UNION TOWNSHIP

Subdivision and Land Development

Adopted November 14, 2001
CHAPTER 22

SUBDIVISION AND LAND DEVELOPMENT

Part 1

GENERAL PROVISIONS

§22-101. Title
§22-102. Purpose
§22-103. Authority to Review and Approve
§22-104. Application of Regulations
§22-105. Interpretation and Conflicts

Part 2

DEFINITIONS

§22-201. General Terms
§22-202. Specific Terms

Part 3

PLAN PROCESSING PROCEDURES

§22-301. Intent
§22-302. Pre-Application
§22-303. Minor Subdivision or Land Development
§22-304. Major Subdivision or Land Development (Preliminary Plan)
§22-305. Major Subdivision or Land Development (Final Plan)

Part 4

PLANS AND PLATS - REQUIRED INFORMATION

§22-401. Intent
§22-402. Sketch Plans
§22-403. Minor Subdivision or Land Development
§22-404. Major Subdivision or Land Development (Preliminary Plan)
§22-405. Major Subdivision or Land Development (Final Plan)
Part 5

IMPROVEMENT AND MAINTENANCE GUARANTEES

§22-501. Intent
§22-502. Improvement Guarantee
§22-503. Form of Financial Security
§22-504. Amount of Guarantee
§22-505. Partial Release of Funds
§22-506. Release of Financial Security
§22-507. Inspection During Construction
§22-508. Dedication of Improvements
§22-509. Maintenance Guarantee

Part 6

DESIGN STANDARDS

§22-601. Intent
§22-602. Streets
§22-603. Curbs and Sidewalks
§22-604. Underground Wiring
§22-605. Monuments and Lot Corners
§22-606. Soil Erosion and Sedimentation Control
§22-607. Sight Distance at Street Intersections
§22-608. Lot Access
§22-609. Access Drives
§22-610. Driveways
§22-611. Street Names
§22-612. Signs
§22-613. Utility and Shade Tree Areas
§22-614. Lighting
§22-615. Blocks and Lots
§22-616. Easements
§22-617. Wetlands
§22-618. Landscaping
§22-619. Sanitary Wastewater Disposal
§22-620. Water Supply
Table A Minimum Street Design Standards

Part 7

TRAFFIC IMPACT STUDIES

§22-701. Intent
§22-703. Contents
§22-704. Final Report
§22-705. Responsibility for Improvements

Part 8

STORMWATER MANAGEMENT

§22-801. Intent
§22-802. Plan
§22-803. Design Criteria for Stormwater Drainage Facilities
§22-804. Design Criteria for Stormwater Management Facilities
§22-805. Easements
§22-806. Construction Standards
§22-807. Ownership, Administration and Maintenance

Part 9

MOBILE HOME PARKS

§22-901. Procedures and Information
§22-902. Design and Improvement Standards
§22-903. Removal of Mobile Homes

Part 10

FLOOD PLAIN MANAGEMENT

§22-1001. Intent
§22-1002. Definitions of Terms Utilized in this Article
§22-1003. Applications Procedures and Plat Requirements
§22-1004. Design Standards and Improvements
§22-1005. Performance Guarantee
§22-1006. Municipal Liability

Part 11

ADMINISTRATION

§22-1001. Intent
§22-1002. Administration and Enforcement
§22-1003. Modifications
§22-1004. Appeals
§22-1005. Schedule of Fees
§22-1006. Penalties
§22-1007. Validity
Part 1

GENERAL PROVISIONS

§22-101. Title.

These regulations, rules and standards for planning, subdividing and developing land within Union Township, including procedures for application, administration, and penalties for violation, shall be known, cited, and referred to as the Union Township Subdivision and Land Development Ordinance of 2001.

(A.O.)

§22-102. Purpose.

The general purpose of this Chapter shall be to guide and regulate the planning, subdividing, and development of land in order to promote and protect the public health, safety, convenience, comfort, prosperity and general welfare of the residents of Union Township.

(A.O.)

§22-103. Authority To Review And Approve.

1. The Union Township Board of Supervisors shall have the authority vested by law to approve or disapprove all preliminary and final subdivision or land development applications.

2. The Union Township Planning Commission is designated as the agency which shall review and make recommendations on all subdivision and land development applications prior to action on same by the Board of Supervisors.

3. All applications for subdivision and land development shall be forwarded, upon receipt by Union Township, to the Lebanon County Planning Department for review and report. The Board of Supervisors shall not approve such applications until the County Planning Department report is received or until the expiration of 30 days from the date the application was forwarded to the County Planning Department.

(A.O.)

§22-104. Application Of Regulations.

1. No subdivision or land development of any lot located in Union Township shall be effected; no street, sanitary sewer, water main, or other facilities in connection therewith shall be laid out, constructed, opened or dedicated for public use or travel, or for the common use of occupants of buildings thereon except in strict
accordance with the provisions of this Chapter, and not until a final subdivision plat has been approved by the Board of Supervisors and publicly recorded in the manner prescribed herein.

2. No lot in a subdivision may be sold; no permit to erect or alter any building upon land in a subdivision or land development may be issued; and no building may be erected or altered in a subdivision or land development, unless and until a final subdivision plat has been approved by the Board of Supervisors and recorded, and not until completion of the construction of the improvements required in a manner prescribed herein.

3. Unit or condominium land development of real property is included within the meaning of land development as defined herein, and must comply with these regulations. Such compliance shall include, but not be limited to, the filing of preliminary and final plan applications, payment of established fees and charges, compliance with all regulations regarding location of each structure, clear definition of each unit, public easements, common areas, improvements and all easements appurtenant to each unit.

4. All subdivision and land development plans are subject to the regulations of the Union Township Zoning Ordinance of 1988, as amended.

(A.O.

22-105. Interpretation And Conflicts.

1. Interpreting and applying the provisions of this Chapter, they shall be held to be minimum requirements for the promotion of public health, safety, comfort, convenience, and greater welfare.

2. In any case where a provision of this Chapter is found to conflict with a provision of a zoning, building, fire, safety or health ordinance or code of Union Township or law, rule or regulation of the Commonwealth of Pennsylvania, the provisions which are more restrictive or impose higher standards for the promotion of the health and safety of the people shall prevail.

3. This Chapter is not intended to abrogate any easement, covenant or any other private agreement or restriction, provided that where the provisions of this Chapter are more restrictive or impose higher standards or regulations than such easement, covenant, or other private agreement or restriction, the requirements of this Chapter shall govern. Where the provisions of the easement, covenant or private agreement or restriction impose duties and obligations more restrictive, or higher standards than the requirements of these regulations, or the determinations thereunder, then such private provisions shall be operative and supplemental to these regulations and determinations made thereunder.

4. The grant of a permit or approval of a plan for any proposed subdivision and/or land development to be located within any identified floodplain area or district
shall not constitute a representation, guarantee, or warranty of any kind by Union Township or by any official or employee thereof of the practicality or safety of the proposed use, and shall create no liability upon Union Township, its officials or employees.

(A.O.)
Part 2

DEFINITIONS

§22-201. General Terms.

1. Unless otherwise expressly stated, the following words shall, for the purpose of this Chapter, have the meaning herein indicated.

2. Words in the singular include the plural and those in the plural include the singular.

3. Words in the masculine gender shall include the feminine and the neuter.

4. Words in the present tense include the future tense.

5. The word "shall" is always mandatory; the word "may" is always permissive; and the word "should" means a suggested or preferred action.

6. The words "person" or "developer" or "landowner" include a firm, association, or organization, partnership, trust, company, or corporation as well as an individual.

(A.O.)

§22-202. Specific Terms.

Unless otherwise expressly stated, the following words shall, for the purpose of this Chapter, have the meaning herein indicated. Undefined terms or words used herein shall have their ordinarily accepted meanings or such meanings as the context of this Chapter may imply:

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

ACCESS DRIVE - an improved cartway designed and constructed to provide for vehicular movement between a public street and a development containing any use other than one single family dwelling unit or a farm.

APPLICANT - a landowner or developer, as hereinafter defined, who has filed an application for development, including his heirs, successors and assigns.

BLOCK - a lot or group of lots, bounded by streets, public parks, railroad right-of-way, watercourses or bodies of water, boundary lines of the Township, or by any combination of the above.

BOARD OF SUPERVISORS - the Board of Supervisors of Union Township, Lebanon County, Pennsylvania.
BUILDING SETBACK LINE - a fixed line, within a lot, defining the minimum distance between any building or portion thereof to be erected or altered, and an adjacent street line. Such line shall be measured at right angles from the street line and shall be parallel to said street line at such a distance therefrom as required herein for the minimum front yard dimension in the particular zoning district.

CARTWAY - the portion of the street right-of-way, paved or unpaved, intended for vehicular use. The shoulder is not considered part of the cartway.

COUNTY - the County of Lebanon, Pennsylvania.

COUNTY PLANNING DEPARTMENT - the Lebanon County Planning Department.

CLEAR SIGHT TRIANGLE - a triangular area of unobstructed vision at a street intersection having as its sides 2 perpendicular street lines, and a line established between a point on each street line a given distance from the intersection.

COMMON OPEN SPACE - a parcel or parcels of land or an area of water, or a combination of land and the water within a development site, designed and intended for the use or enjoyment of residents of the development, not including streets, off-street parking areas, and areas set aside for public facilities.

DETENTION STRUCTURE - a vegetated pond, swale, or other structure designed to drain completely after storing surface water runoff only for a given storm event and release it at a controlled rate. Also known as a dry pond.

DEVELOPER - any landowner, agent of such landowner or tenant with the permission of such landowner, who makes or causes to be made a subdivision of land or a land development.

DEVELOPMENT - any manmade change to improved or unimproved real estate, including, but not limited to, buildings or other structures, including mobile homes, mining, dredging, filling, grading, paving, excavation or drilling operations, and the subdivision of land.

DWELLING UNIT - a building or portion thereof providing one or more rooms arranged for the use of one or more individuals living together as a single housekeeping unit, and having no cooking or sanitary facilities in common with any other dwelling unit.

EASEMENT - a grant for the limited use of a parcel of land for a specific public or quasi-public purpose.

ENERGY DISSIPATOR - a device used to slow the velocity of stormwater, particularly at points of concentrated discharge such as pipe outlets.
ENGINEER, REGISTERED - an individual licensed and registered as a professional engineer by the Commonwealth of Pennsylvania.

FREEBOARD - the difference between the design flow elevation in the emergency spillway and the top of the settled embankment.

GRASSED WATERWAY - a natural or manmade drainageway of parabolic, triangular or trapezoidal cross-section shaped to required dimensions and vegetated for safe disposal of runoff. (Also known as a swale.)

IMPROVEMENTS - physical additions, installations, and changes to the land, necessary to produce usable and desirable lots; including, but not limited to, grading, paving, curbs, gutters, storm sewers and drains, fire hydrants, electric service, gas service, improvements to existing watercourses, sidewalks, driveways, street signs, monuments, water supply facilities, and sewage disposal facilities.

IMPROVEMENTS, OFFSITE - those public capital improvements which are not onsite improvements and that serve the needs of more than one development.

IMPROVEMENTS, ONSITE - all improvements constructed on the subject tract of an applicant, or the improvements constructed on the property abutting the subject tract of an applicant necessary for the ingress or egress to the subject tract of an applicant, and required to be constructed by the Township Building Code [Chapter 5], Subdivision and Land Development Ordinance [Chapter 22], PRD regulations and Zoning Ordinance [Chapter 7].

LAND DEVELOPMENT -

A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:

(1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or

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

(3) A subdivision of land.

LANDSCAPE ARCHITECT, REGISTERED - an individual licensed and registered as a landscape architect by the Commonwealth of Pennsylvania.

LAND SURVEYOR, REGISTERED - an individual licensed and registered as a professional land surveyor by the Commonwealth of Pennsylvania.
LANDOWNER - the legal or beneficial owner or owners of land, including the holder of an option or contract to purchase, a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land.

LOT - a designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit.

LOT AREA - the area of land contained within the limits of the lot lines bounding that area. Any portion of a lot included in a street right-of-way shall not be included in calculating lot area.

LOT DEPTH - the average distance between the street line and the rear lot line, measured perpendicular or radial to the street line.

LOT WIDTH - the width measured at the minimum building setback line between side lot lines and parallel to the front lot line but in no case shall the street frontage be less than \( \frac{3}{4} \) of the required lot width.

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

MOBILE HOME LOT - a parcel of land in a mobile home park, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobile home.

MOBILE HOME PARK - a parcel or contiguous parcels of land which has been so designated and improved that it contains two or more mobile home lots for the placement thereon of mobile homes.

PLAN, FINAL - a complete and exact subdivision or land development plan prepared for recording as required by statute, to define property rights, proposed streets and other improvements; a final plat.

PLAN, PRELIMINARY - a tentative subdivision or land development plan showing proposed street and lot layout as a basis for consideration prior to preparation of a final plat.

PLAN, SKETCH - an informal plan, not necessarily to scale, indicating existing features of a subject tract and the surrounding area and outlining the general layout of a proposed subdivision or land development.

PLAT - the map or plan of a subdivision or land development, whether sketch, preliminary or final.
RETENTION STRUCTURE - a pond, swale, or other structure containing a permanent pool of water designed to store runoff for a given storm event.

RIGHT-OF-WAY - the total width of any land reserved or dedicated for use as street, alley, or for any public purpose.

SEDIMENT BASIN - a temporary dam or barrier constructed across a waterway or at other suitable locations to intercept the runoff and to trap and retain the sediment.

STORMWATER MANAGEMENT - the control of runoff to allow water falling on a given subject tract to be absorbed or retained on the subject tract to the extent that after development the peak rate of discharge leaving the subject tract does not exceed the peak rate of discharge prior to development.

STREET - a public or private right-of-way excluding driveways and access drives, intended for use as a means of vehicular and pedestrian circulation which provides a means of access to an abutting lot. The word "street" includes thoroughfare, avenue, boulevard, court, expressway, highway, lane, alley; and road or similar terms.

STREET LINE - a line defining the edge of a street right-of-way and separating the street from abutting lots.

STRUCTURE - any manmade object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.

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

SUBDIVISION, MAJOR - a classification of a subdivision where the potential impact of the subdivision on environmental features and on adjacent streets and lots is significant.

SUBDIVISION, MINOR - a classification of a subdivision where the potential impact of the subdivision on environmental features and on adjacent streets and lots is limited.

SUBJECT TRACT - an existing lot of record which is proposed for development.

TOWNSHIP - Union Township.

WETLANDS - areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal
circumstances do support, a prevalence of vegetation typically adapted for life in
saturate soil conditions, including swamps, marshes, bogs, and similar areas. The
term includes but is not limited to wetland areas listed in the State Water Plan,
the United States Forest Service Wetlands Inventory of Pennsylvania, The
Pennsylvania Coastal Zone Management Plan and a wetland area designated by a
river basin commission.

(A.O.)
Part 3

PLAN PROCESSING PROCEDURES

§22-301. Intent.

1. The procedures established in this Chapter are intended to define the steps by which a developer shall design, make application, record plats, and construct improvements; and by which the Township Planning Commission may review and Board of Supervisors approve plans and otherwise administer these regulations.

2. For those subdivisions or land developments classified as minor, a sketch plan and abbreviated final plan procedure is established. For all others, which are classified as major subdivisions or land developments, a preliminary plan and final plan procedure is established.

(A.O.)

§22-302. Pre-Application.

1. Prior to the formal submission of a subdivision or land development plan for review and approval, the developer is urged to submit a sketch plan to the Township Planning Commission for advice on the requirements necessary to achieve conformity to the standards of these regulations as well as to alert the developer as early as possible to factors which must be considered in the design of a subdivision or land development, such as pertinent elements of any County or Township land use, thoroughfare or other community plans. Review of a sketch plan is an informal, advisory process to guide the developer in eventual preparation of a formal preliminary or final plan, as applicable.

2. Sketch plans should be accompanied by any letters of transmittal or development details necessary to explain existing or proposed site conditions which are not self-explanatory on the actual sketch.

3. The developer should notify the Township Secretary, at least 3 days in advance of a regularly scheduled meeting of the Planning Commission, of the intent to discuss a sketch plan in order to be considered for the agenda of that particular meeting.

(A.O.)

§22-303. Minor Subdivision or Land Development.

1. Classification. A minor subdivision is considered to be a division of land to facilitate a lot addition or a land exchange; or a division of land which adjoins an existing public street and does not involve the opening, widening, extension or improvement of any street or the installation of any public utility outside the street frontage and does not involve more than five lots or dwelling units (except
that subdivision of lots from a subject tract after five or more lots have been previously subdivided is a major subdivision); or the dedication or establishment of an unimproved right-of-way or easement; and the replatting, resubdivision or revision of five lots or less. Multi-family, commercial, industrial and mobile home park development shall be a major, not minor, subdivision or land development, regardless of the number of lots or dwelling units created.

2. **Application.** A final plat complying with the requirements of this Chapter shall be prepared for each minor subdivision or land development and submitted to the Township in the form of two mylars and eight blue line paper prints on 18 inch x 24 inch sheets. In addition, three copies of all applicable supplementary data, one correct and complete application form, and the appropriate filing fee must be submitted prior to review by the Planning Commission. All final plans must be submitted to the Township 20 days prior to the regularly scheduled Township Planning Commission meeting at which consideration is anticipated.

3. **County Submission.** In addition to submitting the required application material to the Township, the applicant shall file with the Township Secretary documentation that copies of the application, including all plans, supplementary data and review and recording fees, have been properly filed with the County Planning Department. In the event the application is revised after initial submission, it shall be the responsibility of the applicant to submit the revised plans and support material to the County Planning Department for further review.

4. **Review.** The Township Planning Commission shall review and make recommendations on the plan and related documents no later than its second regularly scheduled meeting after the formal filing of the plan. In addition, the County Planning Department will review the final plan and data and submit a written report indicating their recommendations to the Board of Supervisors within 30 days from the date the plan was forwarded to the County Planning Department. Where applicable, the plan may also be forwarded to the Township Engineer, the Soil Conservation Service, and other appropriate agencies for review and comment.

