

CODIFIED ORDINANCES OF THE TOWNSHIP OF LAWRENCE PARK

PART TWELVE - PLANNING AND ZONING CODE

TITLE TWO - Planning

Chap. 1220. Planning Commission.

TITLE FOUR - Subdivision Regulations

Chap. 1240. General Provisions and Definitions.

Chap. 1242. Administration, Enforcement and Penalty.

Chap. 1244. Plan Processing Procedures.

Chap. 1246. Plan Specifications.

Chap. 1248. Design Standards.

Chap. 1250. Improvements.

TITLE SIX - Zoning

Chap. 1260. General Provisions and Definitions.

Chap. 1262. Administration, Enforcement and Penalty.

Chap. 1264. Zoning Hearing Board.

Chap. 1266. Districts Generally and Zoning Map.

Chap. 1268. R-1 Residential Districts.

Chap. 1270. R-2 Residential Districts.

Chap. 1272. B-1 Business Districts.

Chap. 1274. I-1 Industrial Districts.

Chap. 1276. F-P Flood Plain Districts.

Chap. 1278. C-1 Conservation Districts.

Chap. 1279. Airport District Overlay.

Chap. 1280. Lot, Height and Yard Requirements.

Chap. 1282. Nonconforming Uses.

Chap. 1284. Conditional Uses.

Chap. 1285. Signs.

Chap. 1286. Supplementary Regulations.

Appendix I - Lawrence Park Township Zoning District Map.

CODIFIED ORDINANCES OF THE TOWNSHIP OF LAWRENCE PARK

PART TWELVE - PLANNING AND ZONING CODE

TITLE TWO - Planning
Chap. 1220 - Planning Commission.

CHAPTER 1220
Planning Commission

1220.01 Establishment; composition.

CROSS REFERENCES

Planning agencies - see Penna. Mun. Plan. Code, Art. I
Comprehensive plan - see Penna. Mun. Plan. Code, Art. III
Subdivision and land development - see Penna. Mun. Plan.
Code, Art. V
Planned Residential Development - see Penna. Mun. Plan.
Code, Art. VII
Joint Municipal Planning Commission - see Penna. Mun.
Plan. Code, Art. XI

1220.01 ESTABLISHMENT; COMPOSITION.

A Planning Commission, to be composed of five members, appointed as provided by law, is hereby established in and for the Township of Lawrence Park. The said Planning Commission shall perform all duties and may exercise all the powers conferred by law upon municipal planning agencies. The Planning Commission previously established in and for the said Township shall constitute the Planning Commission hereby established, and nothing herein shall affect the tenure of any of the members thereof, but any and all vacancies in the said Commission, hereafter occurring, shall be filled in the manner and for the term provided in the law governing municipal planning commissions in effect at the time of the happening of such vacancy. (Ord. 260-77. Passed 8-9-77; Ord. 507-11. Passed 9-13-11.)

- TITLE FOUR - Subdivision Regulations
 Chap. 1240. General Provisions and Definitions.
 Chap. 1242. Administration, Enforcement and Penalty.
 Chap. 1244. Plan Processing Procedures.
 Chap. 1246. Plan Specifications.
 Chap. 1248. Design Standards.
 Chap. 1250. Improvements.

CHAPTER 1240
 General Provisions and Definitions

1240.01	Short title.	1240.06	Conflicts of laws.
1240.02	Purposes.	1240.07	Separability.
1240.03	Compliance required.	1240.08	Review by County Department of Planning.
1240.04	Hardship exceptions.		
1240.05	Amendments.	1240.09	Definitions

CROSS REFERENCES

- Authority to enact - see Penna. Mun. Plan. Code, Sec. 501
 Jurisdiction of County planning agencies - see Penna. Mun. Plan. Code,
 Sec. 502
 Contents of subdivision and land development ordinance - see Penna.
 Mun. Plan. Code, Sec. 503
 Enactment of subdivision and land development ordinance - see Penna.
 Mun. Plan. Code, Sec. 504
 Enactment of subdivision and land development ordinance
 amendment - see Penna. Mun. Plan. Code, Sec. 505
 Publication, advertisement and availability of ordinance - see Penna. Mun.
 Plan. Code, Sec. 506
 Effect of subdivision and land development ordinance - see Penna. Mun.
 Plan. Code, Sec. 507
 Modifications of subdivision requirements - see Penna. Mun. Plan. Code,
 Sec. 512.1

1240.01 SHORT TITLE.

This Title Four of Part Twelve, the Planning and Zoning Code, shall be known and may be cited as the "Lawrence Park Township Subdivision and Land Development Ordinance" and shall be referred to herein as "these Subdivision Regulations" or just "these Regulations."

(Ord. 295-84. Passed 9-25-84.)

1240.02 PURPOSES.

These Subdivision Regulations are adopted for the following purposes:

- (a) To assist the orderly and efficient development of Lawrence Park Township.
- (b) To promote the health, safety and general welfare of the residents of Lawrence Park Township.
- (c) To secure equitable handling of all subdivision plans by providing uniform procedures and standards.
- (d) To implement the Lawrence Park Township Comprehensive Plan Update.

(Ord. 295-84. Passed 9-25-84.)

1240.03 COMPLIANCE REQUIRED.

No subdivision or land development or any lot, tract or parcel of land shall be effected, and no street, sanitary sewer, storm sewer, water main or other facilities in connection therewith shall be laid out, constructed, opened or dedicated for public use and travel, or for the common use of occupants of buildings abutting thereon, except in accordance with the provisions of these Subdivision Regulations. No lot in a subdivision may be sold, and no permit to erect, alter or repair any building in a subdivision may be issued, unless and until a plan of such subdivision shall have been approved and properly recorded, and until the improvements required by the Board of Commissioners in connection therewith shall have either been constructed or guaranteed as herein provided. (Ord. 295-84. Passed 9-25-84.)

1240.04 HARDSHIP EXCEPTIONS.

Where, owing to special conditions, a literal enforcement of these Subdivision Regulations would result in unnecessary hardship, the Board of Commissioners may make such reasonable exceptions thereto as will not be contrary to the public interest, and may permit the sale of a lot, issuance of a permit or erection of a building subject to conditions necessary to assure adequate streets and other public improvements.

(Ord. 295-84. Passed 9-25-84.)

1240.05 AMENDMENTS.

These Subdivision Regulations may be amended, altered or revised by the Board of Commissioners from time to time after a public hearing is held pursuant to public notice. In case of an amendment other than that prepared by the Planning Commission, the Board of Commissioners shall submit each such amendment to the

Planning Commission and the County Department of Planning for recommendation, at least thirty days prior to date of the public hearing.

(Ord. 295-84. Passed 9-25-84.)

1240.06 CONFLICTS OF LAWS.

Whenever there is a difference between the minimum standards or dimensions specified herein and those contained in other regulations, resolutions or ordinances of Lawrence Park Township, the highest standards shall govern.

(Ord. 295-84. Passed 9-25-84.)

1240.07 SEPARABILITY.

Should any provision of these Subdivision Regulations be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of these Subdivision Regulations as a whole or of any other provision hereof.

(Ord. 295-84. Passed 9-25-84.)

1240.08 REVIEW BY COUNTY DEPARTMENT OF PLANNING.

Plans of subdivisions shall be submitted for review by the County Planning Department. Before the approval of a plan by Lawrence Park Township, the Township shall submit the plan and one copy of the plan to the County Planning Department for review, comments and recommendations. Pending the receipt and consideration of such comments and recommendations, the Township shall defer action thereon, but if such report is not received by the Township within thirty days from the submission of the plan to the County Planning Department, or within such further time as may be agreed upon by the Board of Commissioners, the Township may proceed to final action thereon. (Ord. 339-91. Passed 7-23-91.)

1240.09 DEFINITIONS.

Unless otherwise expressly stated, the following terms shall, for the purpose of these Subdivision Regulations, have the meaning indicated.

- (1) Words in the singular include the plural, and words in the plural include the singular. The word "person" includes a corporation, unincorporated association and a partnership, as well as an individual. The word "building" includes the word "structure" and shall be construed as if followed by the words "or part thereof." The word "street" includes the words "road," "highway" and "land." The word "watercourse" includes the words "drain," "ditch" and "stream." The words "shall" and "will" are mandatory; the words "may" and "should" are permissive.
- (2) "Applicant" means a landowner or developer, as hereinafter defined, who has filed an application for development, including his or her heirs, successors and assigns.

- (3) "Application for development" means every application, whether preliminary or final, required to be filed and approved prior to the start of construction or development, including, but not limited to, an application for a building permit, for the approval of a subdivision plat or plan or for the approval of a land development plan.
- (4) "Block" means an area bounded by streets.
- (5) "Board of Commissioners" means the duly elected governing body of Lawrence Park Township, Erie County, Pennsylvania.
- (6) "Building (setback) line" means an imaginary line fixed by the required yard depth, measured from the property line to the nearest point that a building may be constructed to the front, side and rear yards.
- (7) "Clear sight triangle" means an area of unobstructed vision at street intersections, defined by lines of sight between points at a given distance from the intersection of street lines and the sight lines.
- (8) "Common open space" means a parcel or parcels of land or an area of water, or a combination of land and water within a development site, and designed and intended for the use or enjoyment of residents of a planned residential development, not including streets, off-street parking areas and areas set aside for public facilities.
- (9) "County Planning Department" means the Erie County Department of Planning, Erie County, Pennsylvania.
- (10) "Development plan" means the provisions for development of a planned residential development, including a plat of subdivision, all covenants relating to use, location and bulk of buildings and other structures, intensity of use or density of development, streets, ways and parking facilities, common open space and public facilities. The phrase "provisions of the development plan" shall mean the written and graphic materials referred to in this definition.
- (11) "Developer" means 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.
- (12) "Easement" means a right granted to use certain private land for a utility or physical access, which is not inconsistent with the general property rights of the owner.
- (13) "Engineer" means a professional engineer licensed as such in Pennsylvania, duly appointed as the Municipal Engineer of Lawrence Park Township.
- (14) "Improvements" means those physical additions and changes to the land that may be necessary to produce usable and desirable lots. (Grading, water mains, sanitary sewers, storm sewers and drains, street shade trees, street signs and monuments, street paving and lights, and curbs and sidewalks).

- (15) "Land development" means:
- 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 buildings; or
 - 2. The division or allocation of land or space 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; or
 - B. A subdivision of land.
- (16) "Landowner" means the legal or beneficial owner or owners of land, including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee, if he or she is authorized under the lease to exercise the rights of the landowner, or other persons having a proprietary interest in land.
- (17) "Lot" means a parcel of land occupied or capable of being occupied by one or more structures or dwelling units in a structure, provided the requirements of these Subdivision Regulations are met.
- (18) "Lot, double frontage" means a lot having at least two sides fronting on separate streets which do not intersect while adjoining the lot.
- (19) "Lot, minimum area of" means the area of a lot computed exclusive of any portion of the right of way of any public thoroughfare.
- (20) "Master plan" means the Lawrence Park Township Comprehensive Plan Update, which is the comprehensive general plan, or any of its parts, for the future growth, protection and development of Lawrence Park Township.
- (21) "Pennsylvania Planning Code" means the Pennsylvania Municipalities Planning Code, being Act 247 of July 31, 1968, and amendments to same as may be adopted from time to time.
- (22) "Plan, sketch" means a free-hand sketch showing the contemplated development of the subdivision and its relationship to adjacent land.
- (23) "Plan, preliminary subdivision" means a tentative subdivision plan showing existing features of land and proposed street and lot layout within and adjacent to a subdivision as required in Chapter 1246.
- (24) "Plan, final subdivision" means a complete and exact subdivision plan prepared for official recording as required by Chapter 1246.
- (25) "Planned residential development" means an area of land, controlled by a landowner, to be developed as a single entity for a number of dwelling units, the development plan for which does not correspond in lot size, bulk or type of dwelling, density, lot coverage and required open space to the regulations established in any one residential district created, from time to time, under the provisions of the Zoning Code.
- (26) "Planning Commission" means the duly appointed Planning Commission of Lawrence Park Township, Erie County, Pennsylvania.

