Other Requirements

1. During grading operations, necessary measures for dust control will be exercised.

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2. Grading equipment shall not be allowed to cross streams unless provisions are made for the installation of temporary or permanent culverts or bridges in accordance with PA DEP requirements.
3. No work will be allowed to commence until all applicable permits and approvals have been obtained. Where deemed necessary by the Township or State/Federal Law, the York County Conservation District must approve the grading plan.
4. A pre-construction walkthrough is required prior to clearing and grubbing operations to physically delineate the limits of disturbance for areas near trees, tree groves, slopes, streams, floodplains, wetlands, etc.

### **409. Sewage Disposal Systems.**

- A. Design of all sewage disposal systems shall be subject to review and approval of the Township as follows:
  1. In the case of on-site sewage disposal systems, testing, design, permitting, and installation shall be in accordance with current applicable Township Ordinances, the current Act 537 Plan, and Rules and Regulations of the PA DEP. Review and approval shall be by the Township Sewage Enforcement Officer.
  2. In the case of central sanitary sewer systems and wastewater treatment facilities which are to be privately owned, the design plans, maintenance plan, financial management plan, and specifications shall be subject to review of the Township and/or appropriate Municipal Authority, as part of the Subdivision or Land Development Plan process. Design criteria shall be that of PA DEP and as supplemented by the Township and/or Authority. A feasibility study to show the possibility for connection to the public sewer system is required at the Preliminary Plan stage. Review and approval of the wastewater treatment facility plans by the Township is required for Final Plan approval. Following approval of the Township, the developer is required to obtain approval from the PA DEP. Final Plan approval will not be granted until the developer submits copies of all applicable permits.
  3. In the case of sanitary sewer systems and wastewater treatment facilities which are to be dedicated to the public, review and approval of design plans, maintenance plan, financial management plan, and specifications shall be by the applicable Municipal Agency or Authority in accordance with their Rules and Regulations. Review and approval of plans and specifications by the Township and/or applicable Municipal Authority shall be part of the Subdivision or Land Development Plan process. A feasibility study to show the possibility for connection to the public sewer system is required at the Preliminary Plan stage. Review and approval of the wastewater treatment facility by the Township is required for Final Plan approval. Final Plan approval will not be granted until the developer submits copies of all applicable permits from PA DEP and other applicable government agencies, as necessary.

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### 410. Water Supply Systems.

In general, developable areas in Franklin Township are underlain primarily by the Gettysburg Formation and Diabase, which have both an unusually low groundwater recharge rate and low storage capacity. Additionally, Franklin Township is located in the Susquehanna River Basin. Water withdrawals within the Susquehanna River Basin are regulated by the Susquehanna River Basin Commission (SRBC) and may also require permitting from the PA DEP. Design of water supply systems shall be subject to review and approval of the Township as follows:

- A. Many projects are Projects under the jurisdiction of the SRBC and/or PA DEP and will be reviewed by the Township as part of the Preliminary Plan process. It is the developer's responsibility to determine governing requirements. Copies of all submissions to the SRBC and/or PA DEP, and all correspondence received from those agencies, shall be sent to the Township. Final Plan approval will not be granted until all permits are obtained.
- B. In the case of central water supply systems, which will be privately owned, review and approval of plans and specifications shall be by the Township and where deemed appropriate, the applicable Municipal Authority and/or PA DEP. Review and approval shall be part of the Preliminary Plan process. Following approval by the Township, the developer is required to obtain approval from PA DEP, in accordance with their regulations, and possibly SRBC (depending on withdrawal rate). Preliminary Plan approval will not be granted until the Township and/or Municipal Authority has approved the plans. Final Plan approval will not be granted until all required permits are obtained.
- C. In the case of Public Water Systems which will be dedicated to the public, review and approval of design plans and specifications shall be by the applicable Municipal Agency, or Authority in accordance with their Rules and Regulations. A feasibility study to show the possibility for connection to the public water system is required at the Preliminary Plan stage. Preliminary Plan approval will not be granted until the Applicant submits copies of all applicable approvals from the local Municipal Agency or Authority. Final Plan approval will not be given until all permits are obtained from PA DEP and other applicable government agencies (i.e., SRBC), as necessary.
- D. Where water supply is to be provided by means other than by private wells owned and maintained by the individual lot owners within the proposed subdivision or development, applicants shall present evidence to the Board of Supervisors or the Planning Commission, as the case may be, that the subdivision or development is to be supplied by a certified public utility, a bonafide cooperative association of lot owners, or by a municipal corporation, authority, or utility. A copy of a certificate of Public Conveyance from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement, or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.
- E. A Water Resources Impact Study shall be required when the proposed development is not under the jurisdiction of the PA DEP or SRBC or will not be served by public water supplied by a Municipal Authority approved by the Township; and one or more of the following conditions are met:

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1. Individual, private on-site wells and distribution systems, in which lots will rely on groundwater as the primary source of drinking water, are proposed for use in residential subdivisions containing three (3) lots or more and the smallest created lot is less than five (5) acres in area.
  2. The non-residential subdivision contains three (3) lots or more.
  3. A proposed well that is intended for non-residential use (i.e., industrial, commercial, institutional, agricultural).
  4. In any residential development where ten (10) or more homes are proposed on lots with on-site sewage disposal.
- F. A professional geologist licensed in the Commonwealth of Pennsylvania and qualified to conduct groundwater investigations shall prepare the Water Resources Impact Study. The purpose of the study will be to determine if there is an adequate supply of water for the proposed use and to estimate the impact of the additional water withdrawals on existing nearby wells, underlying aquifers and / or nearby surface water features (i.e., streams, wetlands, etc.). The Township Engineer shall review the impact study work plan, including proposed test well locations and pumping test procedures. Approval of the work plan by the Township Engineer shall be required prior to implementation.
- G. The adequacy of water supply shall be determined based upon establishing 400 gallons per day per household for peak demand calculations, and used as a conservative estimate by which to perform a groundwater budget analysis. A development that proposes to use a water system, which does not provide the minimum rate of supply of water for the proposed use, does not meet drinking water quality standards, and/or adversely affects nearby wells, ponds, and streams, shall not be approved by the Township.

