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Borough of Emmaus Lehigh County, PA

DRAFT – January 7, 2025

Borough of Emmaus Subdivision and Land Development Ordinance

Chapter 22 of the Code of the Borough of Emmaus

ENACTED:

EFFECTIVE:

BOROUGH OF EMMAUS SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

CHAPTER 22 OF THE CODE OF THE BOROUGH OF EMMAUS

BOROUGH OF EMMAUS, LEHIGH COUNTY, PENNSYLVANIA

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PART 1 GENERAL PROVISIONS

§22-101 Short Title

This Chapter shall be known and may be cited as the "Borough of Emmaus Subdivision and Land Development Chapter."

ENACTED: [SPECIFY DATE OF ENACTMENT]
EFFECTIVE: [SPECIFY EFFECTIVE DATE OF ORDINANCE]

§22-102 Purpose

This Chapter has been adopted by the Council for the Borough of Emmaus for the following purposes:

- (A) To ensure the overall health, safety, and general welfare of the residents of the Borough;
- (B) To enable the development of the Borough in an orderly, efficient, integrated, and harmonious manner;
- (C) To guide the future growth and development of the Borough in conformance to all relevant regulations, maps, studies, and reports adopted in furtherance thereof;
- (D) To ensure that streets in and bordering a subdivision or land development shall be coordinated, and be of such design, and in such locations as deemed necessary to accommodate prospective traffic and parking, and to facilitate fire protection and other emergency services;
- (E) To require adequate, appropriately located easements or rights-of-way for existing and future utilities, snow removal, trails, and storm drainage facilities;
- (F) To ensure that any lands offered for dedication or otherwise reserved for use as public or common grounds shall be of suitable size, configuration, and topographical character for their designated uses;
- (G) To ensure conformance of subdivision and land development proposals with the availability of municipal services and public facilities, and the coordination of intermunicipal programs;
- (H) To preserve lands subject to inundation or flooding from subdivision or land development which would endanger life or property or further aggravate or increase the existing flooding or inundation conditions;
- (I) To encourage and promote flexibility, economy, and ingenuity in the layout and design of subdivisions and land developments, including provisions authorizing the Borough to modify the requirements of this Chapter in accordance with concepts and practices consistent with the modern and evolving, generally accepted principles of site planning, engineering, and land development;

- (J) To provide equitable and expeditious handling of all subdivision and land development proposals by providing uniform procedures and standards;
- (K) To encourage subdivision and land development in accordance with principles and practices which conserve energy, both during and after construction, and which encourage the use of alternative energy sources by the layout of the lots and the siting of buildings;
- (L) To ensure conformance of subdivision and land development plans with the public improvements of the Borough, and coordination of inter-municipal, county, and Pennsylvania improvement plans and programs;
- (M) To provide adequate open space lands and recreation facilities;
- (N) To preserve and protect natural resources and to prevent pollution of air and water so as to maintain the quality of life within the Borough and adjacent lands;
- (O) To maintain the character and the social and economic stability of the Borough and to encourage the orderly and beneficial development of the community; and
- (P) To provide for the buffering of certain types of land uses to minimize their impact upon their surroundings.
- (Q) And finally, to ensure that documents prepared as part of a land ownership transfer fully and accurately describe the parcel of land being subdivided, and the new parcels thus created.
- (R)

§22-103 Authority and Contents

- (A) Authority. This Chapter is enacted and ordained under the grant of powers by the General Assembly of the Commonwealth of Pennsylvania, Act 247, "The MPC," July 31, 1968, as amended, hereinafter referred to as "MPC."
- (B) Contents. This Chapter contains regulations which include, but are not limited to the following:
 1. Provisions for the submittal and processing of plats, including the charging of review fees, and specifications for such plats, including certification as to the accuracy of plats and provisions for preliminary and final approval and for processing of final approval by stages or sections of development.
 2. Design standards and guidelines for the overall layout, configuration, and placement of lots, roads, open space, parks, public facilities, and other physical improvements on property to promote orderly development within the Borough
 3. Engineering and technical standards, including appropriate financial guarantees, governing the manner by which various improvements including streets, bridges, common facilities, water supply and sewage facilities infrastructure, stormwater management facilities,

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walkways, lighting, parking lots, and other improvements are properly constructed.

§22-104 Jurisdiction

- (A) General. The Borough Council shall, with the recommendation of the Planning Commission, review, and act upon as appropriate all subdivision and land development plans as defined below which are located entirely within or in part of the Borough.
- (B) Subdivision and Land Development. No subdivision or land development of any lot, tract, or parcel of land, as defined in this Chapter, shall be made, and no Street, alley, sanitary sewer, storm drain, water main, gas, oil or electric line, or other improvements in connection therewith, shall be laid out, constructed, or dedicated for public use, or travel, or for the common use of occupants of a building abutting thereon, except in strict accordance with this Chapter.
- (C) Sale of Lots, Issuance of Building Permits, or Erection of Buildings. No lot in a subdivision or land development may be sold, and no permit to erect, alter, or repair any building upon land in a subdivision or land development will be issued, unless and until a subdivision and/or land development plan has been approved, and where required, recorded, and until the required improvements in connection therewith have either been constructed or guaranteed for construction in the form of an irrevocable letter of credit, escrow, or other means approved by the Borough under the advice of the Borough Engineer and Solicitor, in accordance with the laws of the Commonwealth of Pennsylvania.
- (D) Condominiums. No provision of this Ordinance shall be construed to prohibit condominium ownership as permitted by the applicable enabling legislation of the Commonwealth of Pennsylvania, including, but not limited to, the Uniform Planned Communities Act.

§22-105 Applicability

- (A) This Chapter shall provide design standards and other regulations pertaining to the development of land, whereas the Borough Zoning Ordinance (Chapter 27 of the Borough of Emmaus Municipal Code) provides parameters on the Use of land. Both documents correlate with each other to provide the overall regulations administered by the Borough Council, Planning Commission, and Zoning Officer/ Code Enforcement as specified in said Ordinances.
- (B) Nothing in this Chapter shall be deemed or construed to void, nullify, abrogate, modify, limit or otherwise adversely affect any right vested under applicable law at the time of enactment of this Chapter, whether such right arose under a subdivision or land development plan or development agreement proposed by a person and accepted or approved by the Borough. This Chapter is not intended to interfere with or abrogate or annul any more restrictive Easements, Covenants, Building Restrictions, or other agreements between parties relating to Use or development of land, and the more restrictive covenant shall be applicable.
- (C) No subdivision or land development of any lot, tract or parcel of land located in the Borough of Emmaus shall be effected; 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 or travel, or for the common use of occupants of buildings thereon unless and until a final subdivision

plan has been approved by the Borough Council and publicly recorded in the manner prescribed herein.

- (D) No lot in a subdivision will be sold; no permit to erect or alter any building upon land in a subdivision or land development will be issued; and no building will be erected or altered in a subdivision or land development, unless and until a final subdivision plan has been approved by the Borough Council and recorded, and until construction of the improvements required in connection therewith has been guaranteed in the manner prescribed herein.
- (E) Unit or condominium development is included within the meaning of subdivision and land development as defined herein and must comply with these regulations. Such compliance shall include, but not be limited to, the filing of preliminary and Final Plans, payment of established fees and charges, location of each structure and clear definition of each unit, public easements, common areas, improvements, and all easements appurtenant to each unit and all other land development plan requirements.
- (F) Preliminary and Final Plans shall indicate the location of each structure and clearly define each unit and shall indicate public easements, common areas, and improvements, all easements appurtenant to each unit and improvements to public right-of-way.
- (G) These rules and regulations shall apply equally to all plans for development regardless of the form of ownership, including but not limited to developments owned as condominiums (including single lot condominiums), in fee simple, as life estates, or in ownerships subject to common ownership, common elements or other forms of ownership.

§22-106 Interpretation

- (A) The regulations specified within this Chapter shall be considered minimum regulations and shall be applied uniformly to all individuals and businesses within the jurisdiction of the Borough.
- (B) When this Chapter places a greater restriction than is imposed or required by other provisions of law, or by other rules, regulations, Ordinances, or by private restrictions, covenants, or declarations, the provisions set forth in this Chapter shall prevail, except where otherwise specifically stated herein. Without limitations of the foregoing, in the event of a conflict between or among the provision of this Chapter, the Borough's Subdivision and Land Development Ordinance, and/or any other duly enacted Chapter of the Borough, the conflicting provisions shall be given precedence in the following order:
 1. The provisions of this Chapter.
 2. The provisions of Chapter 27 of the Borough of Emmaus Municipal Code; and
 3. The provisions of the Borough's other duly enacted Ordinances with precedence among them given to the provision bearing the latest date of passage.

(C) If there is a conflict between or among the provisions of this Chapter, the stricter regulation shall apply.

§22-107 Severability

Should a court of competent Jurisdiction declare any Part, subsection, or provision of this Chapter invalid or unconstitutional, this decision shall not affect the validity or constitutionality of this Chapter as a whole, or any part thereof, other than the part so declared to be invalid or unconstitutional.

§22-108 Violations, Penalties, and Remedies

(A) Any person, partnership, or corporation who or which has violated the provisions of this Chapter or of the MPC, as amended, upon being found liable thereof in a civil enforcement proceeding commenced by the Borough, shall pay a judgment of not less than one hundred dollars (\$100.00) but no more than five hundred dollars (\$500.00) plus court costs, including reasonable attorney fees incurred by the Borough as a result thereof. These judgements may be modified by resolution of the Emmaus Borough Council. 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 Borough may enforce the judgment pursuant to the applicable rules of civil procedure.

(B) Each day that a violation continues shall constitute a separate violation, unless the District Justice determines that there was good faith basis for the person, partnership, or corporation violating this Chapter who believed that there was no such violation until the fifth (5th) day following the date of the Determination of a violation by the District Justice and each day thereafter that a violation continues shall constitute a separate violation. All judgments, costs, and reasonable attorney fees collected for the violation of this Subdivision and Land Development Chapter shall be paid over to the Borough.

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

(D) Nothing contained in this Chapter shall be construed or interpreted to grant any person or entity other than the Borough the right to commence any action for enforcement to this Chapter.

(E) Preventative Remedies.

1. In addition to other remedies, the Borough may institute and maintain appropriate actions by law or in equity to restrain, to correct or abate violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building. This provision specifically includes injunctive measures against those committing unlawful actions under this Ordinance.
2. The Borough may refuse to issue any permit or grant any approval necessary to further improve any real property which has been developed or has resulted from a subdivision in violation to this Chapter. As an additional condition for the issuance of any permit or approval,

the Borough may require compliance with the conditions that would have been applicable to the property at which time the Applicant acquired it.

§22-109 Administration and Records

(A) Administration.