- (27) "Plat" means the map or plan of a subdivision or land development, whether preliminary or final.
- (28) "Public notice" means the notice published once each week for two successive weeks in a newspaper of general circulation in the Municipality. Such notice shall state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first publication shall be not more than thirty days or less than fourteen days from the date of the hearing.
- (29) "Right of way" means land dedicated for use as a public street, alley or crosswalk, which may also be used by sewer, water, storm sewer, electric, gas, telephone and cable systems.
- (30) "Solicitor" means a professional attorney licensed as such in Pennsylvania, duly appointed as the Municipal Solicitor of Lawrence Park Township.
- (31) "Street" means a general term used to describe a right of way, Municipally or privately owned, serving as a means of vehicular and pedestrian movement and access to adjacent properties, furnishing space for sewers, public utilities and shade trees. The streets are classified by function as follows:
- A. Local street. A street used as the principal means of access to adjacent properties serving only a comparatively small number of dwellings.
 - B. Collector street. A street or road connecting local streets to each other, to community facilities and to primary or major thoroughfares, serving only the neighborhood traffic.
 - C. Primary or major thoroughfares. A street connecting district centers, servicing large volumes of through, fast traffic, preferably located outside or bounding the residential neighborhoods.
 - D. Others.
 1. Alley (or Service Drive). A strip of land over which there is a right of way, Municipally or privately owned, serving as a secondary means of access to two or more properties.
 2. Cul-de-sac. A residential street with one end open for public vehicles and pedestrian access and the other end terminating in a vehicular turnaround.
 3. Crosswalk. A right of way which cuts across a block to furnish access for pedestrians to adjacent streets or properties.
 4. Marginal access street. A street parallel and adjacent to primary or major thoroughfares providing access to abutting properties and control of intersections with major thoroughfares.
- (32) "Structure" means any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.
- (33) "Subdivider" means a person who is the registered owner, or authorized agent of the registered owner, of land to be subdivided.

- (34) "Subdivision" means 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, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any new street or easement of access or residential dwellings shall be exempted. The term "subdivision" includes any development of a parcel of land, for example, as a shopping center, an industrial park or a planned residential development, which involves installation of streets and/or alleys, even though the streets and alleys may not be dedicated immediately to public use and the parcel may not be divided immediately for purposes of conveyance, transfer or sale.
- (35) "Subdivision, major" means a subdivision containing more than five lots, requiring the submission by the subdivider and approval by the Board of Commissioners (either conditional or final) of preliminary and final subdivision plans, and any subdivision involving a new street, alley or crosswalk right of way or a new easement.
- (36) "Subdivision, minor" means a subdivision containing five lots or less, served by an existing public street, wherein the Board of Commissioners may waive the requirements of submitting a preliminary subdivision plan provided the final subdivision plan meets all the requirements of these Subdivision Regulations.
- (37) "Subdivision Regulations" means Ordinance 295-84, passed September 25, 1984, as amended, codified herein as Title Four of Part Twelve - The Planning and Zoning Code.
- (38) "Substantially completed" means, the completion, in the judgment of the Engineer, in accordance with the approved plan, of at least ninety percent (based on the cost of the required improvements for which financial security was posted) of those improvements required as a condition for final approval, so that the project will be able to be used, occupied or operated for its intended use.
- (39) "Township" means Lawrence Park Township, Erie County, Pennsylvania. (Ord. 295-84. Passed 9-25-84.)

CHAPTER 1242
Administration, Enforcement and Penalty

1242.01	Filing fee.	1242.04	Appeals.
1242.02	Inspection.	1242.99	Penalty.
1242.03	Maintenance bond.		

CROSS REFERENCES

Preventive remedies - see Penna. Mun. Plan. Code,
Sec. 515.1

Jurisdiction of District Justice - see Penna. Mun. Plan.
Code, Sec. 515.2

Enforcement remedies - see Penna. Mun. Plan. Code,
Sec. 515.3

General provisions and definitions - see P. & Z. Ch. 1240

1242.01 FILING FEE.

The filing fee shall be as fixed annually by the Board of Commissioners by resolution. Any additional costs of review, design, inspection or maintenance by the Township and/or the Municipal Engineer and Solicitor shall be borne by the applicant. (Ord. 295-84. Passed 9-25-84.)

1242.02 INSPECTION.

When the plans of streets and other improvements have been approved as provided in these Subdivision Regulations, the subdivider shall first notify the Board of Commissioners of his or her intention to proceed with the construction or installation of said streets and improvements. Notification shall be made at least forty-eight hours before any such construction or installation shall commence, so as to give the Board of Commissioners or the Municipal Engineer an opportunity to inspect the site prior to commencement of work and to inspect installation or construction of said streets and improvements during the course of the work being performed. (Ord. 295-84. Passed 9-25-84.)

1242.03 MAINTENANCE BOND.

Prior to any street or other improvement being accepted by the Township as herein provided, the subdivider shall post a maintenance bond and/or other security, naming the Township as obligee, in an amount deemed adequate by the Board of

Commissioners to remedy any defects which are caused by defective or inferior materials or workmanship and which may develop during a period of two years from the date of acceptance by the Township. (Ord. 295-84. Passed 9-25-84.)

1242.04 APPEALS.

In any case where the Board of Commissioners disapproves a subdivision plan, any person aggrieved thereby may, within thirty days thereafter, appeal to the Court of Common Pleas of Erie County, Pennsylvania, in accordance with Article X-A of the Pennsylvania Municipalities Planning Code. (Ord. 339-91. Passed 7-23-91.)

1242.99 PENALTY.

(a) Whoever violates or fails to comply with any of the provisions of these Subdivision Regulations shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Township, pay a judgment of not more than five hundred dollars (\$500.00), plus all court costs, including reasonable attorney fees incurred by the Township as a result thereof. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the District Justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the District Justice determining that there has been a violation further determines that there was a good faith basis for the person, partnership or corporation violating the provision to have believed that there was no such violation, in which event there shall be deemed to have been only one such violation until the fifth day following the date of the determination of a violation by the District Justice and thereafter each day that a violation continues shall constitute a separate violation.

(b) The County Court of Common Pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.

(c) 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. (Ord. 339-91. Passed 7-23-91.)

CHAPTER 1244
Plan Processing Procedures

1244.01	Pre-application.	1244.06	Release from improvement bond.
1244.02	Conditional approval of preliminary plan.	1244.07	Remedies to effect completion of improvements.
1244.03	Approval of final plan.		
1244.04	Recording.		
1244.05	Completion of improvements or guarantee.		

CROSS REFERENCES

Approval of plats - see Penna. Mun. Plan. Code, Sec. 508
 Completion of improvements or guarantee thereof prerequisite to final plat approval - see Penna. Mun. Plan. Code, Sec. 509
 Release from improvement bond - see Penna. Mun. Plan. Code, Sec. 510
 Remedies to effect completion of improvements - see Penna. Mun. Plan. Code, Sec. 511
 General provisions and definitions - see P. & Z. Ch. 1240
 Administration, enforcement and penalty - see P. & Z. Ch. 1242
 Plan specifications - see P. & Z. Ch. 1246

1244.01 PRE-APPLICATION.

Prior to making formal application, the subdivider is urged to appear before the Planning Commission at any regular or special meeting to discuss the general nature of his or her proposed development. If desired, a sketch plan may be prepared and presented for review and discussion at this time. The sketch plan should generally include those items listed in Section 1246.01.

The Planning Commission shall advise the subdivider whether the plans and data as submitted do or do not meet the objectives of these Subdivision Regulations. When the Planning Commission finds that the plans and data do not meet the objectives of these Subdivision Regulations, it shall express its reasons therefor. The subdivider may also submit his or her proposed development to the County Planning

Department, and, when on-lot septic systems are contemplated, the subdivider should confer with the County Health Department.

Such discussions and/or sketch plan review will be considered confidential. Submission of a sketch plan shall not constitute formal filing of a subdivision plan.

If a subdivision is deemed a minor subdivision, the subdivider shall then submit a final plan and is not required to have conditional approval of a preliminary plan. A subdivision shall be considered a minor subdivision if:

- (a) No new street, alley or crosswalk right of way is involved;
- (b) The extension of sewers, water lines or storm sewers does not involve any new drainage or utility easements; and
- (c) The number of new lots involved does not exceed five.

(Ord. 295-84. Passed 9-25-84.)

1244.02 CONDITIONAL APPROVAL OF PRELIMINARY PLAN.

On reaching conclusions informally, as recommended in Section 1244.01, regarding his or her general program and objectives, the subdivider shall cause to be prepared a preliminary plan, together with improvement plans and other supplementary material as specified in Section 1246.02.

The preliminary plan and other exhibits required for approval, and at least two copies of the plan, shall be submitted to the County Planning Department for its review, which Department shall retain one copy of the preliminary plan.

Upon completion of the County Planning Department's review or after thirty days, whichever comes first, the preliminary plan and other exhibits required for approval, and at least one copy of the plan, shall be submitted to the Planning Commission for review and conditional approval at its next meeting.

Following the review of the preliminary plan and other exhibits required for approval, and negotiations with the subdivider on any changes deemed advisable and the kind and extent of improvements to be made by him or her, the Planning Commission shall submit the preliminary plan and supplementary material specified, and at least one copy of the plan and a report of its recommendations, to the Board of Commissioners within ten days.

The Board of Commissioners shall take action at a meeting within ninety days after the first regular meeting of the Planning Commission following the filing of the application, but not more than 120 days after the date of filing. The Board of Commissioners may grant conditional approval subject to such conditions as it may require to carry out these Subdivision Regulations. If conditional approval is refused, the Board of Commissioners shall state its reasons to the subdivider. The decision of the Board of Commissioners shall be in writing and shall be communicated to the subdivider personally, or mailed to his or her last known address, not later than fifteen days following the decision.

Before acting on the preliminary plan, the Board of Commissioners may arrange for a public hearing thereon. Adequate public notice shall be given.

Any modification of the preliminary plan required by the Board of Commissioners as a prerequisite to approval shall be noted on the preliminary plan and at least one copy of the plan.

The conditionally approved preliminary plan shall be returned to the subdivider and one copy of the plan shall be retained by the Board of Commissioners.

Conditional approval of a preliminary plan shall not constitute approval of the final plan. Rather, it shall be deemed an expression of approval of the layout submitted on the preliminary plan as a guide to the preparation of the final plan.

(Ord. 339-91. Passed 7-23-91.)

1244.03 APPROVAL OF FINAL PLAN.

If the proposed subdivision is a major subdivision, the final plan shall conform substantially to the preliminary plan as conditionally approved, and, if desired by the subdivider, it may constitute only that portion of the approved preliminary plan which he or she proposes to record and develop at that time. The final plan shall be submitted within five years of the conditional approval of the preliminary plan by the Board of Commissioners; otherwise such conditional approval shall become null and void.

If the proposed subdivision is a minor subdivision, the subdivider shall cause to be prepared a final plan, together with improvement plans and supplementary material as specified in Section 1246.03.

The final plan and other exhibits required for approval, and at least five copies of the plan, shall be submitted to the County Planning Department for its review, which Department shall retain one copy of the final plan.

Upon completion of the County Planning Department's review or after thirty days, whichever comes first, the final plan and other exhibits required for approval, and at least four copies of the plan, shall be submitted to the Planning Commission for review and approval at its next regular meeting.

If the Planning Commission finds that the final plan is in conformance with these Subdivision Regulations, it shall sign the plan and submit it to the Board of Commissioners.

If the Planning Commission finds that the final plan is not in conformance with these Subdivision Regulations, it shall not sign the plan and shall notify the subdivider as to the section(s) of these Subdivision Regulations that are not being complied with. The Planning Commission shall offer assistance and advice to the subdivider on how best to comply with the section(s). If, after negotiations with the subdivider, the subdivider wishes to seek a waiver from the section(s), the Planning Commission shall submit a report of its recommendation of approval or disapproval and the reasons for such recommendation to the Board of Commissioners within ten days. At its next regular meeting, the Board of Commissioners shall approve or disapprove the waiver, after consideration of the Planning Commission report, by resolution. If the waiver is approved, the Planning Commission shall sign the plan at its next regular meeting and submit it to the Board of Commissioners.

The Board of Commissioners shall take action at a regular meeting, by resolution. The decision of the Board of Commissioners shall be in writing and shall be communicated to the subdivider personally, or mailed to his or her last known address not later than fifteen days following the decision and within ninety days after the first regular meeting of the Planning Commission following the filing of the application, but not more than 120 days after the date of filing.

Before acting on the final plan, the Board of Commissioners may arrange for a public hearing thereon. Adequate public notice shall be given. If a public hearing has been held upon a preliminary plan, a public hearing shall not be required upon the final plan, unless the final plan departs substantially from the preliminary plan.

If the Board of Commissioners approves the final plan, it shall sign the final plan and the four copies. The approved final plan and three copies of the plan shall be returned to the subdivider for recording, and one copy of the approved plan shall be retained by the Board of Commissioners.

If the Board of Commissioners disapproves the final plan, it shall not sign the plan, but shall notify the subdivider as to the reasons for disapproval. The disapproved final plan and three copies of the plan shall be returned to the subdivider and one copy of the disapproved plan shall be retained by the Board of Commissioners.

