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Article 6

DESIGN STANDARDS

601 Application of Standards: The following principles, standards and requirements will be applied by the Briar Creek Township Planning Commission to evaluating plans for proposed subdivision or land developments. The standards and requirements outlined herein shall be considered the minimum standards and requirements for the promotion of the public health, safety, morals and general welfare. Where literal compliance with the standards herein specified is clearly impractical, the Planning Commission may modify or adjust the standards to permit reasonable utilization of property while securing substantial conformance with the objectives of this Ordinance.

602 General Site Standards

1. Land shall be suited to the purposes for which it is to be subdivided or developed.
2. Land which is unsuitable for development because of hazards to life, safety, health, or property, shall not be subdivided or developed until such hazards have been eliminated or unless adequate safeguards against such hazards are provided for in the Subdivision and Land Development Plan. Land considered as having unsuitable characteristics include that which is subject to flooding or which has a high ground water table; that which, if developed, would create or aggravate a flooding condition upon other land; that which is subject to subsidence or underground fires; that which contains significant areas of slopes greater than fifteen percent (15%); that which is hazardous because of topography or means of access; and that which is subject to ground pollution or contamination.
3. Proposed subdivisions or land developments shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.
4. Proposed subdivisions and land developments shall insure, insofar as possible, the preservation of natural and historic features, areas, and structures determined to be worthy of such preservation by the Planning Commission, and public access to such places where appropriate.
5. The design of proposed subdivisions and land developments shall conform to the Comprehensive Plan with respect to streets, public sites and proposed utilities.
6. The design of proposed subdivisions and land developments shall conform with all applicable rules and regulations of the Pennsylvania Department of Environmental Resources and Department of Transportation and with all applicable rules and regulations of other State and Federal agencies.
7. Proposed land use shall conform to the Zoning Ordinance of the Township.

603 Blocks

1. Layout: The length, width, shape, and design of blocks shall be determined with due regard to the provision of adequate sites for buildings of the type proposed, to the Township land use and zoning requirements, to the topography of the land being subdivided, and to the requirements for safe and convenient vehicular and pedestrian circulation.

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2. Length: Blocks shall not exceed one thousand six hundred (1,600) feet in length, nor be less than five hundred (500) feet in length. Wherever practicable, blocks along arterials and collector streets shall not be less than one thousand (1,000) feet in length. In the design of blocks longer than one thousand (1,000) feet special consideration shall be given to the requirements of satisfactory fire protection.
3. Depth: Residential blocks shall generally be of sufficient depth to accommodate two (2) tiers of lots, except where reverse frontage lots bordering an arterial or collector street are used or where, due to the contour of the land or the necessary layout of the subdivision, there is insufficient depth between intersecting streets for such two-tier design.
4. Crosswalks: Crosswalks or interior pedestrian walks shall be required in blocks exceeding one thousand (1,000) feet in length to provide for pedestrian circulation or access to community facilities. Such walks shall be paved for a width of not less than four (4) feet, shall be located in easements not less than ten (10) feet in width, and shall, insofar as possible, be located in the center of any such block.
5. Commercial and Industrial Blocks: Blocks for commercial and industrial areas may vary from the elements of design contained in this section if the nature of the use requires other treatment. In such cases off-street parking for employees and customers shall be provided along with safe and convenient limited access to the street system. Space for off-street loading shall also be provided with limited access to the street system. Extension of streets, railroad access rights-of-way, and utilities shall be provided as necessary.
6. Exception: The above minimum standards for the design and size of blocks shall govern unless the topography of the land being subdivided or the existing pattern of development in the immediately adjacent area shall be otherwise than herein required.

604 Lots

1. Layout: The size, shape, and orientation of lots shall be appropriate for the type of development and use contemplated.
2. Lot Lines Intersecting Streets: Lot lines intersecting street lines shall be substantially at right angles to straight street lines or radial to curved street lines.
3. Municipal Boundaries: Lot lines shall follow municipal boundaries rather than cross them, whenever possible, in order to avoid jurisdictional problems.
4. Depth of Residential Lots: Generally, the depth of residential lots shall be not less than one (1) nor more than two and one-half (2 1/2) times their width.
5. Depth of Multi-Family Residential and Non-Residential Lots: Depth and width of parcels intended for multi-family residential and all non-residential uses shall be adequate for the use proposed and sufficient to provide satisfactory space for on-site parking, loading and unloading, setbacks, and landscaping.
6. Frontage on Streets: Lots shall, in general, front on a street which has already been dedicated to the Township or which the subdivider or developer proposes to dedicate to the Township in connection with approval of the final plan. In multi-family residential

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or in commercial or industrial or other non-residential subdivisions or developments where access is proposed to be provided by private streets within the subdivision or development, this requirement may be waived by the Township Planning Commission.

7. Double or Reverse Frontage Lots: Double or reverse frontage lots shall be avoided except where required to provide separation of residential uses from arterial or collector streets or to overcome specific disadvantages of topography or orientation.
8. Land Remnants: Remnants of land smaller than required for a lot shall not be permitted within any subdivision. Such remnants shall be incorporated in existing or proposed lots or dedicated to public use if acceptable to the Township Planning Commission.
9. Lot Dimensions: Lot areas, dimensions and setback lines shall conform with the Zoning Ordinance of the Township.
10. Address Numbers for Lots: Address numbers for each lot within a subdivision shall be assigned in accordance with the directives of the Township.

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Streets

1. Street Classification: Three functional classifications are hereby established for the streets and roads of the Township:
 - a. Arterial: This classification includes major streets or roads located and designed for the continuous movement of heavy volumes of all types of comparatively short-haul (usually five miles or greater) vehicular traffic between communities and for collecting and distributing traffic to and from expressways. Generally, these highways should accommodate operating speeds of 35 to 55 miles per hour.
 - b. Collector: This classification is intended to include those streets located and designed for all types of intra-community vehicular traffic and functioning to carry traffic from local streets to arterials. Generally, these streets should accommodate speeds of 35 miles per hour.
 - c. Local: This classification is intended to include streets that provide local access to residences and other uses along its sides. Travel volumes are low and travel distances are short. Generally, these streets should accommodate speeds of 25 miles per hour. These streets also include cul-de-sac, marginal access, and perimeter streets.
2. General Standards: All streets proposed to be constructed within the Township shall conform to the following general design standards:
 - a. All streets shall be properly integrated with the existing and proposed system of thoroughfares and dedicated rights-of-way as established in the Comprehensive Plan of the Township.
 - b. Proposed streets shall further conform to such County and State road and highway plans as have been prepared, adopted or filed as prescribed by law.