1. The provisions of this Chapter shall be administered by the Zoning Officer and/or other appropriate staff as designated by the Borough.
2. The administration and enforcement duties of the Zoning Officer and/or other appropriate staff shall include but not be limited to the following:
 - a. Receive and review all applications and submissions related to any proposed subdivision or land development for completeness.
 - b. Provide a written review and report of all applications received as to their compliance with the requirements of this Chapter and other applicable laws, rules, regulations, and standards.
 - c. Determine compliance with the requirements of this Chapter and coordinate among the various number of internal and external stakeholders participating in the process prior to plan submission, prior to plan approval, during construction, and after construction has been completed.
 - d. Bring applications and reports to the Planning Commission and Borough Council for consideration and action.
 - e. Issue written stop, cease, and desist orders and other written orders for correction of all conditions found to be in violation of provisions of this Chapter.
 - f. Create and maintain standardized forms for applications and other required documents.
 - g. In addition to the above, administration of the subdivision and land development ordinance also involves coordination with state and federal laws and other municipal ordinances. These include but are not limited to regulations covering waterways and wetlands, erosion, driveways entering highways, stormwater and floodplain management, water and sewer facilities, zoning, and building codes.

(B) Records. The Borough shall keep a public record of its correspondence, findings, recommendations, and actions relating to plans filed for review, in accordance with the policies, procedures, and guidelines established by the Borough Council and Planning Commission.

§22-110 County Review

Applications for subdivision and land development located within the Borough shall be forwarded by the Applicant, with the appropriate review fee, to the Lehigh Valley Planning Commission for review and

report. As evidence of their review and report, officials of the Lehigh Valley Planning Commission will sign Final Plans, which have been formally approved by the Borough, before such plans are presented for recording.

§22-111 Fees and Costs

- (A) The Borough Council shall adopt and amend by resolution a schedule of fees, payable by the Applicant to the Borough for the filing of Preliminary and Final Plans.
- (B) The Borough Council shall adopt and amend by resolution a schedule of escrow deposits to be paid by the Applicant to the Borough at the time of the filing of an application, and this escrow amount may be required to be replenished should the initial escrow amount be exceeded.
 - 1. Costs incurred by the Borough in excess of the escrowed amount shall be paid by the Applicant prior to the granting of approvals or permits.
 - 2. If costs incurred by the Borough are less than the escrowed amount, the difference shall be refunded to the Applicant following disposition of the plans.
- (C) No application for Preliminary or Final Plan approval shall be filed and processed until the fees and/or escrow deposit, as set forth below, shall have been paid.
- (D) Borough expenditures subject to escrow include but are not limited to the following:
 - 1. Engineering and other technical services performed by landscape architects, geologists, planners, and other professionals, as determined by the Borough and in the Borough's sole discretion, during the plan review.
 - 2. Construction inspection and the testing of materials.
 - 3. Services of the Borough Solicitor in reviewing and/or preparing documents related to the plan reviews.
 - 4. Actual costs of recording incurred by the Borough
 - 5. An administrative charge of fifteen (15) percent of the total costs described in the previous four subsections.
 - 6. Replenishment of any escrow fees which have been exhausted
- (E) Escrow accounts for fees to conduct the necessary inspection and review services provided by the Borough during the construction of improvements approved in the Final Plan shall be established as part of the developer's agreement required in §22-610.
- (F) *Disputes.* Disputes of expenses and fees may be processed according to Section 510 of the Pennsylvania Municipalities Planning Code.

§22-112 Modifications and Waiver of Requirements

- (A) The provisions of this Chapter are minimum standards for the protection of the public welfare. However, upon review and recommendation by the Planning Commission, the Borough Council, in the Borough's sole discretion, may grant a modification or waiver of the requirements of one or more provisions of this Chapter, if the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of this Chapter is observed.
- (B) All requests for modifications shall be provided in writing and be part of the application for subdivision and/or land development. In the request for a modification, the Applicant shall:
 - 1. State in full the grounds and facts of undue hardship on which the request is based or demonstrate that an alternative standard can provide equal or better results;
 - 2. List the provision(s) of this Chapter involved; and
 - 3. State the minimum modification necessary.
- (C) Any request for a modification of §22-306 Preliminary Plan Requirements that requires formal plan submission and approval, shall be accompanied by a Sketch Plan in accordance with §22-303.
- (D) The request for modification shall be referred to the Planning Commission for advisory comments.
- (E) The Borough Council shall keep a written record of all actions on all requests for modification.

§22-113 Amendment Procedure

- (A) The Borough Council may, from time to time, amend, supplement, change, modify, or repeal this Chapter by proceeding in accordance with the MPC. The Borough Council shall, by resolution adopted at a regular or special meeting, fix the time and place of a public hearing on the proposed amendment, and cause public notice thereof to be given as follows:
 - 1. By publishing a notice thereof once each week for two successive weeks in a newspaper of general circulation within the Borough. The first notice shall not be more than thirty (30) days or less than seven (7) days from the date of the hearing.
 - 2. The notice shall state the time and place of the hearing, the general nature of the proposed amendment and that full opportunity to be heard will be given to any citizen and all parties with an interest in attending such hearing.
 - 3. Whenever a proposed amendment affects a particular property, there shall be posted upon said property or premises at such place or places as the Borough Council may direct, notice of said proposed amendment.

(B) All proposed amendments before adoption shall be referred to the Planning Commission and Lehigh Valley Planning Commission at least thirty (30) days prior to the public hearing, for recommendation and report, which shall be advisory.

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PART 2 DEFINITIONS

§22-201 Rules of Interpretation

(A) The following rules apply to the interpretation of this Chapter:

1. Words in the singular include the plural, and those in the plural include the singular.
2. The singular number includes the plural, and the plural includes the singular.
3. Words used in the present tense include the future tense.
4. The words "Person", "Applicant", "developer", and "Owner" include a corporation, unincorporated association, and a partnership, or other legal entity, as well as an individual engaged in the subject activity.
5. The word "Building" includes Structure and shall be construed as if followed by the phrase "or part thereof".
6. The word "Watercourse" includes channel, creek, ditch, dry run, spring, stream, and river.
7. The words "should" and "may" are permissive; the words "shall" and "will" are mandatory and directive.
8. The word "Lot" includes the word plot or parcel.
9. The word "used" or "occupied" as applied to any land or Building shall be construed to include the words "intended, arranged or designed to be used or occupied."
10. The phrase "used for" includes "arranged for," "designed for," "intended for," "maintained for," and "occupied for."
11. The words "include" or "including" shall not limit the term to the specified examples but are intended to extend the meaning to all other instances of like kind and character.
12. The word "person" includes an individual, corporation, partnership, incorporated association, and/or any other similar entity.
13. The words: "he" or "she" or "they" are to be used interchangeably with the word person.
14. The word "Street" includes road, highway, avenue, boulevard, or expressway.
15. The names of organizations, including government agencies, shall be construed to include their successors.

§22-202 Defined Words and Terms

(A) Words and terms used in this Part shall have the meanings given in this Part. Unless expressly stated otherwise, any pertinent word or term not part of this listing but vital to the interpretation of this Chapter shall be construed to have their legal definition, or in the absence of a legal definition, their meaning as commonly accepted by practitioners, including civil engineers, surveyors, architects, landscape architects, and planners.

ABOVE FINISHED GRADE (AFG) - The elevation of the surface of the ground after completing final grading where the height of a building or structure will be measured.

ACCELERATION LANE – The portion of a roadway adjoining the traffic lane constructed for the purpose of enabling a vehicle entering a roadway to increase its speed to a rate at which it can safely merge with traffic.

ACCEPTED ENGINEERING PRACTICE – That which conforms to accepted principles, tests, or standards of nationally recognized technical, scientific, and/or engineering authorities.

ACCESS DRIVE – See **DRIVEWAY**.

ACCESSORY STRUCTURE OR BUILDING – A structure or building detached from a principal building on the same lot and customarily incidental and subordinate to the principal building.

AISLE – The traveled way by which cars enter and depart parking spaces.

ALLEY – ALLEY (also see **SERVICE DRIVE**) – A minor Right-of-Way, publicly or privately owned, primarily for service access to the back or side of properties and not intended for general traffic circulation. Alleyways are typically internal to a Block.

APPLICANT – A person who has filed an application for approval of subdivision, land development plan, variance, special exception or conditional use, including their heirs, successors, agents, and assigns. The term also includes landowner, developer, builder, and/or other persons responsible for the plans and construction of buildings or other improvements on any parcel of land.

APPLICATION FOR SUBDIVISION OR LAND DEVELOPMENT – Every application, whether preliminary or final, is 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 plan, or for the approval of development plan.

APPLICATION DATE – The date of the day when an application for development is filed, and accepted, by the Borough in accordance with submission requirements outlined in Article Three. This date is not necessarily the date when the ninety (90) day plan review period begins.

AS-BUILT DRAWINGS – Construction drawings revised to represent the site's as-built conditions, including, at a minimum, all locations, dimensions, elevations, and materials as constructed and installed.

AUTHORITY – A public organization created pursuant to the Pennsylvania Municipal Authorities Act of 1945 (P.L. 382, No.164).

AVERAGE VEHICLE OCCUPANCY. A numerical value calculated by dividing the number of employees scheduled to start work between the hours of 6:00 A.M. and 10:00 A.M. by the number of vehicles arriving between those hours.

BEST MANAGEMENT PRACTICE (BMP) - Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from regulated activities; to meet Pennsylvania water quality requirements, promote groundwater recharge; and otherwise meet the purposes of this Chapter. Stormwater BMPs are commonly grouped into two broad categories or measures: "structural" or "non-structural." In this Chapter, non-structural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff. In contrast, structural BMPs or measures consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the project site.

BLOCK – A unit of land bounded by streets or by a combination of streets and public land, railroad rights-of-way, waterways, or any other barrier to development.

BOND – Any form of surety bond in an amount and form satisfactory to Borough Council. All bonds shall be approved by the Borough Council whenever a bond is required by regulations.

BOROUGH — Borough of Emmaus, Lehigh County, Pennsylvania, a political subdivision, acting by and through its Borough Council or, in appropriate cases, by and through its authorized representatives.

BOROUGH COUNCIL — The Borough Council of the Borough of Emmaus, Lehigh County, Pennsylvania.

BOROUGH PLANNING COMMISSION - The Planning Commission of the Borough of Emmaus.

BUFFER – An area designed and functioning to separate the elements and uses of land which abut it and to ease the transition between them. Unless otherwise specified, "buffer" may be included as part of the required setbacks and yard areas.

BUILDER – See APPLICANT.