No plan shall receive final plan approval by the Board of Commissioners unless the subdivider shall have filed with the Board of Commissioners a performance bond in favor of the Township or other assurance acceptable to the Board of Commissioners, or shall have completed all required improvements listed in Chapter 1250, or as the Board of Commissioners may require in the public interest.

Upon completion of the improvements in accordance with the specifications of the Township, the subdivider shall take steps to dedicate the improvements and have the same accepted by the Board of Commissioners.

(Ord. 339-91. Passed 7-23-91.)

1244.04 RECORDING.

The approved final plan shall be filed with the Erie County Recorder of Deeds before proceeding with the sale of any lots or the construction of any buildings.

In accordance with Section 513 of the Pennsylvania Municipalities Planning Code, the approved final plan shall be presented by the subdivider for recording to the Office of the Recorder of Deeds for Erie County, Pennsylvania, within ninety days after the final approval by the Board of Commissioners, or such approval shall be considered null and void. Reapproval thereafter may be granted by the Board of Commissioners, provided that no changes have been made to the Final Plan.

Recording the final plan after approval by the Board of Commissioners shall have the effect of an irrevocable offer to dedicate all street rights of way and other public ways to public use, and to dedicate or reserve all park reservations and other public areas to public use, unless reserved by the subdivider as hereinafter provided.

The Board of Commissioners may require the subdivider to place a notation on the final plan to the effect that there is no acceptance of dedication to the public of a certain designated public area, or in unusual circumstances, a street or alley, in which event the title to such area shall remain with the owner as a lot of record and the Township shall assume no responsibility for improvement or maintenance thereof, which fact shall also be noted on the final plan.

(Ord. 295-84. Passed 9-25-84.)

1244.05 COMPLETION OF IMPROVEMENTS OR GUARANTEE.

No plat shall be finally approved unless the streets shown have been improved to a mud-free or otherwise permanently passable condition, or improved as may be required by these Subdivision Regulations and any walkways, curbs, gutters, street lights, fire hydrants, shade trees, water mains, sanitary sewers, storm sewers and other improvements as may be required by these Subdivision Regulations have been installed in accordance with these Subdivision Regulations.

In lieu of the completion of any improvements required as a condition for the final approval of a plat, these Subdivision Regulations provide for the deposit with the Township of financial security in an amount sufficient to cover the costs of any improvements or common amenities including, but not limited to, roads, storm water detention and/or retention basins and other related drainage facilities, recreational facilities, open space improvements, or buffer or screen plantings which may be required. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security for the purposes of this section.

Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth. Such bond or other security shall provide for, and secure to the public, the completion of any improvements on or before the date fixed in the formal action of approval or accompanying agreement for completion of the improvements. The amount of financial security shall be equal to 110 percent of the cost of completion, estimated as of ten days following the date scheduled for completion by the developer. Annually, the Township 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 ninetieth day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment the Township may require the developer to post additional security in order to assure that the financial security equals said 110

percent. Any additional security shall be posted by the developer in accordance with this section. 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 professional engineer licensed as such in this Commonwealth and certified by such engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Municipal 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, then the estimate shall be recalculated and recertified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third engineer is so chosen, fees for the services of said engineer shall be paid equally by the Township and the applicant or developer. The cost of the improvements shall be established by submission to the Board of Commissioners of bona fide bid or bids from the contractor or contractors chosen by the party posting the financial security to complete the improvements or, in the absence of such bona fide bids, the cost shall be established by estimate prepared by the Municipal Engineer.

If the party posting the financial security requires more than one year from this date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional ten percent for each one year period beyond the first anniversary date from posting of financial security or to an amount not exceeding 110 percent of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one year period by using the above bidding procedure. In the case where development is projected over a period of years, the Board of Commissioners may authorize submission of final plats by section or stages of development subject to such requirements or guarantees as to improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.

As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Commissioners 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 request shall be in writing addressed to the Board of Commissioners and the Board of Commissioners shall have forty-five days from receipt of such request within which to allow the Municipal Engineer to certify, in writing, to the Board of Commissioners that such portion of the work upon the improvements has been completed in accordance with the approved plat. Upon such certification the Board of Commissioners shall authorize release by the bonding company or lending institution of an amount as estimated by the Municipal Engineer fairly representing the value

of the improvements completed or, if the Board of Commissioners fails to act within said forty-five day period, the Board of Commissioners shall be deemed to have approved the release of funds as requested. The Board of Commissioners may, prior to final release at the time of completion and certification by its Engineer, require retention of ten percent of the estimated cost of the aforesaid improvements.

Where the Board of Commissioners accepts dedication of all or some of the required improvements following completion, the Board of Commissioners may require the posting of 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 plat for a term not to exceed eighteen months from the date of acceptance and dedication. Said financial security shall be of the same type as otherwise required in this section with regard to installation of such improvements, and the amount of the financial security shall not exceed fifteen percent of the actual cost of installation of said improvements.

If water mains or sanitary sewer lines or both, along with apparatus or facilities related thereto, are to be installed under the jurisdiction and pursuant to the rules and regulations of a municipal authority separate and distinct from the Township, financial security to assure proper completion and maintenance thereof shall be posted in accordance with the regulations of the controlling municipal authority and shall not be included within the financial security as otherwise required by this section.

If financial security has been provided in lieu of the completion of improvements required as a condition for the final approval of a plat as set forth in this section, the Township shall not condition the issuance of building or other permits relating to the erection or placement of improvements, including buildings, upon the lots or land as depicted upon the final plat upon actual completion of the improvements depicted upon the approved final plat. Moreover, if said financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following the improvement of the streets providing access to and from existing public roads to such building or buildings to a mud-free or otherwise permanently passable condition, as well as the completion of all other improvements as depicted upon the approved plat, either upon the lot or lots or beyond the lot or lots in question if such improvements are necessary for the reasonable use of or occupancy of the building or buildings. (Ord. 339-91. Passed 7-23-91.)

1244.06 RELEASE FROM IMPROVEMENT BOND.

When the developer has completed all of the necessary and appropriate improvements, the developer shall notify the Municipal Engineer in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the Municipal Engineer. The Board of Commissioners shall, within ten days after receipt of such notice, direct and authorize the Municipal Engineer to inspect all of the aforesaid improvements. The Municipal Engineer shall,

thereupon, file a report, in writing, with the Board of Commissioners, and shall promptly mail a copy of the same to the developer by certified or registered mail. The report shall be made and mailed within thirty days after receipt by the Municipal Engineer of the aforesaid authorization from the Board of Commissioners. Such report shall be detailed and shall indicate approval or rejection of said improvements, either in whole or in part, and if said improvements, or any portion thereof, shall not be approved or shall be rejected by the Municipal Engineer, said report shall contain a statement of reasons for such nonapproval or rejection.

The Board of Commissioners shall notify the developer, in writing, by certified or registered mail, of the action taken within fifteen days of receipt of the Engineer's report.

If the Board of Commissioners or the Municipal Engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the developer shall be released from all liability, pursuant to its performance guaranty bond or other security agreement.

If any portion of the said improvements shall not be approved or shall be rejected by the Board of Commissioners, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed. (Ord. 339-91. Passed 7-23-91.)

1244.07 REMEDIES TO EFFECT COMPLETION OF IMPROVEMENTS.

In the event that any improvements which may be required have not been installed as provided in these Subdivision Regulations, or in accord with the approved final plat, the Board of Commissioners is hereby granted the power to enforce any corporate bond or other security by appropriate legal and equitable remedies. If the proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said security, the Board of Commissioners may, at its option, install part of such improvements in all or part of the subdivision or land development and may institute appropriate legal or equitable action to recover the moneys necessary to complete the remainder of the improvements. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the improvements covered by such security, and not for any other Municipal purpose. (Ord. 295-84. Passed 9-25-84.)

CHAPTER 1246
Plan Specifications

1246.01	Sketch plan.	1246.03	Final plan
1246.02	Preliminary plan.		

CROSS REFERENCES

Approval of plats - see Penna. Mun. Plan. Code, Sec. 508
 Completion of improvements or guarantee thereof prerequisite
 to final plat approval - see Penna. Mun. Plan. Code, Sec. 509
 Release from improvement bond - see Penna. Mun. Plan. Code, Sec. 510
 Remedies to effect completion of improvements - see Penna. Mun. Plan.
 Code, Sec. 511
 General provisions and definitions - see P. & Z. Ch. 1240
 Administration, enforcement and penalty - see P. & Z. Ch. 1242
 Plan processing procedures - see P. & Z. Ch. 1244

1246.01 SKETCH PLAN.

A subdivision sketch plan may be submitted by the subdivider or property owner as a basis for informal and confidential discussion with the Planning Commission.

Data furnished in a sketch plan shall be at the discretion of the subdivider. It is suggested that the following items be included in the sketch plan presentation. The presentation need not be to scale and the precise dimensions are not required.

- (a) Tract boundary.
- (b) North point.
- (c) Streets on and adjacent to the tract.
- (d) Topographical and physical features. (Use of U.S.G.S. 7-1/2, 1" = 2000' scale quadrangle maps suggested.)
- (e) Proposed general street layout.
- (f) Proposed general lot layout.
- (g) Existing zone district in which subdivision is located.
(Ord. 295-84. Passed 9-25-84.)

1246.02 PRELIMINARY PLAN.

The preliminary plan and other supplementary material required, which is to be submitted to the Board of Commissioners for conditional approval, should be drawn at a scale of either fifty or 100 feet to the inch or at the largest practical scale. If the preliminary plan is drawn in two or more sections, it shall be accompanied by a key map showing the location of the various sections. The preliminary plan and its copies may be on any practical size sheets. Copies of the preliminary plan may be either prints or photocopies.

The preliminary plan shall show the following information as a minimum:

- (a) Proposed subdivision name or identifying title.
- (b) Name and address of the owner of the tract or of his or her authorized agent, if any, and of the subdivider.
- (c) North point, graphic scale and date.
- (d) Total acreage of the tract and number of lots.
- (e) Zoning requirements, including district and minimum lot size, and any changes that may be proposed in the provisions of the zoning applicable to the area to be subdivided, and suggested locations of buildings in connection therewith.
- (f) Tract boundaries showing distances and bearings.
- (g) Contours at vertical intervals of five feet for all land subject to flooding and all land within the Lake Erie bluff recession hazard area.
- (h) The names of all owners of all immediately adjacent unplotted land; the names of all proposed or existing subdivisions immediately adjacent, and the locations and dimensions of all existing streets, alleys, crosswalks, railroads, storm drainage or lines, public sewer and water mains and feeder lines, fire hydrants, gas, electric, telephone and cable transmission lines, watercourses and other significant features within 100 feet of any part of the property proposed to be subdivided; and the location of all buildings and approximate location of all tree masses within the property.
- (i) The location and widths of any streets or other public ways or places shown upon an adopted Master Plan, if such exist within or adjacent to the tract to be subdivided.
- (j) The full plan of the development, showing the location of all proposed streets, alleys, crosswalks, utility easements, parks, playgrounds and other public areas; sewer, water and storm water facilities; proposed building setback lines for each street, proposed lot lines and approximate dimensions of lots; lot number and/or block number in consecutive order; and all streets and other areas designed for appurtenant facilities or public use or proposed to be dedicated or reserved for future public use, together with the condition of such dedications or reservations.
- (k) A key map, for the purpose of locating the site to be subdivided, at a minimum scale of 2,000 feet to the inch, showing the relation of the tract to adjoining property and to all streets, schools, parks and Municipal boundaries existing within 1,000 feet of any part of the property proposed to be subdivided.
- (l) Tentative cross-sections and centerline profiles for each proposed street shown on the preliminary plan. These profiles may be submitted as separate sheets.
- (m) Results and locations of percolation tests, made in accordance with the specifications of the Erie County Health Department, shall be submitted if on-lot sewage systems are to be used.

- (n) Preliminary designs of any bridges or culverts which may be required. These designs may be submitted as separate sheets.
- (o) Where the preliminary plan submitted covers only a part of the subdivider's entire holding, a sketch of the prospective future street system of the unsubmitted part shall be furnished; the street system of the submitted part will be considered, together with adjustments and connections with future streets in the part not submitted.
- (p) Proposed street name for each proposed street shown on the preliminary plan.
- (q) A draft of any proposed covenants to run with the land.
- (r) A tentative timetable for the proposed sequence of development for the subdivision, if said subdivision is to be developed in sections.
- (s) Statement of intentions regarding installation of required improvements or furnishing performance bond or other suitable security in lieu of such installations.
(Ord. 295-84. Passed 9-25-84.)