5. **Approval or Disapproval.** The Board of Supervisors shall review the final plan at its next regularly scheduled public meeting following the submission of the written review and recommendations of the Township Planning Commission, Township Engineer, and County Planning Department, or at some other public meeting or meetings of the Board of Supervisors prior to the end of the statutory 90 day review period; however, said 90 day review period may be extended by approval of the Board of Supervisors at the request of the applicant. Upon completion of its review, the Board of Supervisors shall determine whether the plan shall be approved, approved with conditions acceptable to the applicant, or disapproved. The decision shall be made in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 15 days following the decision. If the plan is approved with conditions, the applicant shall respond to the Board of Supervisors indicating acceptance or rejection of such conditions. Such response shall be made in writing, signed by
the applicant, and received by the Township within 10 calendar days of receipt by
the applicant of the Board of Supervisors' decision to approve the plan with
conditions. Approval of the plan shall be rescinded automatically upon the
applicant's failure to accept or reject such conditions in the manner and within the
time frame noted above.

6. **Recording.** Within 90 days after the date of approval of a final plan by the
Board of Supervisors, and upon all conditions being met, the mylars of the final
plat shall be filed and recorded in the Office of the County Recorder of Deeds. One
signed mylar shall be retained for the Township records and one mylar shall be
filed with the County Planning Commission. Whenever plan approval by the
Board of Supervisors is required, the Recorder of Deeds shall not accept any plan
for recording unless such plan officially notes the approval of the Board of
Supervisors and the review of the County Planning Department.

(A.O.

§22-304. **Major Subdivision or Land Development (Preliminary Plan).**

1. **Classification.** Any subdivision or land development involving more than five
lots or dwelling units; or any subdivision or land development on a subject tract
after five or more lots or dwelling units have previously been subdivided from that
subject tract; or any subdivision or land development proposing the opening,
widening, extension or improvement of a street shall be deemed to be a major
subdivision or land development. Multi-family, mobile home park, commercial
and industrial development shall be considered a major subdivision or land
development, regardless of the number of lots or dwelling units created.

2. **Application.**

A. A preliminary plat complying with the requirements set forth in this
Chapter shall be prepared for each major subdivision or land development
and shall be submitted to the Township with three copies of all applicable
supplementary data, one correct and complete application form, and the
appropriate filing fee. All preliminary plans and documents must be
submitted to the Township 20 days prior to the regularly scheduled
Township Planning Commission meeting at which consideration is
anticipated.

B. When filing an application for preliminary approval of a major subdivision
or land development, the applicant shall submit to the Township six blue
line prints of the proposal. As part of the submission, the applicant shall
also submit six paper prints of the improvement plan (if not contained on
initial sheet) containing details of the physical site improvements proposed
for the subdivision or land development. All sheets shall be 18 inch x 24
inch or 24 inch x 36 inch, as appropriate.

3. **County Submission.** In addition to submitting the required application
material to the Township, the applicant shall file with the Township Secretary
documentation that copies of the application, including all plans, supplementary data and review fees, have been properly filed with the County Planning Department. In the event the application is revised after initial submission, it shall be the responsibility of the applicant to submit the revised plans and support material to the County Planning Department for further review.

4. Review. The Township Planning Commission shall review and make recommendations on the preliminary plan, improvement plan, and related documents no later than its second regularly scheduled meeting after the formal filing of the plan. In addition, the County Planning Department will review the preliminary plan and relevant data, and submit a written report to the Board of Supervisors indicating their recommendations within 30 days from the date the plan was forwarded to the County Planning Department. Where applicable, the plan may also be sent to the Township Engineer, the Soil Conservation Service, and other appropriate agencies for review and comment.

5. Approval or Disapproval. The Board of Supervisors shall review the preliminary plan at its next regularly scheduled public meeting following the submission of the written review and recommendations of the Township Planning Commission, Township Engineer, and County Planning Department, or at some other public meeting or meetings of the Board of Supervisors prior to the end of the statutory 90 day review period; however, said 90 day review period may be extended by approval of the Board of Supervisors at the request of the applicant. Upon completion of its review, the Board of Supervisors shall determine whether the plan shall be approved, approved with conditions acceptable to the applicant, or disapproved. The decision shall be made in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 15 days following the decision. If the plan is approved with conditions, the applicant shall respond to the Board of Supervisors indicating acceptance or rejection of such conditions. Such response shall be made in writing, signed by the applicant, and received by the Township within 10 calendar days of receipt by the applicant of the Board of Supervisors' decision to approve the plan with conditions. Approval of the plan shall be rescinded automatically upon the applicant's failure to accept or reject such conditions in the manner and within the time frame noted above.

6. Plan Status. Approval of the preliminary plan shall assure the applicant for a period of 5 years from the date of approval or such other longer period as may be required by law due to litigation or set forth on a schedule submitted by the applicant and approved by the Township Board of Supervisors that:

A. The general layout of streets, lots, and other features are approved and shall be the basis for the preparation of the final plan.

B. The general terms and any special conditions under which the approval of the plan was granted will not be changed.

C. The developer may install improvements in accordance with the approved preliminary plan and other requirements contained in this Chapter. The
Township Engineer shall be responsible for inspection and approval of the required improvements. See Part 5 of this Chapter.

D. Approval of the preliminary plan does not constitute approval of the final plan and, therefore, does not authorize the recording of the subdivision or land development plan or the sale or transfer of lots.

(A.O.)

§22-305. Major Subdivision or Land Development (Final Plan).

1. Classification. Any subdivision or land development involving more than 5 lots or dwelling units; or any subdivision or land development on a subject tract after 5 or more lots or dwelling units have previously been subdivided from that subject tract; or any subdivision or land development proposing the opening, widening, extension or improvement of a street shall be deemed to be a major subdivision or land development. Multi-family, mobile home park, commercial and industrial development shall be considered major subdivision or land development, regardless of the number of lots or dwelling units created.

2. Application.

A. Within 5 years after the approval of the preliminary plat, a final plat with all necessary supplemental data shall be officially submitted to the Township. Failure to submit a final plan within 5 years of the date of an approval of the preliminary plat shall void the preliminary approval, unless extended in writing by the Board of Supervisors. Said expired or voided preliminary plan shall not be used as a basis for any development or construction. Any subsequent development shall be preceded by a new preliminary plan.

B. When filing an application for a final approval of the major subdivision or land development, the applicant shall submit to the Township two mylars and eight blue line paper prints of the proposal on 18 inch x 24 inch sheets. In addition, the applicant shall submit three copies of all applicable supplementary data, one correct and complete application form, and the appropriate filing fee. All plans and documents must be submitted to the Township 20 days prior the regularly scheduled Township Planning Commission meeting at which consideration is anticipated.

C. The applicant may apply for final approval of only a portion, section or phase of the entire subdivision or land development as preliminarily approved; or the entire subdivision or land development.

3. County Submission. In addition to submitting the required application material to the Township, the applicant shall file with the Township Secretary documentation that copies of the application, including all plans, supplementary data and review and recording fees, have been properly filed with the County Planning Department. In the event the application is revised after initial
submission, it shall be the responsibility of the applicant to submit the revised plans and support material to the County Planning Department for further review.

4. Review.

A. The Township Planning Commission shall review and make recommendations on the plan and related documents no later than its second regularly scheduled meeting after the formal filing of the plan. In addition, the County Planning Department will review the final plan and data and submit a written report indicating their recommendations to the Board of Supervisors within 30 days from the date the plan was forwarded to the County Planning Department. Where applicable, the plan may also be forwarded to the Township Engineer, the Soil Conservation Service, and other appropriate agencies for review and comment.

B. The final plan shall be examined for conformity to the preliminary plan, for design and detail of required site improvements and for adherence to other standards of this Chapter. The plan shall also be examined to determine if the required site improvements have been installed or, in lieu thereof, financial security has been properly submitted.

5. Approval or Disapproval.

A. The Board of Supervisors shall review the final plan at its next regularly scheduled public meeting following the submission of the written review and recommendations of the Township Planning Commission, Township Engineer, and County Planning Department, or at some other public meeting or meetings of the Board of Supervisors prior to the end of the statutory 90 day review period; however, said 90 day review period may be extended by approval of the Board of Supervisors at the request of the applicant. Upon completion of its review, the Board of Supervisors shall determine whether the plan shall be approved, approved with conditions acceptable to the applicant, or disapproved. The decision shall be made in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 15 days following the decision. If the plan is approved with conditions, the applicant shall respond to the Board of Supervisors indicating acceptance or rejection of such conditions. Such response shall be made in writing, signed by the applicant, and received by the Township within 10 calendar days of receipt by the applicant of the Board of Supervisors' decision to approve the plan with conditions. Approval of the plan shall be rescinded automatically upon the applicant's failure to accept or reject such conditions in the manner and within the time frame noted above.

B. However, no plat shall be finally approved unless the streets on such plat have been improved as may be required by ordinance, and any walkways, curbs, gutters, street lights, fire hydrants, shade trees, landscaping, water mains, sanitary sewers, storm sewers, stormwater management facilities,
and other site improvements as may be required by this Chapter and any
applicable municipal requirements have been properly installed in
accordance with such requirements. In lieu of the completion of any site
improvements required as a condition for the final approval of a plat,
financial security, as delineated in this Chapter, must be accepted by the
Board of Supervisors.

6. Recording.

A. The final plan shall be recorded 90 days of the approval by the Board of
Supervisors. The mylars shall be filed and recorded in the Office of the
County Recorder of Deeds. One signed mylar shall be retained for the
Township records and one mylar shall be filed with the County Planning
Commission. Whenever plan approval by the Board of Supervisors is
required, the Recorder of Deeds shall not accept any plan for recording
unless such plan officially notes the approval of the Board of Supervisors
and the review of the County Planning Department.

B. Recording shall entitle the applicant to sell, transfer or develop the land
shown on the plat in accordance with the approved plat, subject to any
conditions attached thereto. Where final plans are approved for only a
portion, section or phase of the entire subdivision or land development, sale,
transfer or development may proceed only on that approved portion, section
or phase.

C. When a final plat has been approved, no subsequent change or amendment
in zoning, subdivision or other governing ordinance shall be applied to affect
adversely the right of the developer to commence and complete any aspect of
the approved development in accordance with the terms of such approval
within 5 years from such approval. Where final approval is preceded by
preliminary approval, the aforesaid 5 year period shall be counted from the
date of the preliminary approval.

D. When the developer has failed to substantially complete development of the
approved plan within 5 years to the aforesaid approval date and when
changes in a zoning, subdivision, or other governing ordinance have
occurred which affect the design of the approved plat, the subdivision or
land development shall be subject to the changes in the zoning, subdivision,
or other governing ordinance. The Board of Supervisors shall notify, in
writing, the applicant that approval has expired and submission and
approval of a revised preliminary and/or final plan (as necessary to detail
changes), illustrating compliance with the revised ordinance, is required
prior to further development or lot transfer.

(A.O.)
Part 4

PLANS AND PLATS - REQUIRED INFORMATION

§22-401. Intent

Plans, maps, data and plats shall be prepared and furnished by the developer as required to assure accurate surveying; to provide adequate information for designing and preparing plans; and to facilitate review, approval and recording of plats. Plans and maps shall be neat, legible, uncluttered and easily readable to provide clear documentation of all data.

(A.O.)

§22-402. Sketch Plans.

Sketch plans should include sufficient information to clearly indicate the character and extent of the proposed subdivision or land development and its relationship to existing conditions and facilities within the area in which it is to be located. It is recommended that the sketch plan submission include a map covering sufficient area to establish the location of the subject tract and an informal plan of any existing or proposed streets, buildings, lot arrangement, utilities, significant natural features, design standards and other elements within the subdivision or land development including topographic contours, if appropriate.

(A.O.)

§22-403. Minor Subdivision or Land Development.

The applicant shall furnish, as part of an application for approval of a minor subdivision or land development plan, the following information on the required 18" x 24" final plan sheets:

A. Title Block.

(1) Identification of the plan as a final plan.

(2) Name of the development.

(3) Township and county name.

(4) Name, address and phone number of the applicant(s) record landowner(s), developer(s) and authorized agent(s).

(5) Written and graphic scale of plan.

(6) Name, address and phone number of plan preparer.
(7) Date of plan preparation and date of subsequent revisions.

(8) Deed reference or source of title.

2. **Signature Blocks.** Space for date, signature, and statement of formal action by each of the following:

   A. Union Township Board of Supervisors.

   B. Union Township Planning Commission.

   C. Lebanon County Planning Department.

   D. Other officials as may be appropriate.

3. **Plan Information.**

   A. Location map, at a scale of 1 inch = 800 feet, showing the location of the proposed subdivision or land development in relation to named streets, boundaries, previous subdivisions, etc.

   B. North arrow and graphic and written scale. The scale shall not exceed 50 feet to the inch; except for large residential lots over 10 acres, the scale may be shown at 100 feet or 200 feet to the inch. Deed reference and source of title to the land being subdivided shall be included, as shown by the County Recorder of Deeds.

   C. Name and deed book reference of all surrounding landowners.

   D. A plat of the subject tract or lot which is to be subdivided or developed. Residual land shall be shown to the extent necessary to assure compliance with all applicable standards. The plat shall include:

      (1) Bearings and dimensions for all lot lines; center and right-of-way lines of streets; and other boundary lines with distances, radii arcs, chords and tangents of all deflection angles, nearest second and error of closure of not more than 1 foot in 10,000 feet.

      (2) Proposed lot lines in more prominent lines while lot lines proposed for removal shall be shown in dashed or broken lines.

      (3) Location and identification of all control points (iron pins, monuments, etc.) to which all dimensions, angles and bearings are to be referenced.

      (4) Lot numbers or letters in progressive order to identify each lot. Numbers shall be utilized only for lots which are eligible for independent or individual use, whereas letters shall be utilized for lot additions, land exchanges and transfer of lots which are not eligible.
for individual use or development. Lot numbers or letters from previous plans shall be encircled by a dashed or broken line circle while currently proposed lot numbers or letters shall be encircled by a solid line circle.

(5) Square footage and acreage of all lots involved in the subdivision or land development, exclusive of land dedicated for public right-of-way.

(6) The location, size, and use of all existing buildings. Proposed buildings shall be shown to the extent necessary to demonstrate compliance with other ordinance criteria.

(7) The minimum building setback lines prescribed in the applicable zoning code.

E. Streets, utilities and natural features on the proposed subdivision or land development and within 100 feet of the boundaries, in accordance with the following:

(1) Location, right-of-way, pavement width and name of all streets.

(2) Size and location of all existing and proposed utilities including easements and/or rights-of-way.

(3) Existing and proposed onlot well and sewage disposal system locations, as well as soil probe and percolation test locations for sewage disposal systems.

(4) Streams, ponds, waterways, wetlands, floodplains, quarries, sinkholes and other significant topographical, physical or natural features.

(5) Existing and proposed contours of the subject tract at vertical intervals of 2 feet. All elevations shall be referenced to USGS datum with a benchmark reference included on the plan.

F. The capacity and condition of all stormwater management facilities located on and within 100 feet of the lots proposed to be developed must be identified. Any adverse impact to such facilities resulting from increased flows from the subject tract must be addressed in conformance with this Chapter.

4. Plan Notes and Conditions. All necessary or recommended supplementary subdivision or land development plan notes or conditions shall be prominently lettered on the plan. This shall include, but not be limited to:

A. Total number of lots or dwelling units proposed by the plan.

B. Applicable zoning standards for front, rear and side yard setbacks, minimum lot area, minimum lot width, minimum lot coverage, and zoning district.
C. Statement of intended use for all lots except those intended for single family detached dwellings.

D. Statement of deed restrictions or covenants which may be a condition of sale of the lots.

E. In case of a plan which requires access to a highway under the jurisdiction of the Pennsylvania Department of Transportation, the inclusion of the following plan note:

"Access to the State highway will be authorized only by highway occupancy permit from the Pennsylvania Department of Transportation (PennDOT). Approval of this plan is conditional upon the individual landowners obtaining the required highway occupancy permit(s). Conditional plan approval does not represent any guarantee or assurance by Union Township that an occupancy permit will be issued by PennDOT for any lot shown hereon. An occupancy permit from PennDOT will be required prior to the issuance of a building permit by Union Township."

5. Certifications and Dedications.

A. A certification of ownership shall be signed by the landowners verifying ownership and acceptance of the plan.

B. A certification statement shall be signed by the plan preparer (professional land surveyor, engineer, or registered landscape architect) verifying the plan accuracy.

C. Seal and signature of the registered land surveyor, engineer or landscape architect responsible for plan preparation. Any plan establishing lot lines shall be prepared and sealed by a registered land surveyor.

D. A certificate for the Lebanon County of Recorder of Deeds.

E. If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or land development, applicants shall present evidence that the subdivision or land development is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a certificate of public convenience from the Pennsylvania Public Utility Commission of 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.

(A.O. 022-404. Major Subdivision or Land Development (Preliminary Plan).
The applicant shall furnish, as part of an application for preliminary approval of a major subdivision or land development plan, the following information on the required 24 inch x 36 inch preliminary plan sheets:

A. Title Block.

   (1) Identification of the plan as a preliminary plan.

   (2) Name of the development.

   (3) Township and county name.

   (4) Name, address, and phone number of the applicant(s), record landowner(s), developer(s) and authorized agent(s).

   (5) Written and graphic scale of plan.

   (6) Name, address, and phone number of plan preparer.

   (7) Date of plan preparation and date of subsequent revisions.

   (8) Deed reference or source of title.

2. Signature Blocks. Space for date, signature and type of formal action by each of the following:

   A. Union Township Board of Supervisors.

   B. Union Township Planning Commission.

   C. Lebanon County Planning Department

   D. Other officials as appropriate.

3. Plan Information.

   A. Location map, at a scale of 1 inch = 800 feet, showing the location of the proposed subdivision or land development in relation to named streets, boundaries, previous subdivisions, etc.

   B. North arrow and graphic and written scale. The scale shall not exceed 50 feet to the inch; except for large residential lots over 10 acres, the scale may be shown at 100 feet or 200 feet to the inch. Deed reference and source of title to the land being subdivided shall be included, as shown by the County Recorder of Deeds.

   C. Name and deed book reference of all surrounding landowners.
D. A plat of the subject tract which is to be subdivided or developed. Residual land shall be shown to the extent necessary to assure compliance with all applicable standards. The plat shall include:

(1) Lots shall be depicted, but individual bearings and dimensions are not required. Lot areas may be approximated.

(2) Location and identification of all control points (iron pins, monuments, etc.)

(3) Lot numbers in progressive order to identify each lot.

(4) The location, size and use of all existing buildings.

(5) The minimum building setback line prescribed in the applicable zoning code.

E. In the case of land developments, the general location, dimension and configuration of proposed buildings, parking compounds, streets, access drives, and all other significant planned facilities.