### 411. Water Resources Impact Studies.

- A. The Water Resources Impact Study shall contain at a minimum the following information:
1. Calculations of project water demands, including a determination of required fire flows.
  2. Literature review and reference of published geologic and hydrogeologic reports.
  3. A geologic map of the area within a 1.0 mile radius of the proposed property boundaries and site.
  4. The location of all faults, lineaments, and fracture traces on-site and within one-half (1/2) mile of the proposed property boundaries.
  5. The locations of all existing and proposed wells within one-quarter (1/4) mile of the site and all large withdrawal wells (100,000 gpd+) within one-half (1/2) mile of the site.
  6. The locations of all test wells (both pumped and observation), along with the proposed lot boundaries, should be located on an accurate topographic site plot plan or basemap at a minimum scale of one (1) inch to five hundred (500) feet and with a two (2) foot contour interval.

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7. Define/map the boundary of the surface watershed in which the proposed development is located (use relevant USGS 7.5-minute topographic map as a basemap). The approximate property boundary for the development shall be delineated on this surface watershed map.
  8. Locate and identify known sources of groundwater contamination within this mapped surface watershed boundary and evaluate the potential impact(s), if any of this contamination occurs on the proposed ground water use.
  9. The location of all existing and proposed on-lot septic systems within one-quarter ( $\frac{1}{4}$ ) mile of the site.
  10. The location of all streams, perennial and intermittent, within one quarter ( $\frac{1}{4}$ ) mile of the site.
  11. Locate and identify existing municipal, community, industrial, and/or agricultural demands on groundwater resources located within one-half ( $\frac{1}{2}$ ) mile of the proposed development boundaries.
  12. A Water-Table or Potentiometric Surface Map showing groundwater elevation contours and the direction of groundwater flow.
  13. Perform a ground water analysis for the site that determines the recharge rate in gallons per day for the project build-out conditions during the one (1) in ten (10) year drought. Utilize the site's average recharge rate from the USGS Water Supply Paper 2284 (Tables 5 & 15) reduced by forty (40) percent and then multiplied by the pervious area of the completed project.
  14. Confirm that there are no nearby groundwater users whose withdrawal would inhibit the development from meeting its proposed groundwater usage rate.
  15. Divide the total annual groundwater recharge calculated for drought conditions (one (1) in ten (10) year drought) for the proposed development by 400 gallons per day (1 Equivalent Dwelling Unit, EDU) to calculate the maximum number of residential building lots that can be adequately supplied by the groundwater resource underlying the subject development site.
- B. Site Specific Report Requirements.  
The following site-specific investigations shall be carried out in preparation of the Water Resources Impact Study:
1. The installation and testing of new water supply wells for residential developments shall be included as part of the impact study as follows:
    - a. One test well and at least one observation well shall be installed and tested for proposed developments of three (3) lots or more where the smallest proposed lot is less than five (5) acres in area.

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- b. For proposed developments of six (6) or more lots, test wells shall be installed and tested on thirty (30) percent of the proposed lots. Test wells shall be located to be representative of both the variety of landforms and geologic formations contained by the proposed development.
    - c. For developments underlain entirely by Diabase, one test well shall be installed and tested on each lot to ensure an adequate water supply.
  2. The installation and testing of new water supply wells for non-residential developments shall follow the frequency given below:
    - a. For a non-residential user proposing to withdraw less than 25,000 gpd, one new test well shall be installed and tested. At least one observation well is required to be monitored during both the pumping/recovery phase of the well test.
    - b. For a non-residential user proposing to withdraw more than 25,000 gpd but less than 100,000 gpd, two new test wells shall be installed and tested. This regulation applies to non-consumptive wells that withdraw greater than 25,000 but less than 100,000 gpd. At least one observation well is required to be monitored during both the pumping/recovery phase of the well test.
    - c. A non-residential user proposing to withdraw more than 100,000 gpd falls under SRBC jurisdiction and will be reviewed by the Township. The Township shall not grant final plan approval until all necessary permits are obtained from all applicable regulatory agencies.
3. During the drilling and construction of the well, proper techniques of well development shall be utilized so as to obtain the best practical yield and quality, which is representative of the aquifer.
4. Each test well shall have an accurate geologic log, prepared under the direction of a professional geologist licensed by the Commonwealth, during the drilling of the well, giving a detailed description of the type and thickness of soils and bedrock formations encountered. Additionally, the log should contain information on the depth and thickness of all water bearing zones encountered and the yield from each zone.
5. Pumping Tests and Recovery Tests – Each new test well shall be pumped at a constant discharge rate for a minimum period of eight (8) continuous hours. Pump Rate should equal the well's rated capacity or 150% of the calculated peak demand, whichever is less. Recovery levels shall be measured at regular intervals immediately following the pumping period and continuing for eight (8) hours. A successful test is indicated by the achievement of ninety (90) percent recovery of the pre-test water level within this period.
6. During the performance of each pumping recovery test, time-drawdown measurements (within accuracy of one-hundredth foot) shall be taken from the pumped well and at least one nearby observation well. The time-drawdown measurements must be taken in both the pumped well and the observation well at the following minimum frequencies:
  - a. One reading every minute for the first 10 minutes of the test.