1246.03 FINAL PLAN.

The final plan and other supplementary material required, which is to be submitted to the Board of Commissioners for approval and subsequent recording, shall be drawn with India ink on a transparent reproduction of the final plan, with black line on stable plastic base film. The final plan shall be drawn at a scale of either fifty feet or 100 feet to the inch or at the largest practical scale. If the final plan is drawn in two or more sections, it shall be accompanied by a key map showing the location of the various sections. The final plan and its copies shall be on eighteen by twenty-four inch sheets. Copies of the final plan shall be either black on white or blue on white prints.

The final plan shall show the following information as a minimum:

- (a) Name of the subdivision.
- (b) Name and address of the owner and subdivider.
- (c) North point, graphic scale and date.
- (d) Block and lot numbers (in consecutive order), dimensions, minimum area and total number of lots; acreage of whole development density and use of land.
- (e) Source of title to the land of the subdivision and to all adjoining lots, as shown by the books of the Erie County Recorder of Deeds, names of the owners of all adjoining unsubdivided land; the Erie County Tax Assessment Bureau municipality map-block-parcel number(s) for the tract to be subdivided.
- (f) Lot lines with accurate bearings and distances, with distances to the nearest hundredth of a foot.
- (g) Lot areas calculated to the nearest square foot, exclusive of any street, alley or crosswalk right of way.

- (h) Accurate dimensions of existing public land and of any property to be dedicated or reserved for public, semipublic or community use, and all areas to which title is reserved by the owner.
- (i) Accurate boundary lines, with dimensions and bearings, which provide a survey of the tract, closing with an error of not more than one foot in 10,000 feet.
- (j) Accurate distances and directions to the nearest established street corners or official monuments. Reference corners shall be accurately described.
- (k) Complete curve data for all curves, including radius, delta angle, tangent, arc and chord.
- (l) Street names.
- (m) Location and material of all permanent monuments and lot markers.
- (n) Easements for utilities or access and any limitations on such easements.
- (o) Setback lines and lot sizes not less than the minimum as fixed by the Lawrence Park Township Zoning Code.
- (p) A location map of the subdivision at a minimum scale of 2,000 feet to the inch, showing the relation of the property to adjoining property and to all streets and Municipal boundaries existing within 1,000 feet of any part of the property proposed to be subdivided.
- (q) The following certificates, where applicable, shall be shown on the final plan and its copies:
 - (1) Certification, with seal, by a registered professional engineer or registered land surveyor to the effect that the survey and plan are correct.
 - (2) Certificate for the review of the County Planning Department.
 - (3) Certificate for the review and recommendation of approval by the Planning Commission.
 - (4) Certification, duly acknowledged before a notary public, with seal, and signed by the owner or owners of the property, to the effect that the subdivision shown on the final plan is the act and deed of the owner, that he or she (the subdivider) is the owner of the property shown on the survey and plan, and that he or she desires the same to be recorded as such.
 - (5) Certificate for approval by the Board of Commissioners.
 - (6) A certificate to provide for the recording information.
- (r) The final plan shall be accompanied by the following material:
 - (1) Final profiles, cross-sections and specifications for street improvements and for sanitary and storm sewerage and water distribution systems shall be shown on one or more separate sheets.
 - (2) All covenants running with the land governing the reservation and maintenance of dedicated or undedicated land or open space, which shall bear the certificate of approval of the Municipal Solicitor as to their legal sufficiency.

- (3) Certificate of dedication of streets and other public property. (This is the offer of dedication.)
- (4) Where lot sizes are based on public water and/or public sewer facilities, assurance acceptable to the Board of Commissioners that such facilities will be installed.
- (5) Such certificates of approval by proper authorities of the State and the Township as may have been required by the Board of Commissioners, including certificates approving the water supply system and sanitary sewer system of the subdivision.
- (6) One of the following for guaranteeing improvements:
 - A. A certificate from the subdivider and signed by the Municipal Engineer that all improvements and installations in the subdivision required by these Subdivision Regulations have been made or installed in accordance with specifications; or
 - B. A certificate from the subdivider and signed by the Municipal Solicitor that a bond, certified check or other security satisfactory to the Board of Commissioners has been filed with the Township.(Ord. 295-84. Passed 9-25-84.)

CHAPTER 1248
Design Standards

1248.01	General requirements.	1248.05	Blocks.
1248.02	Natural features, flood plains and lake bluffs.	1248.06	Lots.
1248.03	Streets.	1248.07	Easements and rights of Way.
1248.04	Alleys.	1248.08	Building lines.

CROSS REFERENCES

General provisions and definitions - see P. & Z.

Ch. 1240

Administration, enforcement and penalty - see P. & Z.

Ch. 1242

Plan processing procedures - see P. & Z. Ch. 1244

Plan specifications - see P. & Z. Ch. 1246

Improvements - see P. & Z. Ch. 1250

1248.01 GENERAL REQUIREMENTS.

In the layout, development and improvement of a subdivision, the subdivider shall comply with all adopted standards, specifications, codes and ordinances of the Township which are applicable and in addition shall meet the standards of design and principles of land subdivision set forth in this chapter.

The standards and details of design herein contained are intended only as minimum requirements, so that the general arrangements and layout of a subdivision may be adjusted to a wide variety of circumstances. However, in the design and development of the subdivision plan, the subdivider should use standards consistent with the site conditions so as to ensure an economical, aesthetic and durable subdivision. (Ord. 295-84. Passed 9-25-84.)

1248.02 NATURAL FEATURES, FLOOD PLAINS AND LAKE BLUFFS.

Existing natural features, such as trees, steep slopes, watercourses and historic places, shall be preserved as a conservation measure, except to the extent that their removal or modification is functionally related to the harmonious design of the subdivision.

Land subject to flooding by stream or wave action and land deemed by the Board of Commissioners, or other official authority, to be uninhabitable shall not be platted for residential occupancy, nor for such other uses as may involve danger to health, life or property, or aggravate the flood hazard, and such land within that area of the plan shall be set aside for such uses as shall not be endangered by periodic or occasional inundation.

In addition to the requirements of these Subdivision Regulations, all land subject to flooding shall comply with the regulations of Chapter 1420 of the Building and Housing Code before a subdivision plat may be approved by the Board of Commissioners.

In addition to the requirements of these Subdivision Regulations, all land within the Lake Erie bluff recession hazard area shall comply with the regulations of Chapter 1424 of the Building and Housing Code before a subdivision plat may be approved by the Board of Commissioners. (Ord. 295-84. Passed 9-25-84.)

1248.03 STREETS.

The arrangement, character, extent, width, grade and location of all streets shall conform to the Master Plan and shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such streets.

Where such is not shown in the Master Plan, the arrangement of streets in a subdivision shall either:

- (a) Provide for the continuation or appropriate projection of existing streets in surrounding areas; and
- (b) Conform to a plan for the neighborhood approved by the Board of Commissioners after consideration of the recommendations of the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical.

Local streets shall be so laid out that their use by through traffic will be discouraged. However, permanent cul-de-sacs should be avoided.

Where a subdivision borders on or contains a railroad right of way, the Board of Commissioners may require a street approximately parallel to and on each side of such right of way, at a distance suitable for the appropriate use of the intervening land, as for park purposes in Residential Districts, or for commercial or industrial purposes in appropriate districts. Such distances shall also be determined with due regard for the requirements of approach grades and future grade separations.

Street jogs with centerline offsets of less than 125 feet shall be avoided.

A tangent at least 100 feet long shall be introduced between reverse curves on major thoroughfares and collector streets.

Multiple intersections involving the junction of more than two streets should be avoided, and where such avoidance is impossible as determined by the Board of Commissioners, such intersections shall be designated with extreme care for both vehicular and pedestrian safety.

Right angle intersections shall be used whenever practicable, especially when local residential streets empty into major or collector thoroughfares, and there shall be no intersection angle, measured at the centerline, of less than seventy degrees.

Street curb intersections shall be rounded by a tangential arc, with a minimum radius of fifteen feet for local residential streets and thirty feet for intersections involving collector streets and primary or major thoroughfares.

If the lots resulting from the original development are large enough for resubdivision, or if a portion of the tract is not subdivided, suitable access and street openings for such eventuality shall be provided by temporary cul-de-sacs.

Reserve strips controlling access or egress may be permitted. New streets shall be provided through to the boundary lines of the development, especially if it adjoins substantial acreage by temporary cul-de-sacs.

Streets that are extensions of, or obviously in alignment with, existing named streets shall bear the names of the existing streets, subject to the approval of the Board of Commissioners and the Erie Post Office. No street names shall be used which will duplicate or be confused with the names of existing streets.

Street dimensions, grades and alignment shall meet the following standards:

Street Type/ Design Standards	Minimum Right of Way (ft.) (note 1).	Minimum Cartway Width (ft.)	Maximum Grade (%)	Minimum Grade (%)	Minimum Radii of Centerline (ft.)	Minimum Sight Distance (ft.) (note 2).
Major Thoroughfares	80	36	5.0	0.5	500	400
Collector Streets	60	32	7.5	0.5	400	300
Local Streets (note 3)	50	28	10.0	0.5	200	200
Marginal Access Streets	40	24	10.0	0.5	100	100
Alleys	20	20	10.0	0.5	50	50
Crosswalks	12	8	---	---	---	---

NOTES:

- (1) Additional widths may be required upon findings that the same are required for:
 - (a) Public safety and convenience;
 - (b) Parking in commercial or public use areas;
 - (c) Existing street, alley or crosswalk rights of way which do not provide the above mentioned minimum widths, and where, as a consequence, additional dedication is necessary.
- (2) Sight distance shall be measured along the centerline at eye level. Proper sight lines should be maintained at all intersections or streets. Measured along the centerline, there should be a clear sight triangle the specified sight distance from the point of intersection. No future building or obstruction shall be permitted in this area.
- (3) Cul de sacs shall be designated, with a turn-around having a minimum outside cartway diameter of 100 feet and a minimum property line diameter of 120 feet. (Ord. 295 84. Passed 9 25 84.

1248.04 ALLEYS.

Wherever possible, alleys should be avoided in residential areas. In no event are alleys to be utilized as the primary means of access to residential properties.

Alleys shall be provided in commercial and industrial districts, except that this requirement may be waived where other definite and assured provision is made for service access, such as off-street loading, unloading and parking consistent with and adequate for the uses proposed.

Alley intersections and sharp changes in alignment shall be avoided, but where necessary, corners shall be cut off sufficiently to permit safe vehicular movement.

Deadend alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate turn-around facilities at the deadend, as determined by the Board of Commissioners. (Ord. 295-84. Passed 9-25-84.)

1248.05 BLOCKS.

All blocks in a subdivision shall have a maximum length of 1,400 feet. Such blocks containing individual lots shall be at least two lot depths in width, except lots along a major thoroughfare which front on an interior street. Modification of the above requirements are possible in commercial and industrial developments.

A minimum of 800 feet shall be maintained between intersecting local and collector streets, with a primary street or major thoroughfare which intersect on the same side of such major thoroughfare.

In large blocks with interior parks, in exceptionally long blocks or where access to a school or shopping center is necessary, a crosswalk shall be provided. (Ord. 295-84. Passed 9-25-84.)

1248.06 LOTS.

The lot size, width, depth, shape, orientation and the minimum building setback lines shall be appropriate for the location of the subdivision and for the type of development and use contemplated.

Lot dimensions shall conform to the requirements of the Lawrence Park Township Zoning Code. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.

The subdividing of the land shall be such as to provide, by means of a public street, each lot with satisfactory access to an existing public street.

Double frontage lots should be avoided, except where essential to provide separation of residential development from traffic arteries or to overcome specific disadvantages of topography and orientation.

Side lot lines shall be substantially at right angles or radial to street lines. (Ord. 295-84. Passed 9-25-84.)

1248.07 EASEMENTS AND RIGHTS OF WAY.

To the fullest extent possible, easements should be centered on or be adjacent to rear or side lot lines. Such easements shall have a minimum width of at least twenty feet.

If sewer, water, gas, electrical, telephone, street lighting or other public utility facilities are to be located within street rights of way, their location and installation shall be coordinated so that they may be added to, repaired or enlarged at minimum cost.

Where a subdivision is traversed by a watercourse, drainage way, channel or stream, there shall be provided a stormwater easement, conforming substantially with the lines of such watercourse and of such width to be adequate for the purpose. (Ord. 295-84. Passed 9-25-84.)

1248.08 BUILDING LINES.

The minimum building setback shall conform with the provisions of the Lawrence Park Township Zoning Code. (Ord. 295-84. Passed 9-25-84.)

CHAPTER 1250
Improvements

1250.01	General construction and approval requirements.	1250.05	Water supply.
1250.02	Monuments.	1250.06	Sanitary sewers.
1250.03	Streets.	1250.07	Utilities
1250.04	Storm water management; erosion and sedimentation control.	1250.08	Street Lights.
		1250.09	Street signs.
		1250.10	Street trees.
		1250.11	Sidewalks.