F. Streets, utilities, and natural features on the proposed subdivision or land development and within 100 feet of the boundaries, in accordance with the following:

(1) Location, right-of-way, pavement width and name of all streets.

(2) Topographic information shall be completed at 2 foot contour intervals. It shall show approximate direction and gradient of ground slope on immediately adjacent land; indicate subsurface condition of the subject tract if not typical; show watercourses, floodplains, marshes, sinkholes, wetlands, wooded areas, isolated preservable trees and other significant features. All elevations shall be referenced to USGS datum with a benchmark reference included on the plan.

(3) Typical street cross section for each proposed street and typical cross section for any existing street which shall be improved as part of the application. Each cross section shall include the entire right-of-way width.

(4) Vertical and horizontal alignment for each proposed street, sanitary sewer, storm sewer and water distribution system where applicable. All street profiles shall show at least the existing centerline profile, the proposed grade at the centerline, and the length and location of all proposed vertical curves for streets. All water distribution, storm sewer and sanitary sewer systems shall provide structure and pipe locations and size and type of material.
(5) Size, type, location and beneficiaries of all existing and proposed utilities including easements and rights-of-way.

(6) Existing and proposed on-lot well and sewage disposal system locations, as well as soil probe and percolation test locations for sewage disposal systems.

(7) The location of sidewalks, street lights, curbs, drives, street trees, utilities and other proposed improvements.

(8) Proposed contours at a 2 foot interval to clearly demonstrate the proposed grading for the lots.

(9) If construction is to occur in phases, a phasing plan and schedule indicating how and when each phase will be completed.

(10) Construction details for all proposed improvements.

(11) Clear sight triangles at all proposed intersections.

4. **Plan Notes and Conditions.** All necessary or recommended supplementary subdivision or land development plan notes or conditions shall be prominently lettered on the plan. This shall include, but not be limited to:

   A. Total number of lots or dwelling units proposed by the plan.

   B. Applicable zoning standards for front, rear and side yard setbacks, minimum lot area, minimum lot width, minimum lot coverage and zoning district.

   C. Statement of intended use or purpose for all lots except those intended for single family detached dwellings.

   D. Statement of deed restrictions or covenants which may be a condition of sale of the lots.

   E. In case of a plan which requires access to a highway under the jurisdiction of the Pennsylvania Department of Transportation, the inclusion of the following plan note:

   "Access to the State highway shall be authorized only by highway occupancy permit from the Pennsylvania Department of Transportation (PennDOT). Approval of this plan is conditional upon the individual landowners obtaining the required highway occupancy permit(s). Conditional plan approval does not represent any guarantee or assurance by Union Township that an occupancy permit will be issued by PennDOT for any lot shown hereon. An occupancy permit from PennDOT will be required prior to the issuance of a building permit by Union Township."

5. **Certifications, Dedications and Reports.**
A certification of ownership shall be signed by the landowners verifying ownership and acceptance of the plan.

B. A certification statement signed by the plan preparer (registered land surveyor, engineer, or landscape architect) verifying the plan accuracy.

C. Seal and signature of the registered land surveyor, engineer or landscape architect responsible for plan preparation. Any plan establishing lot lines shall be prepared and sealed by a registered land surveyor.

D. A statement from the Lebanon County Conservation District that an acceptable erosion and sedimentation control plan has been submitted or that plan approval is not required.

E. A copy of the completed "sewage facilities planning module for land development" or other equivalent documentation submitted to the Sewage Enforcement Officer and ready for submission to the PADEP in compliance with the requirements of the Pennsylvania Sewage Facilities Act and Chapter 71 of Title 25 of the Pennsylvania Code.

F. A wetlands delineation report. The report shall be prepared by a qualified individual in accordance with the 1989, "Federal Manual for Identifying and Delineating Wetlands."

G. Traffic impact study when required under Part 7.

H. A stormwater management plan as required under Part 8.

I. In the event that the plan proposes the extension of utility services into the subject tract by any Authority or jurisdiction other than the Township, a statement from the Authority or jurisdiction regarding the approval of such extension shall be submitted.

J. **Water Supply.** If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or land development, applicants shall present evidence that the subdivision or land development is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission of 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.

(A.O.)

§22-405. **Major Subdivision or Land Development (Final Plan).**
The applicant shall furnish, as part of an application for final approval of a major subdivision or land development plan, the following information on the required 18" x 24" final plan sheet(s):

A. **Title Block.**

   (1) Identification of the plan as a final plan.

   (2) Name of the development.

   (3) Township and county name.

   (4) Name, address and phone numbers of the applicant(s), record landowner(s), developer(s) and authorized agent(s).

   (5) Written and graphic scale of plan.

   (6) Name, address and phone number of plan preparer.

   (7) Date of plan preparation and date of subsequent revisions.

   (8) Deed reference or source of title.

2 **Signature Blocks.** Space for date, signature and type of formal action by each of the following:

A. Union Township Board of Supervisors.

B. Union Township Planning Commission.

C. Lebanon County Planning Department.

D. Other officials as appropriate.

3. **Plan Information.**

A. Location map, at a scale of 1 inch = 800 feet, showing the location of the proposed subdivision or land development in relation to named streets, boundaries, previous subdivisions, etc.

B. North arrow and graphic and written scale. The scale shall not exceed 50 feet to the inch; except for large residential lots over 10 acres, the scale may be shown at 100 feet or 200 feet to the inch. Deed reference and source of title to the land being subdivided shall be included, as shown by the County Recorder of Deeds.

C. Name and deed book reference of all surrounding landowners.
SUBDIVISION AND LAND DEVELOPMENT

D. A plat of the subject tract or lot which is to be subdivided or developed. Residual land shall be shown to the extent necessary to assure compliance with all applicable standards. The plat shall include:

(1) Bearings and dimensions for all lot lines; corporation lines; center and right-of-way lines of streets; easements and other rights-of-way; natural and artificial watercourses, streams and floodplain boundaries; wetlands; and other boundary lines with distances, radii arcs, chords and tangents of all deflection angles, nearest second and error of closure of not more than 1 foot in 10,000 feet.

(2) Proposed lot lines in more prominent lines, while lot lines proposed for removal shall be shown in dashed or broken lines.

(3) Location and identification of all control points (iron pins, monuments, etc.) to which all dimensions, angles and bearings are to be referenced.

(4) Lot numbers or letters in progressive order to identify each lot. Numbers shall be utilized only for lots which are eligible for independent or individual use, whereas letters shall be utilized for lot additions, land exchanges and transfer of lots which are not eligible for individual use or development. Lot numbers or letters from previous plans shall be encircled by a dashed or broken line circle while currently proposed lot numbers or letters shall be encircled by a solid line circle.

(5) Square footage and acreage of all lots involved in the subdivision or land development, exclusive of land dedicated for public right-of-way.

(6) The minimum building setback line prescribed in the applicable zoning code.

E. In the case of land developments, the dimensional location and configuration of proposed buildings, parking compounds, streets, access drives, landscaping, grading and all other proposed facilities.

F. Streets, utilities and natural features on the proposed subdivision or land development and within 100 feet of the boundaries, in accordance with the following:

(1) Location, right-of-way, pavement width and name of all streets, including the complete description of the centerline and right-of-way line for all new streets. This description shall include distances and bearings with curve segments comprised of radius, tangent, arc and chord bearing and distance.

(2) Topographic information shall be completed at 2 foot contour intervals. It shall show approximate direction and gradient of ground slope on immediately adjacent land; indicate subsurface condition of
4. **Plan Notes and Conditions.** All necessary or recommended supplementary subdivision or land development plan notes or conditions shall be prominently lettered on the plan. This shall include, but not be limited to:

A. Total number of lots or dwelling units proposed by the plan.

B. Applicable zoning standards for front, rear and side yard setbacks, minimum lot area, minimum lot width, minimum lot coverage and zoning districts.

C. Statement of intended use or purpose for all lots except those intended for single family detached dwellings.
D. Statement of deed restrictions or covenants which may be a condition of sale of the lots.

E. In case of a plan which requires access to a highway under the jurisdiction of the Pennsylvania Department of Transportation, the inclusion of the following plan note:

"Access to the State highway shall be authorized only by highway occupancy permit from the Pennsylvania Department of Transportation (PennDOT). Approval of this plan is conditional upon the individual landowners obtaining the required highway occupancy permit(s). Conditional plan approval does not represent any guarantee or assurance by Union Township that an occupancy permit will be issued by PennDOT for any lot shown hereon. An occupancy permit from PennDOT will be required prior to the issuance of a building permit by Union Township."

5. Certifications and Dedications.

A. A certification of ownership shall be signed by the landowners verifying ownership and acceptance of the plan.

B. Any waivers granted by the Board of Supervisors shall be identified.

C. Any lands to be dedicated or reserved for public, semi-public or community use shall be identified. A statement shall be signed by the landowners offering land for dedication to public use for all appropriate streets, rights-of-way, easements, parks, etc.

D. A certification statement signed by the plan preparer (registered land surveyor, engineer, or landscape architect) verifying the plan accuracy.

E. Seal and signature of the registered land surveyor, engineer or landscape architect responsible for plan preparation. Any plan establishing lot lines shall be prepared and sealed by a registered land surveyor.

F. A certificate for the Lebanon County Recorder of Deeds.

G. When applicable, evidence that either approval of the Sewage Facilities Planning Module has been granted by DEP or that such approval is not required.

H. If applicable or required by the Township, an appropriately executed Developer's Agreement which sets forth the responsibilities of all parties regarding the installation and inspection of any required improvements.

I. Evidence of receipt of all outside agency permits and/or approvals required for the project (i.e., DEP, U.S. Army Corps of Engineers, Lebanon County Conservation District, etc.).

22-34
J. **Water Supply.** If water is to be provided by means other than private wells owned and maintained by the individual owners of lots within the subdivision or land development, applicants shall present evidence that the subdivision or land development is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a certificate of public convenience from the Pennsylvania Public Utility Commission of 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.

(A.O.)
Part 5

IMPROVEMENT AND MAINTENANCE GUARANTEES

§22-501. Intent.

All improvements, as specified in this Chapter, shall be installed before the final plat is approved or, in lieu thereof, a guarantee of installation shall be provided by the developer prior to final plat approval. The guarantee shall assure the Board of Supervisors that the required improvements will be installed in accordance with this Chapter.

(A.O.)


In lieu of the construction and completion of the improvements required by this Chapter prior to recording, the developer may deposit financial security in an amount sufficient to cover the costs of such improvements or common amenities. Said improvement guarantee shall be prepared in accordance with this Chapter and is subject to acceptance by the Board of Supervisors. The developer shall provide an acceptable developer's agreement and an improvement guarantee prior to approval of a final plan.

(A.O.)


The following are acceptable forms of guarantees. All other forms must be individually approved by the Board of Supervisors:

A. Escrow Account. A deposit of cash either with:

(1) The Township; or

(2) In escrow with a Federal or Commonwealth chartered financial institution. In the case of an escrow account, the developer shall file, with the Township, an agreement between the financial institution and himself guaranteeing the following:

(a) That the funds of said escrow account shall be held in trust until released by the Township and may not be used or pledged by the developer as security in any other matter during that period.

(b) In the case of a failure on the part of the developer to complete said improvements, the institution shall immediately release the funds in said account to the Township for use in the completion of those improvements up to the limit of credit stated in the letter, upon written certification from the Township of the
developer's failure to complete improvements in accordance with the final plan and land development agreement.

2. **Letter of Credit.** An irrevocable commercial letter provided by the developer from a Federal or Commonwealth chartered financial institution acceptable to the Township. This letter shall be deposited with the Township and shall certify the following:

   A. The amount of credit.

   B. In case of failure on the part of the developer to complete the specified improvements within the time period specified, the creditor shall pay to the Township immediately and without further action, the amount specified by the Township and necessary to complete the improvements.

   C. The letter of credit is irrevocable and may not be withdrawn or reduced in amount, until released or partially released by the Township. The letter of credit shall be automatically renewable from year to year until the Township has certified the completion of all required improvements.

(A.O.

§22-504. **Amount of Guarantee.**

1. The amount of financial security to be posted for the completion of the required improvements shall be equal to 110% of the cost of completion estimated as of 90 days following the date scheduled for completion by the developer. Annually, the Board of Supervisors may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the 90th day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the developer shall post additional security in order to assure that the financial security equals said 110%. Any additional security shall be posted by the developer in accordance with this subsection.

2. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements, submitted by an applicant or developer and prepared by a registered engineer licensed as such in this Commonwealth and certified by such registered engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept such estimate for good cause shown. If the applicant or developer and the Township are unable to agree upon an estimate, the estimate shall be recalculated and recertified by another registered engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third registered engineer shall be presumed fair and reasonable, and shall be the final estimate. In the event that a third registered engineer is so chosen, fees for the
services of said registered engineer shall be paid equally by the Township and the applicant or developer.

3. If the party posting the financial security requires more than one year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional 10% for each one-year period beyond the first anniversary date from posting of financial security or to an amount not exceeding 110% of the cost of completing the required improvements as reestablished on or about the expiration of the preceding 1 year period by using the above procedure.

4. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of final plans by phases, sections or stages of development as it finds essential for the protection of any finally approved section of the development.

(A.O.

§22-505. Partial Release of Funds.

As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Supervisors to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Board of Supervisors. The Board of Supervisors shall have 45 days from receipt of such request within which to allow the Township Engineer to certify, in writing, that such portion of the work upon the improvements has been completed in accordance with the approved plan. Upon such certification, the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount fairly representing the value of the improvements completed. If the Board of Supervisors fails to act within said 45-day period, the Board of Supervisors shall be deemed to have approved the release of funds as requested. Prior to final release at the time of completion and certification by the engineer, the Board of Supervisors may require retention of 10% of the estimated cost of the aforesaid improvements.

(A.O.


1. When the developer has completed all the necessary and appropriate improvements, the developer shall notify the Township in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy to the Township Engineer. The Board of Supervisors shall, within 10 days after receipt of such notice, direct and authorize the Township Engineer to inspect the improvements. A detailed report of the inspection shall be prepared and mailed to the Township within 30 days of such authorization. A copy of the report shall also be mailed by registered or certified mail to the developer. The report shall contain the Township Engineer’s recommendations of approval or rejection, either in whole or in part, of any improvements. If any improvement is not
approved by the Township Engineer, the Township Engineer shall report to the Board of Supervisors the conditions and reasons upon which the disapproval is based.

2. The Board of Supervisors shall notify the developer within 15 days of receipt of the Township Engineer's report, in writing by certified or registered mail, of the decision to accept or not accept the improvements. If any portion of the said improvements shall not be approved or shall be rejected, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

(A.O.)

§22-507. Inspection During Construction.

1. Prior to the initiation of any improvement construction, the developer will establish with the Township a schedule for periodic inspections of the work. During construction, the Township Engineer shall be notified, at least 4 working days in advance, of any intended construction requiring periodic inspection. The undertaking of periodic inspections shall not be construed as acceptance of the work or as a final inspection of the construction.

2. The applicant shall reimburse the Township for reasonable and necessary expenses incurred for inspection. Such reimbursement shall be based upon time and material costs for the referenced inspections. Such expense shall be reasonable and in accordance with the ordinary and customary fees charged by the Township Engineer for work performed for similar services in the community. In no event shall the fees exceed the rate or cost charged by the Township Engineer to the Township when fees are not reimbursed or otherwise imposed on applicants.

(A.O.)

§22-508. Dedication of Improvements.

All improvements shall be deemed to be private improvements and only for the benefit of the specific project until such time as the same have been offered for dedication and formally accepted by the Board of Supervisors in accordance with current Township procedures. No responsibility of any kind with respect to improvements shown on the Final Plan shall be transferred until the improvements have been formally accepted. No improvements shall be accepted for dedication until submission of as-built drawings by the developer and inspection of the final construction by the Township. As-built drawings shall be in the form of full size 24 inch x 36 inch reproduction mylars which depict conditions as constructed. In addition, the plan shall indicate that the improvements are in substantial conformance with the previously approved drawings and specifications. The plan shall note all deviations from the previously approved drawings. Three copies of the plan (two paper prints and one reproducible mylar) shall be submitted to the Township, who shall distribute the paper prints to the Township
Engineer and retain one paper print and the mylar for the Township files. Further, prior to acceptance of improvements, the developer shall submit to the Township, in a form acceptable to the Township, a legal description, deed of dedication, right-of-way plat, release of liens, maintenance guarantee, certificate of title or other title insurance, insurance insuring the Township against any causes of action arising previous to the dedication of improvements and other documentation in accordance with Township procedures.

(A.O.)

§22-509. Maintenance Guarantee.

When accepting dedication of certain improvements, the Board of Supervisors may, at its discretion, require the applicant to submit financial security to secure the structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plan. Such guarantee shall be posted for a period not to exceed 18 months. Such financial security shall be the same type as required to guarantee construction of improvements, and shall not exceed 15% of the actual cost of installation of said improvements.

(A.O.)
Part 6
DESIGN STANDARDS

§22-601. Intent.

The design standards established in this Chapter are intended to be fundamental requirements to be applied with professional skill in the subdividing and planning of land so as to produce attractive and harmonious neighborhoods, convenient and safe streets, and economical layouts of residential and other land development. The design standards are further intended to encourage and promote flexibility and ingenuity in the layout and design of subdivisions and land developments, in accordance with modern and evolving principles of site planning and development.

(A.O.)

§22-602. Streets.

1. General Arrangement. The following criteria shall be considered in the design of streets in all subdivision and land development plans.

   A. The arrangement of streets shall conform to the circulation plan of the Township and to such County or State highway plans that have been adopted.

   B. The proposed street system shall extend existing or recorded streets at the same width, but in no case at less than the required minimum width.

   C. Proposed streets 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 lots and future subdivision extensions of the street system.

   D. New local streets shall be designed to discourage through traffic, but the developer shall give adequate consideration to provisions for the extension and continuation of major or collector streets into and from adjoining lots.

   E. Where a subdivision contains more than 25 lots, streets providing access to the subdivision shall intersect with the existing streets adjoining the subdivision at a minimum of two locations.

2. Street Classification. Streets shall be classified in a hierarchy system with design tailored to function as follows:

   (22, Part 6)
A. **Major Streets.** Function primarily for the movement of fast traffic between points of heavy traffic generation. They are often known as arterial streets or highways. Major streets generally have average daily traffic (ADT) volumes greater than 5,000 vehicles.