Section 605 (cont'd)

- c. All streets shall be properly related to specific traffic generators such as industries, business districts, schools, churches, and shopping centers; to population densities; and to the pattern of existing and proposed land uses.
- d. Proposed streets shall be planned with regard to the existing street system, public convenience in terms of fire protection and pedestrian traffic, and probable volumes of traffic.
- e. Streets shall be related appropriately to the topography. Local streets shall be curved wherever possible to avoid conformity of lot appearance. All streets shall be so arranged so as to obtain as many as possible of the building sites at or above the grades of the streets. Grades of streets shall conform as closely as possible to the original topography. A combination of steep grades and curves shall be avoided.
- f. Minor streets shall be laid out to discourage use by through-traffic, to permit efficient drainage and utility systems, and to provide the minimum number of streets necessary for convenient and safe access to property. The rigid, rectangular gridiron pattern need not necessarily be adhered to and the use of curvilinear, cul-de-sac, and U-shaped streets shall be encouraged where such use will result in a more desirable layout.
- g. Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or unless, in the opinion of the Planning Commission, such extension is not necessary or desirable for the coordination of the layout of the subdivision with the existing layout or the most advantageous future development on adjacent tracts. Reserve strips and land-locked areas shall not be created.
- h. Proposed streets shall extend existing streets or recorded streets at the same width, but in no case at less than the required minimum width. Where a subdivision abuts an existing street of improper width or alignment, sufficient land shall be dedicated to widen the street or correct the alignment.
- i. If lots resulting from original subdivision are large enough to permit re-subdivision or if a portion of the tract is not subdivided, adequate street rights-of-way to permit further subdivision shall be provided as necessary.
- j. Where a subdivision abuts or contains a railroad or an existing or proposed arterial or expressway, the Planning Commission may require marginal access streets, parallel streets, reverse frontage lots, or such other treatment as will provide protection to abutting properties and will result in the reduction of the number of intersections and the separation of local and through traffic.
- k. No street shall be laid out or opened which extends to or crosses any municipal boundary except with the specific approval of the Planning Commission and upon such condition as they may impose. If such street is proposed to serve a major traffic generator (such as a school, shopping center or industrial site) located in another municipality, it shall not be approved unless the streets in both municipalities are adequate to handle the anticipated traffic volume.

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3. Private Streets

- a. All subdivided land shall have immediate access to a public street, except as provided for below.
 - b. No subdivision shall be approved on a private street or road if more than two (2) lots already front on such street or road or if, after subdivision, more than two (2) lots will front on such private street or road.
4. Dead-End Streets: Dead-end streets shall be prohibited, except as stubs (with adequate turning capability) to permit future street extension into adjoining tracts, or when designed as cul-de-sacs.

5. Cul-de-Sac Streets

- a. Cul-de-sac streets, whether permanent or temporary, shall be provided at the closed end with a turnaround complying with the street design standards of these regulations. (See Table 1.)
 - b. A temporary cul-de-sac shall be provided where a street is designed to be extended either in a future phase of development or into an adjacent undeveloped tract. At such time as such street is extended, the overage created by the turnaround outside the boundaries of the extended street shall revert in ownership to the property owners fronting on the turnaround.
 - c. A permanent cul-de-sac shall be provided where a street is not designed to extend to a boundary and its continuation is not required by the Planning Commission for access to adjoining property. The terminus of a permanent cul-de-sac street shall not normally be closer to a tract boundary than fifty (50) feet; however, the Planning Commission may require the reservation of an appropriate easement to accommodate drainage facilities, pedestrian traffic, or utilities. For greater convenience to traffic and more effective police and fire protection, permanent cul-de-sac streets shall, in general, be limited in length in accordance with the street design standards of these regulations. (See Table 1.)
6. Half or Partial Streets (Perimeter Streets)
- a. New half or partial streets at the perimeter of a subdivision shall not be permitted, except where essential to provide reasonable access to a subdivision of a tract. Such streets may be authorized where the subdivider improves and dedicates the entire required street right-of-way width within his own subdivision boundaries.
 - b. Wherever a tract to be subdivided or developed borders an existing half or partial street at the perimeter of the tract, the entire street shall be shown on the plan and shall be improved and dedicated with the tract unless otherwise determined by the Township.
7. Reserve Strips: The creation of reserve strips, including those controlling access to streets from adjacent property, shall be forbidden.

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8. Alleys

- a. Alleys are prohibited in residential developments except where required to avoid direct driveway access to primary collector streets or to assure continuity to present street patterns or where other methods of entrance and exit are impractical. No lots shall front on an alley.
- b. Alleys may be provided in non-residential areas where needed for loading and unloading or access purposes. Such alleys shall have a minimum paved width of twenty (20) feet.

9. Access Drives: Access drives shall have the following characteristics:

- a. The number of access drives for a tract shall not exceed one (1) per street frontage.
- b. Access drives shall be so located as to provide reasonable sight distances at intersections with streets.
- c. At its intersection with a street, no part of any access drive shall be nearer than one hundred (100) feet to the intersection of any two street right-of-way lines.
- d. The intersection of an access drive with a street or with another access drive shall conform to the street design standards for collector streets. (See Table 1.)
- e. The vertical and horizontal alignments of access drives shall conform to the street design standards for local streets. (See Table 1.)
- f. Access drives which form cul-de-sacs shall conform to the street design standards for local streets. (See Table 1.)
- g. Access drives do not require a specific right-of-way width; however, the minimum pavement width shall conform to the street design standards for local streets cartway width. (See Table 1.)

10. Fire Fighting Access Easements: In areas where, in the opinion of the Fire Chief, there will exist any fire hazards, access easements for fighting fires shall be provided. Such easements shall be kept unobstructed and their design, size, location, and grading shall be as recommended by the Fire Chief and as found necessary by the Planning Commission.11. Driveways

- a. Driveways, where provided, shall be located not less than forty (40) feet from the intersection for corner lots and provide access to the street of lower classification when a corner lot is bounded by streets of two different classifications.
- b. Driveways shall be so located as to provide reasonable sight distances at intersections with streets.
- c. The number of driveways shall not exceed one (1) per lot or two per two hundred (200) feet of street frontage.

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- d. Driveway entrances shall be rounded at a minimum radius of five (5) feet, or should have a flare constructed that is equivalent to this radius, at the point of intersection with the cartway edge (curb line).
- e. The entrance to the cartway from the driveway shall not exceed a slope of eight percent (8%) within twenty-five (25) feet of the cartway.
- f. Adequate drainage facilities shall be provided under driveways where they meet the street cartway.
- g. Subdivisions should be designed to eliminate, where possible, driveways abutting State highways. This shall be accomplished either by providing for a street parallel to the State highway and separated from it by a grass area, or by laying out lots such that the rear lot lines abut the State highway right-of-way and that provision for driveways be made from the front of the lot onto a street of the subdivision. Where driveways are proposed to require access to State highways, the subdivision or land development plan shall be submitted to the Pennsylvania Department of Transportation for review. Only if a highway occupancy permit has been issued by the Department will such driveways be permitted.