CROSS REFERENCES

Water supply - see Penna. Mun. Plan. Code, Sec. 503.1
 Completion of improvements or guarantee thereof prerequisite to final plat approval - see Penna. Mun. Plan. Code, Sec. 509; P. & Z. 1244.05
 Release from improvement bond - see Penna. Mun. Plan. Code, Sec. 510; P. & Z. 1244.06
 Remedies to effect completion of improvements - see Penna. Mun. Code, Sec. 511; P. & Z. 1244.07
 Excavations - see S.U. & P.S. Ch. 1020
 General provisions and definitions - see P. & Z. Ch. 1240
 Administration, enforcement and penalty - see P. & Z. Ch. 1242

1250.01 GENERAL CONSTRUCTION AND APPROVAL REQUIREMENTS.

All of the required improvements specified in this chapter shall be constructed in accordance with other articles of these Subdivision Regulations and all other applicable Township, County and State regulations and approved by the Board of Commissioners and the Township Engineer. (Ord. 295-84. Passed 9-25-84.)

1250.02 MONUMENTS.

Concrete monuments shall be installed to provide permanent horizontal control for the subdivision. The monuments shall be set along street property lines and along subdivision boundaries:

- (a) At the beginning and ending of all street curves.
- (b) At the intersection of street lines.
- (c) At the intersection of all lines forming angles in the subdivision boundary.

The monument shall be a six-inch by six-inch by thirty-inch concrete shaft, with a one-half inch diameter steel rod embedded in the center, protruding approximately one-half inch from the top surface.

Monuments shall be placed so that the marked point shall coincide exactly with the intersection of lines to be marked, and shall be set so that the top of the monument is level with the finished grade.

Any monuments that are destroyed or removed shall be replaced by a registered engineer or surveyor. Where grading conditions or other circumstances prohibit the placing of monuments at the time of submission of the final plan, a cash deposit will be made with the Township in an amount to be determined by the Commissioners.

(Ord. 295-84. Passed 9-25-84.)

1250.03 STREETS.

(a) Storm Sewers. The work to be included is the installation of storm sewer lines in accordance with accepted practice and in compliance with the materials and methods of construction outlined below.

- (1) Excavations. The contractor shall do all excavation of whatever substance encountered to the depth required to install the sewer to the lines and grades. The banks of the trench shall be vertical. The width of the trench allowed shall be twelve inches on each side of the pipe bell. Excavated material not suitable or not required for fill or backfill shall be removed from the site and disposed of.

Excavation for manholes and catch basins shall allow for only twenty-four inches of clearance on all sides.

Excavation shall not be carried below the required level. Excess excavation shall be backfilled with sand, gravel or concrete, as directed by the Township Engineer and thoroughly tamped.

Unstable soil shall be removed and replaced with approved backfill of gravel, crushed stone or crushed slag, which shall be thoroughly tamped. The Township Engineer shall determine the depth of removal of the unstable soil.

Water, which has accumulated in the excavation, shall be removed by pumping or other means approved by the Township Engineer.

In rock, excavation shall be carried to eight inches below the bottom of the pipe and special refill material shall be used to establish the proper grade. This material shall be as stated in the materials section.

The bottom of the trench shall be rounded so that an arc of the circumference equal to 0.6 of the outside diameter of the pipe rests on undisturbed soil. Bell holes shall be excavated accurately to size by hand.

- (2) Materials. All materials shall be furnished by an established and reputable supplier or manufacturer. All materials shall be guaranteed to perform the service required and shall conform with the following specifications or shall be a product similar and equal thereto as approved by the Township Engineer.

Pipe shall conform to the proper ASTM Specifications and the Pennsylvania Department of Transportation, Publication 408, and shall be subject to approval by the Township Engineer.

Concrete used for encasements, manhole bases and backfill shall be ready-mixed cement concrete designed for 3,300 psi compressive strength after twenty-eight days and shall meet all the requirements for Class A concrete as specified in Section 704 of Pennsylvania Department of Transportation, Publication 408.

Mortar used for manholes, catch basins and pipe joints shall be machine mixed in an acceptable manner at the site by the contractor and shall consist of one part Portland cement and two and one-half parts fine aggregate by volume. Water or other components shall not be introduced into this mix after removal from mixer.

Special refill material used for bedding in rock excavation shall consist of sand or No. 57 aggregate, as determined by the Township Engineer, and shall conform to the specifications in Section 703.2 of Pennsylvania Department of Transportation, Publication 408.

Special backfill material used for trench backfill shall consist of a well graded bank-run gravel in accordance with the following specification and should be free of any deleterious matter.

GRADATION REQUIREMENT

Sieve Size	Percent Passing by Weight
3"	100
3/8"	50 – 100
No. 4	40 – 85
No .10	30 – 75
No. 40	15 – 45
No. 200	5 - 15

Liquid Limit, 25 percent - Maximum Plasticity Index, 7 Maximum

Lumber used for sheeting may consist of any species which will satisfactorily stand driving. It shall be free from worm holes, loose knots, wind shakes, decayed or unsound portions, or other defects which might impair its strength or tightness. Minimum thickness shall be two inches nominal. Lumber for bracing shall be sound and shall be equal to or better than No. 2 common yard lumber.

- (3) Joints. Joints shall comply with the pipe manufacturer's recommendations for the intended use.
- (4) Laying of pipe. All sewers shall be laid true to line and grade. The sections of the pipe shall be laid and fitted together, so that when completed, the sewer will have a smooth and uniform invert. The pipe shall be kept thoroughly clean so that jointing compounds will adhere. Each pipe shall be inspected for defects before being lowered into the trench, and if defects are found even after laying of the pipe is completed, it shall be removed and replaced with a new pipe. No water shall be allowed in the trench while pipes are being laid, and the exposed end shall be capped if left in the trench for more than one hour without installing the next section. No more than 100 feet of trench shall be opened in advance of pipe laying unless permitted by the Township Engineer. The interior of the sewer shall be kept cleared of all dirt as the work progresses.
- (5) Backfill. No sewers shall be backfilled above the top of the pipe until the sewer elevations, gradient, alignment and the pipe joints have been checked, inspected and approved. No heavy rock or boulders more than six inches in diameter will be allowed within three feet of the pipe, and no stones over one and one-half inches in diameter will be allowed in the first eighteen inches of the backfill.

The space between the pipe and the side of the trench shall be backfilled in four-inch layers and thoroughly mechanically tamped until a height of one foot above the pipe is reached, and then layers of six inches will be allowed before the tamping is performed.

Backfill around manholes and catch basins shall be done after all forms, debris and trash are removed and cleared away. Suitable material as for trench backfilling shall be placed symmetrically on all sides in eight-inch layers.

All backfill shall be thoroughly mechanically tamped in layers to meet the compaction requirements of ninety-five percent of standard proctor (ASTM D698-78).

When excavated material is not satisfactory for backfill, special backfill material shall be secured to use in backfilling operations. All surplus material, unsatisfactory material, earth, rubbish or other debris shall be hauled away from the site and disposed of.

- (6) Manholes. Manholes shall be precast reinforced concrete construction, with aluminum or plastic-coated manhole steps and O-ring rubber gaskets. Precast manholes shall meet or exceed ASTM Specification C-478. Eccentric cone top sections shall be used, unless a variance or waiver is furnished in writing by the Township Engineer.

A poured in place eight-inch concrete base of Class A concrete, as noted in the materials section, shall be constructed as a leveling pad before the precast manhole can be placed.

The Contractor may, upon written request and written approval of the Township Engineer, construct brick or block manholes. All bricks and blocks shall conform to accepted standards and shall be new and clean. The brick shall conform to ASTM Specification C-32 and the block shall conform to ASTM Specification C-139.

Manhole frames and covers shall be equal to Allegany Foundry Company frame pattern 650 and cover pattern 651. The frame casting and cover casting shall have the metal bearing areas that come in contact machine ground to fit in pairs, shall be marked as pairs and shall be delivered in pairs.

- (7) Catch basins. Catch basins shall be of brick and/or block construction. All bricks and blocks shall conform to accepted standards and shall be new and clean.

Catch basin frames, grates and curb boxes shall be equal to Allegany Foundry Company, frame pattern 630, grate pattern 631 and curb box pattern 632. The frame casting, grate casting and curb box casting shall have the metal bearing areas that come in contact machined to fit these three pieces as one unit, shall be marked as one unit, and shall be delivered as one unit.

- (b) Flexible Pavements. The work to be included is the installation of plant-mixed bituminous concrete pavement, in accordance with accepted practice and in compliance with the materials and methods of construction outlined below. Higher grade pavements (e.g. cement concrete) will be considered upon written request.

- (1) Grading. All details of the cross-section, crowns, curb, pavement, sub-grade, sub-drains and roadside ditches shall be graded and/or constructed to conform to the designated cross-section as provided by the Township Engineer and approved by the Board of Commissioners.

Grade stakes shall be placed on each side of the street at maximum intervals of fifty feet and so located as to remain in place until the completion and approval of the bituminous base course.

Grade stakes removed prior to the completion of the bituminous base course shall be replaced before any further work is done on the street.

- (2) The sub-grade. The bottom of the excavation and/or top of the embankment between the outer limits of the base course or sub-base is considered sub-grade and shall conform to specified line, grades and cross-sections. Mainly the area that is prepared to receive the placement of the base course or sub-base is defined as sub-grade.

Materials and sub-grade classifications shall be as follows. The sub-grade and sub-grade material can be classified as good, fair and poor. "Good" refers to the class that includes granular materials such as sand, sandy gravel with less than ten percent passing a No. 200 mesh sieve. This type material can be compacted to produce a firm layer and have a minimum C.B.R. value of twelve. "Fair" refers to the class that includes soils which have a satisfactory performance record from the standpoint of freezing and thawing. These are primarily sandy, gravelly or nonplastic clay loam soils with a C.B.R. value ranging from five to twelve. "Poor" refers to the class that includes all soils which have a poor performance record from the standpoint of freezing and thawing. These are primarily soft plastic clay or silty materials where the clay or silt content is more than fifty percent with a C.B.R. value ranging from 2.5 to five.

Construction methods shall be as follows. The sub-grade shall be shaped to true lines and elevations and shall have a minimum width of the width of the pavement plus two feet. Adequate drainage facilities shall be installed to provide for the disposition of underground seepage and the percolation of surface water. The sub-grade shall be thoroughly compacted by power rollers with a minimum weight of ten tons to insure satisfactory densification and stabilization. It shall be compacted near optimum moisture content in accordance with Pennsylvania Department of Transportation Specifications, Publication 408, Section 210.3(b). The finished surface shall be uniformly shaped to facilitate drainage, and any irregularities from theoretical grade shall be corrected prior to placing the sub-base.

If the material encountered in the normal excavation has a C.B.R. value of less than 2.5 and is not of proper quality to develop the required stability and provide for adequate drainage, other material shall be installed. This material shall meet the requirements of sub-grade material, preferably of granular character, and be installed to a depth of at least twelve inches. It should then be brought to a firm and thoroughly compacted surface as mentioned in the above paragraph.

Prior to placing the sub-base, the Township Engineer shall inspect the sub-grade area. From visual inspection, he or she will designate where sub-drains shall be installed. If any unstable areas are found, the material shall be removed and replaced with suitable material and thoroughly compacted. The replacement material shall be stone or gravel approved by the Pennsylvania Department of Transportation for replacement of unstable sub-grade.

Such unsuitable areas shall be excavated and undercut to the required depth for accommodating the placing of sufficient granular or other suitable sub-grade material.

The prepared sub-grade shall be protected by the contractor to prevent undue rutting from trucks or other equipment, and if such damage does occur, the sub-grade shall be reshaped and compacted prior to placing the sub-base material.

- (3) Sub-drains under pavement. Sub-drains shall be laid along the entire length of all streets and at locations to be determined in each case by the Township Engineer. Blind or side drains at intervals, as required by the Township Engineer, shall be installed leading into the main sub-drain. The required interval for side drains shall be related to ground water conditions, but in no case shall this interval be greater than 100 feet. If conditions require, six-inch corrugated metal perforated pipe shall be installed in the side drains. Blind or side drains shall extend to the curb lines.

In parts of the Township where the natural ground is a well drained gravel, sub-drain requirements may be relaxed. Deviation from the sub-drain requirements will be considered upon written request and each case considered separately.

In general, the sub-drain shall be built as follows:

After the sub-grade has been shaped, the sub-drain will be installed.

The trench for the sub-drain will be a minimum of fifteen inches wide and be dug to a minimum depth of thirty inches below the bottom of the sub-base where possible.