B. **Collector Streets.** Function to collect traffic from local streets and distribute it into major streets and, as such, they will normally contain a relatively large number of intersections with local streets and few with main streets. A collector street system may be required wherever a residential neighborhood near a major street is over 150 acres in area or where the local street pattern is so designed as to converge and serve over 500 single-family dwellings, or 100 multi-family dwelling units. Collector streets generally have ADT volumes between 1,000 and 5,000 vehicles.

C. **Local Streets.** Provide direct access to each lot and function to allow traffic to circulate toward the principal directions of travel, bus routes, schools and playgrounds. Design shall discourage through and high speed traffic. Local streets generally have ADT volumes below 1,000 vehicles. On-street parking is permitted on a local street within a residential or commercial zoning district, but on-street parking is prohibited on a local street in an industrial park zoning district.

D. **Country Lane.** Serves only those limited rural areas of the Township that because of topography, drainage, utility consideration, and the nature of the existing land use, it is desirable to maintain the nature of the existing rural character while maintaining a right-of-way to accommodate future street improvements when they become necessary. No on-street parking is permitted on a country lane.

See Table A for minimum street design standards related to each classification.

3. **Supplementary Street Standards.** In addition to the standards related to classification, the following street standards shall apply to design considerations.

A. Streets shall be designed to intersect as nearly as possible at right angles (90°). No street shall intersect another at less than 75°.

B. No more than two streets shall intersect at any one point.

C. Whenever possible, proposed new intersections along one side of an existing street shall coincide with any existing intersections on the opposite side of the street. Where intersections cannot practically be connected, a minimum of 200 feet shall separate the center lines of offset local streets, and 400 feet minimum shall be provided for collector and major streets.
D. The design of curbing at the edge of pavements must take into account such conditions as type of turning vehicle, anticipated speed, angle of turn, number of lanes, parking considerations, etc. However, in any event, the intersection radii must be a minimum of 25 feet for local streets and 30 feet for major and collector streets.

E. Intersections must be approached on all sides by level areas. Where the grade exceeds 6%, these areas must have a minimum length of 50 feet measured from the intersection of the right-of-way lines within which no grade may exceed a maximum of 4%.

F. Dead-end streets shall be prohibited, except as stubs to permit future street extension into adjoining lots or phases, or where designed as a cul-de-sac street. Paved temporary cul-de-sacs shall be provided where future street extensions are proposed.

G. A cul-de-sac is a local street that terminates in a paved turnaround. Cul-de-sac streets shall be utilized only where the use of such street will be consistent with adjoining development patterns, topography, and natural features of the site. Cul-de-sacs shall not be used where it is possible to provide loop streets that provide better access for emergency vehicles, fewer restrictions for snow removal and street maintenance, and improved pedestrian access.

H. When permitted, cul-de-sacs shall provide access to not more than 25 dwelling units, or in the case of commercial, industrial or institutional developments, not more than 750 average daily vehicle trips based on the ITE Trip Generation Manual (latest edition). The minimum radius to the curb line shall be 50 feet; the minimum radius to the right-of-way shall be 60 feet; and the grade of the diameter shall not exceed 5%. The minimum length of cul-de-sac streets shall be 250 feet and the maximum length shall be 1,000 feet. A second cul-de-sac shall not branch off of another cul-de-sac street.

I. Country lanes shall not be utilized to serve more than 10 single-family residential lots and shall be prohibited in residential, commercial and industrial park zoning districts.

J. Whenever a development abuts a street which does not meet Township design criteria, the street shall be widened to meet such criteria and provided with additional right-of-way. Also, if required, curbing and sidewalks shall also be provided.

K. Streets shall be logically related to the topography so as to produce usable lots and reasonable grades.

L. Streets shall be so laid out with provisions for street connections into and from adjacent lots.
SUBDIVISION AND LAND DEVELOPMENT

M. If lots resulting from original subdivision are large enough to permit re-subdivision, or if a portion of the lot is not subdivided, adequate street rights-of-way to permit further subdivision shall be provided as necessary.

N. Where a development abuts or contains an existing or proposed collector or major street, the Township may require local or marginal access streets, reverse frontage lots or such other treatment as will provide protection for abutting lots, reduction in the number of intersections with the collector or major street, and separation of local and through traffic.

O. New half or partial streets will not be permitted, except where essential to reasonable development of a subject tract in conformance with the other requirements and standards of this Chapter and where, in addition, satisfactory assurance for dedication of the remaining part of the street can be secured.

P. Wherever a subject tract to be developed borders an existing half or partial street, the other part of the street shall be plotted within such subject tract.

4. Street Construction. Streets must be surfaced to the grades and dimensions drawn on plans, profiles and cross-sections submitted by the developer and as approved by the Board of Supervisors. Before paving the street surface, the developer must install the required utilities and provide, where necessary, adequate subsurface drainage for the streets. The pavement base and wearing surface must be constructed according to the following minimum specifications or other specifications required by the Township Engineer where the minimum specifications are inadequate.

A. Local Streets and Country Lanes. Local streets shall include 6 inches of 2A subbase material, 4 inches of bituminous concrete base course, and 1-1/2 inches of ID-2 bituminous wearing course. Construction shall be in accordance with current specifications of the Pennsylvania Department of Transportation.

B. Collector Streets. Collector streets shall include 8 inches of 2A subbase material, 4 inches of bituminous concrete base course, and 1-1/2 inches of ID-2 bituminous wearing course. Construction shall be in accordance with current specifications of the Pennsylvania Department of Transportation.

C. Major Streets. Construction shall be in accordance with current specifications of the Pennsylvania Department of Transportation, Publication 70, as amended.

(A.O.)

22-46
§22-603. Curbs and Sidewalks.

1. Curbs. Standard vertical curbs shall be provided along all streets within commercial or industrial park zoning districts. Said curbs shall be 18 inches in depth, 7 inches wide at the top and 8 inches wide at the bottom, with an 8 inch reveal. Standard slant curbs shall be provided along all streets within residential zoning districts. Said curbs shall be 16 inches in depth at the rear of the curb and 12 inches in depth at the front of the curb, 14 inches wide, with a 1 inch reveal. The Board of Supervisors may require the installation of curbs in any other subdivision or land development where evidence indicates that such improvements are necessary for proper drainage or traffic control or when sidewalks are required. Curbs shall be constructed of plain cement concrete (Class A) and shall be constructed in accordance with the current standards of the Pennsylvania Department of Transportation.

2. Shoulders. Where curbs are not required, streets shall be designed using shoulders and longitudinal drainage swales. Pavement and shoulder widths for streets without curbing shall be designed in accordance with Table A and with the urban design criteria in PennDOT Publication 70, Guidelines for the Design of Local Roads and Streets, current edition. Shoulder construction shall meet street construction standards.

3. Sidewalks. Sidewalks are required in all developments within commercial or residential zoning districts; or when pedestrian access is determined by the Board of Supervisors to be necessary for industrial areas, community facilities, and mobile home parks. Sidewalks shall be constructed of Class A concrete, be at least 4 inches thick, and be underlaid by 4 inches of #2A crushed stone, in accordance with current PennDOT specifications. Sidewalks shall be at least 4 feet wide, unless otherwise specified, and shall be located within the right-of-way of the street a distance of 1 foot from the right-of-way line. All sidewalks shall comply with the provisions of the Americans with Disabilities Act.

(A.O.)

§22-604. Underground Wiring.

All electric, telephone, television, and other communication facilities, both main and service lines servicing new residential developments, shall be provided by underground wiring within easements or dedicated public rights-of-way, installed in accordance with the prevailing standards and practices of the utility or other companies providing such services.

(A.O.)

§22-605. Monuments and Lot Corners.
SUBDIVISION AND LAND DEVELOPMENT

Sufficient monuments shall be set to ensure that reliable survey points are available for all parts of the development. At least two permanent monuments shall be placed at representative lot corners in every subdivision or land development. Each monument shall consist of a 4 inch square x 30 inch precast concrete monument containing an iron bar for strength and drill hole for line, set level with finished grade. All other lot corners and changes in direction shall be identified by \( \frac{3}{4}'' \) steel pins, 36 inches in length.

(A.O.

§22-606. Soil Erosion and Sedimentation Control.

Erosion and sedimentation control measures shall be in accordance with the applicable standards and specifications set forth in the current edition of "Erosion and Sediment Pollution Control Program Manual" as prepared by the Pennsylvania Department of Environmental Protection. The applicant shall provide evidence that the Erosion and Sedimentation Control Plan has been reviewed and approved by the Lebanon County Conservation District Office, however, if the District Office does not desire to review the Plan, the Board of Supervisors may, at its discretion, have the Plan reviewed by the Township Engineer. The cost of the review shall be paid by the applicant.

(A.O.

§22-607. Sight Distance at Street Intersections.

1. Proper sight distance shall be provided at all new street and all new access drive intersections in accordance with the latest edition of the Pennsylvania Department of Transportation Design Manual - Part 2, Highway Design (Publication 13), §2.18.F. Sufficient design and plan information shall be submitted with the plan application proving that this minimum standard will be achieved. Such design information shall be sealed by a professional registered in Pennsylvania qualified to perform such design work.

2. At all street intersections where stop signs or other stop control devices are not proposed, clear sight triangles shall be required and shall include the area on each street corner that is formed by a triangle where the two legs of the triangle extend 75 feet from the centerline intersection of the two intersecting streets along the centerlines of said streets. The planting of trees or other plantings or the location of structures exceeding 30 inches in height that would obstruct the clear sight across the area of the clear sight triangle shall be prohibited; and a public right-of-entry shall be reserved for the purpose of removing any object, material or otherwise, that obstructs the clear sight.

(A.O.)
§22-606 Lot Access.

1. The Board of Supervisors may disapprove any point of ingress or egress to any lot or development from any street when the proposed ingress or egress would create unsafe conditions, reduce the capacity of the adjoining street, result in substandard circulation and impaired vehicle movement, or be inconsistent with the Comprehensive Plan.

2. The Board of Supervisors may require the applicant to provide ingress and egress to a particular lot through the remainder of the subject tract or other lots over which he has control. The Board of Supervisors may also require the use of shared access drives or driveways between adjacent lots or uses in order to reduce the number of access drives and driveways connecting to such major or collector streets.

3. In approving ingress or egress from any state highway, the Board of Supervisors can only approve those access points that are not in conflict with safety standards of the Pennsylvania Department of Transportation. A highway occupancy permit is required for each access point onto a state highway.

4. The receipt of a highway occupancy permit does not assume direct approval of the Board of Supervisors. The Board of Supervisors may require the applicant to reapply for such a permit if the location of the access approved by said permit is in conflict with any provision of this Chapter or if the Board of Supervisors feels the location of the access will hinder the safe and efficient movement on any state highway or the proper development of the subject tract. In the event that, after such reapplication, PennDOT refuses to modify the Highway Occupancy Permit to conform with the provisions of this Chapter, the PennDOT decision shall prevail.

(A.O. ~22-609)

§22-609 Access Drives.

Access drives shall be designed to meet the following requirements:

A. Any lot which utilizes an access drive shall have frontage along a public street.

B. The plan shall note that the access drive does not qualify for dedication to the Township and that the landowner assumes all responsibility for its maintenance.

C. Access drives shall be designed for their intended function. All travel lanes shall be a minimum of 12 feet wide, however, sufficient design information must be submitted to indicate the number of travel lanes and
width proposed have been designed to accommodate the anticipated traffic, including emergency vehicles, to and from the development. In addition, vertical and horizontal alignments of such access drives must be designed to allow for the safe and convenient circulation of traffic within the development. The Board of Supervisors may require additional cartway width or turning lanes if it is determined that the intended use and function of the access drive warrants such design to ensure safety and convenience.

D. Parallel parking shall only be permitted along access drives when sufficient cartway width is proposed to accommodate both the travel lanes and parking stalls. Perpendicular parking which would require vehicles to back into travel lanes of an access drive is prohibited.

E. Proper sight distance shall be provided at access drive intersections with existing streets according to the requirements of §22-607.

F. The Board of Supervisors reserves the authority to disapprove the location of any access drive intersection with an existing or proposed street as stipulated in §22-608.

G. Access drives shall be constructed and maintained with a paved surface of concrete or bituminous materials, or another approved dust-free material suitable to the Board of Supervisors.

H. The number of access drives intersecting with a street shall not exceed two per lot frontage.

I. The edges of all access drives shall be located at least 15 feet from any side or rear yard lot line.

J. All access drives connecting to a public street shall be located at least 100 feet from the intersection of any street lines and shall be designed in a manner conducive to safe ingress and egress.

(A.O.

§22-610. Driveways.

Driveways shall include private drives serving individual farms and single family dwelling units. Driveways shall meet the following standards:

A. Adequate sight distance shall be provided for each driveway where connecting to a public street in accordance with the requirements of the Pennsylvania Department of Transportation.
B. Except for driveways serving agricultural or residential uses, all driveways connecting to a public street shall be located at least 100 feet from the intersection of any street lines and shall be designed in a manner conducive to safe ingress and egress.

C. All driveways connecting to a public street from an agricultural or residential use shall be located outside of any clear sight triangle established for a street intersection.

D. The Board of Supervisors reserves the authority to disapprove the location of any driveway intersection with an existing or proposed street as stipulated in §22-608.

E. Where possible, driveways shall be located on minor rather than major streets.

F. Not more than two driveways shall be projected to any single lot or business establishment unless the frontage exceeds 300 feet, in which case, one additional driveway shall be permitted to be projected to such lot or business.

G. Driveways shall have a minimum width of 10 feet and shall be located no closer than 3 feet from any side or rear lot line unless the driveway is part of a common parking facility.

H. A driveway shall not exceed a slope of 8% within 25 feet of the edge of the street cartway.

I. Driveways shall be constructed in a manner to be consistent with the design, maintenance and drainage of the street.

(A.O.

§22-611. Street Names.

Continuations of existing streets shall be known by the same name. Names for new streets shall not duplicate or closely resemble names of existing streets. All new street names are subject to the approval of the Board of Supervisors.

(A.O.

§22-612. Signs.

1. Design and placement of traffic signs shall follow the requirements specified in the “Manual on Uniform Traffic Control Devices for Streets and Highways,” published by the U.S. Department of Transportation.
2. At least two street name signs shall be placed at each four-way street intersection and one at each "T" intersection. Signs shall be installed under light standards and free of visual obstruction. The design of street name signs shall be consistent, of a style appropriate to the Township, of a uniform size and color, and erected in accordance with Township standards.

3. Parking regulation signs shall be placed along streets within the right-of-way in areas that restrict parking.

4. Site information signs within all land developments shall follow a design theme related and complementary to other elements of the overall design of the development.

(A.O.)

§22-613. Utility and Shade Tree Areas.

1. Utilities shall generally be located within the street right-of-way on both sides of and parallel to the street. Shade trees shall be located outside of the street right-of-way on both sides of and parallel to the street.

2. Utility and shade tree areas shall be planted with grass, ground cover, or treated with other suitable cover material.

(A.O.)

§22-614. Lighting.

1. Lighting for vehicular and pedestrian safety shall be provided at street intersections, entryways to commercial land developments, in parking lots adjacent to public streets and along required pedestrian ways.

2. Lighting shall be provided in accordance with an illumination plan designed by the General Public Utilities Company (GPU) or in conformance with the IES lighting standards in Exhibit 16 of the Appendix.

3. Spacing of standards shall be equal to approximately four times the height of the standard.

4. The maximum height of standards shall not exceed the maximum building height permitted, or 25 feet, whichever is less.
5. The height and shielding of lighting standards shall provide proper lighting without hazard to drivers or nuisance to residents, and the design of lighting standards shall be of a type appropriate to the development and the Township.

6. Spotlights, if used, shall be placed on standards pointing toward the buildings and positioned so as not to blind the residents, rather than on the buildings and directed outward which creates dark shadows adjacent to the buildings.

(A.O.

§22-615. Blocks and Lots.

1. Configuration. The configuration of blocks and lots shall be based upon the minimum and maximum lot area requirements, the salient natural features, the existing improvements, the proposed improvements and the adjacent development pattern. Lot configurations should provide for flexibility in building locations while providing safe vehicular and pedestrian circulation. Lots with areas that are two or more times the minimum requirements shall, wherever feasible, be designed with configurations which allow for additional subdivision.

2. Residential Blocks.

A. All blocks in a residential subdivision shall have a minimum length of 300 feet and a maximum length of 10 times the minimum required lot width, not to exceed 2000 feet.

B. Blocks along major streets shall not be less than 800 feet in length.

C. The design of blocks longer than 800 feet shall give special consideration to the requirements of fire protection, pedestrian access and utility service. The Board of Supervisors may require easements as necessary for these purposes.

3. Nonresidential Blocks. Blocks in nonresidential areas may vary from the requirements of subsection (2) when required by the nature of the use. Adequate provisions shall be made for off-street parking, loading areas and traffic circulation.

4. Specific Lot Configuration Requirements.

A. In order to avoid jurisdictional problems, lot lines shall, wherever feasible, follow municipal boundaries rather than cross them. Where a lot is divided by a municipal boundary, the minimum standards of both municipalities shall apply.
B. Generally, side lot lines shall be radial or perpendicular to street right-of-way lines. Exceptions may include cases where proposed lot lines follow existing lot lines, improvements or natural features.

C. All lots shall front on a public street. Principal vehicular access to lots shall be provided from the frontage along the street.

D. Lots resulting from a proposed subdivision that will be large enough to be further subdivided shall be configured to facilitate such future subdivision. Adequate street right-of-way shall be provided as necessary. The Board of Supervisors may require a sketch plan of such large lots that indicates the potential future subdivision generally in conformance with the design standards of this Chapter.

E. Subdivisions shall be designed to accommodate the current and future development of the subject tract, the development potential of adjacent lots, the development goals and policies of applicable comprehensive plans and applicable standards of the Township Zoning Ordinance [Chapter 27]. Lots shall be designed with adequate access by providing the required lot width at the street right-of-way line.

F. Flaglots shall not be permitted unless granted a variance of lot frontage and lot configuration requirements by the Township Zoning Hearing Board.

G. Double frontage lots are prohibited except where provided as reverse frontage lots. Reverse frontage lots are only permitted when a reduction of driveway intersections along a street with a high volume of vehicular movements is desired. Additionally, reverse frontage lots may be permitted when rear alleys are proposed to provide vehicular access to lots. All reverse frontage lots shall include an identification of the frontage for use as street access.