BUILDING – Any structure having a roof supported by columns or walls and intended for the shelter, housing, or enclosure of any individual, animal, equipment, goods, or materials of any kind or nature. (Also see Accessory Structure and Principal Building)

BUILDING ENVELOPE – The area of a lot within which a principal building may be erected. This area is defined by the limits of the minimum front, side, and rear yard areas and encompasses the area of the lot not found in the yard areas, legal rights-of-way, or other areas defined in the zoning ordinance.

CALIPER – Tree trunk diameter measured in inches at six (6") inches above ground level for trees four (4") inches or less in diameter or twelve (12") inches above ground level for larger trees.

CARTWAY – The paved portion of a Street or highway designed for vehicular traffic.

CLEAR SIGHT TRIANGLE – An area of unobstructed vision at Street intersections formed by the curb of two intersecting Rights-of-Way and a third line connecting. The curb lines are 15' long and the third line connects the two curb lines. On Streets with no curb and gutter, the same area will be used and measurements made from the edge of the travel lane. Within this area, the vertical distance between 2' and 10' above grade at the curb must remain unobstructed.

COMMON FACILITIES – All of the real property and improvements set aside for the common use and enjoyment of the residents, including, but not limited to, buildings, open land, private roads, parking areas, walkways, recreation areas, landscaped areas, drainage easements, and any utilities that service more than one unit, such as sewer and water facilities.

COMMON OPEN SPACE – A parcel or parcels of land within a development site designed and intended for the use and enjoyment of the Borough residents or occupants of the development or community or for the protection of natural or historic resources, not including streets, off-Street parking areas, and areas set aside for public facilities. Common open space shall not be part of individual residential lots and shall be substantially free of structures but may contain recreational facilities for park users or historic buildings as are shown in the approved development plan.

COMPREHENSIVE PLAN – A comprehensive plan prepared by the Borough and Lehigh Valley Planning Commissions pursuant to the Pennsylvania Municipalities Planning Code.

CONDOMINIUM – Ownership in common with others of a parcel of land and certain parts of a building thereon which would normally be used by all the occupants, together with individual ownership in fee of particular unit or apartment in such building or on such parcel of land and may include dwellings, offices, and other types of space in commercial and industrial buildings or on real property.

CONSERVATION DISTRICT (LEHIGH COUNTY)—A conservation district, as defined in Section 3(c) of the Conservation District Law (3 P. S. § 851(c)), which has the authority under a delegation agreement executed with the Pennsylvania Department of Environmental Protection to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code 102.

COUNTY—The County of Lehigh, Pennsylvania

COUNTY PLANNING COMMISSION—The Lehigh Valley Planning Commission.

DIAMETER AT BREAST HEIGHT (DBH)—The standard method for measuring trees where the diameter of the trunk is measured at 4 ½ feet above the ground.

DE MINIMIS IMPROVEMENT—Certain development proposals that are exempt from the procedures outlined in this Chapter but are not exempt from the standards of this or any other Borough regulation.

DEVELOPMENT PLAN—The provisions for development including a planned residential development, a plan or 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 development plan," when used in this Chapter, shall mean the written and graphic materials referred to in this definition.

DRAINAGE EASEMENT—A right granted by a landowner to a grantee, allowing the use of private land for stormwater management purposes.

DRIVEWAY—Private right-of-way that provides access (both ingress and egress) between a public way and abutting property(ies) and any facilities on such property(ies). Driveways shall be designed pursuant to the applicable design standards specified in §22-416 Driveway Access

EASEMENT—A right-of-way granted for the limited use of land for public or quasi-public purposes, such as for access for utilities.

EXCAVATION—The butting, grading, digging, or removal of earth or natural materials in such manner as to change the natural or existing terrain.

FILL—The placing, carrying, or depositing of earth or natural materials in such manner as to change the natural or existing terrain.

FLOODPLAIN—The area likely to be inundated during the 100-year flood event.

FLOODWAY—The channel of a river or other watercourse and the adjacent land areas required to carry and discharge a flood of the one-hundred-year magnitude.

GRADING PLAN — A plan showing the existing contours at two-foot intervals of the area involved and the proposed final contours for grade. Contours at one-foot intervals may be required depending on topography as determined by the Borough Engineer.

IMPROVED PROPERTY — Any property which has a structure intended for continuous or periodic habitation, occupancy, or use by human beings or animals and from which structure wastewater shall be or may be discharged, except properties used for industry and farms who have their own supply of water for uses other than human consumption.

IMPROVEMENTS — Those physical additions, installations, and changes required to render land suitable for the use intended, including but not limited to, grading, paving, curbing, streetlights and signs, fire hydrants, water mains, electric service, gas service, sanitary sewers, storm drains, sidewalks, crosswalks, driveways, culverts, and street shade trees.

LAND DEVELOPMENT - any of the following activities:

- a. The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving:
 - i. a group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or
 - ii. the division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.
- b. A subdivision of land.

MAJOR LAND DEVELOPMENT OR SUBDIVISION — Any subdivision or land development not classified as minor (§22-311.B).

MANUFACTURED HOME — A transportable single-family dwelling intended for permanent occupancy in one unit or two units designed to be joined into an integral unit, which arrives at the site complete and ready for occupancy except for minor and incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation. A Manufactured Home need not meet local building codes but shall meet the standards of the U.S. Department of Housing and Urban Development, as indicated in the Structural Engineering Bulletin(s), which shall be provided to the Borough by the Applicant. The term includes a Mobile Home.

MANUFACTURED HOME PARK — A parcel or contiguous parcels of land which has been so designated and improved that it contains two or more Manufactured Home lots for the placement of Manufactured Homes.

MINOR LAND DEVELOPMENT OR SUBDIVISION — Development that does not include major development or subdivision of a property as detailed in §22-311.B.

MOBILE HOME – See MANUFACTURED HOME.

OFF-STREET PARKING – A use providing parking spaces for the temporary storage of vehicles not on a public Street or right-of-way and includes accessory off-Street parking and off-Street parking that is a principal use.

OWNER — Any person vested with ownership, legal or equitable, sole or partial, of any Improved Property.

PERSON — Any individual, partnership, company, association, society, corporation, or other group or entity.

PLAN, PRELIMINARY – A tentative subdivision or land development plan, in lesser detail than a final plan, showing approximate proposed Street and lot layout as a basis for consideration prior to preparation of a final plan.

PLAN, SITE –

PLAN, SKETCH – An informal plan, not necessarily to exact scale, indicating salient existing features of a tract and its surroundings and the general layout of a proposed subdivision or land development.

PLAN, SOIL EROSION & SEDIMENTATION CONTROL — A plan for controlling erosion and sediment during construction which shall provide all steps, including scheduling, to assure erosion and sediment control during all phases of construction, including final stabilization.

PRACTICE OF ENGINEERING – The application of the mathematical and physical sciences for the design of public or private buildings, structures, machines, equipment, processes, works or engineering systems, and the consultation, investigation, evaluation, engineering surveys, construction management, planning and inspection in connection therewith, the performance of the foregoing acts and services being prohibited to persons who are not licensed under this act as professional engineers unless exempt under other provisions of the Engineer, Land Surveyor And Geologist Registration Law, Act of May 23, 1945, P.L. 913, No. 367 Cl. 63.

PRACTICE OF LAND SURVEYING – The practice of that branch of the profession of engineering which involves the location, relocation, establishment, reestablishment or retracement of any property line or boundary of any parcel of land or any road right-of-way, easement or alignment; the use of principles of land surveying, determination of the position of any monument or reference point which marks a property line boundary, or corner setting, resetting or replacing any such monument or individual point including the writing of deed descriptions; procuring or offering to procure land surveying work for himself or others; managing or conducting as managers, proprietors or agent any place of business from which land surveying work is solicited, performed, or practiced; the performance of the foregoing acts and services being prohibited to persons who are not granted certificates of registration under this act as a professional land surveyor unless exempt

under other provisions of the Engineer, Land Surveyor And Geologist Registration Law, Act of May 23, 1945, P.L. 913, No. 367 Cl. 63.

PROFESSIONAL ENGINEER – An individual licensed and registered under the laws of the Commonwealth of Pennsylvania to engage in the Practice of Engineering. A Professional Engineer may not practice land surveying unless licensed and registered as a Professional Land Surveyor as defined and set forth in the Engineer, Land Surveyor and Geologist Registration Law, Act of May 23, 1945, P.L. 913, No. 367 Cl. 63. However, a professional engineer may perform engineering land surveys.

PROFESSIONAL LAND SURVEYOR – An individual licensed and registered under the laws of this Commonwealth to engage in the practice of land surveying. A professional land surveyor may perform engineering land surveys but may not practice any other branch of engineering.

PUBLIC HEARING – A formal meeting held pursuant to public notice by the Borough Council or Planning Commission, intended to inform and obtain public comment, prior to taking action, in accordance with this Chapter.

PUBLIC MEETING – A forum held pursuant to notice under the Act of July 3, 1986 (P.L. 388, No. 84), known as the "Sunshine Act."

PUBLIC NOTICE – Notice published once a week for two consecutive weeks in a newspaper of general circulation in the Borough. 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 not be more than thirty (30) days and the second publication shall not be less than seven days from the hearing.

QUALIFIED PROFESSIONAL – A professional engineer, licensed by the Pennsylvania Department of State, and other persons licensed or otherwise qualified by law to perform the work required by this Chapter.

RIGHT-OF-WAY, STREET – A public thoroughfare for vehicular traffic and/or pedestrian traffic, whether designated as a Street, highway, thoroughfare, parkway, road, avenue, boulevard, lane, alley, or however designated.

SANITARY SEWAGE - Normal water-carried household and toilet wastes from any Improved Property, including such ground, surface, or stormwater water as may be present.

SERVICE DRIVE (PRIVATE) – A service way providing a secondary means of private access to abutting property and not intended for general traffic circulation.

SERVICE POSITION – The queueing length equivalent to one car length required for drive-through facilities.

SIDEWALK – A paved, surfaced or leveled area, paralleling and usually separated from the Street, used as a pedestrian walkway.

STREET – Includes Street, avenue, boulevard, road, highway, freeway, parkway, lane, alley, viaduct, and any other ways used or intended to be used by vehicular traffic or pedestrians, whether public or private.

STREET ADDRESS NUMBER – The number that has been legally assigned to a residence, apartment building, business, or other occupied building for the purpose of identification, including use by the United States Postal Service for the delivery of mail.

STREET GRADE – The officially established grade of the Street upon which a lot fronts or in its absence the established grade of the other streets upon which the lot abuts, at the midpoint of the frontage of the lot thereon. If there is no officially established grade, the existing grade of the Street at such midpoint shall be taken as the Street grade.

STREET TREE – A tree the base of which lies wholly or partially within a public Right-of-Way.