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- b. One reading every 2 minutes for the 10 to 100 minute test interval.
  - c. One reading every 10 minutes for the 100 to 300 minute test interval.
  - d. One reading every 20 minutes from 300 minutes to the end of the pumping period.
  - e. Repeat frequency for recovery phase of test.
7. All observation wells should be located within two hundred (200) feet horizontal distance from the pumping well, or be close enough to incur measurable drawdown during the pumping phase of the test. The observation well can be either a) an existing domestic well, but only if the domestic well is not actively pumped for the entire duration of testing (pumping and recovery phases) and its construction details (total depth and cased depth) penetrate the same hydrogeologic unit as the new well, or b) a new supply well on an adjacent lot if that adjacent well penetrates the same hydrogeologic unit as and its construction details (total depth and cased depth) are compatible with the new well being tested, or c) a new well specifically installed as an observation well for test purposes and scheduled for permanent abandonment following relevant Township requirements after the testing has been completed.
  8. The time-drawdown data collected from each pumping test should be used to define the local aquifer characteristics, including hydraulic conductivity, transmissivity, coefficient of storage, and the expected long-term yield of the well(s) being tested. Distance-drawdown relationships and impact on surrounding water users from the proposed groundwater withdrawal should be included in the assessment. A groundwater availability analysis should be included in the impact study to demonstrate that there are sufficient groundwater resources within the drainage basin to support both existing users and the proposed withdrawal. Raw time-drawdown data and field testing notes should be included in the report as an appendix. The area of impervious surfaces at project build-out should be subtracted from the area of contribution.
  9. Water samples for chemical analyses should be collected from the pumped wells within one hour of the scheduled end of the pumping phase of each test. Samples shall be analyzed at a PA DEP-certified laboratory for pH, total dissolved solids, iron, manganese, nitrate-nitrogen, radon, arsenic and coliform bacteria. A copy of the laboratory analytical report for each sample shall be included and summarized in the report.
  10. All water supply wells to be used for domestic purposes shall have a minimum yield of 1.0 gpm. In the case of low yielding wells, i.e., less than 5 gpm, the proposed water system shall be designed to be able to provide sufficient storage via oversize tanks and/or storage in the well bore to meet expected peak demand (i.e., 400 gpd).
- C. Water Resources Impact Study Determination.
- When a Water Resources Impact Study is required, the Board of Supervisors will approve the use of on-lot water supply systems (wells) or non-residential use wells when:
1. This report indicates the necessity for this type of water supply.
  2. The anticipated water supply yield is adequate for the type of development proposed.

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3. The installation of such systems will not endanger or adversely decrease the groundwater supplies to adjacent properties.

On relatively large projects, and when deemed appropriate and necessary by the Township Engineer, the analysis of the potential hydrologic impact using a groundwater model (i.e., MODFLOW) may be required in addition to the above fieldwork to adequately characterize and predict the overall impact the proposed project will have on availability groundwater resources.

### **412. Associations for the Operation of Private Community Water or Sanitary Sewer Systems**

Where a development will be served by a privately owned wastewater or water system, the developer shall provide a designated entity meeting the requirements of the Pennsylvania Department of Environmental Protection, Title 25, Chapter 71 Rules and Regulations. Such entity shall be established to own and operate such private system and shall be required to comply with the following minimum provisions:

- A. The association shall be charged with the responsibility for the operation, maintenance and replacement of the system, which obligation shall be transferred from the developer according to the schedule set forth in its operation bylaws or other agreement with the developer, and which schedule is approved by the Township.
- B. At the time of transfer of the system, the Association shall become the owner of the complete system, including the plant, pumps, conveyance facilities and appurtenances.
- C. The association must have perpetual existence and shall remain fully responsible for the operation, maintenance and replacement of the system until such time as it is dedicated to, and accepted by, a municipality or municipal authority having jurisdiction to provide public water or sanitary sewer services in the area in which the development is located.
- D. The association charter and/or bylaws shall provided for the collection of all operation, maintenance and replacement costs of the system, by assessments or other charges, from all lot owners serviced by the system.
- E. The association bylaws shall provide for the placement of liens against the owners of units/lots who have failed to pay any assessments or other charges when due; such liens to have priority over any lien filed to recover association debt.
- F. The association shall be required to maintain liability insurance at all times and in amounts acceptable to the Township, or as otherwise required by the Pennsylvania Department of Environmental Protection, covering the operation, maintenance and replacement of the system; the township shall be named as an additional insured on the association's liability policy.
- G. The association shall concurrently submit to the Township copies of all reports that are required to be submitted to the Pennsylvania Department of Environmental Protection regarding the operation, maintenance and repair of the system.

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- H. The association shall provide copies of its financial statements to the Township on an annual basis, promptly after such statements are approved for the year.
- I. The association and all owners of lots within the development shall, during such ownership and/or use of the system, indemnify, defend and hold harmless the Township from any and all claims, demands, liabilities, damages and losses, including reasonable attorney fees, resulting, in whole or in part, from the construction, installation, operation, maintenance and/or replacement of the system.
- J. Prior to final plan approval, the developer and/or Association shall establish and maintain financial security with the Township to cover the costs of future operation, maintenance and replacement of the system in accordance with Chapter 71 of Title 25 of the Regulations of the Pennsylvania Department of Environmental Protection.
- K. The association shall enter into a contract for an operation/maintenance agreement with a Pennsylvania Department of Environmental Protection certified plant operator, and backup plant operator as required by its Regulations, which shall require the plant operator to comply with all federal and state laws and to provide copies to the Township on a quarterly basis or all reports made to any federal or state agency. The operator shall monitor the system as required by Pennsylvania Department of Environmental Protection. The association shall, on an annual basis, provide a copy of the operators' license to the Township. The association shall notify the Township if the contract for operation/maintenance agreement changes, including but no limited to a different operator or back-up operator.
- L. The Township shall be deemed to be a third party beneficiary of the homeowners association agreement and if, for any reason, the Township expends monies to maintain, repair or replace the system due to a default by the association, the individual lot owners shall be responsible to reimburse the Township for any monies so expended, and failure to reimburse shall constitute grounds for the Township to place a lien on the lot owner's property. Nothing herein shall be construed to place any duty or responsibility on the Township with respect to any matter concerning the operation, maintenance or replacement of the system.
- M. The document containing the above provisions shall be presented to the Township Engineer and Township Solicitor for review and approval prior to final plan approval.