H. All residential reverse frontage lots shall have within every rear yard that is adjacent to any street right-of-way, other than an alley, a planted screen within a buffer easement of at least 10 feet in depth running the entire width of the proposed lot across which there shall be no vehicular access.

I. Each lot within a development shall be provided with a street number approved by the Board of Supervisors. Prior to the use and occupancy of a lot, the street number for the lot shall be required to be displayed in a location clearly visible and readable from all streets abutting the lot. Where a lot contains multiple buildings or dwelling units, each building and dwelling unit shall be identified prior to its use and occupancy in a manner acceptable to the Board of Supervisors so that emergency services
can easily identify the location of every building and dwelling unit in a time of emergency.

(A.O.)

§22-616. Easements.

Easements for sanitary sewer facilities, stormwater management facilities, public or private utilities or pedestrian access shall meet the following standards:

A. Location of Easements. To the fullest extent possible, easements shall be adjacent to lot lines.

B. Easement Conflicts. Nothing shall be placed, planted, set or put within the area of an easement that would adversely affect the function of the easement or conflict with the easement agreement.

C. Width of Pedestrian Easements. Pedestrian easements shall have a minimum width of 10 feet.

D. Width of Utility Easements. Public utility easements shall have a minimum width of 20 feet, and private utility easements shall have a minimum width of 10 feet. All utility companies are encouraged to use common easements.

E. Stormwater Drainage Easements. The applicant shall reserve easements where stormwater management facilities are existing or proposed, whether located within or beyond the subject tract. Said easements shall be provided in accordance with §22-805.

F. Variable Petroleum Easement Widths. Where any petroleum or petroleum product transmission line traverses a subdivision or land development, the applicant 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 petroleum or petroleum product transmission line.

(A.O.)

§22-617. Wetlands.

No subdivision or land development shall involve uses, activities or improvements which would entail encroachment into, the regrading of, or the placement of fill in wetlands in violation of State or Federal regulations. Applicants must submit evidence to the Board of Supervisors that, if wetlands are present on the site, the Pennsylvania Department of Environmental Protection and the U.S. Army Corps of Engineers have
been contacted to determine the applicability of State and Federal wetland regulations. Any approval of the Board of Supervisors shall be contingent on full compliance with any requirements of any regulatory agency, and no action by the Board of Supervisors shall be relied on in lieu of a permit issued by the appropriate agency.

(A.O.)

§22-618. Landscaping.

Landscaping consistent with the standards of this Chapter shall be provided in all subdivisions and land developments except where such standards are less stringent than those set forth in the Township Zoning Ordinance [Chapter 27] in which case the landscaping shall be provided consistent with the standards of the Township Zoning Ordinance [Chapter 27]:

A. Planting Screen for Reverse Frontage Lots.

(1) A planting screen within a buffer easement along the rear of reverse frontage lots shall consist of one row of staggered mixed evergreen and deciduous trees which shall be at least 6 feet in height when planted and shall be spaced not more than 10 feet apart on center. The trees shall be of such species so as to attain a height at maturity of not less than 20 feet. Deciduous plant materials shall comprise no more than 30% of the number of plants in the buffer. The required height of the buffer planting may be achieved in part by mounding or installation of plants along a berm.

(2) All planting shall be performed in conformance with good nursery and landscape practice. Plant materials shall conform to the standards recommended by the American Association of Nurseryman, Inc., in the American Standard of Nursery Stock, ANSI 60, current edition, as amended.

2. Street Trees. Street trees shall be provided in all residential subdivisions with densities greater than one dwelling unit per acre and in all commercial and residential land developments. All street trees shall be provided by the developer in accordance with the following standards:

A. The trees shall be nursery grown in a climate similar to that of the locality of the subject tract. Varieties of trees shall be subject to the approval of the Board of Supervisors.

B. All trees shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insects, insect eggs and larvae.
C. The trunk diameter, measured at a height of 6 inches above finish grade, shall be a minimum of 2 inches.

D. Trees shall be planted between the street right-of-way line and the setback line except where the Township has authorized placement of trees within the street right-of-way. Trees shall be planted so future growth of the trees shall not interfere with the street cartway, sidewalk or utilities. Street tree branching shall not interfere with clear sight triangles. Typical branching shall not be within 10 feet of ground level after 10 years of growth.

E. All planting shall be performed in conformance with good nursery and landscape practice and to any standards established by the Township.

F. Requirements for the measurements, branching, grading, quality, balling and burlapping of trees shall follow the code of standards recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, ANSI Z 60, current edition, as amended.

G. A minimum of two canopy street trees shall be provided for every 100 feet of public street right-of-way frontage on a lot. Street trees shall be placed a maximum of 50 feet apart along the street right-of-way and shall be located so as to maximize the growth potential of the plant material, minimize the potential for root interference with public infrastructure and enhance the quality of the development. Street trees shall be one of the following species:

- Acer rubrum & cultivars
- Acer saccharum
- Aesculus hippocastanum
- Aesculus x cornea
- Amelanchier canadensis (tree form)
- Amelanchier laevis (tree form)
- Betula lenta
- Betula nigra (single trunk)
- Carpinus caroliniana
- Celtis occidentalis
- Cercis canadensis
- Cladrastis lutea
- Craetaegus species & cultivars
- Fraxinus americana
- Fraxinus pennsylvanica lanceolata
- Gingko biloba (male trees only)
- Gleditszia triacanthos inermis
- Liriodendron tulipifera
- Nyssa sylvatica
- Ostrya virginiana

- Red Maple
- Sugar Maple
- Common Horse Chestnut
- Red Horse Chestnut
- Shadblow Serviceberry
- Alleghany Serviceberry
- Sweet Birch
- River Birch
- American Hornbeam
- Common Hackberry
- Redbud
- American Yellowwood
- Hawthorn
- White Ash
- Green Ash
- Gingko
- Thornless Honey Locust
- Tulip Tree
- Black Tupelo
- Hop Hornbeam
Platanus occidentalis  
Platanus acerifolia  
Quercus acutissima  
Quercus alba  
Quercus bicolor  
Quercus coccinea  
Quercus macrocarpa  
Quercus palustris  
Quercus rubra  
Quercus velutina  
Tilia americana  
Ulmus americana  
Ulmus parvifolia  
Zelkova serrata  

American Sycamore  
London Planetree  
Sawtooth Oak  
White Oak  
Swamp White Oak  
Scarlet Oak  
Bur Oak  
Pin Oak  
Red Oak  
Black Oak  
American Linden  
American Elm  
Chinese Elm  
Japanese Zelkova  

Other tree species may be used provided acceptable information is submitted to the Board of Supervisors to indicate that the species are hardy street trees. No one species shall comprise more than 25% of the entire number of street trees in a particular development.

H. Street trees are to be maintained and guaranteed for a minimum of 2 years. Planting of trees shall occur within the standard planting season for such trees (typically March through November). No more than 1/3 of the tree shall be damaged or dead without replacement. Replacement trees shall conform to all requirements of this Chapter and shall be maintained and guaranteed for a minimum of two planting seasons.

3. Ground Cover. Ground cover shall be provided on all areas of the subject tract to prevent soil erosion. All areas which are not covered by paving, stone or other solid material shall be protected with a suitable vegetative ground cover.

(A.O.)

§22-619 Sanitary Wastewater Disposal.

1. The developer shall provide the highest type of sanitary wastewater disposal facility consistent with existing physical, geographical, geological and economic conditions. The following types of sanitary wastewater disposal facilities are listed in order of desirability:

A. Publicly owned sanitary wastewater disposal system.

B. Privately owned sanitary wastewater system used by one unit of occupancy with subsurface absorption.
C. Privately owned sanitary wastewater system used by two or more units of occupancy with treatment other than subsurface absorption or holding tank which is owned by a single individual.

D. Privately owned subsurface absorption or drainage fields used by two or more units of occupancy.

2. If the development is within an area planned for sewer service by a municipal sewage facilities plan adopted pursuant to Act 537 of 1966, and if public sewer service is available within the following distances, subdivisions and land developments shall be connected to an existing public sanitary sewer system: 200 feet for one unit of occupancy; 400 feet for two units of occupancy; 600 feet for three units of occupancy; 800 feet for four units of occupancy; and 1000 feet for five units to 15 units of occupancy. For developments of greater than 15 units of occupancy which are within 1 mile from an existing public sanitary sewer system, adequate justification shall be provided as to why the developer should not provide a connection to the existing public sanitary sewer system. For developments of greater than 15 units of occupancy which are more than 1 mile from an existing system, the sanitary sewer strategy shall be determined on a case-by-case basis taking into consideration the density of development, economic considerations and the requirements of the municipal sewage facilities plan.

3. All public sewer facilities shall be designed and constructed in accordance with the requirements of the applicable municipal authority.

4. If a public system is not in place or cannot be extended, the developer may provide individual subsurface disposal systems subject to applicable regulations of the Pennsylvania Department of Environmental Protection; provided that, if a public sanitary sewer system will be provided to such areas within a 6 year period as indicated in the municipal sewage facilities plan, the Board of Supervisors may require installation of a capped system within the street right-of-way.

5. The Board of Supervisors shall require that approval from the Pennsylvania Department of Environmental Protection be granted prior to approval of the final plan.

A. When appropriate, the Board of Supervisors may condition approval of the final plan on the receipt of the approval of the plan revision module prior to the sale of lots or commencement of construction.

B. When a plan revision module for land development is not required, or such approval has been waived by the appropriate authority, written notice of such action shall be submitted to the Board of Supervisors.

6. Where onlot sanitary wastewater disposal facilities are to be utilized, each lot so served shall be of a size and shape to accommodate the necessary subsurface
wastewater disposal system at a safe distance from building and water supply in accordance with Title 25, Chapter 73, Rules and Regulations, of the Pennsylvania Department of Environmental Protection, as amended. All newly created lots shall be tested by the Township sewage enforcement officer to prove that each lot is suitable for on-lot wastewater disposal. No lot shall be created in an area without public sewer unless such lot is suitable for onlot wastewater disposal and is in compliance with the provisions of the Township Onlot Sewage Disposal Ordinance [Chapter 18].

(A.O.)


Whenever an existing or approved water system is accessible to a proposed development, a distribution system shall be provided to furnish an adequate supply of water to each unit of occupancy:

A. Applicants shall submit to the Board of Supervisors documentation in the form of a copy of a certificate of public convenience from the Pennsylvania Public Utility Commission that the development is located in an area served by a public utility and a statement that the utility has the capacity to serve the development at this time; or a cooperative agreement or an agreement to serve the development from a bona fide cooperative association of landowners or from a municipal corporation, authority or utility. A water system shall be considered accessible to a development, and shall be connected to the development, if public service is available within the following distances: 200 feet for one unit of occupancy; 400 feet for two units of occupancy; 500 feet for three to 10 units of occupancy; and within 1000 feet for any development resulting in more than 10 units of occupancy.

B. All public water facilities shall be designed and constructed in accordance with the requirements of the applicable municipal authority.

C. Whenever the water supply system contains sufficient capability or is planned to have such capability within 2 years from the date of final plan approval, fire hydrants shall be provided. The location and kind of fire hydrant shall meet the specifications of the local fire company and the Township when applicable. Suitable agreements shall be established for the ownership and maintenance of such a distribution system.

(1) Hydrants shall be spaced to provide necessary fire flow, and the average area per hydrant typically should not exceed 120,000 square feet. In addition, hydrants shall be spaced so that each dwelling unit shall be within 600 feet of a hydrant.
(2) A hydrant shall be located at all low points and at all high points with adequate means of drainage provided.

(3) If an approved water system will be extended to the subdivision within 6 years, the Board of Supervisors may require installation of a capped water distribution system.

D. Where a regional system is not accessible, particularly where onlot sanitary disposal systems are to be used, a community water supply may be required. If such a system is provided, it shall be approved by the Pennsylvania Department of Environmental Protection, and appropriate measures shall be provided to ensure adequate maintenance.

E. Where a pond exists or is proposed within the subject tract, and where the subject tract is not served by public water facilities, the developer shall install a dry fire hydrant system at the pond as directed by the Township to supplement the fire fighting capabilities within the Township. The dry fire hydrant system must be conveniently accessible to firefighting apparatus.

(A.O.)
TABLE A - MINIMUM STREET DESIGN STANDARDS

<table>
<thead>
<tr>
<th>STREET CLASSIFICATION</th>
<th>RIGHT-OF-WAY WIDTH</th>
<th>PAVED CARTWAY WIDTH</th>
<th>IMPROVED SHOULDER WIDTH (EA)</th>
<th>STREET WIDTH WITH CURBS</th>
<th>MAXIMUM VERTICAL GRADE</th>
<th>MINIMUM VERTICAL GRADE</th>
<th>HORIZONTAL CURVATURE (RADIUS)</th>
<th>REVERSE CURVE TANGENT</th>
<th>SIGHT DISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Streets</td>
<td>80'</td>
<td>*</td>
<td>*</td>
<td>80'</td>
<td>6%</td>
<td>1%</td>
<td>500'</td>
<td>200'</td>
<td>400'</td>
</tr>
<tr>
<td>Collector Streets</td>
<td>60'</td>
<td>26'</td>
<td>8'</td>
<td>36'</td>
<td>8%</td>
<td>1%</td>
<td>300'</td>
<td>100'</td>
<td>275'</td>
</tr>
<tr>
<td>Local Streets</td>
<td>50'</td>
<td>24'</td>
<td>6'</td>
<td>34'/28'</td>
<td>10%</td>
<td>0.75%</td>
<td>150'</td>
<td>50'</td>
<td>200'</td>
</tr>
<tr>
<td>Country Lane</td>
<td>50'</td>
<td>20'</td>
<td>4'</td>
<td>N/A</td>
<td>10%</td>
<td>0.75%</td>
<td>125'</td>
<td>50'</td>
<td>125'</td>
</tr>
</tbody>
</table>

**NOTE:**

1. All other design criteria shall be in accordance with PA DOT Publication 70, *Guidelines for the Design of Local Roads and Streets, Current Edition*.

2. Where curbing is not required, proper roadside drainage design using swales and cross-pipes shall be provided.

3. Where on-street parking is required, the local street width shall be 34 feet; where on-street parking is not required, the local street width shall be 28 feet.
Part 7

TRAFFIC IMPACT STUDIES

§22-701. Intent.

The intent of traffic impact studies is to identify the adequacy of the existing transportation network and potential impacts of the proposed subdivision or land development, and to determine street improvements necessary to mitigate any impacts resulting from the development.

(A.O.)


1. A traffic impact study shall be submitted for subdivision and land developments which meet the following criteria:

   A. Residential. Involving 25 or more dwelling units.
   
   B. Nonresidential. Involving 100 or more new peak-hour trips.
   
   C. Other. Whenever the Board of Supervisors shall find that there is a reasonable ground to believe that the existing transportation network may be inadequate to handle the volume or character of traffic likely to result from the proposed subdivision or land development.

2. The study shall be prepared by a registered engineer with sufficient prior traffic study experience to qualify the registered engineer to perform the study and render any opinions and recommendations set forth therein.

3. Study area boundaries shall be determined in accordance with the publication referenced in §22-703 and through discussion with the Board of Supervisors and Township Engineer. A pre-study conference between the applicant's registered engineer and the Township is encouraged.

(A.O.)

§22-703. Contents.

The study shall be prepared in accordance with the Institute of Transportation Engineer's Recommended Practice Traffic Access and Impact Studies for Site Development, current edition, and PennDOT Publications 201 and 282, current edition, and the requirements contained herein:
A. General Description. The description of the study area shall include the size, location, existing and proposed land uses, current zoning, construction phasing, and completion date of the proposed development. A brief description of other major existing and proposed developments within the study area shall be provided.

B. Transportation Facilities Description.

(1) Proposed Internal Transportation System. Describe the proposed vehicular bicycle and pedestrian circulation, ingress and egress locations, existing or proposed internal streets including the widths of cartways and rights-of-way, parking conditions, traffic channelizations and any other traffic control devices within the proposed development.

(2) External Transportation System. Describe the entire external street system within the study area for the proposed development including major intersections, traffic control devices, parking conditions, widths of cartways and rights-of-way, and vehicular, bicycle, and pedestrian circulation. Key intersections in the study area shall be identified and described. All planned or programmed public street improvements, including proposed street construction and traffic signalization, shall be noted. Any proposed street improvements resulting from surrounding developments shall also be recorded.

C. Existing Traffic Conditions. Existing traffic conditions shall be determined for all streets and intersections in the study area. Existing traffic volumes for average daily traffic, peak highway hours traffic, and peak development-generated hours traffic shall be collected. Manual traffic counts at key intersections in the study area shall be conducted, encompassing the peak highway and development-generated hours. A volume capacity analysis based upon existing volumes shall be performed during the peak-highway hours and the peak development-generated hours for all streets and key intersections in the study area using the methodologies presented in the current edition of the Transportation Research Board's Highway Capacity Manual, current edition. Levels of service shall be determined for all streets and key intersections. Traffic signal warrant analyses shall be conducted for all unsignalized intersections in accordance with PennDOT Publication 201. Gap studies and queue length analysis shall also be completed for the key intersections. The analysis of the existing street network will be based on the current geometric condition and traffic conditions.

D. Future Trip Projections.
(1) Estimation of vehicular trips to result from the proposed development shall be completed for the average daily, peak highway hours and peak development-generated hours. Vehicular trip generation rates to be used for this calculation shall be based on ITE's *Trip General Manual*, current edition, or data collected from existing developments with similar trip generation characteristics. Also, provide an estimate of anticipated truck volumes. These development-generated traffic volumes shall be provided for the in-bound and out-bound traffic movements and the reference sources and methodology followed shall be documented. All turning movements shall be calculated. These generated volumes shall be distributed to the study area and assigned to the existing streets, and key intersections throughout the study area.

(2) Provide a detailed distribution and assignment of any passby trips. Document all assumptions used in the distribution and assignment phase in a manner which permits the duplication of these calculations. Pedestrian volumes shall also be calculated, if applicable. If school crossings are to be used, pedestrian volumes shall be assigned to each crossing. Any characteristics of the proposed development that will cause particular trip generation problems shall be noted.

(3) Background growth and projected traffic from adjacent development shall be included in the projection of future traffic.