SUBDIVISION – The division or re-division of a lot, tract of 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, or lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new Street or easement of access or any residential dwelling, shall be exempted.

SUBSTANTIALLY COMPLETED – Where, in the judgment of the Borough Engineer, at least ninety (90) percent (based on the cost of the required improvements for which financial security was posted pursuant to the requirements of this Chapter) of those improvements required as a condition for final approval have been completed in accordance with approved plan, so that the project will be able to be used for its intended use.

SURVEY – The result of any professional service or work resulting from the Practice of Land Surveying and Mapping as defined in chapter 472, F.S., which includes, As-built/Record Surveys, Boundary Surveys, Construction Layout Surveys, Condominium Surveys, Construction Control Surveys, Control Surveys, Elevation Surveys, Hydrographic/Bathymetric Surveys, Tidal or non-tidal Water Boundary Surveys, Photogrammetric Surveys (including Orthorectified Imagery), Quantity Surveys, and Topographic Surveys, whether it is measured by direct or remote sensing methods.

STRIP, PLANTER – The area lying between the sidewalk and that portion of the Street used for vehicular traffic.

WATERS OF THE COMMONWEALTH – Shall be construed to include any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

WATER SUPPLY SYSTEM — A facility for supplying water owned or operated by the Authority, the Borough, or any public utility.

WORKING DAYS - Reference to days during the week that normal borough services are provided and open to the public. Excludes recognized holidays and weekends.

PART 3 SUBDIVISION AND LAND DEVELOPMENT APPLICATION & APPROVAL REQUIREMENTS

§22-301 General

- (A) Whenever a subdivision of land or land development is desired to be affected in the Borough, a plan of the layout of such subdivision or land development shall be prepared, filed, and processed according to the requirements of this Part.
- (B) Figure 3-1 illustrates the application submission and approval workflow.

§22-302 Preapplication Meeting

- (A) Purpose. Before submitting a formal application, the Applicant shall have a pre-application meeting with the Zoning Officer to introduce the proposed project to the Borough. During this meeting, Borough staff will provide guidance and assist the developer in understanding Borough regulations and determining the application's feasibility, suitability, and timing. A rough sketch of the development proposal should be produced for discussion purposes only but will not be binding. The intent of this step is for the developer to obtain information and guidance from the Borough before entering into any commitments or incurring substantial expenses with regard to the site and the plan preparation. All preapplication meetings shall be scheduled by the Borough.
- (B) Relationship to Formal Review Process. A preapplication meeting submission shall not be deemed the beginning of the period for review as prescribed by law. The preapplication conferences are intended to be advisory only and shall not bind the Borough to approve any application for development.

§22-303 Types of Plans

All applications for subdivision and/or land development shall be classified as Sketch Plans, Preliminary Plans, Final Plans, or Minor Plans, as further regulated herein. Figure 3-1 graphically presents the general plan processing procedure.

- (A) Sketch Plans. Prior to submitting an application for subdivision and/or land development, the applicants may submit a Sketch Plan to the Borough Planning Commission for advice on the requirements necessary to achieve conformity with the standards of this and other applicable municipal ordinances, as well as to alert the Applicant to other factors which must be considered in the design of the subdivision or land development. Sketch Plans shall be submitted in

(DRAFT) Emmaus Borough Subdivision and Land Development Ordinance

accordance with the requirements of §22-304, Sketch Plan Requirements, and §22-305, Sketch Plan Review Procedure. A Sketch Plan may be filed in cases where only a portion of the property is currently proposed for subdivision or land development to show how the immediate proposal can fit logically into an overall plan for the entire site.

(B) **Minor Plans.** Applications that qualify as Minor Plans may be submitted for Final Plan processing and approval, in accordance with the standards and requirements of §22-311, Minor Plan Submission Requirements and Review Procedure.

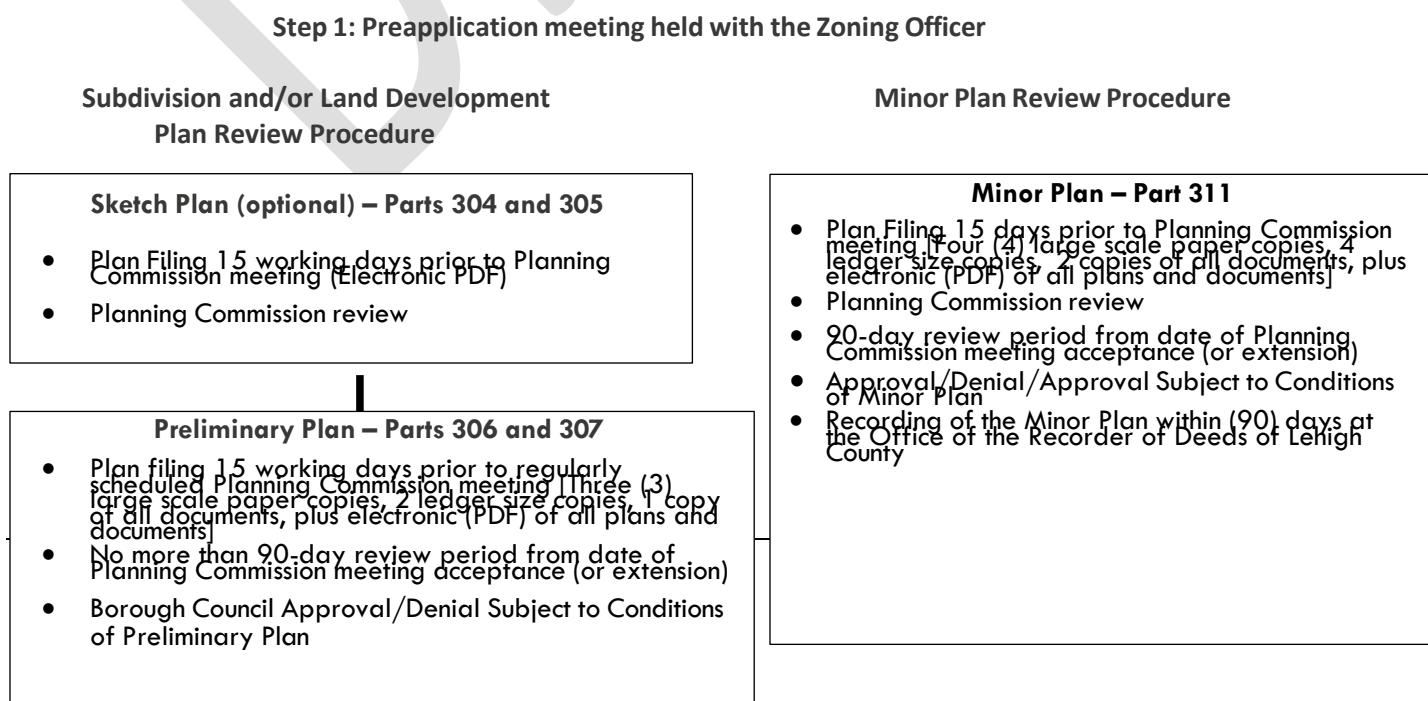
(C) Combined Preliminary and Final Plan Review. For projects not meeting the threshold of a Major Land Development and Subdivision, these may be reviewed by combining the requirements of Preliminary and Final Plan review into a single process. The Borough will make the determination of how a plan shall be reviewed during the Pre-application meeting.

(D) **Major Land Development and Subdivisions.** Projects that are sufficient in size or are proposed as multiple phases shall be reviewed according to a two-step process including both a Preliminary and a Final Plan. After a Pre-Application meeting is held and the Borough determines that a project has met the definition of a Major Land Development or Subdivision, the application will be reviewed and approved according to the Preliminary Plan process before moving on to Final Plan process review and approval.

(E) **Preliminary Plans.** A Preliminary Plan is required to be filed for all proposals for subdivision and/or land development in accordance with the requirements of §22-306, Preliminary Plan Requirements and §22-307, Preliminary Plan Filing and Review Procedure.

(F) **Final Plans.** A Final Plan is required to be filed and recorded for all proposals for subdivision and/ or land development in accordance with the requirements of §22-308, Final Plan Requirements, and §22-309, Final Plan Filing and Review Procedure, and §22-310, Recording the Final Plan.

Figure 3-1 Subdivision and Land Development Process



§22-304 Sketch Plan Requirements

(A) Purposes. The purposes served by a Sketch Plan are as follows:

1. To inform the Borough of an Applicant's intent to subdivide and/or develop a property, and graphically show the concepts and extent of the proposal.
2. To allow the Borough to provide non-legally binding advice and guidance to an Applicant so that:
 - a. Overall layout and circulation issues can be resolved prior to preparation of Preliminary Plans.
 - b. The Preliminary Plan approval process may then be able to proceed more efficiently.
3. To show how a tract of land may be further subdivided or developed in cases where only a portion of a property is currently under an active proposal.
4. The Sketch Plan should include sufficient information to clearly indicate the character and extent of the proposed subdivision or land development and its relationship to existing conditions and facilities within the area in which it is to be located. Part 303(B) outlines the Sketch Plan information requirements.
5. Sketch Plans shall have no legal standing with regard to the formal plan approval process mandated by the MPC but are recommended and will be considered as a tool for discussion and guidance regarding future development issues.
6. Prior to the preparation of any plans, the Applicant should consult the Lehigh County Conservation District representative concerning the preparation of plans for erosion and sedimentation control and stormwater management where applicable.
7. The Applicant shall determine the accessibility of public sewerage and public water to the development site.
 - a. Location. If the site is located within an area planned or currently receiving public sewer and/or water services, the Applicant shall consult with the Municipal Authority and/or appropriate water utility.
 - b. Water Supply. Applicants shall present evidence to the Borough Council that the subdivision is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation authority or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement or a

commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable.

c. **The** Applicant shall also determine if the site is located in an identified flood hazard area, in which case applicable floodplain management requirements shall be complied with.

(B) ***Sketch Plan Information.*** A Sketch Plan submission should be clearly marked "Sketch Plan" and drawn legibly to a scale of not greater than 1:100. The plan need not be a precisely surveyed or engineered plan, and it should show the following information:

1. The entire tract boundary, total acreage, and acreage of each lot.
2. Existing and proposed streets, easements, lots and lot arrangement, existing and proposed buildings, approximate building envelopes and other improvements, and utilities.
3. Contour lines at 2-foot intervals based on USGS Datum.
4. Physical, and man-made features, including fields, pastures, meadows, and wooded areas; trees, hedgerows, and other significant vegetation; steep slopes (over 15%); rock outcrops; ponds, ditches, and drains; dumps and storage tanks; streams within two hundred (200) feet of the tract and associated floodplains, and man-made features such as structures, foundations, walls, wells, trails, and abandoned roads.
5. Approximate locations for stormwater control facilities, if necessary.
6. Location plan showing the relationship of the subject tract to the surrounding road network and major physical features.
7. North point and scale.
8. Name and address of the owner.
9. Zoning district information.
10. Name and address of the engineer, surveyor, or architect, if applicable.
11. Any additional information which the Applicant believes will help explain the proposal.