### **413. Traffic Impact Studies.**

- A. Purpose and Intent:

The impact of new traffic from proposed land developments is an important aspect of assessing the overall impacts of new development in the Township. All new land developments will generate new traffic. Some land developments may generate enough traffic to create congestion and/or substantially increase the level of travel delay experienced by existing users of the township's transportation system. Corrective measures may be necessary to mitigate the transportation impacts of proposed land developments. These corrective measures could include new roads, traffic signals, turn lanes, and other intersection improvements. Traffic impact studies will allow the township to better determine the transportation demands of development proposals and provide for reduction of adverse impacts on the transportation system.

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### B. Objectives:

The township finds that requiring a traffic impact study for proposed developments that meet certain thresholds of applicability will help to achieve the following objectives:

1. Identify the amount of additional traffic that would be generated by the development;
2. Assess the impacts of the development on the operational performance of the Township's roadway system;
3. Determine the ability of the Township's current roadway system to accommodate the additional traffic demands of the development;
4. Determine the improvements necessary, if any, to accommodate the additional traffic associated with the new development;
5. Ensure safe and reasonable traffic conditions on streets after the development is complete;
6. Protect the substantial public investment in the street system;
7. Provide information relevant to comprehensive planning, transportation planning, transit planning, and the provision of programs and facilities for traffic safety, road improvements, transportation demand management, pedestrian access, and other transportation system considerations.

### C. Short Title:

This Section shall be known and may be cited as the Traffic Impact Studies.

### D. Definitions:

**HORIZON YEAR** - The horizon year shall be five years beyond the opening year of the proposed development.

**INTERNAL TRIPS** - Trips that are made within a multi-use or mixed-use development, by vehicle or by an alternate mode, such as walking.

**LEVEL OF SERVICE (LOS)** - A quantitative and qualitative measure defined by the "Highway Capacity Manual", latest edition of how well traffic flows on a given roadway or intersection. Level of Service relates to such factors as highway width, number of lanes, percentage of trucks, total traffic volume, turning movements, lateral clearances, grades, sight distance, capacity in relation to volume, travel speed, and other factors which affect the quality of flow. Level of Service is typically summarized by letter grades described as follows:

Level "A" is a condition with low traffic volumes, high speeds, and free-flow conditions.

Level "B" is a condition with light traffic volumes, minor speed restrictions, and stable flow.

Level "C" is a condition with moderate traffic volumes, where speed and maneuvering are restricted to a limited degree by the amount of traffic.

Level "D" is a condition with heavy traffic operating at tolerable speeds, although temporary slowdowns in flow may occur.

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Level "E" is a condition of very heavy flow and relatively low speeds. Under Level "E" the traffic is unstable and short stoppage may occur.

Level "F" is a condition of extremely heavy flow, with frequent stoppage and very slow speeds. It is an unstable traffic condition under which traffic often comes to a complete halt.

**LOCAL TRIP GENERATION STUDY** - A study by a qualified professional of a minimum of three comparable developments of similar land use and development characteristics which provides empirical data on the actual number of trips entering and exiting said development(s) during the applicable peak hours.

**NEW TRIPS** - Total vehicle trips, minus pass-by trips, minus internal trips, if applicable.

**PASS-BY TRIPS** - Vehicle trips which are made by traffic already using the adjacent roadway and entering the site as an intermediate stop on the way to another destination.

**PEAK HOURS OF ADJACENT STREET TRAFFIC** - The highest hourly volumes of traffic on the adjacent streets (four consecutive fifteen minute intervals) on a typical weekday between 7:00 a.m. to 9:00 a.m and/or between 4:00 pm to 6:00 pm.

**OPENING YEAR** – The opening year of the development is defined as the anticipated year when all phases of the development have been completed.

**QUALIFIED PROFESSIONAL** - For purposes of conducting traffic impact studies as may be required by this Section, a qualified professional shall mean a registered professional engineer with experience in traffic engineering.

**SITE GENERATED PEAK HOUR** - The highest hourly volume of traffic entering and exiting a development site. This peak may coincide with the peak hour of adjacent street traffic or occur at other times such as mid-day, late evening, or during the weekend.

**TRAFFIC IMPACT STUDY** - An analysis and assessment, conducted by a qualified professional, that assesses the effects that traffic related to a proposed land development will have on the transportation network in a community or portion thereof. Traffic impact studies vary in their range of detail and complexity depending on the type, size, and location of the proposed development.

**TRIP** - A single or one-directional travel movement with either the origin or destination of the trip inside the study site.

**TRIP GENERATION** - An estimate of the number of vehicle trips that will be generated due to the new development, which is calculated based on the type and amount of land uses in the proposed development and professionally accepted trip generation data for each such land use. Trip generation may be expressed on an average daily or peak hour basis.

### E. Thresholds of Applicability:

A traffic impact study shall be required for any land-development proposal, subdivision, and/or change in use which is expected to generate fifty (50) or more new trips during any peak hour or five hundred (500) or more new trips during an average day. The estimated number of trips shall be determined in accordance with this Section.

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The Township reserves the right to require a traffic impact study for developments generating less than fifty (50) new trips during any peak hour in cases where traffic deficiencies exist in the area of the proposed development.

### F. Exemptions:

1. A land development proposal may be exempted from the traffic impact study requirement if a prior traffic impact study for the subject property has been submitted to the township within the previous two-years and the proposed development is substantially similar to that for which the prior traffic impact study was conducted.

### G. Scoping Meeting:

Prior to beginning a traffic impact study (as directed), the applicant or its representative must schedule a scoping meeting with the appropriate representatives of the Township. The purpose of this scoping meeting is to discuss the availability of site-specific information concerning the development, available traffic counts from other studies, boundaries of the study area, time periods of study, and pending developments located nearby that may influence travel patterns within the study area. Representatives of adjoining municipalities may be invited to the scoping meeting if the boundary of the study area as defined by this Section crosses the Township boundary.