5. **Transportation Impacts.**

A. The study area street network is to be analyzed for safety and capacity sufficiency for future network conditions without the proposed development and future network conditions with the proposed development. For each of these conditions, the following analyses shall be completed:

(1) Mainline ADT volumes and turning movement volumes for all key intersections within the study area will be determined for the AM peak hours, PM peak hours and the proposed development peak hours, if other than either the AM or PM peak hours of the network.

(2) The effectiveness of the traffic signal control at all key intersections will be evaluated by approach in terms of vehicle stops and delays.

(3) Gap studies will be conducted at the proposed development access points to evaluate the need for signal control, turn prohibition or
additional site access points to reduce the left volume from the development access drives.

(4) Queue length studies will be completed to evaluate the potential for a backup of traffic from controlled intersections, which could impact other intersections including access points to the proposed development.

(5) An analysis of the volume and capacity of the network and all key intersections will be conducted utilizing the most current *Highway Capacity Manual* procedures. Levels of service will be determined and documented.

B. The analysis of the future conditions without the proposed development will document the adequacy of the study area network to accommodate the traffic in the design years without the proposed development. This analysis must include a full consideration of all committed street improvements to the study area network when determining the expected levels of service.

C. The analysis of the future conditions with the proposed development will document the impacts created as a result of the development.

6. Conclusions and Recommended Improvements. Levels of service for all street segments and key intersections shall be presented in tabular and graphic form. All street segments and key intersections showing a level of service at or below D for street segments, signalized intersections, and unsignalized intersections shall be considered deficient, and specific recommendations for the elimination of these deficiencies shall be listed. This listing of recommended improvements shall include, but not be limited to, the following elements: internal circulation design, site access location and design, external street and intersection design and improvements, traffic signal installation and operation, and transit design improvements. All physical onsite improvements shall be shown on the preliminary plan. Existing and future improvement transportation service shall also be addressed. For each recommended improvement, provide a schematic drawing of existing and proposed conditions as well as narrative description of the improvement, including the estimated cost of the improvements. Costs shall be separated for offsite improvements and onsite improvements.

(A.O.)


A final report must be prepared to document the results of the traffic impact study and the recommended improvements to accommodate the projected traffic due to the
proposed development. Provide an executive summary, which provides a concise description of the study area, results of the traffic analyses, and any recommended offsite and onsite improvements. The presentation of data and analyses results should be accomplished on either schematic diagrams of the study area, or through the use of charts and tables. All sources of data and methodologies, which were used in the study, (including computer programs) must be properly referenced and documented. Any modifications to the referenced procedures must be properly documented to enable a review of the appropriateness of the modification. Provide all computer output and calculations in appendices.

(A.O.


Where the traffic impact study indicates that onsite improvements are necessary or advisable to existing Township and state streets and intersections in order (i) to assure adequate, safe and convenient access to each lot and structure and parking compound proposed as part of the development of the subject tract, (ii) to accommodate the traffic due to the proposed development, (iii) to provide for a level of service and delay for the design year, or years for phased projects, with the development which is at least equivalent to the projected level of service and delay for the design years without the proposed subdivision or development, and (iv) to preserve the existing convenience of access to or ability to exit from abutting lots which gain access from the existing street, the developer shall install all such indicated onsite improvements. The developer shall install additional traffic lanes, traffic dividers, traffic control devices, traffic signals, and other measures as appropriate to ensure that the development of the subject tract does not adversely impact the existing street system and access to or the ability to exit from lots gaining access from an affected street. If the traffic impact study indicates that onsite improvements must be made to a state street, the developer shall also take all action necessary to obtain any Pennsylvania Department of Transportation permits and approvals to install the necessary street widening or traffic signals or traffic control devices. If the traffic impact study recommends installation of traffic signals or traffic signal modifications as part of the onsite improvements, the developer shall prepare all studies and submit all necessary applications to enable the installation of the traffic signal or modifications and shall install the traffic signal or modifications at their cost and expense. If the traffic impact study indicates that traffic control devices or regulations, including but not limited to stop intersections, speed limit reductions, or parking prohibitions, are required as part of the onsite improvements, the developer shall prepare all studies necessary to justify imposition of such regulations in accordance with Pennsylvania Department of Transportation regulations and shall pay all costs associated with the preparation and enactment of an ordinance to establish such regulations:

A. The developer shall bear all costs and expenses in connection with the onsite improvements required by this Part. If the developer requires the Township to submit any permit applications or requests for approvals in the name of the Township, the developer shall reimburse the Township
for all costs and expenses incurred by the Township in connection with its review of the application and submission of the application to the Pennsylvania Department of Transportation or any other governmental agency.

B. When the Township determines that the required onsite improvements are not feasible at the present time, the developer shall deposit financial security with the Township in accordance with Part 5.

(A.O.)
§22-801. Intent.

A stormwater management plan shall be required for each subdivision or land development application with the exception of single family residential lots that meet the criteria for a minor subdivision and when, in the opinion of the Township Engineer, the project will not create adverse runoff or erosion conditions on adjacent lots. Developers are urged, but not required, to discuss stormwater management design approaches with the Township Engineer prior to submission of any plan.

(A.O.

§22-802. Plan Content.

Stormwater management plans shall consist of maps, computations and narratives prepared under the direction of a qualified professional registered in the Commonwealth with experience in said subject. The plan shall include the following items:

A. A narrative including a general statement of the development; the date the development is expected to begin and end; a description of existing and proposed conditions; ownership and maintenance of facilities; and conclusions.

B. A 7½ minute USGS topographic map, or equivalent, showing the location of the development and its total watersheds, and additional maps, as necessary, to clearly show the delineation of all drainage areas, both on site and off site, used in all computations for all stormwater management facilities.

C. Development mapping showing existing and proposed facilities such as lots, streets, parking areas, grading, drainage facilities, erosion control facilities, areas of cut and fill, limits of earth disturbance and stormwater management facilities.

D. Development mapping showing existing and proposed topographic features as follows:

(1) Contours at 2 foot intervals except in areas where the slope is greater than 15%, in which case the contour interval shall be 5 feet.

(2) Lot lines of the subject tract.
(3) Drainage on the subject tract and adjoining lots, including floodplains, floodways, streams, lakes, ponds, wetlands and easements.

E. Calculations for all stormwater drainage and stormwater management facilities.


The following design criteria are presented as the minimum acceptable standards of general engineering practice. However, new and innovative procedures are encouraged and shall be permitted on a case-by-case basis by the Board of Supervisors:

A. Design Storm. All storm sewers and related street drainage facilities shall be designed to safely convey the 10 year storm with a minimum of a 5 minute duration. More stringent criteria may be required where the above criteria will aggravate existing problems or create new problems. Cross culverts, channels and swales shall be designed for a 25 year event unless a greater frequency is required by DEP or other agency. Bridges and other major stream crossings shall be designed to pass the 100 year storm.

B. Peak Flow. The Rational Method shall be used for drainage areas up to 1 square mile or where the time of concentration is less than 60 minutes. For drainage areas greater than 1 square mile, the SCS Soil Cover Complex Method, or other method acceptable to the Township Engineer, shall be used.

C. Rainfall. Design rainfall shall be determined using the Pennsylvania Department of Transportation (PADOT) Intensity-Duration-Frequency Curves for Region Four as follows:

(1) Rational Method. The appropriate time of concentration and return period shall be used to determine the rainfall intensity.

(2) Soil Cover Complex Method. The Soil Conservation Service Type II 24 hour rainfall distribution shall be used with the following rainfall depths:

<table>
<thead>
<tr>
<th>Return Period</th>
<th>24 Hour Rainfall Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 year</td>
<td>3.0 inches</td>
</tr>
<tr>
<td>10 year</td>
<td>4.8 inches</td>
</tr>
<tr>
<td>25 year</td>
<td>5.3 inches</td>
</tr>
<tr>
<td>100 year</td>
<td>6.7 inches</td>
</tr>
</tbody>
</table>
D. Runoff Coefficients.

(1) Runoff coefficients for the Rational Method shall be determined by using Exhibit 3 of the Appendix.

(2) Runoff curve numbers for the SCS Soil Cover Complex Method shall be determined using Exhibit 4 of the Appendix.

E. Time of Concentration. The methods found in Chapter 3 of Urban Hydrology for Small Watersheds, Technical Release TR-55, published by the U.S. Department of Agriculture, Soil Conservation Service, current edition, shall be used to compute times of concentration. The length of flow path for sheet flow shall not exceed 150 feet and the length of flow path for shallow concentrated flow shall not exceed 1000 feet.

F. Allowable Spread of Water. The maximum allowable spread of water on streets is 1/2 of a travel lane.

G. Pipe Design. At a minimum, pipe capacities shall be computed using both the Manning Equation of full flow capacity and the Inlet Control Nomographs in Hydraulic Design of Culverts, Hydraulic Design Series 5, published by the U.S. Department of Transportation, Federal Highway Administration, September of 1985. For inlets, the maximum headwater elevation must be less than the top of grate. Complete outlet control calculations shall be required for special circumstances such as high tailwater conditions, long runs of pipe, excessive bends and other losses, etc. The minimum pipe slope shall be .50%.

H. Inlet Spacing. The maximum spacing of inlets shall not exceed 450 feet. Design calculations must be submitted supporting the capacity and spacing of all proposed inlets.

I. Swales.

(1) At a minimum, swale capacities and velocities shall be computed using Manning's Equation. Backwater calculations and other methods may be necessary for special conditions such as excessive bends and other losses, backwater conditions, etc.

(2) The minimum longitudinal slope shall be .50%; however, if the swale is a grassed waterway, the minimum longitudinal slope shall be 2%.

(3) The maximum side slopes shall be 3 to 1 for grass lined swales and 2 to 1 for rock lined swales.

(4) All grass-lined swales shall be provided with a minimum of 4 inches of topsoil. Swales shall be mulched and seeded with Formula B seed mixture in areas that will be mowed and Formula D seed mixture in areas with limited access that will not be...
SUBDIVISION AND LAND DEVELOPMENT

mowed, in accordance with PADOT Publication 408, §804. Swales shall be provided with other protective lining as may be required in order to prevent erosion.

J. All culverts and pipe outlets shall be provided with approved headwalls or end sections and the appropriate size and amount of rock lining or other similar energy dissipater for erosion control.

(A.O.


1. **Design Storm.** The maximum peak rate of runoff for the proposed conditions shall not exceed the maximum peak rate of runoff for the existing conditions for the 2 year, 10 year, 25 year and 100 year storms. More stringent criteria may be required where the above criteria will aggravate existing problems or create new problems.

2. **Routing.** The design of the facility shall be verified by routing the proposed 2, 10, 25 and 100 year hydrographs through the facility using the storage indication method or Modified Puls method.

3. **Emergency Spillway.** An emergency spillway must be provided to safely pass the 100 year storm with 1 foot of freeboard between the maximum pool elevation and the top of the embankment.

4. **Riser-Pipe/Outlet Structure.** The riser pipe or outlet structure shall be designed to withstand buoyancy forces if it becomes clogged. The outlet structure shall also be designed with trash racks or other measures to minimize the possibility of clogging.

5. **Fencing.** Stormwater detention basins may be required to be fenced with a 6 foot high fence of a material acceptable to the Board of Supervisors. The Board of Supervisors shall make the decision to require fencing based upon information submitted by the applicant including, but not limited to, detention versus retention capability, length of detention time, depth of water, basin location, safety concerns, basin slopes, and aesthetic considerations.

6. **Pond Bottom.** The minimum slope of any surface on the bottom of any detention basin shall be 1.5%. Also, low-flow channels with underdrains shall be constructed from any pipe or swale leading into the detention basin to the outlet structure.

7. **Slope.** The maximum side slope of stormwater detention basins shall be 3 to 1.

8. **Embankments.** Fill slopes and berms associated with detention basins shall be designed to be stable and shall have a minimum top width of 5 feet and a maximum height of 10 feet measured from the invert of the outlet structure to

22-72
the 100-year design water surface elevation. Embankments shall also be
designed using cutoff trenches, impervious cores and anti-seep collars in order to
prevent seepage and piping of the embankment material. Adequate details and
computations shall be provided in order to demonstrate structural adequacy.

9. Access. All stormwater management facilities shall be accessible in order to
allow for proper maintenance as required.

10. The use of alternate stormwater management facilities such as underground
detention, infiltration methods, roof-top storage, retention facilities and other
techniques are also encouraged, subject to the following criteria:

   A. If underground rock bin facilities are proposed, calculations shall assume
      a stone void ration of 0.35 unless supporting documentation can be
      provided otherwise.

   B. If infiltration facilities are proposed, percolation tests in the area of the
      proposed facility shall be provided to confirm the infiltration rate of the
      affected soils.

(A.O.)

§22-805. Easements.

1. Easements shall be provided for the benefit of the Township for all drainage and
   stormwater facilities in consultation with the Township Engineer:

   A. The minimum width of such easements shall be 20 feet. Additional width
      may be required by the Township Engineer depending on the purpose,
      location and use of the easements.

   B. Wherever possible, such easements shall be centered on the side or rear
      lot lines, or along the front lot lines.

2. A drainage easement shall be provided where a subdivision or land development
   is traversed by an existing or proposed watercourse, drainageway, channel or
   stream. The width of the easement will be approved by the Township Engineer.
   The easement will conform substantially with the line of the watercourse,
   drainageway, channel or stream. The width will be adequate to preserve the
   unimpeded flow of natural drainage or to widen, deepen, relocate, improve or
   protect such drainage facilities or to install a storm sewer. Under no
   circumstances shall the easement be less than 20 feet. Access easements to the
   drainageways shall also be required.

(A.O.)

§22-806. Construction Standards.
1. Pipes.
   A. Pipes shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, as amended.
   B. Pipe trenching and backfilling shall be in accordance with the requirements of the Pennsylvania Department of Transportation, Publication 408 and Roadway Construction Drawings, current edition, unless otherwise approved by the Township Engineer.
   C. Pipe thickness and reinforcement shall be in accordance with approved engineering calculations. Minimum pipe gauge for corrugated galvanized steel pipe shall be 16 gauge.
   D. Pipe sizes shall be in accordance with that shown on approved drawings. Minimum pipe size for drainage facilities shall be 15 inches in diameter.
   E. Pipes shall be constructed and set to line and grade as shown on approved drawings. All pipes shall be laid on straight runs between drainage structures.
   F. Pipes shall be provided with a minimum of 1 foot of cover between the top of pipe and the bottom of the pavement subgrade.
   G. All pipe outlets shall be discharged to natural or manmade waterways and shall be provided with reinforced concrete headwalls or pipe end sections. Pipe outlets shall also be provided with an erosion resistant material to accommodate the anticipated velocity and discharge of stormwater as designed.
   H. Underdrains, pavement base drains, or combination storm sewer and underdrains shall be provided at low points, cut sections, poorly drained areas and other areas which, in the opinion of the Township Engineer, are required to provide adequate subsurface drainage to protect the integrity of the street.

2. Inlets.
   A. Inlets shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, as amended, and as detailed on RC-34 of Commonwealth of Pennsylvania, Department of Transportation Standards for Roadway Construction.
   B. Unless otherwise required by the Township Engineer, inlet tops shall be precast concrete top units with an 8 inch hood and shall be compatible with the type of curbing installed.
C. All inlets over 5 feet in depth shall be provided with steps for accessibility.

D. All inlets shall have weep holes placed at the appropriate elevations to completely drain the subgrade prior to placing the base course and surface course.

E. Inlets shall be inspected by the Township Engineer or his designated agent after completion of all work.

F. All inlets in paved areas shall have bicycle safe grates.

G. All inlets shall be constructed with concrete flow channels cast in-place in the bottom of each inlet.

H. Where required by the Township Engineer, at all low points in curbed sections, swales and easements shall be provided behind the curb and through the adjacent lots to channelize and direct any overflow of water away from the structures and buildings. The swale shall be designed to accommodate a flow equal to that being collected by the inlets at the low point plus any additional drainage that may be directed to or collected by the swale itself.


A. Precast concrete storm manholes shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, as amended, and as detailed on RC-39 of Commonwealth of Pennsylvania, Department of Transportation Standards for Roadway Construction.

B. Manholes shall be inspected by the Township Engineer or his designated agent after completion of all work.

(A.O.

22-807. Ownership, Administration and Maintenance.

The final plan shall reflect and be accompanied by supporting documentation identifying the ownership and method of administering and maintaining all permanent stormwater management and storm sewer facilities. With regard to the maintenance of these facilities, they must be either:

A. Dedicated to and accepted by the Board of Supervisors; or

B. Maintained by a private entity (e.g., homeowners association or individual landowners) in accordance with the terms of an agreement, declaration of easements or other legally binding documentation approved in form by the Board of Supervisors. The agreement, declaration of easements or
other legally binding documentation shall provide that the Township shall have the right to:

(1) Enter the lot to inspect the facilities at any time.

(2) Require the private entity to take corrective measures and assign the private entity reasonable time periods for any necessary action.

(3) Authorize maintenance to be done and lien all cost of the work against the lots of the private entity responsible for maintenance.

The agreement, declaration of easements or other legally binding documentation shall be submitted to the Board of Supervisors which may require the agreement to contain provisions requiring the posting and periodic payment of escrow funds by the private entity to guarantee proper maintenance of the facility.

(A.O. 22-76)
Part 9

MOBILE HOME PARKS

§22-901. Procedures and Information.

The plan processing procedures and plan specifications for a mobile home park as a land development shall be in accordance with the requirements contained in Parts 3 and 4 of this Chapter, and the applicable provisions of this Part. In addition, mobile home parks are subject to the regulations of the Township Zoning Ordinance [Chapter 27].

(A.O.)

§22-902. Design and Improvement Standards.

1. The arrangement and other design standards of access drives, driveways, easements, and erosion and sedimentation control measures shall be in accordance with the requirements of Part 6 of this Chapter in addition to the provisions of the Township Zoning Ordinance [Chapter 27].

2. Mobile home parks involving 25 or more mobile homes shall comply with the traffic impact study requirements for residential development in accordance with Part 7 of this Chapter.

3. Mobile home parks shall comply with the stormwater management requirements in accordance with Part 8 of this Chapter.

4. Improvement and maintenance guarantees shall be provided for all required site improvements by the applicant of all mobile home parks in accordance with Part 5 of this Chapter.

5. Mobile home parks located adjacent to any residential, industrial or commercial land use shall be required to provide a screen planting along the lot lines separating the park and the adjacent use. The screening shall be consistent with the provisions of §22-618(A) for screening of reverse frontage lots.