(C) The Applicant shall make a request to the Zoning Officer or designee to be scheduled on the meeting agenda of the Borough Planning Commission for presentation and discussion of the

Sketch Plan, provided the plan is received fifteen (15) working days prior to a regularly scheduled Borough Planning Commission meeting.

§22-305 Sketch Plan Review Procedure

(A) The Borough Planning Commission shall review Sketch plans in accordance with the criteria contained in this Chapter and with other applicable regulations. The Planning Commission shall discuss the plan with the Applicant and advise them as promptly as possible of the extent to which the proposed subdivision or land development conforms to the Borough Comprehensive Plan, Official Map, and relevant standards of this Chapter, and will discuss possible plan modifications that would increase its degree of conformity. The Applicant may also choose to submit an alternative Sketch Plan(s). Aspects of the Sketch Plan that shall be specifically evaluated include but are not limited to:

1. The location of all areas proposed for disturbance (streets, foundations, yards, utilities, stormwater management areas, etc.) with respect to notable features of natural or cultural significance as identified on the Applicant's plan.
2. The potential for Street connections with existing streets, other proposed streets, or potential developments on adjoining parcels.
3. The location of proposed access points along the existing road network.
4. The general location and extent of open space, preserved land, and trail system.
5. The location and extent and configuration of buildings, parking lots, and common areas in multifamily and commercial developments.
6. The proposed building density and impervious coverage.
7. The compatibility of the proposal with respect to the objectives and policy or recommendations of the Comprehensive Plan, the Open Space Plan, and other pertinent Borough plans and studies.
8. Consistency with Chapter 27 Zoning of the Borough Municipal Code.

§22-306 Preliminary Plan Requirements

(A) General. This Section contains the requirements for Preliminary Plans for subdivisions and/or land developments in terms of Drafting Standards, Basic Information, Existing Features, and Proposed Features.

(B) Three (3) large scale paper copies, and one (1) electronic (PDF) copy of the Preliminary Plan shall be filed with the Zoning Officer or designee, at the Borough Office during normal Borough business hours.

(C) Drafting Standards. Plans shall be professionally prepared in compliance with the following:

1. The plan shall be drawn to a standard engineering scale not exceeding 100' feet to the inch.
2. Sheet size shall be a minimum of 24" X 36" or as otherwise approved by the Borough Engineer, appropriately related to the scale of the drawing.
3. All sheets shall be the same size, and be numbered relative to the total number of sheets (i.e., 1 of 5, etc.)
4. Where two (2) or more sheets are needed to show the entire tract, a reduced scale key plan shall be provided to show how the sheets fit together. Match lines shall be shown.
5. A reduced scale plan of the entire site at a scale greater than one hundred (100) feet to one (1) inch (1:100) may be required in cases where it would facilitate the review and approval process. Applicants are encouraged to submit such plans in cases where they are not required.
6. Property lines shall be drawn and labeled in conformance with acceptable surveying practices. Plans shall include tract boundaries, proposed lot lines, and future lots.

(D) Basic Information. All Preliminary Plans shall show the following basic information:

1. Name of the subdivision or land development.
2. Location of the Plan, "Borough of Emmaus, Lehigh County," in title block.
3. Name, address, email, and phone number of Applicant.
4. Name, address, email, and phone number of the firm which prepared the plan and professional seal and signature of the individual certifying its accuracy and compliance with applicable standards.
5. Date of preparation of the plan, a descriptive list of revisions to the plan, and the revision dates.
6. North point and scale displayed in graphic and written form.
7. Location Map at an appropriate scale showing the relationship of the subject tract to the surrounding road network, adjacent properties, and major physical features.
8. The entire tract boundary with bearings and distances and total tract acreage.
9. Zoning classification, including a list of the basic dimensional and density requirements of the applicable zoning district.
10. Zoning classification(s) of all lands abutting the proposal.

11. Names of all current owners of immediately adjacent lands, tax parcel numbers, and deed and book or instrument numbers.
12. A statement showing:
 - a. Number of acres under proposal (net and gross acreage should be indicated in accordance with the zoning ordinance).
 - b. Number of lots and/or dwelling units and total building area. If existing buildings are to be reused, the building area should be expressed as existing building area and additional building area.
13. Description of any zoning relief granted, including conditions of approval and the dates they were granted.
14. Description of any deed restrictions, including conservation and environmental, or other covenants affecting development of the tract. This information should contain the name of the easement holder or parties in the covenant agreement and a reference to their deed and page book recording location.
15. The requirements of any other local ordinance which may affect the proposal.
16. Legend shall be sufficient to indicate clearly between existing and proposed conditions.
17. Name, address, and phone number of the owner of record if different from the Applicant.
18. Tax parcel number(s) of all parcels being subdivided or developed.
19. Deed book and page numbers (or instrument numbers) for all parcels being subdivided or developed.
20. A note shall be shown on the plan which states "Preliminary Plan - Not to be Recorded."
21. Dimensions shall be displayed in feet and decimal parts thereof, and bearings in degrees, minutes, and seconds.
22. The plan shall bear an adequate legend to indicate clearly both the existing and proposed features and include a description of all symbols used.

(E) Existing Features Plan. Within the tract proposed for subdivision and/or land development, and within one hundred (100') feet of the tract boundaries, the following information shall be shown on the Preliminary Plan:

1. Streets bordering or crossing the tract, including:

- a. Locations.
- b. Names.
- c. Rights-of-way.
 - 1. Legal.
 - 2. Ultimate.
- d. Cartway widths.
- e. Surface conditions.
- f. Location of curbs and sidewalks.

2. Water resources, including:

- a. Lakes and ponds.
- b. Wetlands, swamps, or marshes.
- c. Watercourses and springs.
- d. Existing well locations - in use, capped, and abandoned.
- e. Flood prone or floodplain areas, including data from FEMA Studies, supporting hydrologic and hydraulic data for the one (1) percent chance of flood limits, or Lehigh County Soil Survey when applicable, as determined appropriate by the Borough Engineer for the watercourse(s) affecting the site.

3. Sanitary Sewers, including:

- a. Pipe locations.
- b. Pipe sizes and materials.
- c. Direction of flow.
- d. Gradient of flow.
- e. Manholes.
- f. Invert Elevations.

4. Storm sewers, including:

- a. Pipe locations.
- b. Pipe sizes and materials.
- c. Direction of flow.
- d. Gradient of flow.
- e. Inlets, catch basins, and manholes.
- f. Invert elevations.

5. Other existing stormwater and/or erosion control facilities, including:

- a. Basins.
- b. Swales.
- c. Diffusion devices.
- d. Velocity controls.
- e. Related technical data for those facilities.

6. Other natural features, including:

- a. Location, size, species, and condition of trees six (6") inches in diameter at breast height (dbh) or greater.
- b. Outer limits of woodlands and a general description of their types, sizes, and conditions.
- c. Locations and limits of geologic features which may affect the locations of proposed streets or buildings, including:
 1. Rock outcroppings.
 2. Quarries.
 3. Sink holes.
 4. Ravines
- d. Soil types, including:
 1. Mapped limits.
 2. Names.
 3. Significant limitations, such as, high water table or shallow bedrock.
- e. Contour information including:
 1. Contours at a vertical interval of two (2) feet, accurately drawn from photogrammetric or on-site survey data.
 2. Areas with Steep Slopes of 15% or greater shall be adequately depicted on the plan.
 3. Plan shall identify slopes between 15% to 25% and greater than 25% when located with the C District under §27-311 of the Emmaus Borough Zoning Ordinance (as amended).
 4. Reference Datum used on plan and benchmark location.
- f. Other man-made features, including:
 1. Location, size, character, and configuration of existing buildings or structures, driveways, parking lots or any type of paved surface, labeled "To Remain" or "To Be Removed" as applicable.
 2. Location and description of existing buildings and other structures less than one hundred (100) feet beyond the tract boundaries.
 3. Location, type, and ownership of utilities, both above and below ground, with notes to describe:
 - i. Easement or right-of-way dimensions.
 - ii. Additional setback or development restrictions imposed by the utility company or other regulations.
 - iii. Specific type of product transported with pipelines.

(F) Preliminary Plan. Within the tract proposed for subdivision and/or land development, the following information shall be shown on the Preliminary Plan:

1. Site Plan Layout.

- a. Proposed streets, alleys, driveways, and parking areas, including:
 1. Names or other identification.
 2. Right-of-way widths and lines.
 3. Cartway widths.
 4. Centerline courses, distances, and curve data.
 5. Curb lines.
 6. Radii at intersections.
 7. Street location tie-ins to nearest intersection by courses and distances.
 8. Capacity of parking areas.
 9. Sight distance at proposed intersections with existing streets.
 10. Location and type of all traffic control signs, signals, and devices proposed to be installed.
 11. Rights of way or easements proposed for drainage.
 12. Plan of Street lighting indicating location and type of fixtures to be installed.
- b. Layout, dimensions, metes, and bounds of all lots, including angles and bearings of the lines of all lots.
- c. Net and gross lot area of each lot, as defined within the zoning ordinance.
- d. House numbers.
- e. All building setback lines (including existing buildings to be used).
- f. All parking setback lines where applicable.
- g. Proposed sidewalk or other walkway locations.
- h. Proposed buildings, including:
 1. Locations.
 2. Configurations.
 3. Sizes (ground level floor area, total floor area, number of stories, and height).
 4. Total building coverage (square feet and percentage of site).
 5. Locations, configuration, and types of accessory structures.
 6. Ground floor elevations.
- i. Common use areas, including:
 1. Open Space Areas.
 - i. Locations.
 - ii. Configurations.
 - iii. Size.
 - iv. Use and management of common area.
 - v. Proposed ownership of common area
 2. Recreation Facilities.
 - a. Locations, configuration, and size.

- b. Types of facilities.
 - c. Proposed ownership.
- 3. Parking, Driveway, or road areas when privately owned for common use.
- 4. Walkways or pathways.
- 5. Notes regarding offers of dedication or retention in private ownership, as applicable.

j. Areas reserved for future uses, including:

- 1. Road extensions.
- 2. Stormwater management facilities.
- 3. Additional subdivision or land development in sketch form, in accordance with the requirements of Part 304, Sketch Plan Submission Requirements, and in accordance with the intent of Part 305, Sketch Plan Review Procedure.
- 4. Explanatory notes for such future uses.

k. Impervious Coverage Area Calculations

l. Proposed Landscaping Plan including:

- 1. Existing vegetation to be removed.
- 2. Existing vegetation to be preserved.
- 3. A plan of proposed plantings showing the locations of Street trees, parking lot landscaping, stormwater facilities landscaping, and any required buffer areas.
- 4. Proposed planting schedule, including the number, location, and species and sizes of plantings.
- 5. Existing and proposed contours, including related landscape features such as mounding and water features.
- 6. Other planting areas such as a managed meadow or other naturalized settings.

m. Outdoor Lighting Plan. Proposed fixtures, roadways, parking lots, and other public areas.