12. Intersections

- a. Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two (2) new streets at an angle of less than eighty-five (85) degrees shall not be acceptable. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet therefrom. Not more than two (2) streets shall intersect at any one point unless specifically approved by the Township upon recommendation of the Township Engineer.
- b. Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersections on the opposite side of such street. Street jogs with centerline offsets of less than one hundred fifty (150) feet shall not be permitted, except where the intersected street has separated dual drives without median breaks at either intersection. Where streets intersect arterial streets, their alignment shall be continuous. Intersection of arterial streets shall be at least eight hundred (800) feet apart.
- c. Minimum curb radius at the intersection of two (2) local streets shall be at least twenty (20) feet; and minimum curb radius at an intersection involving a collector street shall be at least twenty-five (25) feet. Alley intersections and abrupt changes in alignment within a block shall have the corners cut off in accordance with standard engineering practice to permit safe vehicular movement.
- d. Intersections shall be designed with a flat grade wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a four percent (4%) rate at a distance of forty (40) feet, measured from the nearest right-of-way line of the intersecting street.

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- e. Where any street intersection will involve earth banks or existing vegetation inside any lot corner that would create a traffic hazard by limiting visibility, the developer shall cut such ground and/or vegetation (including trees) in connection with the grading of the public right-of-way to the extent deemed necessary to provide an adequate sight distance.
 - f. The cross-slopes on all streets, including intersections, shall be two percent (2%) or less.
 - g. Where streets are proposed to require access to State highways, the subdivision or land development plan shall be submitted to the Pennsylvania Department of Transportation for review. Only if a highway occupancy permit has been issued by the Department will such access be permitted.
13. Street Design Standards: In order to provide for streets of suitable location, width, and improvement to accommodate prospective traffic and afford satisfactory access to police, fire fighting, snow removal, sanitation, and street-maintenance equipment, and to coordinate streets so as to compose a convenient system and avoid undue hardship to adjoining properties, the following design standards for streets are hereby required. (See Table 1 following.)

Table 1

DESIGN STANDARDS FOR STREETS

Improvement	Development Density			
	Residential			Nonresidential
	Low	Medium	High	Business & Industrial
<u>Minimum Width of Right-of-Way (in feet)</u>				
Local Street	50	50	60	50
Collector Street	50	60	70	60
Arterial Street*				
<u>Minimum Width of Cartway (in feet)</u>				
Local Street	18	20	22	22
Collector Street	22	24	24	24
Arterial Street*				
<u>Minimum Width of Shoulders (each side)</u>				
Local Street	4	6	8	10
Collector Street	6	8	10	10
Arterial Street*				
<u>Maximum Grade (percent)**</u>				
Local Street	10	10	8	6
Collector Street	8	8	8	6
Arterial Street*				
<u>Minimum grade (percent)</u>	1	1	1	1
<u>Minimum Radius of Curve (in feet) relative to centerline of cartway</u>				
Local Street	260	335	335	260
Collector Street	775	585	470	470
Arterial Street*				

Minimum Length of Vertical Curves

All Streets

Vertical curves shall be designed to provide for the minimum sight distance at design speed using height of eye equals 4.5 feet and height of object equals 4 inches.

Superelevation

Superelevation (e) shall be required on all curved roadways according to the following formula:

$$e = \frac{V^2 \cdot f}{15 R}$$

where e maximum = 0.06 ft./ft.,
V = velocity,
R = centerline radius, and
f = the following for design speeds

Table 1 (continued)

DESIGN STANDARDS FOR STREETS

Improvement	Development Density			
	Residential			Nonresidential
	Low	Medium	High	Business & Industrial
				0.160 (30 mph design speed)
				0.155 (35 mph design speed)
				0.150 (40 mph design speed)
				0.145 (45 mph design speed)
				0.140 (50 mph design speed)
<u>Minimum Sight Distance (in feet)</u>				
Local Street	200	240	240	200
Collector Street	350	325	275	275
Arterial Street*				
Intersection of Streets	75 feet back from intersection across corners			
<u>Minimum Length of Tangents Between Reverse Curves (in feet)</u>				
Local Street	100	100	150	200
Collector Street	100	100	150	200
Arterial Street*				
<u>Minimum Turnaround (in feet)</u>				
Local Street				
Right-of-way Diameter	100	100	120	150
Pavement Diameter	80	80	100	120
Center Island Diameter (if required)	50	50	70	90
<u>Design Speed (miles per hour)</u>				
Local Street	30	35	35	30
Collector Street	50	45	40	40
Arterial Street*				
<u>Maximum Length of Cul-de-Sac</u>				
Permanent	Six times minimum lot width, serving no more than fourteen (14) families and not exceeding 800 feet in length.			
Temporary	Twelve times minimum lot width, serving no more than twenty-five (25) families and not exceeding 1,000 feet in length.			

Table 1 (continued)

DESIGN STANDARDS FOR STREETS

Improvement	Development Density			
	Residential			Nonresidential
	Low	Medium	High	Business & Industrial
Minimum Pavement Thickness***				
Local Street	A-4	A-4	B-4	C-6
Collector Street	B-4	C-6	C-6	D-6
Arterial Street*				

- A = 2 1/2" bituminous concrete base course and double seal coat or
2" bituminous concrete base course and 1" bituminous wearing course ID-2
B = 3" bituminous concrete base course and 1" bituminous wearing course ID-2
C = 4" bituminous concrete base course and 1" bituminous wearing course ID-2
D = 5" bituminous concrete base course and 1" bituminous wearing course ID-2
4 = 4" subbase
6 = 6" subbase

All street construction shall be performed in accordance with the Pennsylvania Department of Transportation Specification Form 408, currently in effect.

Footnotes:

*All improvements for arterial streets shall be determined by the Supervisors on a case-by-case basis upon recommendation by the Planning Commission.

**A maximum grade of 12% on local streets and 10% on collector streets may be allowed by the Planning Commission for distances of 150 feet or if another less steep access street is available to serve the subdivision.

***Compliance with the above requirements shall in no way be construed as imposing an obligation on the Township to accept dedication of any streets. Streets which will be accepted for dedication by the Township shall comply with the requirements of the Township ordinance applicable thereto.