6. No part of any mobile home park shall be used for nonresidential purposes, except for such uses that are required for recreation, direct servicing, management or maintenance of the mobile home park and its residents.

7. All power distribution lines, telephone or cable servicing the mobile home park shall be installed underground and maintained in accordance with the respective utility company regulating such systems.

8. Every mobile home park shall have a structure clearly designated as the office of the mobile home park manager. Service and accessory buildings should be used only by the residents of the mobile home park.
9. The storage, collection and disposal of refuse in the mobile home park shall be the responsibility of the mobile home park owner or manager and shall be so conducted as to create no health hazards, rodent harborage, insect breeding areas, accident or fire hazards or air pollution and shall comply with all applicable Township and State regulations.

(A.O.

§22-903. Removal of Mobile Homes.

No mobile home in a mobile home park shall be removed from the Township without first obtaining a permit from the Township Tax Collector as required by Act No. 54, 1969, of the Pennsylvania General Assembly. Such permit shall be issued upon payment of a fee to be established from time to time, by resolution of the Board of Supervisors and real estate taxes assessed against the home and unpaid at the time the permit is requested.

(A.O.)
Part 10
FLOODPLAIN MANAGEMENT

§22-1001. Intent.

The purpose of the regulations set forth in this Part is to monitor the subdivision and/or development of floodplain areas in order to promote and protect the general health, welfare and safety of the community, to require that each such subdivision lot in floodplain areas to be provided with a safe building site with adequate access, to insure that public facilities which serve such lots or development be designed and installed to preclude flood damage, and to protect individuals from purchasing lands which are unsuitable for development because of flooding. The subsequent Sections shall be considered requirements supplemental to those procedures and standards specified elsewhere in this Chapter, the Township Zoning Ordinance [Chapter 271], the Lebanon County Floodproofing Building Code [Chapter 4, Part 11] and any other applicable ordinances and codes.

(A.O.)

22-1002. Definitions of Terms Utilized in this Part.

1. **Base Flood.** The flood, also known as the 100 year flood, which has a 1% chance of being equaled or exceeded in any given year; the flood which has been selected to serve as the basis upon which the floodplain management provisions of this and other ordinances have been prepared.

2. **Base Flood Elevation.** The determination by the Federal Insurance Administrator of the water surface elevation of the base flood, that is, the flood level that has a 1% or greater chance occurrence in any given year.

3. **Construction.** The term “construction” shall include the building, reconstruction, extension, expansion, alteration, substantial improvement, erection or relocation of a building or structure, including manufactured homes, and gas or liquid storage tanks. For floodplain purposes, “new construction” includes structures for which the “start of construction” commenced on or after the effective date of a floodplain management regulation adopted by the Township.

4. **Development.** Any manmade change to improved or unimproved real estate, including but not limited to, buildings, manufactured homes or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations or the storage of equipment or materials.
5. **Flood.** A general and temporary inundation of normally dry land areas by water from waterway overflows or the unusual and rapid accumulation or runoff of surface waters from any source.

6. **Floodplain.**
   
   A. A relatively flat or low land area adjoining a river, stream or watercourse, which is subject to partial or complete inundation by water.
   
   B. An area subject to the usual and rapid accumulation or runoff of surface water from any source.

For the purposes of this Part the floodplain shall be considered to be the 100 year floodplain which is a floodplain having a 1% chance of being subject to the above conditions during any given year.

7. **Floodway.** The channel of a river or other watercourse and the adjacent land area that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation of that flood more than 1 foot at any point.

8. **Manufactured Home.** A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" also includes:
   
   A. All mobile homes.
   
   B. Two camping trailers, recreational vehicles, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days.

9. **Manufactured Home Park And/or Subdivision.** A lot or area which is a planned development and designated to contain two or more manufactured homes for rent or for sale. Any lot or area proposed to utilize such design where individual manufactured home sites are proposed for sale shall be known as a manufactured home subdivision.

10. **One Hundred Year Flood (Base Flood).** A flood selected as the base flood that has a 1% or greater chance of occurring in any given year.

11. **Structure.** A walled or roofed building, including a gas or liquid storage tank (principally above ground), a manufactured home, or any other manmade object usually assembled of interdependent parts or components which is designed to have a more or less fixed location, whether or not permanently attached at that location.
§22-1003. Applications Procedures and Plat Requirements. The following procedures shall be required in addition to those specified otherwise in this Chapter:

A. Pre-Application Procedures.

(1) It is suggested that prospective developers consult the Pennsylvania Department of Environmental Protection and the Township Sewage Enforcement Officer concerning soil suitability when onsite sewage facilities are proposed.

(2) Prospective developers shall consult the County Conservation District representative concerning erosion and sediment control, and the probable effect of geologic conditions should be made as to whether or not any flood hazards either exist or will be created as a result of the proposed subdivision or development.

B. Preliminary Plan Requirements. The following information, prepared by a qualified professional, shall be required as part of the preliminary plan when a subdivision is in a floodplain area:

(1) A map illustrating the location of the proposed subdivision or land development with respect to the Township's floodplain areas including information on, but not limited to, base flood elevations, boundaries of floodplain areas, proposed lots and sites, fill and flood or erosion protective facilities.

(2) All subdivision proposals and other proposed new developments shall provide base flood delineations; however, subdivision proposals and other proposed new development greater than 50 lots or 5 acres, whichever is lesser, shall include actual base flood elevation data, in a form comparable to HEC-2, which will be certified as accurate by a registered professional engineer.

(3) Where the subdivision or land development lies partially or completely in the floodplain area or where the subdivision borders on the floodplain area, the preliminary plan map shall include detailed information giving the location and the elevation of proposed roads, public utilities and building lots. All such maps shall also show contours at intervals of 2 feet and identify accurately the boundaries of the floodplain areas.

C. Final Plan Requirements. The following information, prepared by a qualified professional, shall be required as part of the final plan:

(1) All information required for submission of the preliminary plan plus any changes required by the Board of Supervisors.
SUBDIVISION AND LAND DEVELOPMENT

(2) A map showing the exact location and elevation of all proposed buildings, structures, streets, and public utilities to be constructed in floodplain areas. All such maps shall show contours at intervals of 2 feet and identify accurately the boundaries of the floodplain areas.

(A.O.)

§22-1004. Design Standards and Improvements.

The design standards and requirements in addition to those of Parts 4 and 6 and otherwise listed in this Part:

A. General.

(1) Where not prohibited by this or any other laws or ordinances, land located in the floodplain areas may be platted for development with the provision that the developer construct all buildings and structures to preclude flood damage in accordance with this and any other laws and ordinances regulating such development.

(2) Building sites for residences or any other type of dwellings or accommodations and building sites for structures or buildings other than residential uses shall be permitted in the floodplain only when in compliance with the Township Zoning Ordinance [Chapter 27], the Lebanon County Floodproofing Building Code [Chapter 4, Part 1] and any other applicable regulations.

(3) If the Board of Supervisors determines that only a part of a proposed plat can be safely developed, it shall limit development to that part and shall require that development proceed consistent with this determination.

(4) When a developer does not intend to develop the plat himself and the Board of Supervisors determines that additional controls are required to insure safe development, it may require the developer to impose appropriate deed restrictions on the land. Such deed restrictions shall be inserted in every deed and noted on every recorded plat.

(5) Whenever a developer intends to alter or relocate a watercourse within the designated floodplain, the developer shall notify, in writing, by certified mail, all adjacent communities and the Pennsylvania Department of Community and Economic Development (or its successor agency) of all such intended activities prior to any alteration or relocation of the watercourse.
Copies of such notification shall be submitted to the Federal Insurance Administrator. The developer shall also assure the Board of Supervisors in writing that the flood carrying capacity within the altered or relocated portion of the watercourse in question will be maintained.

(6) No new construction or development shall be located within a designated floodway. Where the floodway has not been specifically identified for a stream or waterway, no new construction or development shall be permitted within the stream channel (from top of bank to top of bank). Furthermore, construction or development outside the stream banks but within the floodplain district shall be permitted only when in compliance with this Part and Pennsylvania Department of Environmental Protection permit requirements.

(7) Lots which are within the floodplain shall be subject to the following:

(a) Any lots created or revised shall have not more than 50% of their area within the floodplain, except that large lots may be exempted provided minimum 1 acre area of said lot is outside the floodplain.

(b) Lot access to a public street shall not be restricted or prevented by floodplain areas.

2. **Excavation, Grading and Use of Fill.** Any excavation activities, grading and use of fill shall be in compliance with all applicable terms of the Township Zoning Ordinance [Chapter 27] and the Lebanon County Floodproofing Building Code [Chapter 4, Part 1]. Furthermore, where excavation or grading is proposed or where any existing trees, shrubs or other vegetative cover will be removed, the developer shall consult the County Conservation District representative concerning plans for erosion and sediment control and to also obtain a report on the soil type and degree of development the site may accommodate. Before undertaking any excavation or grading, the developer shall obtain a grading and excavation permit if such is required by the Township.

3. **Drainage Facilities.**

A. Storm drainage facilities shall be designed to convey the flow of surface water without damage to persons or property. The system shall insure drainage at all points along streets and provide positive drainage away from buildings and onsite disposal sites.

B. Plans shall be subject to the approval of the Board Supervisors. The Board may also require a primarily underground system to accommodate frequent floods and a secondary surface system to accommodate larger,
SUBDIVISION AND LAND DEVELOPMENT

less frequent floods. Drainage plans shall be designed to prevent the discharge of excess runoff onto adjacent lots.

4. Streets. The finished excavation of proposed streets shall be no more than 2 feet below the base flood elevation. The Board of Supervisors may require, where necessary, profiles and elevations of streets to determine compliance with this requirement. Drainage and bridge openings shall be sufficient to discharge flood flows without unduly increasing flood heights.

5. Sewer Facilities. All sanitary sewer systems located in floodplain areas, whether public or private, shall be floodproofed to a point 2 feet above the base flood elevation:

A. The Board of Supervisors may prohibit installation of sewage disposal facilities requiring soil absorption systems where such systems will not function due to high ground water, flooding or unsuitable soil characteristics. The Board of Supervisors may require that the developer note on the face of the plat and in any deed of conveyance that soil absorption fields are prohibited in designated areas.

B. The Board of Supervisors may prescribe adequate methods for waste disposal. If a sanitary sewer system is located on or within 1000 feet of the proposed subdivision and/or land development, the Board of Supervisors shall require the developer to provide sewage facilities to connect to this system where practical, and shall prescribe the procedures to be followed by the developer in connecting to the system.

6. Water Facilities. All water systems located in floodplain areas, whether public or private, shall be floodproofed to a point 2 feet above the base flood elevation. If there is an existing public water supply system on or near the subdivision, the Board of Supervisors shall require the developer to connect to this system where practical, and shall prescribe the procedures to be followed by the developer in connecting to the system.

7. Other Public and/or Private Utilities and Facilities. All other public and/or private utilities and facilities shall be elevated or floodproofed to a point 2 feet above the base flood elevation.

(A.O.)


No final plat shall be approved by the Board of Supervisors until the improvements required by this Part are completed in a satisfactory manner and approved by the Township. In lieu of such construction, approval may be granted prior to completion providing:
A. The developer enters into an agreement with the Township guaranteeing that improvements will be installed in accordance with the plans, specifications and schedules approved by the Township prior to plat approval. This agreement shall also guarantee that no lot will be sold or building constructed in any floodplain area prior to completion of all protective works or measures planned for such lot and necessary access to facilities.

B. The developer provides financial security to guarantee performance of this agreement and completion of the improvements as planned. The procedure and form of the financial security shall be in accordance with Part 5 of this Chapter.

(A.O.

§22-1006. Municipal Liability.

The grant of a permit or approval of a subdivision and/or land development plan in the identified floodplain area shall not constitute a representation, guarantee or warranty of any kind by the Township or by any official thereof of the practicability or safety of the proposed use, and shall create no liability upon the Township, its officials or employees.

(A.O.
Part 11

ADMINISTRATION

§22-1101. Intent.

This Chapter shall be considered to set forth the minimum requirements for the protection of the public health, safety, comfort, property or general welfare, pursuant to the authority of the Pennsylvania Municipalities Planning Code, Act Number 247, 1968 sessions, as amended, or such statutes hereinafter in effect, and shall be construed most favorably to the Township as encouraging standards of planning and development exceeding these basic and minimum regulations.

(A.O.)

§22-1102. Administration and Enforcement.

1. The Board of Supervisors shall have the duty and authority for the administration and enforcement of the provisions of this Chapter. As directed by the Board, officials of the Township having regulatory duties shall have the duty and authority for the controlling enforcement of the provisions of this Chapter.

2. Permits required by the Township for the erection or alteration of buildings, the installation of sewers or sewage disposal systems, or for other appurtenant improvements to or use of the land, shall not be issued by any Township official responsible for such issuance until it has been ascertained that the site for such building, alteration, improvement, or use is contained in a subdivision or land development plan approved and publicly recorded in accordance with the provisions of this and other applicable Township codes and ordinances.

3. In addition to other remedies, the Board of Supervisors may institute and maintain appropriate actions by law or in equity to restrain, correct or abate violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

4. The Township may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a subdivision of real property in violation of this Chapter. This authority to deny such a permit or approval shall apply to any of the following applicants:

A. The owner of record at the time of such violation.
SUBDIVISION AND LAND DEVELOPMENT

B. The vendee or lessee of the owner of record at the time of such violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

C. The current owner of record who acquired the property subsequent to the time of violation without regard as to whether such current owner had actual or constructive knowledge of the violation.

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

(A.O.)

§22-1103. Modifications.

1. The provisions of this Chapter are intended as minimum standards for the protection of the public health, safety and welfare of the residents and inhabitants of the Township. The Board of Supervisors may grant a modification of the requirements of one or more provisions of this Chapter if the Board of Supervisors concludes that literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of this Chapter is observed.

2. All requests for modification shall be in writing to the Board of Supervisors and shall accompany and be part of the application for development. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the Chapter involved and the minimum modification necessary.

3. All such modification requests shall be approved or disapproved by the Board of Supervisors, which may refer the request to the Township Planning Commission and the County Planning Department for advisory comment. A written record of the action shall be kept for all modification requests.

(A.O.)

§22-1104. Appeals.

An applicant aggrieved by any action of the Board of Supervisors regarding refusal to approve a subdivision or land development plan may, within 30 days of such refusal, appeal to the Common Pleas Court of Lebanon County. Any other appeals by aggrieved
I.

Parties or other landowners shall be subject to the appeal procedures outlined in Article X of the Pennsylvania Municipalities Planning Code.

(A.O.)

§22-1105. Schedule of Fees.

1. Annually, the Board of Supervisors shall establish, by resolution, a schedule of fees, charges and expenses pertaining to application filing fees, plan review fees, engineering and legal expenses, inspection fees and other matters necessary for the administration of this Chapter. All review fees shall be reasonable and in accordance with the ordinary and customary charges by the municipal engineer or consultant for similar service in the community but in no event shall the fees exceed the rate or cost charged by the engineer or consultant to the Township when fees are not reimbursed or otherwise imposed on applicants. The schedule of fees shall be available in the Township office. Until all fees, charges and expenses have been paid in full, no action shall be taken on any application or appeal.

2. In the event that the applicant disputes the amount of any such review fees, the applicant shall, within 14 days of the applicant's receipt of the bill, notify the Township that such fees are disputed, in which case the Township shall not delay or disapprove a subdivision or land development application due to the applicant's request over disputed fees.

3. In the event that the Township and the applicant cannot agree on the amount of review fees which are reasonable and necessary, then the applicant and the Township shall follow the procedure for dispute resolution set forth in §510(g) of the Pennsylvania Municipalities Planning Code, or the currently applicable section thereof, provided that the professionals resolving such dispute shall be of the same profession or discipline as the consultants whose fees are being disputed.

(A.O.)

§22-1106. Penalties.

1. Any person, partnership or corporation who or which has violated the provisions of this Chapter shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Board of Supervisors, pay a judgment of not more than $500 plus all court costs, including reasonable attorney fees incurred by the Township.

2. District justices shall have initial jurisdiction in proceedings brought by the Board of Supervisors in accordance with this section. No judgment shall commence or be imposed, levied or be payable until the date of the determination.
SUBDIVISION AND LAND DEVELOPMENT

of a violation by the district justice. If the defendant neither pays nor timely
appeals the judgment, the Board of Supervisors may enforce the judgment
pursuant to the applicable rules of civil procedure. Each day that a violation
continues shall constitute a separate violation, unless the district justice
determining that there has been a violation further determines that there was a
good faith basis for the person, partnership or corporation violating the Chapter
to have believed that there was no violation, in which event there shall be
deemed to have been only one such violation until the fifth day following the date
of the determination of a violation by the district justice and thereafter each day
that a violation continues shall constitute a separate violation.

3. Nothing contained in this Section shall be construed or interpreted to grant to
any person or entity other than the Township the right to commence any action
for enforcement pursuant to this Section.

(A.O.

§22-1107. Validity.

Should any Section, subsection or provision of this Chapter be declared by a court of
competent jurisdiction to be invalid, such decision shall not affect the validity of this
Chapter as a whole or any other part thereof. It is hereby declared as the intent of the
Board of Supervisors that this Chapter would have been adopted had such invalid
Section, subsection or provision not been included herein.

(A.O.
APPENDIX

Exhibit 1 - Certificate of Ownership, Acknowledgment of Plan, and Offer of Dedication (Individual)

Exhibit 2 - Certificate of Ownership, Acknowledgment of Plan, and Offer of Dedication (Partnership)

Exhibit 3 - Certificate of Ownership, Acknowledgment of Plan, and Offer of Dedication (Corporation)

Exhibit 4 - Certificate of Accuracy

Exhibit 5 - Storm Water Management Plan Certification

Exhibit 6 - Certificate for Final Plan Approval by the Board of Supervisors

Exhibit 7 - Final Plan Review Certificate for the Township Planning Commission

Exhibit 8 - Lebanon County Planning Department Review Certificate

Exhibit 9 - Recorder of Deeds Certificate

Exhibit 10 - Application for Plan Approval

Exhibit 11 - Sample Developer's Agreement

Exhibit 12 - Sample Irrevocable Letter of Credit

Exhibit 13 - Runoff Coefficients for the Rational Formula

Exhibit 14 - Runoff Curve Numbers – SCS Soil Cover Complex Method

Exhibit 15 - Storm Intensity – Duration – Frequency Curves for Region 4

Exhibit 16 - Illumination Guidelines for Street, Parking and Pedestrian Areas
SUBDIVISION AND LAND DEVELOPMENT

EXHIBIT 1

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN, AND OFFER OF DEDICATION

(Landowner is an Individual)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF LEBANON

On this, the _____ day of ______________, _____, before me, the undersigned officer, personally appeared __________________________ who being duly sworn according to law, deposes and says that he is the * __________________ of the property shown on this plan, that the plan thereof was made at his direction, that he acknowledges the same to be his act and plan, that he desires the same to be recorded, and that all streets and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION") are hereby dedicated to the public use.