- 1. A detailed ten-foot grid showing the horizontal maintained foot candle levels at grade, to the boundary of the site or past the boundary until the illumination values reach 0.0 foot-candles.
- 2. The minimum and average, and maximum maintained illumination levels for the areas being illuminated to demonstrate compliance with lighting requirements in the Borough.
- 3. Description of existing and proposed equipment including.

- i. The mounted height from the lowest point of the fixture to the finished grade.
 - ii. fixture mounting equipment.
 - iii. Light shielding angle and device for shielding.
 - iv. Light standard or pole height and type of material.
2. Grading and Drainage Plan. The following information shall be shown on the Preliminary Plan:
 - a. 1-foot contours or as otherwise approved by the Borough Engineer.
 - b. Approximate limits of site disturbance, including a clear delineation of existing vegetation including trees, hedge rows, wooded areas, scrub growth, meadow, and actively farmed land:
 1. To be removed.
 2. To be preserved including method of preservation.
 - c. Stormwater management and erosion control and sedimentation facilities, including:
 1. Basins.
 2. Swales.
 3. Diffusion devices.
 4. Velocity controls.
 5. Pipe locations.
 6. Pipe sizes and materials.
 7. Direction of flow.
 8. Gradient of flow.
 9. Inlets, catch basins, and manholes including rim and invert elevations.
 10. Invert elevations.
 11. Construction sequencing
 12. Construction Stormwater Best Management Practices (BMPs)
 13. Post Construction Stormwater Best Management Practices (BMP) Details and Maintenance Schedule
 14. Design calculations for these facilities shall be submitted in report form with a note on the plan referencing the report in the manner prescribed in Chapter 26, Part 3.
3. Utility Plan.
 - a. Sanitary Sewer Line Locations.
 1. Pipe sizes and materials.
 2. Direction of flow.
 3. Gradient of flow.

4. Manholes.
5. Invert and rim elevations.

b. Sanitary Sewage Pumping Stations.

1. Dimensions and material of pumping station.
2. Pump type.
3. Float and alarm elevations.
4. Electrical equipment.
5. Force main material, location, size and tie-in.

- c. Approved on-site disposal locations and other locations where soil tests were performed.
- d. Sewage treatment plant locations, if required.
- e. Water supply facilities, including:
 1. Water mains and service laterals.
 2. Pipe sizes and materials.
 3. Fire hydrant locations.
 4. Well locations when on lot, including the one hundred (100) foot radius clear zone separating wells from sewage disposal locations.
- f. Finished floor elevations of proposed buildings.
- g. Municipal waste disposal facilities.

4. Cross Sections, Profiles, and Preliminary Structural Designs.

- a. Cross section and centerline profile for each proposed or widened cartway, or Driveway, shown on the Preliminary Plan including:
 1. Road centerline grades and vertical curvature, including road centerline elevations shown at horizontal intervals of twenty-five (25) feet along vertical curves and fifty (50) feet for straight grades.
 2. Profiles for sanitary sewers, water mains, storm drains, including locations of manholes, inlets, and catch basins.
 - i. Location, size, bends, and type of lines and structures with stations.
 - ii. Slope between manholes or inlets.
 - iii. Location of laterals or water services including fire hydrants, valves, tees and fittings.
 - iv. Existing and proposed ground surface with elevation of rim/grate and invert elevations.

- v. Location, size, depth, and type of material of all other utilities in the vicinity of the pipe.
- vi. Crossing elevations of utilities at all utility crossings to ensure sufficient vertical clearance.
- vii. Vertical curve data including length, elevations, and stations at the beginning and ending of the vertical curve, including high points and low points, elevations at fifty-foot intervals and minimum site difference.

b. Preliminary design of any bridges, culverts, or other structures and appurtenances which may be required.

c. Cross-section (Streets).

- 1. Right of way and cartway width.
- 2. Type, thickness, and crown of paving.
- 3. Type and size of curb.
- 4. Grading of sidewalk area.
- 5. Location, width, type, and thickness of sidewalks.
- 6. Grading of stormwater swale adjacent to cartway.
- 7. Typical location of sewers and utilities, Street trees, streetlights, and other improvements along roads.

5. Supporting Information.

- a. A new development schedule, including the approximate date when the construction is expected to begin and completed.
- b. A copy of all restrictions or covenants if any under which lots are to be sold.
- c. Copy of the last recorded subdivision or land development plan pertaining to the site.
- d. Traffic Impact Study, if applicable, per §22-411.
- e. A plan for the ownership, maintenance, and management of open space areas.
- f. Reports or letters regarding availability of sewer and water facilities.
- g. Copies of letters and permit applications to all reviewing agencies.
- h. Stormwater calculations and reports.
- i. Wetlands delineation study, if applicable.

6. Additional Plans. Other plans as required to comply with this Chapter or other applicable provisions specified by the Borough Municipal Code.

§22-307 Preliminary Plan Filing and Review Procedure

(A) Preliminary Plans can be submitted to the Zoning Officer on any business day. However, Preliminary Plans must be submitted fifteen (15) calendar days prior to a regular meeting of the Planning Commission in order to be placed on the agenda for a formal review. The Applicant shall submit the following items:

- 1) Three (3) large-scale at a minimum dimension of 24" x 36" or sheet size otherwise approved by the Borough Engineer of the Preliminary Plan of the proposed subdivision or land development.
- 2) Two (2) reduced-scale copies (ledger size) of the Preliminary Plan of the proposed subdivision or land development.
- 3) One (1) electronic PDF copy of the Preliminary Plan of the proposed subdivision or land development and all other documentation/calculations submitted as part of the Preliminary Plan.
- 4) Four (4) copies of the sewage Plan Revision Module
- 5) One (1) copy of any technical reports or narratives, as outlined in the ordinance.
- 6) Filing Fees and Escrows as required by the Borough Fee Schedule.

(B) It is at the discretion of the Borough whether an Applicant may submit a combined Preliminary and Final Plan for an expedited approval process. If a combined review is acceptable, the title of the plans shall distinguish between the Preliminary plan requirements and the Final plan. For a combined Preliminary/Final Plan, all ordinance sections for preliminary and final plan approval shall still apply.

(C) *Initial application.* The Zoning Officer will have ten (10) business days from the date of submission of an application to conduct a cursory review of the plans and documents to determine if, on their face, they are in proper form and contain all information required by this chapter. If defective, the application may be returned to the Applicant with a statement of rejection, within the ten (10) business day period; otherwise, it shall be deemed accepted for filing as of the date of submission. Acceptance for filing shall not, however, constitute a waiver of any deficiencies or irregularities.

(D) *Amendments or corrections to an application.* The Zoning Officer shall have ten (10) business days from the date of submission to examine an amended or corrected application filed to determine whether such amended or corrected application results in a substantial amendment to the plan or in the filing of a plan so changed as to be considered a new plan. If the Zoning Officer determines that the amended or corrected application constitutes a substantial amendment, they shall so inform the Applicant and shall inform the Applicant that the Borough shall consider the ninety (90) day review procedure to have been restarted as of the date of the filing of the substantial amendment. If the Zoning Officer determines that the amended or corrected application constitutes a new plan, they shall so inform the Applicant and shall inform the Applicant that a new application and new fees are required.

(E) *Official Filing Date.* The official filing date for all applications shall be the date of the regular Planning Commission meeting following the date the complete application including payment of the applicable filing fee is accepted by the Borough. However, should the next regular meeting of the Planning Commission occur more than thirty (30) days following the filing of a complete

application, the official filing date shall be the thirtieth (30th) day following the day the complete application is filed.

(F) *Distribution.*

- 1) The Zoning Officer shall distribute copies of the Preliminary Plan application to the following for review and recommendations/approval:
 - a) Borough Planning Commission,
 - b) Borough Council,
 - c) Borough Engineer,
 - d) Borough Solicitor,
 - e) Borough Manager,
 - f) Technical Advisors which may include: Police Chief, Fire Chief, and other Borough Officials,
 - g) Other Borough boards and committees as deemed necessary.
- 2) The Applicant has the responsibility to distribute plans to outside review and regulatory agencies for required approvals (e.g., PennDOT, Lehigh County Conservation District, PA DEP, etc.).
- 3) When the project includes property within or adjacent to neighboring municipalities or when roadways are proposed to cross into adjacent municipalities, copies of the plan shall be sent to those municipalities.
- 4) The Applicant shall also forward copies of the plans to the Lehigh Valley County Planning Commission along with the required review fee and completed review request form.

(G) *Preliminary Plan Review Process.*

- 1) The Borough will review the Preliminary Plan to determine its conformance with the standards contained in this chapter, as well as other applicable ordinances. All review comments shall cite the provision of the ordinance or regulation that is relied upon or be specifically designated as a recommendation. The review shall conclude with a recommendation to the Planning Commission for plan approval, disapproval, or such changes and modifications as it deems necessary as a condition of approval.
- 2) *Planning Commission Review.*
 - a) Failure to submit the plans prior to the deadline described above shall result in the plan being removed from the Planning Commission's agenda for the subject month and placed instead on the Planning Commission's agenda for the following month.
 - b) Should the Applicant wish to delay consideration of the plan by the Planning Commission to allow for the completion of revisions, the Zoning Officer must be notified in writing by noon (12:00 PM) on the Tuesday immediately preceding the Planning Commission meeting.

- c) Should the applicant wish to proceed to the Borough Planning Commission meeting without making revisions in response to plan review – along with any comments prepared by the Zoning Officer, the Borough Engineer, and other technical advisors -no resubmission of plans.
- d) Attendance at the Planning Commission meeting by the Applicant or authorized agent is mandatory to provide a presentation of the proposed plan utilizing paper display maps or digital projected images, answer technical questions, and establish the acceptance of any possible recommended conditions of approval. If there exists uncertainty of the acceptance of conditions of approval, the plan may be recommended for disapproval.

3) Borough Council Decision.