A layer of No. 57 in stone, in accordance with the gradation requirements as specified by the Pennsylvania Department of Transportation, Publication 408, Section 703.2, will be placed to a depth of the three inches in the bottom of the trench and six-inch corrugated metal pipe laid in the center of the trench.

The entire trench to the top of the sub-grade will be filled with No. 57 stone.

Care must be taken to assure that the stone in the sub or side drain remains clean and in good contact with the stone or gravel in the sub-base.

Sub-drains shall generally empty into storm sewer catch basins or manholes and shall enter at or above the spring line of the main storm sewer line at that location. The specified depth of sub-drain may have to be modified at and near such catch basins and manholes, but will be brought to specified depths as quickly as practicable.

- (4) The sub-base. All utilities, including water, gas, sanitary sewers, storm sewers, buried conduits of any kind or any other structures or lines shall be placed prior to the laying of the sub-base.

The sub-base shall be made of approved gravel or stone and shall have a minimum thickness at any point of six inches when compacted. Additional depth of sub-base may be called for.

The material and method of construction used shall conform to the Pennsylvania Department of Transportation Specifications, Publication 408, Section 350.

The sub-base materials shall be placed evenly and rolled in two separate layers of at least three inches each. Rolling shall be done with a three wheel-power roller weighing not less than ten tons and shall begin at the sides and continue towards the center. Rolling shall continue until there is not movement of the surface ahead of the roller with compaction results meeting the requirements of the Pennsylvania Department of Transportation Specifications, Publication 408, Section 350.3(e).

The sub-base shall be thoroughly compacted and shaped to the proper grade and cross-section to receive the bituminous base course.

The finished sub-base shall be inspected and approved before placing of the bituminous base course.

- (5) The bituminous base course. The bituminous base course shall follow, be made up and be laid in accordance with the following specifications:

Specifications of the Department of Transportation, Commonwealth of Pennsylvania, Publication 408, current edition, Section 305, "Bituminous Concrete Base Course."

The bituminous base course shall be laid to a minimum thickness when compacted of three inches.

Under certain conditions, the bituminous base course may be eliminated; but if this is the case, then a bituminous tack coat, as specified in Department of Transportation, Commonwealth of Pennsylvania, Publication 408, Section 460, will be required.

The bituminous base course must be inspected and approved prior to the laying of the bituminous binder course.

- (6) The bituminous binder course. A bituminous tack coat, as specified in Department of Transportation, Commonwealth of Pennsylvania, Publication 408, Section 460, will be required in all cases where the bituminous base course has been in place for a period in excess of ninety-six hours prior to the placing of the bituminous binder course or in any case where the use of such tack coat is determined to be necessary.

The bituminous binder course shall follow, be made up of and laid in accordance with the following specifications:

Specifications of the Department of Transportation Commonwealth of Pennsylvania, Publication 408, Section 421, "Bituminous Binder Course ID-2."

The bituminous binder course shall be laid to a minimum thickness of two inches when compacted.

Special note is made of Section 401.3(f), Publication 408, "Condition of Existing Surface." The bituminous base course must be thoroughly cleaned and all defects remedied prior to the laying of the bituminous binder course.

- (7) The bituminous wearing course. The bituminous wearing course shall follow, be made up of and be laid in accordance with the following specifications:
- A. For industrial, business and arterial streets, specifications of the Department of Transportation, Commonwealth of Pennsylvania, Publication 408, Section 420, "Bituminous Wearing Course ID-2"; and
 - B. For local residential streets, specifications of the Department of Transportation, Commonwealth of Pennsylvania, Publication 408, Section 422, "Bituminous Wearing Course FJ-1."

The bituminous wearing course shall be laid to a minimum thickness, when compacted, to one inch.

(c) Concrete Curbs. All new or rebuilt streets shall be constructed with concrete curbs in accordance with accepted standards and in compliance with the materials and methods of construction outlined below.

(1) Excavations. Excavation shall be made to the required depth, and the material upon which the curb is to be constructed shall be compacted to a firm, even surface. Where foundation underdrain is to be placed under the curb, the excavation for curb shall be made in conjunction with the excavation for the underdrain.

(2) Materials. The curb shall be built according to the latest edition of Pennsylvania Department of Transportation, Publication 408, Section 630. Materials shall conform to Pennsylvania Department of Transportation, Publication 408, as follows:

A. Class A cement concrete	Section 704
B. Premold expansion joint filler	Section 705.1
C. Bar dowels	Section 705.3
D. Joint sealing material	Section 705.4
E. Curing and protection covers	Section 711.1
F. Concrete curing compound	Section 711.2
G. Concrete admixtures	Section 711.3
H. Bituminous paper	Section 727

The aggregate used in the production of concrete under this contract shall be from sources currently approved by the Pennsylvania Department of Transportation, and conform to its Specifications, Publication 408.

The minimum cement content shall be 6.0 sacks per cubic yard of concrete, and the same shall have a twenty-eight-day compressive strength of 3,300 psi.

The fresh concrete shall contain from four percent to seven percent volume of entrained air. Air determinations may be made by the Township Engineer or his or her representative and such changes as are necessary to maintain the required air content shall be made as directed.

(3) Forms. The forms for the curb shall be of approved metal, except wood forms may be used on sharp curves and short tangent sections when approved by the Township Engineer. Forms shall be straight, free from warp and of sufficient strength, when staked, to resist the

pressure of the concrete without springing. At least three stakes shall be provided for each ten feet. Metal forms shall be of approved section and shall have a flat surface on top, and wood forms shall be one and one-half inch surfaced planks. These forms shall be of a depth equal to the depth of the curb, so designed as to permit secure fastening of face and back forms at the tops. These fastenings shall be designed so that they will not obstruct satisfactory finishing and edging of the top of the curb and will permit removal of the face forms. The outside or back forms shall be straight from top to bottom. The inside of face forms shall have a better from the top of the curb to the finished surface line of the pavement and shall be straight from this line to the bottom. Steel templets one-eighth of an inch in thickness, of the width of the curb, and not less than two inches longer than the depth of the curb, shall be used to separate adjacent sections. All forms and templets shall be cleaned thoroughly and treated with an approved material, as required, to prevent the concrete from adhering thereto. Oil, tar paper or other material which will adhere to or discolor the concrete shall not be used. Forms and templets which have become worn, bent, warped or broken shall not be used. The forms shall be accurately set to line and grade in such a manner as to prevent settlement or displacement.

- (4) Placing and finishing concrete. The concrete shall be placed in the forms in horizontal layers not to exceed five inches, and spaded sufficiently to eliminate all voids. An electric vibrator may be used with the permission of the Township Engineer. Where indicated or directed, drainage openings shall be made through the curb at the elevation and of the size required. The curb shall be depressed as indicated or directed. The top surface of the curb shall be finished true to line and grade in a neat, smooth and even manner by means of wood floats, and the edges of the face and back shall be rounded to a radius of not more than three quarters of an inch and one quarter of an inch, respectively, while the concrete is still plastic.
- (5) Joints and reinforcing. The curb shall be constructed in uniform lengths or sections of ten feet, except where shorter sections are necessary for closures or curves, but no section shall be less than four feet. Premolded expansion joints one-quarter of an inch in thickness and cut to conform with the cross-section of the curb shall be placed at the ends of section of curved curb and at intervals of not more than 120 feet. Intermediate joints between sections shall be formed of two

thicknesses of one-ply bituminous paper, cut neatly to the cross-section of the curb and one paper placed on each side of the template. If the method of handling the work is such that the templates are not removed satisfactorily, the curb shall be constructed in alternate sections.

When curved curb joins with tangent curb, at curb returns and on sharp curves where directed, there shall be embedded in the concrete two reinforcement bars one-half inch in diameter and twenty-four inches in length.

These bars shall be placed three and twelve inches, respectively, below the top of the curb and in the center of its width, and shall extend twelve inches into the curb on each side of the joint. The portions of the bars extending into the tangent curb shall be rendered bondless with a coating of approved material, and enclosed in approved tubes or caps, which will provide a positive clearance pocket of at least one-half inch.

- (6) Concrete control tests. During the progress of work, at least one set of four standard six-inch concrete cylinders shall be made during each and every day of concreting operations. The cylinders of each set shall be molded from the same sample of concrete and shall be tested one at seven days and three at twenty-eight days.
- (7) Removal of forms. The forms shall not be removed within twelve hours after the concrete has been placed. No rubbing to correct irregularities will be permitted until the curing period has elapsed. Any irregular surface shall be corrected by rubbing with a carborundum stone. Brush refinishing or plastering will not be permitted and all reject curb shall be promptly removed and replaced. All joints in the curb shall be opened from top to bottom immediately after the forms are removed, and the edges adjacent to the joints shall be sharp and clean cut. After the forms are removed, minor defects shall be filled with mortar composed of one part cement and two parts fine aggregate.
- (8) Curing. The curb shall be protected and cured in a manner approved as specified in Pennsylvania Department of Transportation, Publication 408.
- (9) Backfilling. After the concrete has attained the required strength, the spaces in back of the curb shall be backfilled with acceptable material in layers of not more than four inches in depth. Each layer shall be thoroughly compacted mechanically to the required elevation and cross-section.

- (10) Finish grading. Finish grading behind the curb shall be done to meet existing conditions at the right-of-way line, with a material that is acceptable to the Township Engineer.

All existing lawns disturbed or altered during the construction shall be seeded with a quality seed that will restore the lawn to its original condition.

- (11) Repair to roadway surface. All existing roadway surfaces disturbed or altered during the course of construction shall be restored to their original condition and to the satisfaction of the Township Engineer.

(Ord. 295-84. Passed 9-25-84.)

1250.04 STORM WATER MANAGEMENT; EROSION AND SEDIMENTATION CONTROL.

(a) Open watercourses shall have adequate capacity and erosion control to ensure safe and healthful disposal of stormwater.

(b) When topsoil has been removed from the surface of a lot on a slope where erosion will cause a displacement of loose material, the subdivider shall be required to seed or provide other means to prevent the wash from damaging adjacent property or accumulating on street surfaces.

In addition to the requirements of these Subdivision Regulations, all major subdivisions (and any minor subdivision that the Board of Commissioners may deem necessary) shall have a soil erosion and sedimentation control plan and/or permit and a storm water management plan and/or permit. These plans shall be prepared by the developer in accordance with current State laws, and reviewed and approved by the Erie County Conservation District. Permitted plans shall be fully implemented during the construction of the major subdivision. (Ord. 295-84. Passed 9-25-84.)

1250.05 WATER SUPPLY.

The work to be included is the installation of ductile cast iron pipe water main along with valves, hydrants and other appurtenances in accordance with accepted practice and in compliance with the materials and method of construction outlined below. The City of Erie, Bureau of Water, shall approve the materials to be used and will have an inspector on site during construction.

After installation, completion of tests required and after the final inspection, the water main and appurtenances shall become the property of the City of Erie.

- (a) Excavations. The contractor shall do all excavation of whatever substances encountered to the required minimum depth of five and one half feet below the finish grade. The banks of the trench shall be vertical. The width of the trench allowed shall be twelve inches on each side of the pipe bell. Excavated material not suitable or not required for fill or backfill shall be removed from the site and disposed of at the contractor's expense.

Excavation around accessories shall allow for only twenty-four inches of clearance on all sides.

Excavation shall not be carried below the required level. Excess excavation shall be backfilled with sand, gravel or concrete, as directed by the Township Engineer, and thoroughly tamped at the contractor's expense.

Unstable or unsuitable material shall be removed and replaced with approved backfill of gravel, crushed stone or crushed slag, which shall be thoroughly tamped. The Township Engineer shall determine the depth of removal of the unstable or unsuitable material.

The contractor shall remove by pumping, or other means approved by the Township Engineer, any water accumulated in the excavation.

In rock, excavation shall be carried to eight inches below the bottom of the pipe and special refill material shall be used to establish the proper grade by tamping thoroughly. This material shall be as stated in the materials section.

Sheeting, shoring, timbering and bracing will be required to maintain the excavation in a condition to furnish safe working conditions and to permit the safe and efficient installation of all items in strict accordance with all safety rules and regulations as prescribed by any governing organization.

The bottom of the trench shall be rounded so that an arc of the circumference equal to 0.6 of the outside diameter of the pipe rests on undisturbed soil. Bell holes shall be excavated accurately to size by hand.

(b) Materials. All materials shall be furnished by an established and reputable supplier or manufacturer. All materials shall be of first class ingredients and construction, designed and guaranteed to perform the service required and shall conform with the following specifications or shall be a product similar and equal thereto as approved by the Township Engineer and meeting City of Erie standards.

The pipe, hydrants, fittings, gate valves, valve boxes, tees, crosses and required accessories necessary for the installation of the water main and fire hydrants shall be supplied and installed by the contractor.