Grading for Drainage: In order to provide more suitable sites for building and other uses, improve surface drainage, and control erosion, the following requirements shall be met:

1. Positive Drainage: All blocks and lots shall be graded to provide proper drainage away from buildings and to prevent the collection of storm water in pools.
2. Grading and Drainage Plan: Lot grading shall be of such design as to carry surface waters to the nearest practical street, storm drain, or natural water course. The swales shall be sodded, planted or lined as required. A grading and drainage plan shall be required for all subdivisions and land developments.
3. Excavations: No final grading shall be permitted with a cut face steeper in slope than two (2) horizontal to one (1) vertical except under one or more of the following conditions:
 - a. The material in which the excavation is made is sufficiently stable to sustain a slope of steeper than two (2) horizontal to one (1) vertical.
 - b. A written statement is provided by a civil engineer, licensed by Commonwealth of Pennsylvania and experienced in erosion control, certifying that he has inspected the site and that the deviation from the slope specified above will not result in injury to persons or damage to property. This statement shall be submitted to and approved by the Township Engineer.
 - c. A concrete, stone or masonry wall or other permanent structure is constructed according to sound engineering standards to support the face of the excavation. Construction plans for such a wall shall be submitted to and approved by the Township Engineer.
4. Fills: No final grading shall be permitted which creates any exposed surface steeper in slope than two (2) horizontal to one (1) vertical except under one or more of the following conditions:
 - a. The fill is located so that settlement, sliding or erosion will not result in property damage or be hazardous to adjoining property, streets, alleys, or buildings.
 - b. A written statement is provided by a civil engineer, licensed by Commonwealth of Pennsylvania and experienced in erosion control, certifying that he has inspected the site and that the deviation from the slope specified above will not result in injury to persons or damage to property. This statement shall be submitted to and approved by the Township Engineer.
 - c. A concrete, stone or masonry wall or other permanent structure is constructed according to sound engineering standards to support the face of the fill. Construction plans for such a wall shall be submitted to and approved by the Township Engineer.
5. Distance of Slope Edge from Property and Right-of-Way Lines: The top or bottom edge of slopes shall be a minimum of three (3) feet from property or right-of-way lines in order to permit the normal rounding of the edge without encroaching on the abutting property. All property lines where walls are five (5) feet or more in height or where slopes are steeper than one (1) horizontal to one (1) vertical may be required to be fenced at the top of the wall or slope in order to prevent people from falling off. Such fence, when required, shall be no less than three (3) feet in height and shall be approved by the

Section 606 (cont'd)

Township Engineer.

6. Debris and Nuisances: All lots shall be kept free of any debris or nuisance whatsoever.

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Erosion and Sedimentation Control: The minimization of erosion and control of sedimentation in connection with land development and major subdivisions are in the public interest, affecting the health, safety, and welfare of the public, and therefore those regulations governing erosion and sedimentation are necessary for the Township.

1. General Standards

a. Erosion and Sedimentation Control Plan Required: No changes shall be made in the contour of the land; no grading, excavating, removal or destruction to the topsoil, trees or other vegetative cover of the land shall be commenced until such time that a plan for minimizing erosion and sedimentation has been processed with and reviewed by the Township Engineer and/or the County Soil and Water Conservation District, or there has been a determination by the above entities that such plans are not necessary.

b. Approval and Financial Security for Plan: No subdivision or land development plan shall be approved unless: (i) there has been an Erosion and Sedimentation Control Plan approved by the Township that provides for minimizing erosion and sedimentation consistent with this Section, and an improvement bond or other form of financial security is deposited with the Township in the form of an escrow guaranteed which will ensure installation and completion of the required improvements; or (ii) there has been a determination by the Township that a plan for minimizing erosion and sedimentation is not necessary.

c. Minimum Requirements of County Soil and Water Conservation District to be Met: Where not specified in this Ordinance, measures used to control erosion and reduce sedimentation shall as a minimum meet the standards and specifications of the County Soil and Water Conservation District. The Township Engineer, or other officials as designated, shall ensure compliance with the appropriate specifications, copies of which are available from the Soil and Water Conservation District.

2. Specific Standards: The following measures are effective in minimizing erosion and sedimentation and shall be included where applicable in the control plan:

a. Stripping: Stripping of vegetation, regrading, or other development shall be done in such a way as to minimize accelerated erosion.

b. Natural Features: Development plans shall preserve salient natural features, keep cut-fill operations to a minimum, and ensure conformity with topography so as to create the least erosion potential and adequately handle the volume and velocity of surface water runoff.

c. Natural Vegetation: Whenever feasible, natural vegetation shall be retained, protected, and supplemented.

d. Disturbed Areas: The disturbed area and the duration of exposure shall be kept to a practical minimum.

Section 607 (cont'd)

- e. Stabilization: Disturbed soils shall be stabilized as quickly as practicable.
 - f. Temporary Vegetation and Mulching: Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.
 - g. Permanent Vegetation and Measures: The permanent final vegetation and structural erosion control and drainage measures shall be installed as soon as practical in the development.
 - h. Accommodation of Increased Runoff: Provisions shall be made to effectively accommodate the increased runoff caused by changed soil and surface conditions during and after development. Where necessary, the rate of surface water runoff shall be structurally retarded.
 - i. Containment of Sedimentation: Sediment in the runoff water shall be trapped until the disturbed area is stabilized by the use of debris basins, sediment basins, silt traps, or similar measures.
3. Grading for Erosion and Other Environmental Controls: In order to provide suitable sites for building and other uses, improve surface drainage, and control erosion, the following requirements shall be met:
- a. Street Improvements: Streets shall be improved to a mud-free or otherwise permanently passable condition as one of the first items of work done on a subdivision or development. The wearing surface shall be installed in accordance with Section 605 and as approved by the Township Engineer.
 - b. Cuts and Fills: Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surfaces of fills by the installation of temporary or permanent drainage across or above these areas.
 - c. Compaction of Fills: Fill shall be placed and compacted so as to minimize sliding or erosion of the soil.
 - d. Fills Near Watercourses: Fills placed adjacent to watercourses shall have suitable protection against erosion during periods of flooding.
 - e. Dust Control: During grading operations necessary measures for dust control shall be exercised.
 - f. Stream Crossings: Grading equipment will not be allowed to enter into flowing streams. Provisions shall be made for the installation of temporary or permanent culverts or bridges.
4. Responsibility
- a. Sedimentation Damage: Whenever sedimentation damage is caused by stripping vegetation, grading or other development, it shall be the responsibility of the land developer, subdivider, contractor, person, corporation, or other entity causing such sedimentation to remove it from all adjoining surfaces, drainage systems and

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watercourses and to repair any damage at his expense as quickly as possible.

- b. Maintenance of Control Facilities: Maintenance of all erosion and sedimentation control facilities during the construction and development period shall be the responsibility of the land developer or subdivider.
- c. Maintenance of Watercourses: It shall be the responsibility of the developer, subdivider, person, corporation, or other entity doing any act on or across a communal stream, watercourse, or swale, or upon the flood plain or right-of-way, to maintain as nearly as possible in its present state the stream, watercourse, swale, flood plain or right-of-way during the pendency of the activity and to return it to its original or equal condition after such activity is completed.
- d. Installation of Improvements: The subdivider or land developer shall provide and install, at his expense, in accordance with Township requirements, all drainage and erosion control improvements (temporary and permanent) shown on the Erosion and Sedimentation Control Plan.