- a) The Borough Council shall have a ninety (90) calendar day period to act on the plan unless the Applicant has agreed in writing to an extension of the time period.
- b) The ninety (90) day period shall be measured from the date of the next regularly scheduled Borough Planning Commission meeting following the Plan Filing Date provided that such meeting shall occur at least fifteen (15) business days after the Plan Filing Date.
- c) If an extension of the ninety (90) daytime period is applied, it shall be measured from the expiration of the original ninety (90) day period. A time extension shall postpone the deadline and effects of the ninety (90) day period for the additional number of days agreed to in writing prior to the last scheduled Borough Council meeting within the ninety (90) day plan review period.
- d) The Borough Council shall consider the Preliminary Plan application at one or more of its public meetings during the ninety (90) day period, and/or extension thereof if applicable, and shall render a decision on the plan following receipt of the recommendations of the Borough Planning Commission, Lehigh Valley County Planning Commission, and/or other technical advisors as requested.
 - (1) Provided, in accordance with the MPC, that the Borough Council shall not approve an application until the Lehigh Valley Planning Commission report of its recommendations is received, or until the expiration of thirty (30) calendar days from the date the application was forwarded to the County. The Lehigh Valley Planning Commission shall review the Preliminary Plan and Data and shall return one (1) copy of a written report stating their suggestions for modifications and design changes to the Planning Commission within forty-five (45) calendar days of their receipt of same or forfeit their right to review.
 - (2) Attendance at the Borough Council meeting by the Applicant or authorized agent is mandatory to answer technical questions and establish the acceptance of any possible recommended conditions of approval. If there exists uncertainty of the acceptance of conditions of approval, the plan may be recommended for disapproval.

- e) No plat which will require access to a highway under the jurisdiction of the PA Department of Transportation (PennDOT) shall be finally approved unless the plat contains a notice that a highway occupancy permit is required pursuant to Section 420 of the act of June 1, 1945 (P.L.1242, No.428), known as the "State Highway Law," before Driveway access to a State highway is permitted. The Department shall, within sixty (60) days of the date of receipt of an application for a highway occupancy permit:
 - (1) Approve the permit, which shall be valid thereafter unless, prior to commencement of construction, the geographic, physical, or other conditions under which the permit is approved change, requiring modification or denial of the permit, in which event the Department shall give notice thereof in accordance with the specified regulations;
 - (2) Deny the permit;
 - (3) Return the application for additional information or correction to conform with Department regulations; or
 - (4) Determine that no permit is required in which case the department shall notify the Borough and the Applicant in writing. If the department fails to take any action within the sixty (60) day period, the permit will be deemed to be issued. The plat shall be marked to indicate that access to the State highway shall be only as authorized by a highway occupancy permit. Neither the department nor any municipality to which permit-issuing authority has been delegated under Section 420 of the "State Highway Law" shall be liable in damages for any injury to persons or property arising out of the issuance or denial of a Driveway permit, or for failure to regulate any Driveway. Furthermore, the municipality from which the building permit approval has been requested shall not be held liable for damages to persons or property arising out of the issuance or denial of a Driveway permit by the department.
- f) Procedure Following the Borough Council Decision. When the Borough Council makes a decision on a Preliminary Plan, one of the following procedures will be followed, depending on the type of decision:
 - (1) Denial. If the Borough Council denies a Preliminary Plan, then the written notification to the Applicant shall specify the defects found in the application and describe the requirements which have not been met and shall cite the provisions of the statute or ordinance relied upon.
 - (2) Approval. If the Borough Council approves a Preliminary Plan, as filed by the Applicant, then the Secretary will so certify thereon, and a copy of the approved plan will be forwarded to the Applicant. The Applicant shall then submit two (2) paper copies of the approved plan for Borough seal and signature.
 - (3) Approval Subject to Conditions. If the Borough Council approves a Preliminary Plan, conditioned upon the performance of any act or the obtaining of any other approval or permit by the Applicant, the Applicant shall be given the opportunity to accept or reject

the conditions within a ten (10) business day period. The approval of the plan shall be rescinded automatically without action of Borough Council, at the end of ten (10) days from the date at which conditional approval was granted or notice received by the Applicant regarding the conditional approval, upon either the Applicant's failure to execute the written acceptance or upon rejection of such conditions by the Applicant. Written notice will be provided to the Applicant in the following manner:

- (a) Specify the conditions of approval and request the Applicant's written agreement to the conditions.
- (b) State that the application will be denied if the Applicant does not agree to the conditions, and specify the defects found in the application, describe the requirements which have not been met, and cite the provisions of the statute or ordinance relied upon for denial of the plan.
- (c) State that the plan approval shall be rescinded automatically upon the Applicant's failure to accept or reject the conditions within ten (10) business days following the decision by Borough to grant conditional approval.
- (d) Following submission of written agreement to the conditions specified by Borough Council the Applicant shall submit two (2) paper copies of the Preliminary Plan, which show compliance with the conditions, by plan revision or notation, for Borough seal and signatures.

(4) Written notification of the Borough Council decision shall be hand delivered to the Applicant or be mailed to the Applicant's last known address no later than fifteen (15) business days following the decision.

(5) Failure of the Borough Council to render a decision and communicate it to the Applicant within the time and in the manner required herein shall be deemed an approval of the application in terms as presented unless the Applicant has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision, in which case, failure to meet the extended time or change in manner of presentation of communication shall have like effect (A sample Agreement to Extend the Time for Rendering and Communicating a Decision on Certain Preliminary and/or Final Subdivision Plans is contained in Exhibit B herein). An extension of time shall not be exceeded more than twice in one year from the original date of filing without a refilling fee of fifty (50) percent of the first fee.

(6) Approval of the Preliminary Plan.

- (a) Approval of the Preliminary Plan constitutes conditional approval of the proposed subdivision or land development with respect to the general design, character, intensity, layout, and the approximate dimensions and other planned features including streets and lots. Preliminary approval binds the developer to the general scheme of the plan as approved.

- (b) Approval of the preliminary plan does not constitute approval of the final plan, nor does it authorize recording of the Preliminary Plan, to proceed with the construction of proposed improvements or the sale of any lots. However, such approval does authorize the developer to proceed with the preparation of the final plan, authorize the recording, sale or transfer of lots or the installation of improvements.
- (c) Where a proposed subdivision or land development is located in more than one municipality, the Borough Council may defer action on the plan until approval from the adjacent municipality is granted.

g) *Effective Period of Approval.* Approval will be effective for a period of five (5) years from the date of plan approval in accordance with the MPC, unless extended in writing by the Borough Council.

- (1) No subsequent change or amendment to this Chapter, the Borough's Zoning Ordinance (Chapter 27), or other governing ordinance or plan shall be applied to affect adversely the right of the Applicant to commence and to complete any aspect of the approved development in accordance with the terms of approval within that five (5) year period.
- (2) In the case where Preliminary and Final Plan approval are concurrent, the five (5) year period shall be measured from the date of that concurrent approval.
- (3) In a case of a Preliminary Plan calling for the installation of improvements beyond the five (5) year period, a schedule shall be filed by the Applicant with the Preliminary Plan delineating all proposed sections as well as deadlines within which applications for Final Plan approval of each section are intended to be filed.
 - (a) Such schedule shall be updated annually by the Applicant on or before the anniversary of the Preliminary Plan approval, until Final Plan approval has been granted to the final section.
 - (b) Any modification in the aforesaid schedule shall be subject to approval of the Borough at its discretion.
 - (c) Each section in any residential subdivision or land development, except for the last section, shall contain a minimum of twenty-five (25) percent of the total number of dwelling units as shown on the Preliminary Plan, unless a lesser percentage is approved by the Borough Council in its discretion.
 - (d) For any section or sections, beyond the initial section, in which the required improvements have not been substantially completed within the initial five (5) year period, no subsequent change or amendment in the zoning, subdivision, or other governing ordinance or plan shall be applied to affect adversely the right of the

Applicant to commence and to complete each subsequent section for an additional term of three (3) years from the date of Final Plan approval of each section.

§22-308 Final Plan Requirements

(A) General.

- 1) The Applicant shall, not later than twelve (12) months after the date of approval of the Preliminary Plan for that portion that is intended to be developed, file with the Zoning Officer a Final Plan.
- 2) All Final Plans for subdivisions and/or land developments shall consist of two basic parts, the Improvement Construction Plan and the Record Plan, and shall comply with the requirements of this Part. Information on the Final Plans should reflect the approved Preliminary Plans and any conditions made in the approval of them.
- 3) The Final Plan shall incorporate all the changes and modifications required by the Borough Council. Otherwise, it shall conform to the approved Preliminary Plan, and it may constitute only that portion of the approved Preliminary Plan that the Applicant proposes to record and develop at the time, provided that such portion conforms with all the requirements of this Chapter.

(B) Improvement Construction Plan.

- 1) Drafting Standards. The same standards shall be required for an Improvements Construction Plan as for a Preliminary Plan, except that the horizontal scale of the plan and profile shall not exceed fifty (50) feet to the inch and the vertical scale of the plan shall be 2', 4', or 5' feet to the inch, whichever is most appropriate.
- 2) Information to be Shown. The plan shall contain sufficient information needed for the construction of the proposed streets, or any portion thereof, including all appurtenances, sewers, and utilities, as shown on the approved Preliminary Plan. This information shall include:
 - a) Utility Plan. The horizontal plan shall show details of the horizontal layout as follows:
 - (1) Information shown on the approved Preliminary Plan.
 - (2) The beginning and end of proposed immediate and future construction.
 - (3) Stations corresponding to those shown on the profiles.
 - (4) The curb elevation at tangent points of horizontal curves, at road or alley intersections, and at the projected intersections of the curb lines.
 - (5) The location and size of sanitary sewers and lateral connections and water mains with distances between manholes, gas, electric, other utility pipes or conduits, and of storm drains, inlets, and manholes.
 - (6) The location, type, and size of curbs and all paving widths.
 - (7) The location of fire hydrants and streetlights.
 - b) Profiles. The profiles shall show details as follows:

- (1) Profiles and elevations of the ground along the centerlines of proposed streets.
- (2) Utility profiles shall show proposed vertical separation between utilities at crossings.
- (3) Profiles of sanitary sewers with a profile over the sewer of the existing and finished ground surface showing manhole locations beginning at the lowest manhole showing existing and finished ground surface with structure types and locations, pipe lengths and materials, swales, ditches, or related features with proposed invert and grate/rim elevations.
- (4) Profiles of storm drains showing catch basins, inlet, manhole locations, swales, ditches, or related features.
- (5) Profiles of water mains.

c) Cross Sections. The cross section for each classification of Street shall comply with the Borough's standards and specifications as minimum requirements. It shall show a typical cross section across the road with details of grading and construction as follows:

- (1) The ultimate right-of-way width and the location and width of the cartway.
- (2) The type, depth, and crown of paving.
- (3) The type and size of curb.
- (4) When sidewalks are required, grading of the sidewalk area should be carried to the full width of the ultimate right-of-way.
- (5) The location, width, type, and depth of sidewalks, when required.
- (6) The typical locations, size, and depths of sewers and utilities.
- (7) Proposed grading to the ultimate right-of-way line.

d) Construction Detail Drawings. Drawings in sufficient detail shall be provided for all site improvements.

e) Additional Information. The following additional information shall be submitted with the Final Plan.