The applicant shall submit the following information to the Township at least two weeks prior to the Scoping Meeting:

1. A brief description of the proposed project in terms of location, type, and intensity of land-use.
2. A map of the study area defined in accordance with the requirements of this Section.
3. Projected site generated traffic volumes determined in accordance with the requirements of this Section for average daily traffic, the peak hours of adjacent street traffic, and the peak hour of generation.

### H. Time Periods of Study:

At a minimum, the traffic impact study must provide all the analyses identified by this Section for the morning and afternoon peak hours of adjacent street traffic during a typical weekday. Proposed retail developments must also provide all the analyses identified by this Section for the Saturday peak hour of generation. Proposed developments expected to have site-generated peak hour(s) that differ from the peak hours of adjacent street traffic must also include all the analyses identified by this Section for the peak hour(s) of the generator. Examples of these types of developments include, but are not limited to, elementary schools, high schools, movie theaters, churches, and stadiums. The time periods of study shall be established during the Scoping Meeting required by this Section.

### I. Definition of Study Area:

The traffic impact study area shall include all major streets and intersections expected to accommodate fifty (50) or more new trips during any peak hour or five hundred (500) or more new trips during an average day. Major streets shall include all roadways with a functional classification other than local road or residential street. Major intersections shall include all junctions other than those involving only local roads or residential streets. The

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study area for all traffic impact studies shall include the driveway access points between the development and the external roadway system.

### J. Required Contents of a Traffic Impact Study:

The traffic impact study must evaluate the adequacy of the existing transportation system to serve the proposed development and identify the expected impacts of the proposed development on the transportation system. The traffic impact study must provide adequate information for township staff to evaluate the development proposal and, when appropriate, recommend conditions of approval.

The qualified professional preparing the traffic impact study is encouraged to coordinate preparation with local staff and staff from other jurisdictions, as appropriate, to ensure that all necessary components are included in the traffic impact study and to reduce revision and review time.

The traffic impact study shall include at least the following minimum components:

1. Title Page. The title page shall list the name of the proposed development, the location of the proposed development, the name of the applicant, and the name of the qualified professional that prepared the study.
2. Certification. The traffic impact study shall be signed and sealed by a qualified professional. The seal shall be affixed to the title page.
3. Executive Summary. The executive summary shall describe the location and composition of the proposed land development, discuss the major findings of the traffic impact analysis, and list the recommendations of the qualified professional.
4. Table of Contents. The table of contents shall provide a page number listing of the major components of the traffic impact study.
5. Location Map. A location map shall illustrate the place of the proposed development and the location of intersections within the study area as defined by this Section.
6. General Site Description. The site description shall include the existing and proposed land uses, current zoning, size of the proposed development, number/location of access points onto the surrounding roadway system, construction phasing, and completion date of the proposed land development. A conceptual site plan of the proposed development shall be included in the traffic impact study.
7. Internal Transportation System. The traffic impact study shall describe the transportation system located within the proposed development site. This description shall include vehicular ingress and egress locations, existing or proposed internal roadways including the widths of cartway, widths of right-of-way, parking conditions, traffic channelization, traffic control devices, bicycle accommodations, and pedestrian accommodations.
8. External Transportation System. The traffic impact study shall describe the entire external roadway system within the study area defined by this Section. For major streets within the study area, this description shall include identification of route number, right-of-way widths, cartway widths, shoulder widths, presence/absence of curbing,

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Township functional classification, State functional classification, regional connectivity, posted speed limits, 85<sup>th</sup> percentile operating speed, roadside conditions, and pavement conditions. For major intersections within the study area, this description shall include a description of the intersection layout, number of lanes, approach gradient, lane-use control, type of traffic control, and traffic signal timing parameters. Where applicable, traffic signal permit plans shall be obtained from the PennDOT and included in an Appendix to the traffic impact study. A sketch depicting existing conditions shall be provided in the traffic impact study for all roadways and intersections within the study area.

9. **Nearby Development.** The traffic impact study shall list and provide a brief description of other planned, pending, partially built-out, vacant, and/or partially occupied land developments within the study area that have received municipal land development approval. These nearby developments shall be identified during the Scoping Meeting required by this Section. All nearby developments listed in this section shall be included in the future-year traffic projections for the study area.
10. **Programmed Roadway Improvements.** The traffic impact study shall list and describe any roadway improvements that have been scheduled with guaranteed funding by either the Township or the PennDOT for construction by the project horizon year. This information shall be identified during the Scoping Meeting required by this Section. The programmed roadway improvements listed in this section shall be included in the future-year level-of-service analyses of the study area.
11. **Existing Traffic Conditions.** The traffic impact study shall identify existing traffic conditions for all roadways and intersections in the study area. The existing traffic data, including the traffic volumes for average daily traffic, peak hours of adjacent street traffic, and peak hour(s) of the generator, if applicable, shall be field collected by experienced personnel. Traffic counts for the weekday peak hours of adjacent street traffic and the weekday peak hour(s) of the generator shall be collected on a Tuesday, Wednesday, or Thursday during a week that does not include a federal and/or state holiday. The traffic impact study shall illustrate the existing traffic volumes on a schematic turn movement diagram of the study area.

The traffic counts shall be reflective of the year of when the report was prepared. Traffic counts between one and three years old may be used if factored to the current year using an appropriate growth rate for the area in question. Traffic counts older than three years shall not be used in the traffic impact study.

Seasonal adjustment of traffic counts is required when the study area is located within or near a major tourist destination. The seasonal adjustment factor shall adjust the field-collected traffic counts from the off-peak observed value to the expected value during the highest month of the peak season. In no case shall the seasonal adjustment factor be used to adjust the field-collected traffic counts to a lesser value.