5. Compliance with Regulations and Procedures

- a. Compliance a Condition of Preliminary Plan Approval: The Township, in its consideration of all Preliminary Plans of subdivision and land development, shall condition its approval upon the execution of erosion and sedimentation control measures as contained in Sections 607 (2) and 607 (3) above.
- b. Compliance with Requirements of County Soil and Water Conservation District: The installation and design of the required erosion and sedimentation control measures shall be in accordance with standards and specifications of the County Soil and Water Conservation District.
- c. Compliance with Requirements of Pennsylvania Department of Environmental Resources: Stream channel construction on watersheds with drainage areas in excess of one-half square mile or in those cases where downstream hazards exist shall conform to criteria established by the Pennsylvania Department of Environmental Resources.

608 Storm Water Management and Drainage: Any landowner and any person engaged in the alteration or development of land which may affect storm water runoff characteristics shall implement such measures consistent with the provisions of the applicable watershed storm water plan as are reasonably necessary to prevent injury to health, safety or other property, these shall include measures either to assure that the maximum rate of storm water runoff is no greater after development than prior to development activities or to manage the quantity, velocity and direction of resulting storm water runoff in a manner which otherwise adequately protects health and property from possible injury.

- 1. Calculating Storm Water Runoff: The general criteria for calculating storm water runoff shall include the following:
 - a. Point of Evaluation: The point of evaluation shall be the point at which the storm water leaves the development site. The Township Engineer may require additional

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points of evaluation beyond the development site as he deems necessary.

- b. Method of Computation: The acceptable methods of computation shall be those that are contained in the publication "Recommended Hydraulic Procedures for Computing Urban Runoff from Small Water Sheds in Pennsylvania". The limitations of each method are defined in this publication. The same method of computation shall be used for both predevelopment and postdevelopment calculations.
- c. Rainfall Frequency Data: Rainfall frequency data are available from the U.S. Department of Commerce, Weather Bureau, and from the Pennsylvania Department of Environmental Resources, Research Publication Number 70.
- d. Design Storms: All storm water retention/detention facilities shall be designed on the basis of providing adequate control for all storms of a 24-hour duration and for frequencies of 2, 10, 25, and 50 years. The maximum release rate shall be equivalent to the predevelopment condition for each frequency.

Storm sewer systems shall be designed to handle the peak rate of runoff from a storm of 10-year frequency. This design shall be used for (i) building drains and (ii) local streets.

Culverts shall be sized for the following classes of roads and storm frequencies: (i) secondary (collector) roads for storms of 10-year frequency; (ii) primary (arterial) highways for storms of 25-year frequency; and (iii) expressways for storms of 50-year frequency.

Greater design frequencies may be imposed on individual projects if deemed necessary for particular uses of land by the Township Engineer.

Where State or Federal laws impose a greater design frequency, they shall prevail.

- 2. Methods of Storm Water Runoff Detention and Control: The following is a listing of detention and control methods which may be utilized in storm water management systems, if appropriate. The choice of control techniques is not limited to the ones appearing on this list. All State and Federal regulations must be followed in the use of any control method.
 - a. Detention basins
 - b. Retention basins
 - c. Roof-top storage
 - d. Parking lot and street ponding
 - e. Seepage pits, seepage trenches or other infiltration structures
 - f. Porous pavement and concrete lattice-block surfaces
 - g. Grassed channels and vegetative strips
 - h. Cisterns and underground reservoirs
 - i. Routing flow over grass
 - j. Decreased impervious area coverage

The use of other control methods which meet the criteria in this Section shall be permitted if approved by the Township Engineer. Various combinations of methods

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should be tailored to suit the particular requirements of the type of development and topographic features of the project area.

3. Design of Control Methods: The following publications should be consulted as an aid in designing control facilities:
 - a. Chapter 105. Water Obstructions and Encroachments, Title 25, Rules and Regulations of the Pennsylvania Department of Environmental Resources.
 - b. Guidelines for Storm Water Management, Pennsylvania Department of Environmental Resources, Bureau of Dams and Waterways Management.
 - c. Urban Hydrology for Small Watersheds, Technical Release No. 55, U.S. Department of Agriculture, Soil Conservation Service, current edition.
4. Storm Water Management Plan Required: No changes shall be made in the contour of the land; no grading, excavating, removal or destruction to the topsoil, trees or other vegetative cover of the land shall be commenced until such time that a plan for managing storm water runoff has been processed with and reviewed by the Township Engineer and/or the County Soil and Water Conservation District, or there has been a determination by the above entities that such plans are not necessary. The Storm Water Management Plan and the Erosion and Sedimentation Control Plan may be combined.
 - a. Storm Water Management Controls: The plan shall show the location and description of permanent control measures and facilities to be provided at the site, including:
 - (i) Permanent vegetation or other soil stabilization measures;
 - (ii) Infiltration facilities such as seepage pits, beds, or trenches for groundwater recharge; the location of septic tank infiltration areas and wells relative to these facilities;
 - (iii) Other control devices or methods such as roof-top storage, semi-pervious paving materials, grass swales, parking lot ponding, vegetated strips, detention or retention ponds, drainage easements, storm sewers, culverts, etc.;
 - (iv) Details on the types, locations and dimensions of facilities for storm water detention and conveyance and for groundwater recharge;
 - (v) Details on the maintenance of controls.
 - b. Hydrologic Calculations: As an attachment to the plan, hydrologic calculations shall be provided for storm water flows from the site and from the entire area tributary to the site under conditions existing prior to development and resulting from the proposed development. Hydrologic calculations, assumptions and criteria used in the design of storm water control devices or methods shall also be provided. Measurements shall be in cubic feet per second for the design storms identified in Section 608 (1) (d).

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- c. Approval and Financial Security for Plan: No subdivision or land development plan shall be approved unless: (i) there has been a Storm Water Management Plan approved by the Township that provides for controlling storm water runoff consistent with this Section, and an improvement bond or other form of financial security is deposited with the Township in the form of an escrow guaranteed which will ensure the installation and completion of required improvements; or ii) there has been a determination by the Township that a plan for minimizing storm water runoff is not necessary. (See Article 4.)
5. Storm Water Drainage: Storm sewers, culverts, drainage easements and related measures shall be provided so as to control drainage and shall be included where applicable in the management plan:
- a. Storm Sewers: Storm sewers shall be required when the storm water runoff cannot be satisfactorily handled within the street cartway in the determination of the Township Engineer. Where existing storm sewers are accessible, proposed subdivisions and land developments shall be required to connect to them. Where storm sewers are to be located in undedicated land, they shall be placed in an easement at least twenty (20) feet wide.
 - b. Street Drainage at Intersections: Storm water shall not be permitted to cross intersections or the crown of a street. Inlets shall be provided along a street at intervals no greater than six hundred (600) feet. Inlets shall be designed to PennDOT specifications Type C or M. Inlet tops shall be cast-in-place reinforced concrete or precast concrete. Culvert ends shall be provided with either reinforced concrete headwalls or pipe end sections. Minimum pipe size shall be fifteen (15) inches in diameter and shall be made of reinforced concrete. When material for storm drain systems is not specified, the specifications of the Pennsylvania Department of Transportation shall govern.
 - c. Natural Drainageways: Where a subdivision or land development is traversed by a natural watercourse, a drainage easement shall be provided conforming substantially with the line of such watercourse. The width of such easement shall be at least thirty (30) feet, measuring fifteen (15) feet on each side, or of such additional width as will be adequate to preserve the unimpeded flow of natural drainage.
- No person, corporation, or other entity shall block, impede the flow of, alter, construct any structure, or deposit any material or thing, or commit any act which will affect normal or flood flow in any communal stream or watercourse without having obtained prior approval from the Pennsylvania Department of Environmental Resources or the Township, whichever is applicable. The Township shall assure that all permanent streams not under the jurisdiction of other official agencies are maintained, open and free-flowing.
- d. Roof Drains: Storm water roof drains shall not discharge water directly onto streets and sidewalks.
 - e. Springs and Sump Pump Discharges: Springs and sump pumps shall not discharge water directly onto streets and sidewalks.