Concrete used for backfill or thrust blocks shall be ready-mixed concrete, designed for 3,300 psi compressive strength for twenty-eight days and shall meet all the requirements for Class A concrete as specified in Section 704 of Pennsylvania Department of Transportation, Publication 408.

Pipe shall be ductile cast iron pipe and shall be the "Tyton" joint type conforming to the A.S.A. Specification A21.51. The pipe shall have a Class IV wall thickness and shall conform to the sizes required. The pipe and fittings shall be cement lined and bituminous seal coated on the inside and

seal coated on the outside in accordance with A.S.A. Specification A21.4. The cement lining thickness shall be one-eighth of an inch.

Fittings shall be gray iron, class 250, mechanical joint, short body fittings conforming to A.S.A. Specification A21.10. All accessories required for fittings shall conform to A.S.A. Specification A21.11.

Gate valves shall be bell end with mechanical joints and shall conform to the A.W.W.A. Specifications C-500-61 or latest revision. All mechanical joint accessories shall be furnished with the valve. The valve shall have double disc, parallel seat, side wedge nonrising stem, and be bronze mounted. All moving parts shall be accurately machined and all valves shall open to the right or clockwise.

Valve boxes shall be two piece screw type, equal to the Buffalo Valve Box. The shaft shall be five and one-quarter inches, style B-5003, Catalog No. 21 of Buffalo Valve Box Company or equal, with an extension of thirty-six to forty-eight inches. Covers shall be marked "water."

Hydrants shall be equal to "Mathews Modernized Hydrant" (Model No. M-62 bronze lines). They shall be mechanical joint hydrants with all accessories included. Connections shall be three 2-1/2 inch connections and 1 to 4 inch streamer connection for both hose and pumper use. All bearings and parts working against each other shall be made of bronze or heavy bronze faced unless otherwise specified by the Township Engineer. All hydrants shall be of the compression type, opening against and closing in the direction of normal water flow.

Special refill material used for bedding in rock excavation shall consist of sand, No. 57 aggregate, or as determined by the Township Engineer, and shall conform to the specifications in Section 703.2 of Pennsylvania Department of Transportation, Form 408, for gradation of size. No sodium sulfate test will be required.

Special backfill material used for trench backfill shall consist of a well graded bank-run gravel in accordance with the following specification and should be free of any deleterious matter.

GRADATION REQUIREMENT

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3"	100
3/8"	50 - 100
No. 4	40 - 85
No. 10	30 - 75
No. 40	15 - 45
No. 200	5 - 15

Liquid Limit, 25 percent - Maximum Plasticity Index, 7 Maximum

- (c) Joints. Joints shall be of "Tyton" type, conforming to A.S.A. Specification A21.11. If the ductile cast iron pipe is cut in the field, the end of pipe must be tapered back about one eighth of an inch at an angle of about thirty degrees.
- (d) Laying of Pipe. The City of Erie, Bureau of Water, shall provide an inspector to be present during construction of the water main and appurtenances. Material and construction shall be subject to the approval of the City of Erie inspector.

All water mains shall be true to line and within the minimum cover required. The pipe shall be kept thoroughly clean so that joining will be smooth and all joints will be watertight. All pipe, fittings and valves shall be inspected for defects before being lowered into the trench, and if defects are found even after laying of the water main is completed, the defective item shall be removed and replaced with a new item. No water shall be allowed in the trench while pipes are being laid, and the exposed end shall be capped if left in the trench for more than one hour without installing the next section. Not more than 100 feet of trench shall be opened in advance of the pipe laying, unless permitted by the Township Engineer.

The interior of the pipe shall be kept cleared of all dirt as the work progresses.

When setting hydrants, care shall be taken to set them in a vertical position. Inspection of the hydrant for defects and for proper working order shall be done.

Thrust blocks shall be constructed at tees, valves, bends, hydrants and/or as directed by the Township Engineer. The blocks shall be of concrete as specified in the materials section. Blocks shall be poured on solid ground and shall be poured neat against solid undisturbed trench walls.

- (e) Backfill. No water mains shall be backfilled above the top of the pipe until the elevations, alignment and the pipe joints have been checked, inspected and approved. No heavy rock or boulders more than six inches in diameter will be allowed within three feet of the pipe, and no stones over one and one-half inches in diameter will be allowed in the first eighteen inches of the backfill. The trench shall be backfilled evenly and carefully around and over the pipe, in six-inch layers, and each layer shall be thoroughly mechanically tamped. Compaction shall be not less than ninety-five percent of standard proctor (ASTM D698-78).

Backfill around hydrants and valve enclosures shall be done in the same manner as for trench backfill. If necessary, hydrants and valve enclosures shall be braced during backfilling to insure a vertical position. Hydrant backfill shall consist of broken stone or coarse gravel in the amount not less than ten cubic feet in accordance with City of Erie standards. Tar paper shall be placed over the stone to prevent dirt and soil from working in and around the stone.

All backfill shall be tamped thoroughly to the required grade around hydrants, valve enclosures and other appurtenances, as well as on the pipe lines.

When the excavated material is not satisfactory for backfill, the contractor shall secure special backfill material to use in backfilling operations. All surplus material, unsatisfactory material, earth, rubbish or other debris shall be hauled away from the site and disposed of by the contractor.

- (f) Sterilization. Before being placed in service, all new water lines shall be chlorinated to the satisfaction of the Township Engineer in accordance with A.W.W.A. Specification C601-54, or its latest revision.

Prior to chlorination, all dirt and foreign matter shall be removed by a thorough flushing. This shall be done after the pressure test and leakage test and may be done either before or after the trench has been backfilled.

A chlorine gas and water mixture or hypochlorite solution shall be applied by means of a solution-feed device, or the gas shall be fed directly from a chlorine cylinder equipped with proper devices for regulating the rate of flow and the effective diffusion of gas within the pipe.

Water from the existing distribution system or other source of supply shall be controlled to flow away slowly into the newly laid pipe line during the application of chlorine, in such proportions that the chlorine dose applied to the water entering the newly laid pipe shall be at least forty to fifty parts per million.

Treated water shall be retained in the pipe long enough to destroy all non-spore forming bacteria. This period shall be at least twenty-four hours, and preferably longer as may be directed. In an emergency, at least three hours contact shall be provided for chlorination, and the chlorine dose rate shall be triple the required dose.

After the chlorine treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points shall be at least five parts per million.

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe line at its extremities, until the replacement water throughout its length shall, upon test, be equal to the water quality served from the existing water supply system.

Should initial treatment, in the opinion of the Township Engineer, prove ineffective, the chlorination procedure shall be repeated until confirmed tests show that water sampled from the newly laid pipe conforms to the requirements. No main shall be placed in service without the Township Engineer's approval.

- (g) Pressure Test of Water Lines. After the pipe has been laid, properly anchored and partially backfilled with all joints exposed, all newly laid pipe, or any valved section thereof, shall be subjected to a hydrostatic pressure test of 150 pounds per square inch or fifty percent above normal operating pressure, whichever is greater.

The tests shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Township Engineer. Tests shall be made using water as a medium. Use of compressed air or nitrogen is prohibited. The duration of each pressure test shall be at least four hours. During this period, the drop in static pressure shall be carefully measured and shall in no instance exceed ten psi per hour.

Care should be taken to see that the air is expelled and all caps and plugs are properly braced before the pressure is applied. Air should be expelled by the opening of fire hydrants or taps at the points of highest elevation.

All hydrostatic tests, etc., shall be performed by the contractor, under the supervision of the Township Engineer.

All pipes, fittings, valves, hydrants and joints shall be carefully examined during the test, and all joints showing visible leakage shall be made tight. All defective pipes, joints, fittings, valves and hydrants shall be removed from the line and replaced by the contractor.

(Ord. 295-84. Passed 9-25-84.)

1250.06 SANITARY SEWERS.

The work to be included is the installation of sanitary sewers in accordance with accepted practice and in compliance with the materials and method of construction outlined below.

- (a) Excavations. The contractor shall do all excavation of whatever substance encountered to the depth required to install the sewer to the required lines and grades. The banks of the trench shall be vertical. The width of the trench allowed shall be eight inches on each side of the pipe bell. Excavated material not suitable or not required for fill or backfill shall be removed from the site and disposed of.

Excavation for manholes shall allow for only twenty-four inches of clearance on all sides of the manhole.

Excavation shall not be carried below the required level. Excess excavation shall be backfilled with sand, gravel or concrete, as directed by the Township Engineer, and thoroughly tamped at the contractor's expense.

Unstable soil shall be removed and replaced with approved granular backfill material, which shall be thoroughly tamped. The Township Engineer shall determine the depth of removal of the unstable soil.

The contractor shall remove by pumping, or other means approved by the Township Engineer, any water accumulated in the excavation.

In rock, excavation shall be carried to eight inches below the bottom of the pipe and special refill shall be used to establish the proper grade by tamping thoroughly.

The bottom of the trench shall be rounded so that an arc of the circumference, equal to 0.6 of the outside diameter of the pipe, rests on undisturbed soil. Bell holes shall be excavated accurately to size by hand.

- (b) Materials. All materials shall be furnished by an established and reputable supplier or manufacturer. All materials shall be of first-class ingredients and construction, designed and guaranteed to perform the service required, and shall conform with the following specifications or shall be a product similar and equal thereto approved by the Township Engineer.

Pipe shall be extra-strength vitrified clay pipe and shall conform to ASTM Specification C-200. All pipe shall be of the bell and spigot type.

Concrete used for encasements, manhole bases and backfill shall be ready-mixed cement concrete, designed for 3,300 psi compressive strength after twenty-eight days, and shall meet all the requirements for Class A concrete as specified in Section 704 of Pennsylvania Department of Transportation, Publication 408.

Mortar used for manholes shall be machine mixed in an acceptable manner at the site by the contractor and shall consist of one part Portland cement and two and one-half parts fine aggregate by volume. Water or other components shall not be introduced into this mix after removal from the mixer.

Special refill material used for bedding in rock excavation shall consist of sand or No. 57 aggregate, as determined by the Township Engineer, and shall conform to the specifications in Section 703.2 of Pennsylvania Department of Transportation, Publication 408.

Special backfill material used for trench backfill shall consist of a well graded bank-run gravel in accordance with the following specification and should be free of any deleterious matter.

GRADATION REQUIREMENT

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3"	100
3/8"	50 - 100
No. 4	40 - 85
No. 10	30 - 75
No. 40	15 - 45
No. 200	5 - 15

Liquid Limit, 25 percent - Maximum Plasticity Index, 7 Maximum

Lumber used for sheeting may consist of any species which will satisfactorily stand driving. It shall be free from worm holes, loose knots, wind shakes, decayed or unsound portions, or other defects which might impair its strength or tightness. Its minimum thickness

shall be two inches nominal. Lumber for bracing shall be sound and shall be equal to or better than No. 2 common yard lumber.

- (c) Joints. The extra strength vitrified clay pipe shall have compression type joints conforming to ASTM Specifications C-425, Type III.
- (d) Laying of Pipe. All sewers shall be laid true to line and grade with the bells upstream or upgrade. The sections of the pipe shall be laid and fitted together; then, when completed, the sewer will have a smooth and uniform invert. The pipe shall be kept thoroughly clean so that joining will be smooth and all joints will be watertight. Each pipe shall be inspected for defects before being lowered into the trench, and if defects are found even after laying of the pipe is completed, it shall be removed and replaced with a new pipe at the contractor's expense. No water shall be allowed in the trench while pipes are being laid, and the exposed end shall be capped if left in trench for more than one hour without installing the new section. Not more than 100 feet of trench shall be opened in advance of pipe laying, unless permitted by the Township Engineer.

The interior of the sewer shall be kept cleared of all dirt as the work progresses.

To check the amount of infiltration, the contractor shall furnish, install and maintain a V-notch sharp crested weir, in a wood frame, tightly secured at the low end of each sewer lateral and at locations on the main sewers as directed by the Township Engineer. The maximum allowable infiltration shall be 200 gallons per mile per inch of diameter of sewer per twenty-four hour day at any time. The joints shall be tight and visible leakage in the joints or leakage in excess of that specified above shall be repaired by any means found to be necessary. When infiltration is demonstrated to be within the allowable limits, the contractor shall remove such weirs.

Low pressure air testing as established by the National Clay Pipe Institute for determining defective pipe or pipe joints will also be accepted as a means of testing in place sanitary sewers.

All house connections will be furnished by laying a "Y" branch fitting with six-inch spur and an extra strength medium length thirty degree curve with sufficient lengths of six-inch straight pipe to bring the connection two-feet beyond the face of curb and a stopper or disc as a standard house connection unit. Extra lengths of six-inch tile will be installed as directed by the Township Engineer. A smooth grade of at least four inches shall be utilized in these three sections of pipe,

so that the invert on a standard house connection is four inches or more higher than the invert at the intersection of the "Y" branch and the barrel of the eight-inch pipe.