The traffic impact study shall provide a discussion of the balance of the existing traffic counts between adjacent intersections. Potential mid-block sinks and sources of traffic shall be identified to justify any imbalance or the existing traffic counts shall be balanced to the higher of the observed values.

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12. Trip Generation. The traffic impact study shall estimate trip generation for the proposed development based on the publication "Trip Generation" published by the Institute of Transportation Engineers (ITE), most recent edition. The independent variable selected for the calculation of trip generation shall be based on the procedures of "Trip Generation Handbook" by ITE, most recent edition. The method of calculation of trip generation (by weighted average rate, by equation, or by local data) shall also be based on the procedures of the "Trip Generation Handbook". If local data collection is required, the local data must be collected based on the procedures of the "Trip Generation Handbook" at a minimum of three similar sites and be presented in a manner that is verifiable by the Township.

For retail developments, the traffic impact study shall estimate pass-by trips based on the procedures of the "Trip Generation Handbook" by ITE, most recent edition. The qualified professional must provide justification for any assumptions related to the estimate of pass-by trips, particularly in cases where the "Trip Generation Handbook" does not provide applicable data for the land-use or time period in question.

For multi-use developments containing a mixture of retail, office, and/or residential uses, the traffic impact study shall estimate the number of internal trips following the procedures of the "Trip Generation Handbook" by ITE, most recent edition. The total amount of internal trips for any one land-use within the multi-use site to/from all other land-uses of each type (retail, residential, or office) within the multi-use site shall be limited to the applicable internal capture rate presented in "Trip Generation Handbook" for each type of land-use pairing. The qualified professional must provide justification for any assumptions related to the estimate of internal trips, particularly in cases where the "Trip Generation Handbook" does not provide applicable data for the time period in question.

For developments expected to generate more than thirty (30) trucks per day, the trip generation data shall include separate figures for trucks. The level-of-service analyses, signal warrant analyses, auxiliary turn lane analyses, and other applicable analyses must incorporate the forecasted truck trip generation

If phased development is proposed, a trip generation estimate shall be provided for the amount of development completed at the end of each phase.

The applicant may adjust the trip generation for a proposed development to account for the implementation of travel demand management strategies, pedestrian accommodations, bicycle accommodations, and transit accommodations. The application of these modification factors shall follow the procedures documented in *Policies and Procedures for Transportation Impact Study* by PennDOT.

13. Trip Distribution and Assignment. The traffic impact study shall estimate trip distribution based on one of the procedures suggested in the publications "Transportation and Land Development" by ITE, latest edition and "Transportation Impact Analysis for Site Development" by ITE, latest edition. The qualified professional may follow other methods for trip distribution/traffic assignment with the Township's approval. Supporting data and calculations must be provided in the traffic impact study for verification of the trip distribution pattern.

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When the site has more than one access driveway, logical routing, and possibly multiple paths should be used to obtain realistic driveway volumes. A multi-use development may require more than one distribution and coinciding assignment for each land-use type.

Trip distribution for pass-by trips shall follow the procedures of the "Trip Generation Handbook" by ITE, latest edition. The amount of pass-by trips routed into the development site from any adjoining roadway shall be limited to twenty five (25) percent of the non-site related traffic volume on that roadway.

For developments expected to generate more than thirty (30) truck trips per day, the study shall include separate trip distribution figures for trucks. For the level-of-service analyses, the percentage of heavy vehicles by approach shall be recalculated to include the expected trucks that would be generated by the development. The traffic volume entries for the trucks in the traffic signal warrant analyses and auxiliary turn lane analyses required by this Section shall be adjusted to passenger car equivalents in accordance with the "Highway Capacity Manual", latest edition.

14. Forecast Pre-Development Traffic Volumes. The traffic impact study shall provide opening year and horizon year forecasts of average daily traffic and peak hour traffic volumes for pre-development conditions. This forecast shall follow the build-up method recommended in "Transportation Impact Analysis for Site Development" by ITE, latest edition. Regional travel growth shall be estimated by adjusting existing through traffic volumes within the study area (un-related to specific land developments within the study area) by a growth rate reflective of the type of roadways within the study area. The growth rate referenced in this step shall be reflective of regional changes in travel growth from a minimum history of five years or as defined in the York County Regional Travel Demand Model. Traffic related to the nearby developments within the study area shall be identified from available traffic impact studies or estimated following the procedures of this Section. The forecasted traffic volumes without development would equate to the sum of existing traffic, expected change in traffic due to regional growth, and expected traffic related to nearby developments.

The traffic impact study shall illustrate the forecasted pre-development traffic volumes on schematic turn movement diagrams of the study area.

15. Forecast Traffic Volumes With the Development. The traffic impact study shall provide opening year and horizon year forecasts of average daily traffic and peak hour traffic volumes for development conditions. This forecast shall follow the build-up method recommended in "Transportation Impact Analysis for Site Development" by ITE, latest edition. The forecasted traffic volumes with development would equate to the sum of existing traffic, expected change in traffic due to regional growth, expected traffic related to nearby developments, and expected traffic from the development site.

The traffic impact study shall illustrate the forecasted traffic volumes with development on schematic turn movement diagrams of the study area.

16. Level-of-Service Analysis, Baseline Conditions. The traffic impact study shall provide a level-of-service analysis for all roadways and key intersections within the study area for

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all applicable peak hours for existing conditions, opening year conditions without new traffic associated with the proposed development, opening year conditions with new traffic associated with completed phases of the proposed development, horizon year conditions without new traffic associated with the proposed development, and horizon year conditions with traffic associated with full build-out of the proposed development. The level-of-service analysis shall reference the methodologies presented in the current edition of the Transportation Research Board's "Highway Capacity Manual". The qualified professional shall utilize the most recent edition of any computer software implementations of the Highway Capacity Manual.