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- f. Footer Drains, Floor Drains, and Downspouts: Stabilized outlets shall be provided for footer drains, floor drains, and downspouts. House footer drains shall be designed to discharge above the design water surface of the drainageway receiving the flow.
 - g. Lot Drainage: Lots shall be laid out and graded to provide positive drainage away from new and existing buildings.
 - h. Drainage onto Adjacent Properties: Special consideration shall be given in the design of storm drainage facilities so as to prevent excess runoff onto adjacent properties. Whenever a subdivision or land development disposes storm water runoff to an adjacent property not within a natural watercourse or in a manner which exceeds the capacity of the watercourse, approval shall be obtained from the affected property owner in writing and a copy submitted with the preliminary plan.
6. Compliance with Regulations and Procedures
- a. Compliance a Condition of Preliminary Plan Approval: The Township, in its consideration of all Preliminary Plans of subdivision and land development, shall condition its approval upon the execution of storm water management control measures as contained in Sections 6.08 (4) and 6.08 (5).

609 Flood Plains (See Flood Plain Ordinance.)

610 Water Systems

1. General Requirements

- a. Necessary action shall be taken by the developer to establish a water supply system capable of providing domestic water use and fire protection.
- b. To facilitate the above, the location of all fire hydrants and all water supply improvements shall be shown on the preliminary plan, and the cost of installing the same shall be included in the performance bond or other financial security to be furnished by the developer. (See Article 4.)
- c. New subdivision and land development shall provide for a reliable, safe and adequate water supply to support intended uses within the capacity of available resources. Evidence, such as a water survey, shall be presented to the Planning Commission to show that water supplied to the proposed subdivision or development, whether by a central system or by on-lot wells, will not diminish the supply to existing nearby development.
- d. In addition, if water is to be provided by means other than by private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Planning Commission that the subdivision or development is to be supplied by a certificated public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a Certificate of Public Convenience 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,

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shall be acceptable evidence.

2. Central Water Systems and Individual Wells

- a. In high-density residential and in non-residential zoning districts a central water supply system and distribution system shall be provided.
 - b. In low-density and medium-density zoning districts, in the discretion of the Planning Commission, either a central water supply and distribution system or individual wells may be provided.
 - c. Central water systems and individual wells shall be designed and constructed according to applicable construction standards of the Pennsylvania Department of Environmental Resources, Bureau of Water Quality Management, "Public Water Supply Manual", latest edition. Water samples shall be submitted to the Pennsylvania Department of Environmental Resources for its approval. The results of water tests and proof that the Department of Environmental Resources construction standards have been followed shall be submitted to the Planning Commission.
3. Fire Hydrants: Where central water systems are proposed, fire hydrants shall be located no more than five hundred (500) feet apart on any approved street and shall be connected to a water main at least eight (8) inches in diameter. To eliminate future street openings, all underground utilities for fire hydrants, together with the fire hydrants themselves and all other supply improvements, shall be installed before any final paving of a street shown on the subdivision or land development plan.

611 Sewerage Systems

1. General Requirements: The developer shall install sanitary sewerage facilities in a manner prescribed by the construction standards and specifications of the Briar Creek Township Sewer Authority. All plans shall be designed in accordance with the rules, regulations, and standards of the Township Engineer, the Sewer Authority, or other appropriate agency. Plans shall be approved by the above agencies. Necessary action shall be taken by the developer to extend or create a sanitary sewer district for the purpose of providing sewerage facilities to the subdivision or development where no district exists for the land to be served.
2. High-Density Residential Districts: Sanitary sewerage facilities shall connect with public sanitary sewerage systems, if available, or to other central sanitary sewerage systems. Sewers shall be installed to serve each lot and to grades and sizes approved by the Township Engineer. No individual (on-lot) disposal system shall be permitted. Sanitary sewerage facilities (including installation of laterals in the right-of-way) shall be subject to the specifications, rules, regulations, and guidelines of the Township Engineer and the Pennsylvania Department of Environmental Resources.
3. Low-Density and Medium-Density Residential Districts: Sanitary sewerage systems shall be constructed as follows:
 - a. Where a public sanitary sewerage system is reasonably accessible, the developer shall connect with the system and provide sewers accessible to each lot in the subdivision

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or building in the development.

- b. Where public sanitary sewerage systems are not reasonably accessible but will become available within a reasonable period of time (not to exceed five [5] years), the developer may choose one of the following alternatives:
 - (i) Other Central Sewerage System: A central sewerage system other than a public system may be provided. The maintenance cost shall be assessed against each property benefited. Where plans for future public sanitary sewerage systems exist, the developer shall install the sewer lines, laterals, and mains to be in permanent conformance with such plans and ready for connection to such public sewer mains; or
 - (ii) Individual Disposal Systems: Individual (on lot) disposal systems shall be allowed provided the developer shall install sanitary sewer lines, laterals, and mains either from the street curb or from the rear lot line to a point in the subdivision boundary where a future connection with the public sewer main shall be made. Sewer lines shall be laid from the house or other building to the street line, and a connection shall be available in the building to connect from the individual disposal system to the sewer system when the public sewers become available. Such sewer systems shall be capped until ready for use and shall conform to all plans for installation of the public sewer system and shall be ready for connection to such public main.
- c. Where sanitary sewer systems are not reasonably accessible and will not become available for a period in excess of five (5) years, the developer may install sewerage systems as follows:
 - (i) Medium-Density Residential Districts: A central sewerage system other than a public system shall only be used. No individual on-lot system shall be permitted.
 - (ii) Low-Density Residential Districts: Individual on-lot disposal systems or central sewerage systems other than public shall be used.
4. Non-Residential Business and Industrial Districts: If an individual disposal system is proposed, the system shall be approved by the Township Sewerage Enforcement Officer (SEO). If a central sewerage system other than a public system is proposed, the system shall be designed according to the Pennsylvania Department of Environmental Resources (DER), Bureau of Water Quality Management "Sewerage Manual" and approved by the Township Engineer.
5. Mandatory Connection to Public Sewer System: If a public sanitary sewer is accessible and a sanitary sewer is placed in a street or alley abutting upon property, the owner thereof shall be required to connect to said sewer for the purpose of disposing waste, and it shall be unlawful for any such owner or occupant to maintain upon any such property an individual on-lot sewage disposal system.
6. Individual Disposal System Requirements: If public sewer facilities are not available and individual on-lot disposal systems are proposed, minimum lot areas shall conform to the

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requirements of the Zoning Ordinance, and percolation tests and test holes for each lot shall be made as directed by the local Sewerage Enforcement Officer (SEO), and the results shall be submitted to the Pennsylvania Department of Environmental Resources (DER). The individual on-lot disposal system, including the size of the septic tanks and size of the tile fields or other secondary treatment device, shall also be approved by the Sewerage Enforcement Officer (SEO).