The contractor shall place a hardwood stake on the property line at the end of each service connection. The hardwood stake shall be topped with a marker labeled "Sewer." The contractor shall locate and keep a record of all service connections by measurement to the nearest downstream manhole and shall deliver all measurements to the Township Engineer.

- (e) Line and Grade. The contractor must test the pitch or grade of the top line and sewer, and will be held responsible for the correct flow of the sewers. The contractor must test the batter line with an accurate line level to test the downward grade of the pipe in the direction of flow. Three batter broads will be erected at all times to check the batter line. No claim for extra work will be allowed for alleged inaccuracy of grade stakes. Each pipe will be checked with a gauge rod and a plumb bob for line and grade. A laser beam system may be used for line and grade, subject to approval by the Township Engineer.
- (f) Backfill. No sewers shall be backfilled above the top of the pipe until the sewer elevations, gradient and alignment, and the pipe joints, have been checked, inspected and approved. No heavy rock or boulders more than six inches in diameter will be allowed within three feet of the pipe, and no stones over one and one-half inches in diameter will be allowed in the first eighteen inches of the backfill.

The space between the pipe and the side of the trench shall be backfilled in four inch layers and thoroughly tamped until a height of one foot above the pipe is reached, and then layers of six inches will be allowed before the tamping is performed. All backfill shall be tamped thoroughly to the required grade around all manholes and other appurtenances, as well as on the pipe line. Each layer shall be compacted to meet or exceed ninety-five percent of standard proctor (ASTM D698-78).

When the excavated material is not satisfactory for backfill, the contractor shall secure special backfill material to use in backfilling operations. All surplus material, unsatisfactory material, earth, rubbish or other debris shall be hauled away from the site and disposed of.

- (g) Manholes. Manholes shall be precast reinforced concrete construction, with aluminum or plastic-coated manhole steps and O-ring rubber gaskets. Precast manholes shall meet or exceed ASTM Specification

C-478. Eccentric cone top sections shall be used, unless a variance or waiver is furnished in writing by the Township Engineer.

A poured in place eight-inch concrete base of Class A concrete, as noted in the materials section, shall be constructed as a leveling pad before the precast manhole can be placed.

The contractor may, upon written request and written approval of the Township Engineer, construct brick or block manholes. All bricks and blocks shall conform to accepted standards and shall be new and clean. The brick shall conform to ASTM Specification C-32, and the block shall conform to ASTM Specification C-139.

Manhole frames and covers shall be equal to Allegany Foundry Company frame pattern 650 and cover pattern 651. The frame casting and cover casting shall have the metal bearing areas that come in contact machine ground to fit in pairs, shall be marked as pairs and shall be delivered in pairs.

(Ord. 295-84. Passed 9-25-84.)

1250.07 UTILITIES.

Every lot in a subdivision shall be capable of being served by gas, electrical and telephone utilities and the necessary easements shall be provided. Utility distribution lines shall be installed within street rights of way or within properly designated easements. To the fullest extent possible, underground utility lines should be located in easements along the rear property lines but when local conditions require installation in street rights of way, lines shall not be installed beneath existing or proposed paved areas and in any case shall be installed prior to the placement of any paving. (Ord. 295-84. Passed 9-25-84.)

1250.08 STREET LIGHTS.

The developer shall be responsible for making the necessary arrangements with the Township and the appropriate public utility company to install street lighting fixtures. However, whether or not street lights are initially installed, the developer shall be responsible for providing utility easements for future street lighting installations, upon consultation with the public utility company involved and the Board of Commissioners. (Ord. 295-84. Passed 9-25-84.)

1250.09 STREET SIGNS.

Street name signs of a type approved by the Board of Commissioners shall be installed at each street intersection by the subdivider, on locations specified by the Board of Commissioners.

(Ord. 295-84. Passed 9-25-84.)

1250.10 STREET TREES.

Shade trees of deciduous hardwood types, with minimum diameters of two inches, may be planted by the landowner or developer between the curb and the sidewalk, provided the planting strip is a minimum of four feet wide. No tree shall be planted within two feet of either side of a street right of way line.

In addition to the requirements of these Subdivision Regulations, tree planting or removal shall comply with the regulations of Chapter 1024 of the Streets, Utilities and Public Services Code.

(Ord. 295-84. Passed 9-25-84.)

1250.11 SIDEWALKS.

As of the effective date of these Subdivision Regulations (Ordinance 295-84, passed September 25, 1984), paved sidewalks shall be required to be installed, or arranged to be installed, by the lot owner or developer along all portions of a lot of record which are adjacent to a street right of way in the R-1, R-2 and B-1 Zoning Districts as delineated on the Official Zoning Map.

Within one year of such effective date, for existing developed lots without sidewalks within the above districts, the lot owner shall contact the Board of Commissioners to make arrangements to have said sidewalks installed. Within one year after the construction of a principal building on an undeveloped lot of record within the above districts, said sidewalks shall be installed. A vacant lot owner shall have sidewalks installed within one year after the construction of sidewalks on both sides of said vacant lot.

Sidewalks shall be placed along the inside edge and within the street right of way, unless deemed undesirable or unfeasible by the Board of Commissioners, where sidewalks may then be placed along the edge of the curbline. Paved driveways between the sidewalk and street cartway shall also be required where vehicular access is desired to the lot.

The installation of sidewalks may be delayed until the street is paved and a curb/underground storm drainage system is installed.

The work to be included is the installation of concrete walks in accordance with accepted practice and in compliance with the materials and methods of construction outlined below.

The minimum width for sidewalks shall be four feet, but the Board of Commissioners may require greater widths in the vicinity of shopping centers, schools and recreation facilities, or where similar intensive urban uses are anticipated.

- (a) Materials. The sidewalk shall be built according to the latest edition of Pennsylvania Department of Transportation Specifications, Publication 408, Section 676. Materials shall conform to Pennsylvania Department of Transportation, Publication 408, as follows:

- | | |
|--------------------------------------|---------------|
| (1) Class A cement concrete | Section 704 |
| (2) Aggregate sub-base | Section 350.2 |
| (3) Premolded expansion joint filler | Section 705.1 |
| (4) Concrete curing compound | Section 711.2 |
| (5) Curing and protecting covers | Section 711.1 |
| (6) Concrete admixtures | Section 711.3 |

The aggregate used in the production of concrete under this contract shall be from sources currently approved by the Pennsylvania Department of Transportation, and conform to their Specifications, Publication 408.

The minimum cement content shall be 6.0 sacks per cubic yard of concrete, and the same shall have a twenty-eight day compressive strength of 3,300 psi.

The fresh concrete shall contain from four percent to seven percent volume of entrained air. Air determinations may be made by the Township Engineer or his or her representative and such changes as are necessary to maintain the required air content shall be made as directed.

- (b) Forms. The forms shall be of straight material, so placed as to conform to the proper grade and shall be of straight-grained lumber at least one and five-eighths inches in thickness or of steel of equal strength and suitable for form use.

The Township Engineer may, upon inspection at any time, condemn the use of either wood or steel forms, if in his or her opinion they are unfit for use as sidewalk forms. Flexible strips of an approved type may be used on curves and shall be held rigidly to line and grade with properly placed stakes or braces. In no case shall forms be less than three and five-eighths inches in depth and in all cases the ground shall be undercut to provide a full four-inch concrete slab thickness.

- (c) Preparation. Excavation shall be done to a depth as necessary below the finished grade as established under these specifications or as necessary to clear the area of vegetation or other objectionable material, and a backfill of at least four inches of sub-base material shall be placed and compacted under all areas to be covered with concrete. Sub-base material shall be included, unless specifically deleted by the Township Engineer.

In all cases where the surface of the ground is below the finished surface of the sidewalk, it will be necessary for the contractor to make a tamped earth fill on either side of the walk, bringing the fill flush with the top of the walk for a distance of one foot from either side, the fill to have a slope to the original surface not to be less than three to one.

In all cases where the surface of the ground is above the finished surface of the sidewalk, it will be necessary for the contractor to continue his or her excavation a distance of at least one foot on either side of the walk, at the finished grade of the walk, and then continue his or her cut to the original ground surface, with a sideslope of at least two to one, or as directed by the Township Engineer.

All castings, such as manhole tops, grates or areaways, water and gas stops, etc., shall be adjusted by the contractor to set even with the surface of the finished walk.

Forms shall be set so as to allow for a square vertical edge and a thickness of a full four inches in walking areas and a minimum six-inch walk in driveway areas, and also to allow for a slope of the walk toward the curb which shall, under regular conditions, be three eighths of an inch per foot.

The contractor shall adjust the grade at street corners so as to conform as nearly as possible to the curb grades on each street. In case of a great difference between the grade of two walks at a street corner, the Township Engineer shall be notified and he or she will give direction as to the extent that the surface of each walk may be warped to meet at the same grade at the corner.

Expansion joints shall be placed at all points where the proposed walk meets the existing walk, curbs, driveways, catch basins, utility castings, etc., as well as at any point where the walk changes in direction forty-five degrees or more. In no case shall the distance between expansion joints be greater than 100 linear feet. Expansion joints shall be placed to the full width of the walk and to separate the proposed walk completely from utility castings, curbs, etc.

- (d) Depositing Concrete. After mixing, the concrete shall be handled rapidly and the successive batches deposited in a continuous operation, until individual sections are completed. Under no circumstances shall concrete that has partly hardened be used. The forms shall be filled and the concrete brought to the established grade.

Concrete shall not be deposited when it appears likely that the air temperature may fall below forty degrees Fahrenheit during the pouring or within the following twenty-four hours, unless preparations are made and precautions taken to prevent any damage to the concrete resulting from the low temperatures. When placing concrete in cold weather, the contractor shall plan and prosecute his or her work in a manner which will assure satisfactory results. Concrete shall not be deposited on a frozen foundation. Any concrete damage by freezing shall be removed and replaced by the contractor at his or her own expense.

Concrete, when deposited in the forms, shall have a temperature of not less than fifty-five degrees Fahrenheit, nor more than 100 degrees Fahrenheit. The concrete shall be maintained at not less than the minimum temperature of fifty-five degrees Fahrenheit for at least seventy-two hours after placing, or longer if necessary, until the concrete has thoroughly hardened.

The walk shall be cut into square slabs not exceeding fifty square feet in area, by cutting the slab or by use of forms. Cuts shall be continuous and shall be cut to a depth of at least one-third of the slab thickness. The cuts shall be made straight across the center, lengthwise, in all walks over eight feet wide and straight across in all widths of walks. After the initial cut, the concrete shall be finished as later specified and final cuts shall be made with a trowel on the line of previous cuts to at least one-third of the slab thickness, and the cuts creased and outer edge rounded with a finishing tool having a one-half inch radius. Lines for all cuts must be marked on forms before cuts are made. Where division plates are used, the surface edges of each slab shall be rounded to a one-half inch radius before removal of division plates.

After the concrete has been brought to the established grade by means of a strike-board, it shall be worked to give a medium tough surface. In no case shall dry cement or a mixture of dry cement and sand be sprinkled on the surface to absorb moisture or to hasten hardening. The surface shall be floated with a wooden float only, producing an even gritty finish. On wide sidewalks the finish may be done with two applications of a canvas belt, not less than six inches wide, and two feet longer than the width of the sidewalk. For the first application, the belt shall be drawn across the surface with vigorous strokes at least twelve inches long, and moved ahead very slightly with each stroke. The second application shall be given immediately after the water glaze or sheen disappears. The stroke of the belt shall be not more than four inches, but the longitudinal motion shall be greater than during the first application. No other method shall be used unless approved by the Township Engineer prior to the installation.

The surface edges of all slabs shall be rounded to a radius of one-half inch.

Concrete walks shall be protected from rain storms by a tarpaulin or by a covering of wet paper and sand, and protected during the hot weather, after setting for a few hours by being covered with sand and wetted every day for three days. A chemical curing agent, as approved by the Township Engineer, may be used in place of wet sand. A barricade of at least three feet in height shall be placed around the walk to protect it while setting.

Red lights must be maintained all night on barricades and on all materials piled outside the property line as long as they remain in the public thoroughfare.

- (e) Testing. The contractor shall, at his or her expense, have four cylinders made and tested, one at seven days and three at twenty-eight days to verify the compressive strength of the concrete. One set of cylinders shall be required for every additional 100 cubic yards of concrete poured.

A discrepancy of ten percent of the requirements shall be cause for complete replacement. However, any discrepancy shall, and will, at the Township Engineer's option, be cause for replacement.

(Ord. 295-84. Passed 9-25-84.)