The analysis of the baseline level-of-service conditions shall be based on the current geometric and traffic conditions unless otherwise specified by this Section. Traffic signal timings shall be optimized in a manner that minimizes overall intersection delay for all future year conditions. Programmed roadway improvements within the study area shall be considered for the level-of-service analyses of future year conditions, if scheduled for implementation by the future year under consideration. Any deviations from the default values suggested by the Highway Capacity Manual for ideal saturation flow rate, lane utilization, lost time, critical gap, follow-up time, etc. must be fully justified by the qualified professional in a manner that the Township can verify. Analysis parameters such as the peak hour factor and percentage of heavy vehicles shall be referenced by approach from the existing traffic counts taken within the study area. The peak hour factor for movements that directly enter the development site via an access driveway shall be set at 0.9. Unless otherwise specified by this Section, percent heavy vehicles for movements that directly enter the development site via an access driveway shall be set at 2 percent.

The results of the levels-of-service analysis shall be summarized in tabular form and identified on schematic diagrams for all roadways within the study area and for all lane-groups, approaches, and overall averages at all intersections within the study area.

17. Impact Identification. The traffic impact study shall identify the locations where traffic related to the proposed development has impacted level-of-service (LOS)/travel delay within the study area. Level-of-service (travel delay if LOS F) must not deteriorate below a condition worse than pre-development level-of-service. A change in average travel delay of least 10 seconds per vehicle must occur along any roadway, lane-group, approached, or intersection average before the level-of-service is determined to have been impacted.
18. Mitigation Analysis. The traffic impact study shall suggest roadway improvements to mitigate any identified impacts that have occurred within the study area. Level-of-service must be restored to pre-developed conditions. The 10-second change in travel delay variance for establishing an impact is not applicable to the mitigation analysis. A level-of-service analysis with the proposed mitigation shall be provided for all roadways and key intersections within the study area to demonstrate the effectiveness of the suggested roadway improvements. The level-of-service analysis shall reference the methodologies presented in the current edition of the Transportation Research Board's "Highway Capacity Manual,". The qualified professional shall utilize the most recent edition of any computer software implementations of the Highway Capacity Manual. Any deviations from the default values suggested by the Highway Capacity Manual for ideal saturation flow rate, lane utilization, lost time, critical gap, follow-up time, etc. must be fully justified

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by the qualified professional in a manner that the Township can verify. Analysis parameters such as the peak hour factor and percentage of heavy vehicles shall be referenced by approach from the existing traffic counts taken within the study area. The peak hour factor for movements that directly enter the development site via an access driveway shall be set at 0.9. Unless otherwise specified by this Section, percent heavy vehicles for movements that directly enter the development site via an access driveway shall be set at 2 percent.

The results of the mitigation analysis shall be summarized in a tabular comparison of pre-development level-of-service and with development level-of-service with proposed mitigation. The results of the mitigation analysis shall also be shown on schematic diagrams for all roadways within the study area and for all lane-groups, approaches, and overall averages at all intersections within the study area.

19. Preferred Level-of-Service Analysis – The traffic impact study shall suggest roadway improvements to provide a preferred level-of-service “C” along all roadways, lane-groups, approaches, and intersection averages within the study area for horizon year conditions with development. A level-of-service analysis with the proposed improvements to provide preferred level-of-service shall be provided for all roadways and key intersections within the study area to demonstrate the effectiveness of the suggested roadway improvements. The level-of-service analysis shall reference the methodologies presented in the current edition of the Transportation Research Board’s “Highway Capacity Manual.” The qualified professional shall utilize the most recent edition of any computer software implementations of the Highway Capacity Manual. Any deviations from the default values suggested by the Highway Capacity Manual for ideal saturation flow rate, lane utilization, lost time, critical gap, follow-up time, etc. must be fully justified by the qualified professional in a manner that the Township can verify. Analysis parameters such as the peak hour factor and percentage of heavy vehicles shall be referenced by approach from the existing traffic counts taken within the study area. The peak hour factor for movements that directly enter the development site via an access driveway shall be set at 0.9. Unless otherwise specified by this Section, percent heavy vehicles for movements that directly enter the development site via an access driveway shall be set at 2 percent.

The results of the preferred level-of-service analysis shall be summarized in a tabular comparison of pre-development level-of-service and with development level-of-service with proposed improvements to provide preferred level-of-service. The results of the mitigation analysis shall also be shown on schematic diagrams for all roadways within the study area and for all lane-groups, approaches, and overall averages at all intersections within the study area.

20. Proportional Impact Analysis – The traffic impact study shall identify the proportional impact of development traffic on all roadway and intersections within the study area. The proportional impact shall be calculated based on the change of the critical volume to capacity ratio between pre-development and with development conditions during the horizon year.
21. Traffic Signal Warrant Analysis. The traffic impact study shall provide a traffic signal warrant analyses for all unsignalized intersections within the study area. The warrant analysis shall consider all of the vehicular volume-based conditions listed in the the

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Manual on Uniform Traffic Control Devices, current edition and the applicable publications of the PennDOT. The warrant analysis shall include all applicable peak hours for existing conditions, opening year conditions without new traffic associated with the proposed development, opening year conditions with new traffic associated with completed phases of the proposed development, horizon year conditions without new traffic associated with the proposed development, and horizon year conditions with traffic associated with full build-out of the proposed development. If signal warrants are satisfied, a left-turn lane/left-turn phase warrant analysis shall be prepared based on procedures detailed by the PennDOT in Publication 149.