7. Design Criteria for Sanitary Sewers: All public and other central sewer systems shall be designed according to the Pennsylvania Department of Environmental Resources (DER), Bureau of Water Quality Management "Sewerage Manual".

612 Utility Easements: Easements shall be provided for all utilities, including but not limited to poles, wires, conduits, storm and sanitary sewers, water and heat mains, gas, electric power, telephone, and cable TV.

1. Location and Width: With the exception of on-site sewer laterals, utilities shall be located either within the public right-of-way or in easements centered on or adjacent to rear or side lot lines. No structures or trees shall be placed within such easements. Such easements shall be a minimum of twenty (20) feet in width.
2. Underground Installation: In developments of five or more lots, electric, telephone, and all other utilities shall be installed underground with such exceptions as listed below. All existing and proposed utilities shall be shown on the preliminary plan. Prior to final plan approval the developer shall be required to obtain a letter from each utility company providing service to the subdivision stating that it has entered into an agreement with the developer to provide for an underground system in accordance with the regulations of the Pennsylvania Public Utility Commission or that a waiver has been obtained from the Pennsylvania Public Utility Commission to allow an overhead system.
3. Petroleum, Gas and Electric Transmission Lines: Where any petroleum, petroleum products, natural gas or electric transmission line traverses a subdivision or land development, the developer shall confer with the applicable transmission or distribution company to determine the minimum distance which the company requires between each structure and the centerline of such transmission line. Prior to final plan approval the developer shall be required to obtain a letter from the transmission or distribution company stating that it has entered into an agreement with the developer establishing an easement through the tract and stating any conditions on the use of the tract and the easement width.

613 Curbs and Sidewalks

1. Curbs
 - a. Where Required: Curbs shall be required on all streets and parking lots located within multi-family and apartment building developments and in business and industrial developments. Curbs shall also be required on new streets in subdivisions or land developments in which the average lot width of interior lots at the required setback line is one hundred (100) feet or less. Curbs may also be required in any subdivision in which the lot areas or lot widths exceed one hundred (100) feet when the centerline street grade of any street exceeds three percent (3%). In such cases

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curbs or other drainage controls shall be installed to properly control surface drainage and protect the streets from erosion. The curbing requirement may be waived at the discretion of the Planning Commission, but when the requirement is waived, grass-lined swales or rock-lined ditches shall be required.

- b. Requirements for the Handicapped: All curbs shall be depressed at intersections to sufficient width to accommodate wheelchairs. The depression shall be in line with sidewalks where provided.
- c. Curb Type: Curbs may be either the vertical type or rolled curb and gutter type. Rolled curb and gutter shall not be used on collector streets. The transition from one type of curb to another shall occur only at street intersections.
- d. Construction Material: All vertical curbs shall be constructed of Portland cement concrete with expansion joints every twenty (20) feet and shall follow PennDOT standards and specifications where applicable. All rolled curb and gutter types shall be Portland cement concrete.

2. Sidewalks

- a. Where Required: Sidewalks shall be provided on all streets and parking lots located within multi-family and apartment building developments. Sidewalks shall also be required on new streets in subdivisions and land developments in which the average lot width of interior lots at the required building setback line is one hundred (100) feet or less. The requirement of sidewalks may be waived at the discretion of the Planning Commission.
- b. Width and Construction: When required, sidewalks shall be a minimum of four (4) feet in width along local streets in residential areas, a minimum of five (5) feet in width along collector streets in residential areas, and a minimum of six (6) feet in width along any street in business and industrial areas. Sidewalks shall be constructed in accordance with Pennsylvania Department of Transportation standards and specifications.

614 Trees (Planting and Beautification): In order to promote the highest environmental quality possible, the degree to which the developer of a subdivision or land development plans to preserve existing salient natural features and land forms intrinsic to the site shall be assessed. Such features and forms may include trees, wooded areas, and watercourses, among other items.

- 1. Tree Preservation: Whenever possible, trees shall not be removed unless they are located within the proposed street right-of-way, within the proposed building area, or within utility locations and equipment access areas. In areas where trees are retained, the original grade level shall be maintained, if possible, so as not to disturb the trees.
- 2. Open Space: Where the developer is offering for dedication, or is required by ordinance to establish a reservation of open space or preserve an area of scenic or historic importance, a "limit of work" designation, which will confine excavation, earth-moving procedures and other changes to the landscape, may be required to ensure preservation and prevent despoliation of the character of the area in open space.

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3. Top Soil Preservation: All of the top soil from areas where cuts and fills have been made shall be stockpiled and redistributed uniformly after grading. All areas of the site shall be stabilized by seeding or planting on slopes of less than ten percent (10%) and shall be stabilized by sodding on slopes ten percent (10%) or more and planted in ground cover on slopes twenty percent (20%) or greater.
4. Watercourse Protection: Where a subdivision or land development is traversed by a natural watercourse, there shall be provided a drainage easement conforming substantially with the line of such watercourse and of such width as will be adequate to preserve natural drainage. Such easement shall be in addition to the open space requirement of Section 614.2 above.
5. Preserved Landscaping: When there is a conscientious effort to preserve the existing natural integrity and character of a site and where such preservation contains woodlands and trees comparable to required planting improvements, i.e., landscaping and buffer screening, the plan may be accepted in lieu of additional landscaping requirements.
6. Landscaping: For all multi-family, apartment, office, commercial, and industrial subdivisions and land developments, a landscaping plan shall be provided and shall include efficient plantings for the required open space, planting strips, screenings, formal gardens, shade trees, and natural barriers.
7. Buffer Planting Requirements: Buffer area requirements shall be as specified in the Zoning Ordinance of Briar Creek Township.
8. Street Trees: The subdivider or developer shall seed the planting strip between the curb and sidewalk, if either or both are required, and, in addition, provide street trees of a caliper of not less than one and one-half (1 1/2) inches and planted a maximum of forty (40) feet apart.

The type of tree shall be approved by the Planning Commission upon recommendation of the Township Engineer. The following is a list of acceptable trees. Any tree not on this list shall be specifically noted as not being on the list with reasons given for the substitution.