** __________________________

*** __________________________

My Commission Expires __________________, ______

* Identify ownership or equitable ownership
** Signature of the individual
*** Signature and seal of notary public or other officer authorized to acknowledge deeds
EXHIBIT 2

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN, AND OFFER OF DEDICATION

(Landowner is a Partnership)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF LEBANON

On this, the ______ day of ______________________, ______, before me, the undersigned officer, personally appeared ______________________________ being one of the firm of ______________________________ who being duly sworn according to law, deposes and says that the copartnership is the * ______________________________ of the property shown on this plan, that the plan thereof was made at its direction, that it acknowledges the same to be its act and plan and desires the same to be recorded, and that all street and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION") are hereby dedicated to the public use.

** ______________________________

*** ______________________________

My Commission Expires ______________________, ______

* Identify ownership or equitable ownership
** Signature of the individual
*** Signature and seal of notary public or other officer authorized to acknowledge deeds
SUBDIVISION AND LAND DEVELOPMENT

EXHIBIT 3

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN, AND OFFER OF DEDICATION

(Landowner is a Corporation)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF LEBANON

On this, the ____ day of ____________, ____, before me, the undersigned officer, personally appeared __________________________, being * __________________ of ** __________________, who being duly sworn according to law, deposes and says that the corporation is the *** __________________________ of the property shown on this plan, that he is authorized to execute said plan on behalf of the corporation, that the plan is the act and deed of the corporation, that the corporation desires the same to be recorded and on behalf of the corporation further acknowledges, that all streets and other property identified as proposed public property are hereby dedicated to the public use - (excepting those areas labeled "NOT FOR DEDICATION").

****______________________________

******_____________________________

My Commission Expires ____________________, ______

* Individual's title
** Name of corporation
*** Identify ownership or equitable ownership
**** Signature of individual
***** Corporate seal
****** Signature and seal of notary public or other officer authorized to acknowledge deeds
EXHIBIT 4
CERTIFICATION OF ACCURACY

I hereby certify that, to the best of my knowledge, the survey and plan shown and described hereon is true and correct to the accuracy required by the Union Township Subdivision and Land Development Ordinance of 2001.

________________________________________  *

**

* Signature of the design professional responsible for the preparation of the plan
** Seal of the individual

EXHIBIT 5
STORM WATER MANAGEMENT PLAN CERTIFICATION

I hereby certify that, to the best of my knowledge, the storm water management facilities shown and described hereon are designed in conformance with the Union Township Subdivision and Land Development Ordinance of 2001.

________________________________________  *

**

* Signature of the design professional responsible for the preparation of storm drainage plan.
** Seal of the individual
EXHIBIT 6

CERTIFICATE FOR FINAL PLAN APPROVAL
BY THE BOARD OF SUPERVISORS

By resolution on this ___________ day of __________________________, ________, the Union Township Board of Supervisors granted Final Plan Approval of this project, including the complete set of plans and information in Township File No. ___________

________________________________________
Chairman

________________________________________
Vice-Chairman

EXHIBIT 7

FINAL PLAN REVIEW CERTIFICATE FOR THE TOWNSHIP PLANNING COMMISSION

The Union Township Planning Commission recommended Final Plan Approval of this project, including the complete set of plans and information in Township File No. ____________, on this ___________ day of __________________________, ________.

________________________________________
Chairman

________________________________________
Vice-Chairman

EXHIBIT 8

LEBANON COUNTY PLANNING DEPARTMENT REVIEW CERTIFICATE

This plan reviewed by the Lebanon County Planning Department this _____ day of ____________, ________.

Director ____________________________________________
EXHIBIT 9

RECORDER OF DEEDS CERTIFICATE

This plan recorded in the office of the Recorder of Deeds in and for Lebanon County, Pennsylvania, this ______ day of __________________, ______.

Plan Book ___________, Volume ___________, Page ___________.

22-97
EXHIBIT 10
APPLICATION FOR PLAN APPROVAL

Title of Plan

Name of Applicant
________________________________________________________________________
Phone # __________________________
Address _________________________________________________________________

Name of Developer
________________________________________________________________________
Phone # __________________________
Address _________________________________________________________________

Name of Engineer/Surveyor/Landscape Architect _________________________________
Phone # __________________________
Address _________________________________________________________________

Plan Classification: □ Subdivision □ Land Development □ Other

Type of Approval Requested: □ Minor □ Major (Preliminary) □ Major (Final)

Total Tract Area: ___________ Number of Lots/Units: ___________

Zoning District: ___________ Overall Density: ___________

Proposed Water Supply: _______ Linear Feet of New Street: ___________

Proposed Sewage Disposal: _______ Linear Feet of New Storm Sewer: ___________

 Improvements Required: □ None □ Street □ Sidewalks □ Curbing
 □ Sanitary Sewer □ Water Lines □ Storm Sewer □ Other _______________________

Are any waivers of requirements being requested? If so, list specific section of
Ordinance from which relief is requested and provide full justification for the waiver
(additional pages may be added):
________________________________________________________________________

________________________________________________________________________

22-98
Have any zoning variances been granted to allow this development?

I hereby certify the planning submission represented by this application is complete and is prepared in conformance with the Union Township Subdivision and Land Development Ordinance of 2001.

Signature of Applicant ___________________________ Date ____________

(for Township Use only)
Date Received: ___________________________
Last Meeting for Action: _______________________
90 Days Begin: ___________________________
90 Day Time Extension: _______________________
90 Days End: ___________________________
Date of Action: ___________________________
SUBDIVISION AND LAND DEVELOPMENT

EXHIBIT 11

SAMPLE DEVELOPER'S AGREEMENT

THIS AGREEMENT made this ______ day of ______________, _ _ _ _ _ _ _ _ _ _ _ _, by and between__________________________, hereinafter referred to as "Developer" and the Board of Supervisors of Union Township, Lebanon County, Pennsylvania, hereinafter referred to as "Township".

WHEREAS, Article 3 of the Union Township Subdivision and Land Development Ordinance of 2001 provides that whenever a subdivision or land development of land is desired to be effected a plan of the layout of such subdivision or land development shall be prepared, filed and approved according to the requirements of the Union Township Subdivision and Land Development Ordinance of 2001, and

WHEREAS, Section 305 of the same Article provides that no plan shall be finally approved unless construction of the improvements required in connection therewith has been guaranteed in the manner prescribed in accordance with the Union Township Subdivision and Land Development Ordinance of 2001, and

WHEREAS, pursuant to Section 509 of the Pennsylvania Municipalities Planning Code, the Board of Supervisors must be assured of the completion of improvements by means of proper completion guarantees to cover the costs of required improvements including curbs, gutters, street lights and signs, fire hydrants, shade trees, street paving, sidewalks, drainage structures, storm sewers, storm water detention and retention basins, sewer and water systems, recreational facilities, open space improvements, buffer or screen plantings, fences or other improvements required by the Township, the amount of security to be equal to 110% of the cost of the required improvements determined by proper Township personnel, and

WHEREAS, Developer has submitted a final subdivision or land development plan known as ______________________________, Union Township, Lebanon County, Pennsylvania, dated __________________, _____, and last revised __________________, _____, to the Township, Developer desiring to secure approval therefor by depositing security acceptable to the Township to guarantee the installation of improvements shown thereon.

NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES, THE COVENANTS CONTAINED HEREIN, AND INTENDING TO BE LEGALLY BOUND, THE DEVELOPER AND TOWNSHIP AGREE AS FOLLOWS:

1. The Developer shall, at his/her/their sole expense, construct and install all of the improvements required by the final subdivision or land development plan dated __________________, _____, and last revised
2. Said improvements shall be constructed and installed within one (1) year from the date of approval or reapproval of the plan by the Township. In the event the Township's approval or reapproval of the plan is appealed by any party, then the one (1) year period referred to above shall begin from the date on which final judgment sustaining the approval in whole or in any fashion permitting the recording of the final subdivision or land development plan is entered and any appeal period from said judgment has run. Time of completion of the said improvements shall be of the essence of this Agreement unless extended by mutual agreement of the parties in writing. If the Developer requires more than one (1) year for completion of required improvements, and the Township agrees in writing to an extension of time, the amount of additional security as set forth in Paragraph 3 below may be increased by an additional 10% for each one (1) year period beyond the anniversary date of initial posting of security or to an amount not exceeding 110% of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one (1) year period by the Township Engineer.

In the event that the Developer fails to complete the improvements required in accordance with the approved plat and this Agreement, or fails to proceed with improvements with reasonable diligence or fails to pay any fees, costs or expenses of Township properly payable by Developer, then the Township may utilize the security provided to complete the improvements as required in accordance with the approved plat, or may refuse to issue any building permits, or may revoke building permits. Developer agrees that the Township shall not be obligated to abide by any public bidding requirements or prevailing wage laws in the event the Township is required to complete the project due to the default of the Developer.

3. The Township Engineer has determined that the amount of sufficient security for the construction and installation of said improvements shall be ____________ Dollars, which is allocated to the improvements set forth on the appendix to his Agreement labeled Exhibit “A”.

4. Upon execution of this Agreement, the Developer shall deposit with the Township an irrevocable letter of credit in the amount of at least ________________ Dollars and having an expiration date of no earlier than _________________. Said irrevocable letter of credit shall be issued by a banking or lending institution acceptable to the Township, and shall refer to this Agreement and otherwise shall be acceptable to the Township.
SUBDIVISION AND LAND DEVELOPMENT

5. If the Developer notifies the Township in writing that the Developer will not proceed in any fashion with the subdivision or land development, and has not begun construction of any improvements, directed that the plan be recorded, sold any lots in the subdivision, or taken any similar actions, all within ninety (90) days from approval of the plan by the Township, or within ninety (90) days from any reapproval of the plan by the Township pursuant to formal written request of the Developer, and the plat has not been recorded, then this Agreement shall be null and void, the letter of credit returned to the Developer and the final subdivision or land development shall be deemed withdrawn. In such event the Developer agrees to submit a letter or such other documents deemed necessary by the Township to effect withdrawal of the plan. In the event the Township's approval or reapproval of the plat is appealed by any party, then the ninety (90) day period referred to above shall begin from the date on which final judgment sustaining the approval in whole or in any fashion permitting the recording of the final subdivision or land development plan is entered and any appeal period from said judgment has run.

6. Upon completion of the improvements referred to in Paragraph 3 above, as certified by a completion certificate to be issued by the Township Engineer and in accordance with the procedure of Section 510 of the Pennsylvania Municipalities Planning Code (Act of July 31, 1968, P.L. 805, Art. V, §510, as reenacted and amended), the Township shall release said security.

7. Prior to acceptance of the improvements by the Township, the Developer shall post a maintenance bond or letter of credit in favor of the Township. This guarantee shall be in an amount of not less than 15% of the original improvements guarantee and shall bear a term of eighteen (18) months. At the end of the eighteen (18) month period, the Township Engineer or his designated representative shall inspect the improvements to ascertain their condition prior to release of the maintenance guarantee. If any repairs are deemed necessary at this time, as a result of this inspection, the Developer shall make all required repairs as soon as possible. In the event the Developer refuses to make the repairs or is financially unable to do so, the Township shall invoke the provisions of the maintenance guarantee and use the proceeds thereof to complete the repairs.

8. The Developer agrees to pay all legal fees and engineering fees incurred by the Township in relation to this development and this Agreement.

IN WITNESS WHEREOF, the parties aforesaid have hereunto set their hands and seals the day and year first above written.
WITNESS/ATTEST: DEVELOPER

_________________________________________ By __________________________ (SEAL)
Name and Title

ATTEST: BOARD OF SUPERVISORS OF
UNION TOWNSHIP

_________________________________________ By __________________________
Secretary Chairman

(SEAL)

______________________________
SUBDIVISION AND LAND DEVELOPMENT

EXHIBIT 12

SAMPLE IRREVOCABLE LETTER OF CREDIT

BANK LETTERHEAD

Union Township
RD#1, Box 1940
Jonestown, PA 17038

We hereby establish our irrevocable Letter of Credit in the amount of
$________________ in favor of the Township of Union, Lebanon County, for the account of
________________________. The Letter of Credit is established to insure
installation of all required improvements as depicted on the final subdivision or land
development plan dated _____________, ______ and last revised
________________________, for **__________________________
in Union Township, Lebanon County, Pennsylvania and in accordance with the
Developer's Agreement between the Developer and the Township.

In the event that *________________________ does not install, or cause to be
installed, the required improvements as shown on the approved plan, we hereby agree
that the submission of a statement from the Union Township Board of Supervisors
certifying that the installation of required improvements is incomplete shall entitle the
Union Township Board of Supervisors to receive payment up to $__________, as
necessary to complete the installation.

This Letter of Credit shall remain in effect for a period of one (1) year, with an
initial expiration date of ________________, ____. This Letter of Credit is
automatically extended without amendment annually for one (1) year from the
expiration date provided herein, unless sixty (60) days prior to such expiration date the
bank shall notify Union Township by registered mail that the bank elects not to
consider this Letter of Credit extended for any such additional period. Upon receipt of
such notice, Union Township may draw against the Letter of Credit prior to expiration,
in the manner described herein, if the required improvements are incomplete.

Closing,

____________________________
Signature by Authorized Bank Official

22-104
* Name of Developer
** Name of Subdivision or Land Development
ILLUMINATION GUIDELINES FOR STREET, PARKING, AND PEDESTRIAN AREAS

Illumination of streets, parking areas, and pedestrian ways shall be provided as specified in the following table:

A. Street Illumination

<table>
<thead>
<tr>
<th>Street Hierarchy</th>
<th>Commercial Lux</th>
<th>Commercial Footcandles</th>
<th>Intermediate Lux</th>
<th>Intermediate Footcandles</th>
<th>Residential Lux</th>
<th>Residential Footcandles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector</td>
<td>13</td>
<td>1.2</td>
<td>10</td>
<td>0.9</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Local</td>
<td>6</td>
<td>0.6</td>
<td>4</td>
<td>0.4</td>
<td>4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

B. Parking Illumination (Open Parking Facilities)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low activity</td>
<td>5</td>
<td>0.5</td>
<td>2</td>
<td>0.2</td>
<td>9</td>
<td>0.8</td>
</tr>
<tr>
<td>Medium activity</td>
<td>11</td>
<td>1.0</td>
<td>6</td>
<td>0.6</td>
<td>22</td>
<td>2.0</td>
</tr>
<tr>
<td>High activity</td>
<td>22</td>
<td>2.0</td>
<td>10</td>
<td>0.9</td>
<td>43</td>
<td>4.0</td>
</tr>
</tbody>
</table>

C. Pedestrian Way Illumination

<table>
<thead>
<tr>
<th>Minimum Average Level</th>
<th>Average Levels for Special Pedestrian Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Heights</td>
<td>Mounting Heights</td>
</tr>
<tr>
<td>3 to 5 meters</td>
<td>5 to 10 meters</td>
</tr>
<tr>
<td>Walkways &amp; Bikeways</td>
<td>(9 to 15 feet)</td>
</tr>
<tr>
<td></td>
<td>(15 to 30 feet)</td>
</tr>
</tbody>
</table>
EXHIBIT 16 (continued)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Lux</th>
<th>Footcandles</th>
<th>Lux</th>
<th>Footcandles</th>
<th>Lux</th>
<th>Footcandles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalks and bike lanes along streets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial areas</td>
<td>10</td>
<td>0.9</td>
<td>22</td>
<td>2.0</td>
<td>43</td>
<td>4.0</td>
</tr>
<tr>
<td>Intermediate</td>
<td>6</td>
<td>0.6</td>
<td>11</td>
<td>1.0</td>
<td>22</td>
<td>2.0</td>
</tr>
<tr>
<td>Residential areas</td>
<td>2</td>
<td>0.2</td>
<td>4</td>
<td>0.4</td>
<td>9</td>
<td>0.8</td>
</tr>
<tr>
<td>Walkways and bike paths distant from streets</td>
<td>5</td>
<td>0.5</td>
<td>6</td>
<td>0.6</td>
<td>11</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Minimum Average Level for Special Pedestrian Security

<table>
<thead>
<tr>
<th>Walkways &amp; Bikeways</th>
<th>Mounting Heights</th>
<th>Mounting Heights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 to 5 meters</td>
<td>5 to 10 meters</td>
</tr>
<tr>
<td></td>
<td>(9 to 15 feet)</td>
<td>(15 to 30 feet)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Lux</th>
<th>Footcandles</th>
<th>Lux</th>
<th>Footcandles</th>
<th>Lux</th>
<th>Footcandles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian tunnels</td>
<td>43</td>
<td>4.0</td>
<td>54</td>
<td>5.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Pedestrian overpasses</td>
<td>3</td>
<td>0.3</td>
<td>4</td>
<td>0.4</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Pedestrian stairways</td>
<td>6</td>
<td>0.6</td>
<td>9</td>
<td>0.8</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

IES Lighting Handbook definitions:

1. **Area classification:**
   a. **Commercial.** That portion of a municipality in a business development where ordinarily there are large numbers of pedestrians during business hours.
   
   b. **Intermediate.** That portion of a municipality often characterized by a moderately heavy night time pedestrian activity such as in blocks having libraries, community recreation centers, large apartment buildings or neighborhood retail stores.
   
   c. **Residential.** A residential development, or a mixture of residential and commercial establishments, characterized by a few pedestrians at night.
SUBDIVISION AND LAND DEVELOPMENT

This definition includes areas with single family dwelling units, townhouses or small apartment buildings.

2. Activity level:

a. **High activity.** Major league athletic events, major cultural or civic events, and major regional shopping centers.

b. **Medium activity.** Fast food facilities, area shopping centers, hospital parking areas, transportation parking (airports, etc.), cultural, civic or recreational events, and residential complex parking.

c. **Low activity.** Local merchant parking, industrial employee parking, educational facility parking.