22. Queue Analysis. The traffic impact study shall provide a comparison of existing queue storage characteristics within the study area to the projected 95<sup>th</sup> percentile queue lengths for all applicable peak hours for existing conditions, opening year pre-development conditions, opening-year with development conditions, horizon year pre-development conditions, horizon year post development conditions, opening year with development conditions with suggested mitigation, and horizon year with development conditions with suggested mitigation. The applicant shall identify any improvements necessary to the queue storage characteristics of the study area to prevent gridlock and queue spill back conditions. The method used to identify the 95<sup>th</sup> percentile queue lengths is subject to Township approval.
23. Auxiliary Turn Lane Analysis. The traffic impact study shall provide auxiliary turn lane analyses for the major street approaches to the proposed access points of the development with the external roadway system. Storage length requirements for warranted right-turn and left-turn lanes shall be determined in accordance with PennDOT criterion and at a minimum must accommodate the 95<sup>th</sup> percentile queue. The method used to evaluate auxiliary turn lane warrants is subject to Township approval.
24. Sight Distance. The traffic impact study shall identify available sight distance at each proposed access point between the development and the external roadway system. The traffic impact study shall provide a table that compares the available sight distance to the Township's requirements as specified in the Subdivision and Land Development Ordinance and the criteria of the DOT as detailed in Title 67 of the Pennsylvania Code.
25. Improvement Sketches. The traffic impact study must provide sketches of any roadway improvements suggested to satisfy the requirements of this Section. The sketches shall show the improvements on a preliminary engineering drawing at a scale of one inch equals twenty five feet (1"=25'). The drawing must depict proposed lane configurations, lane widths, cartway widths, approach gradient, types of traffic control, right-of-way widths, utility locations, etc. A cost estimate for implementing the suggested improvements shall also be provided.

### K. Costs and Fees:

The township assumes no liability for any costs of time delays (either direct or consequential) associated with the preparation and review of traffic impact studies. The applicant shall reimburse the township for all costs related to review of the traffic impact study. No permits for construction or occupancy of a development shall be issued until the applicant reimburses the Township for all such fees.

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- L. Submittal and Review of Study:  
The applicant for the proposed development or the qualified professional shall submit five (5) paper copies of the traffic impact study to the Township for review. The level-of-service worksheets shall also be submitted to the Township on digital media in the software format used for the level-of-service analysis. The Township, at its discretion, may hire a qualified professional to review the traffic impact study. The Township at its discretion may also submit copies of the report to applicable review agencies including, but not limited to the DOT, the county planning department, adjacent municipalities, the school district and/or metropolitan/rural planning organization. The traffic impact study will be considered a public report and will be made available for public review.
- M. Coordination with the PennDOT.  
For developments where the PennDOT has required a traffic impact study, the traffic impact study shall follow the more restrictive requirements of PennDOT or this Ordinance. The Township shall be copied on all correspondence with PennDOT.

### **414. Landscaping Requirements.**

All plans shall be accompanied by a Landscaping Plan that meets the requirements of the zoning ordinance. The Landscaping Plan shall be reviewed and approved as part of the Preliminary Plan phase. Requirements of the Landscaping Plan are as follows:

- A. Detail drawings and specifications shall be provided on the plan where applicable.
- B. There shall be a key or legend which corresponds to the plan identifying type of plants.
- C. In the case where the lot is intended for single family residential use specific plants do not have to be indicated.
- D. Design shall be in accordance with standard practice of landscape architecture.
- E. Selection of plants and trees shall be based on the location of the site and local environmental influence such as slope, soil, wind, temperature, shade, rainfall, etc.
- F. The landscape plan shall be subject to review and approval by the Township Engineer.
- G. Responsibility for future maintenance shall be that of the property owner, however the developer is responsible for installation under the terms of the posted financial surety.

### **415. Recreation Dedication.**

The purpose of this Section is to implement requirements relating to dedication of land or a payment of a fee in lieu thereof by new developments to provide needed park and recreation opportunities as outlined in Article V, Section 503 (11) of the Pennsylvania Municipalities Planning Code.

- A. General Requirements – All preliminary and final subdivision and land development proposals shall be required to provide suitable land for parks and recreation or a fee in lieu

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thereof. Dedicated land or fees, or combination thereof, shall be used for the purpose of providing park or recreation facilities accessible to the development and available to everyone in the Township.

B. To be suitable, land for recreation must:

1. Be free of any construction debris and comply with the following requirements and restrictions:
  - a. The proposed dedicated land shall not be located in any floodway,
  - b. shall not include more than ten percent (10%) wetlands or hydric soils,
  - c. have a slope of five percent (5%) or less on seventy five percent (75%) of the area,
  - d. shall not be located in any existing or proposed stormwater management facility,
  - e. shall not include areas with any environmental, health, or safety concern, and
  - f. shall not be a part of any other ordinance requirement relating to setbacks, buffers, and/or open space and greenways.
2. Be easily and safely accessible from all areas of the development to be served, have good ingress and egress and have direct access to a public roadway. However, no public roadways shall traverse the site(s), except where necessary to provide for proper traffic circulation and then only upon the recommendation of the Township Engineer and Planning Commission.
3. Be easily accessible to all essential utilities, water, sewage, and power appropriate to the use of the site.
4. Be suitable for development as a particular type of park, as categorized by the National Recreation and Park Association's National Park, Recreation, and Open Space Standards and Guidelines, 1983, and updates.
5. Be compatible with the objectives, guidelines, and recommendations as set forth in the Township Parks and Recreation Plan and updates.
6. Be suitably landscaped either by retaining existing vegetation and wooded areas and/or by a landscaping plan for enhancing open space areas through plantings which are consistent and compliment the adjacent area.
7. Be free of all structures, except those related to outdoor recreational uses.
8. Recreation areas of less than three (3) acres proposed to be dedicated to the Township shall not normally be accepted, unless opportunities exist to combine them with other recreation areas.

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- C. Standards for Compensation - The proportion of the development to be dedicated to the Township for Parks and Recreation purposes or the fee in lieu of dedication of land shall be established by Resolution of the BOS.
- D. In lieu of requiring the dedication of a recreation or park site, or a fee for this purpose, the Board of Supervisors may permit a private site to be used if in its judgment the purposes of these regulations regarding recreation and park sites will be accomplished. The private site shall be permanently devoted to recreation and park use and adequately secured for such use by deed covenants and other private restrictions.
- E. When the Board deems it to be in the public interest to accept title to dedicated land, such acceptance shall be by means of a clear title deed to the dedicated area.