- a. Norway Maple
- b. Sugar Maple
- c. White Ash
- d. Green Ash
- e. Maidenhair Tree
- f. Thornless Honey Locust
- g. Sweet Gum
- h. Oriental Plane Tree
- i. American Plane Tree
- j. White Oak
- k. Red Oak
- l. Scarlet Oak
- m. Pin Oak
- n. Little Leaf European Linden
- o. Silver Linden
- p. American Elm

615 Public Grounds (Community Facilities): In reviewing subdivision and land development plans the Township will consider the adequacy of existing or proposed community facilities to serve the additional dwellings proposed. Developers shall give consideration to the desirability of providing or reserving areas for facilities shown in the Comprehensive Plan and normally required in residential areas, including churches, fire halls, schools, and other public and semi-public uses; and parks, playgrounds and playfields.

1. Recreation Facilities: Every proposed residential subdivision or land development to accommodate twenty-five (25) or more dwelling units may be required to provide open space for the common recreational use of the residents thereof. If such land is to be offered for dedication and accepted by the Township, the Township or other public agency shall acquire the recreational facility. Such area shall be shown and marked on the preliminary plan as "Reserved for Park and/or Recreation Purposes". The recreational facility shall be designed in accordance with the following standards:
 - a. The land shall be of suitable size, dimensions, topography, and general character for the type of recreational facility proposed.
 - b. The amount of such land shall equal at least .02 acres for each dwelling unit to be established in the subdivision or land development, provided, however, that in no case shall the site be less than one (1) acre.
 - c. Such recreational space shall be easily and safely accessible to all areas of the subdivision or land development and shall be free of hazards to health and safety.
 - d. Such land shall be developed with the facilities proposed, and such improvements shall be included in the performance bond or other financial security if not to be completed before final plan approval. (See Article 4.)
 - e. The developer shall make adequate provision for the perpetuation and grounds maintenance of such recreation area not offered for dedication and shall provide evidence of such provision.
2. Other Facilities: Whenever a tract to be subdivided or developed includes a site for a school or other public use, as indicated on the Community Facilities Plan or Official Map of the Township, such site shall be incorporated into the preliminary plan by the developer.
 - a. Referral to Appropriate Public Agency: The Planning Commission shall refer the preliminary plan to the appropriate public agency involved with the acquisition of such site for a determination of the agency's intent to acquire the proposed site or an alternative site. Upon receipt of an affirmative report from such agency the Planning Commission shall notify the property owner and shall designate on the preliminary and final plans the site to be acquired by the public agency.
 - b. Land Reservation and Acquisition: Where sites are identified for eventual public acquisition in an Official Map ordinance or an adopted Comprehensive Plan, no subdivision, building or developing of the site shall be permitted for a period of twelve (12) months after the owner of such property has submitted a written notice to the Board of Supervisors announcing his intentions to build, subdivide or otherwise develop the land covered by the reservation, or has made formal application for an official permit to build a structure for private use, unless the Board of Supervisors or

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other public agency shall have acquired the property or begun condemnation proceedings to acquire such property before the end of the twelve (12) month period or unless the land owner has consented in writing to an extension of time.

616 Multi-Family Development

1. Compliance with Zoning Ordinance: The use, density, parking area, building bulk and setback requirements and all other relevant requirements of the Zoning Ordinance for multi-family developments shall be met.
2. Arrangement of Buildings and Facilities
 - a. All of the elements of the site plan shall be harmoniously and efficiently organized in relation to topography, the size and shape of the plot, the character of the adjoining property, and the type and size of the buildings in order to produce a livable and economic land use pattern.
 - b. Arrangement of buildings shall be in favorable relation to the natural topography, existing desirable trees, views within and beyond the site, and exposure to the sun and other buildings on the site. Grading around buildings shall be designed to be in harmony with natural topography, at the same time assuring adequate drainage and safe and convenient access.
3. Access and Circulation
 - a. Access to the dwellings and circulation between buildings and other important development facilities for vehicular and pedestrian traffic shall be comfortable and convenient for the occupants.
 - b. Access and circulation for fire-fighting equipment, furniture moving vans, fuel trucks, garbage collection, deliveries, and snow removal shall be planned for efficient operation and convenience.
 - c. Walking distance from the main entrance of a building to a street, driveway or parking area shall usually be less than one hundred (100) feet. Any exception to this standard should be reasonably justified by compensating advantages, such as desirable views and site preservation through adaptation to topography. In no case shall the distance exceed two hundred fifty (250) feet.
4. Yards: Yards shall assure adequate privacy, desirable outlook, adequate natural light and ventilation, convenient access to and around the dwelling structures and other essential uses.
5. Streets, Driveways and Parking Areas: Streets, driveways and parking areas shall be as specified in other Sections of this Ordinance.
6. Sidewalks
 - a. Upon completion of a block or parcel, street sidewalks and on-site walks shall be provided for convenience and safe access to all dwelling units from streets, driveways,

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- parking areas or garages, and for convenient circulation and access to all development facilities.
- b. Width, alignment and gradient of walks shall provide for safety, convenience and appearance for pedestrian traffic.
- c. The alignment and gradient of walks shall be coordinated with the grading plan to prevent the passage of concentrated surface water on or across the walk and to prevent the pocketing of surface water by walks.
- 7. Planting: The appeal and character of the site shall be preserved and enhanced by retaining and protecting existing trees and other site features; and additional new plant material shall be added for privacy, shade, beauty of buildings and grounds, and to screen out objectionable features.

617 Non-Residential Subdivisions and Land Developments

1. General Standards: Land zoned for commercial or industrial purposes shall have a subdivision or land development plan designed with respect to such use. A non-residential subdivision or land development shall also be subject to all site plan approval requirements of the Zoning Ordinance and may proceed simultaneously with the approval process of this Ordinance. The plans shall also be subject to the standards below and to all other relevant standards of this Ordinance and the Zoning Ordinance, Official Map, and Comprehensive Plan.
2. Specific Standards: The developer shall demonstrate to the satisfaction of the Township that the street, parcel, and block pattern proposed is specifically adapted to the uses anticipated and takes into account other uses in the vicinity. The following principles and standards shall be met:
 - a. Proposed industrial or commercial parcels shall be suitable in area and dimensions to the types of development anticipated.
 - b. Street rights-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated to be generated.
 - c. Street, curb, gutter, and sidewalk design and construction shall be appropriate to the types of development anticipated.
 - d. Public utilities, including water, sewer, and storm water facilities, shall be designed to handle the demands of the types of development anticipated.
 - e. Streets carrying non-residential traffic, especially truck traffic, shall not normally be extended to the boundaries of adjacent existing or potential residential areas.
 - f. Every effort shall be made to protect adjacent residential areas from potential nuisances from proposed commercial or industrial uses, including the provision of extra depth in parcels backing on existing or potential residential development and the provision of a permanently landscaped buffer area where necessary.