- (1) All required Local, State, and Federal Permits shall be submitted.
- (2) The following statements shall be required on the Final Plan:
 - (a) "The Approved Improvement Construction Plan, a copy of which may be inspected at the Borough Office, has been made a part of the Approved Final Plan."
 - (b) "For access to a highway under the jurisdiction of PennDOT, a highway occupancy permit is required, pursuant to Section 420 of the act of June 1, 1945 (P.L. 1242, No. 428) known as the "State Highway Law." Access to the State highway shall be only as authorized by the highway occupancy permit."
- (3) All engineering calculations which support the proposed improvements such as drainage calculations, sanitary facility design calculations, or structural calculations.

- (4) Certification of inspection and satisfactory functioning of any on-lot sewage disposal system which will remain in use, in accord with current industry, PADEP, or Borough Health Department standards.
- (5) Developments utilizing public water or sewer facilities should provide proof that those services will be provided.
- (6) Sewage facilities plan approval from PADEP.
- (7) Approval of the erosion and sediment control plan, and if applicable, post construction stormwater management plans from the Lehigh County Conservation District.

(C) Record Plan.

- 1) Drafting Standards. The same standards shall be required for a Record Plan as for a Preliminary Plan, and in addition, for recording purposes, the plans shall be placed on sheet sizes of a minimum of 24" X 36".
- 2) Information to be Shown. The plan, which includes all portions of an approved Preliminary Plan, shall also show:
 - a) Basic Information, as required for a Preliminary Plan stipulated under §22-306 Preliminary Plan Requirements.
 - b) Courses and distances sufficient for the legal description of all the lines shown on the plan. The error of closure shall not be greater than 1:10,000.
 - c) Names or identification of the following:
 - a. Abutting owners.
 - b. All dimensional and technical descriptions of roads.
 - c. Easements.
 - d. Rights-of-way.
 - e. Open space, recreation, and/or other common use areas.
 - f. Other public improvements.
 - g. For land development plans, all additional information pertinent to the location and construction of site improvements, including buildings, walks, parking, driveways, and other related facilities.
 - h. Parcel identification number.
 - i. All lots deeded to the ultimate right-of-way so that a single deed may be drawn to the appropriate body having jurisdiction for the dedication of streets by the Applicant.
 - j. Evidence that the plans are in conformance with the zoning ordinance and other applicable Borough ordinances and regulations. In any instance where such plans do not

conform, evidence shall be presented that an exception, waiver, or variance has been officially authorized.

- k. The location, material, and size of all existing and proposed monuments or pins as described in 22-515 with reference to them.
- l. Building setback lines with distances from the ultimate right-of-way line, and property lines.
- m. Appropriate notes and conditions governing the use or development of the proposed property.

(D) Certifications. When approved, the Record Plan must show:

- 1) The signature and seal of the registered Engineer and Surveyor certifying that the plan represents their work; that the monuments shown thereon exist as located; that the dimensional and geodetic details are correct and that the survey has been prepared in accordance with the "Pennsylvania Engineer, Land Surveyor, and Geologists Registration Law," PL 913, No. 367.
- 2) The signature of the Borough Planning Commission chairman and secretary, as noted within the Appendix.
- 3) The notarized signature of the Owner certifying ownership of the property and intent to record the plan.
- 4) The signature of the Borough Secretary, certifying the Borough Council approved the Final Plan on the date shown.
 - a) Spaces shall be provided for the signatures of Borough Council whose signatures are required.
- 5) A signature block for the Lehigh Valley Planning Commission approval of the subdivision.

§22-309 Final Plan Filing and Review Procedure

(A) The application for approval of the Final Plan that has been previously granted Preliminary Plan approval can be submitted to the Zoning Officer on any business day. However, Final Plans must be submitted fifteen (15) working days prior to a regularly scheduled Planning Commission meeting in order to be placed on the agenda for a formal review. The Applicant shall submit the following items:

- 1) Four (4) large-scale copies (24" x 36") of the Preliminary Plan of the proposed subdivision or land development.
- 2) Four (4) reduced-scale copies (ledger size) of the Preliminary Plan of the proposed subdivision or land development.
- 3) One (1) electronic PDF copy of the Preliminary Plan of the proposed subdivision or land development and all required submittal documents.

- 4) Two (2) copies of the sewage Plan Revision Module
- 5) Two (2) copies of any technical reports or narratives, as outlined in the ordinance.
- 6) Filing Fees and Escrows as required by the Borough Fee Schedule.

(B) *Initial Application.* The Zoning Officer will have ten (10) business days from the date of submission of a Final Plan application to conduct a cursory review of the plans and documents to determine if, on their face, they are in proper form and contain all information required by this Chapter. If defective, the application may be returned to the Applicant with a statement of rejection, within the ten (10) business day period; otherwise, it shall be deemed accepted for filing as of the date of submission. Acceptance for filing shall not, however, constitute a waiver of any deficiencies or irregularities.

(C) *Amendments or Corrections to an Application.* The Zoning Officer shall have ten (10) business days from the date of submission to examine an amended or corrected application filed to determine whether such amended or corrected application results in a substantial amendment to the Final Plan or in the filing of a plan so changed as to be considered a new plan. If the Zoning Officer determines that the amended or corrected application constitutes a substantial amendment, they shall so inform the Applicant and shall inform the Applicant that the Borough shall consider the ninety (90) day review procedure to have been restarted as of the date of the filing of the substantial amendment. If the Zoning Officer determines that the amended or corrected application constitutes a new plan, they shall so inform the Applicant and shall inform the Applicant that a new application and new fees are required.

(D) *Official Filing Date.* The official filing date for all applications for development shall be the date of the regular Planning Commission meeting next following the date the complete application for development including payment of the applicable filing fee, should the said next regular meeting occur more than thirty (30) days following the filing of the application for development, the official filing date shall be the thirtieth (30th) day following the day the complete application for development is filed.

(E) *Distribution.*

- 1) The Zoning Officer shall distribute copies of the Final Plan application to the following for review and recommendation/approval:
 - a) Borough Planning Commission.
 - b) Borough Council.
 - c) Borough Solicitor, Borough Engineer
 - d) Other Boroughs boards and committees as deemed necessary.
- 2) The Applicant has the responsibility to distribute plans to outside review and regulatory agencies for required approvals (e.g., PennDOT, Lehigh County Conservation District, PA DEP, etc.). Adjacent municipalities shall be sent copies of the plans when the project is located within one mile of the property and subject to a traffic study. Applicant shall also submit plans to the Lehigh

Valley County Planning Commission along with the required review fee and completed review request form.

(F) Final Plan Review Process.

- 1) The Borough will review the Final Plan to determine its conformance with the standards contained in this chapter, as well as other applicable ordinances. All review comments shall cite the provision of the ordinance or regulation that is relied upon or be specifically designated as a recommendation. The review shall conclude with a recommendation to the Planning Commission for plan approval, disapproval, or such changes and modifications as it deems necessary as a condition of approval.
- 2) **Planning Commission Review.**
 - a) Failure to submit the plans prior to the deadline described above shall result in the plan being removed from the Planning Commission's agenda for the subject month and placed instead on the Planning Commission's agenda for the following month.
 - b) Should the Applicant wish to delay consideration of the plan by the Planning Commission to allow for the completion of revisions, the Zoning Officer must be notified in writing by noon (12:00 PM) EST on the Monday immediately preceding the Planning Commission meeting.
 - c) Should the applicant wish to proceed to the Borough Planning Commission meeting with revisions in response to plan review comments prepared by the Zoning Officer, the Borough Engineer, and other technical advisors, no resubmission of plans is necessary. It should be noted, however, that failure to address staff comments may be grounds for a negative recommendation by the Planning Commission, or the plan being tabled until such comments are addressed.
 - d) Attendance at the Planning Commission meeting by the Applicant or authorized agent is mandatory to provide a presentation of the proposed plan, utilizing paper display maps or digital projected images, answer technical questions, and establish the acceptance of any possible recommended conditions of approval. If there exists uncertainty of the acceptance of conditions of approval, the plan may be recommended for disapproval.

(G) Borough Council Decision.

- 1) A Final Plan for an application that has been previously granted Preliminary Plan approval shall be approved by the Borough Council when it is assured that:
 - a) The Final Plan conforms to the approved Preliminary Plan and any conditions made in the approval of it.

- b) All engineering and other technical details have been resolved to the satisfaction of the Borough Engineer and Zoning Officer, as evidenced by comment letters, and to the satisfaction of other technical advisors, when requested by Borough Council.
- c) A recommendation is received from the Planning Commission if specifically requested by the Borough Council.
- d) All financial security and legal agreements, including a development agreement, have been satisfactorily executed by Applicant and found acceptable by the Borough Council, under the advice of the Solicitor.
- e) The plan complies in all respects with applicable Borough ordinances or that appropriate variances or waivers have been granted for features that do not comply.
- f) All necessary permits and other plan approvals have been obtained from the applicable regulatory agencies, authorities, or departments.

2) The Borough Council shall have a ninety (90) calendar day period to act on the plan unless the Applicant has agreed in writing to an extension of the time period.

3) The ninety (90) day period shall be measured from the date of the next regularly scheduled Borough Planning Commission meeting following the Plan Filing Date, provided that such meeting shall occur at least fifteen (15) business days after the Plan Filing Date.

- a) If an extension of the ninety (90) day period is applied, it shall be measured from the expiration of the original ninety (90) day period. A time extension shall postpone the deadline and effects of the ninety (90) day period for the additional number of days agreed to in writing prior to the last scheduled Borough Council meeting within the ninety (90) day plan review period.
- b) The Borough Council shall consider the Final Plan application at one or more of its public meetings during the ninety (90) day period, and/or extension thereof if applicable, and shall render a decision on the plan following receipt of the recommendations of the Borough Planning Commission, Lehigh Valley Planning Commission, and/or other technical advisors as requested.
 - (1) Provided, in accordance with the MPC, that the Borough Council shall not approve an application until the Lehigh Valley Planning Commission report of its recommendations is received, or until the expiration of thirty (30) calendar days from the date the application was forwarded to the County. The Lehigh Valley Planning Commission shall review the Preliminary Plan and Data and shall return one (1) copy of a written report stating their suggestions for modifications and design changes to the Planning Commission within forty-five (45) calendar days of their receipt of complete plans or forfeit their right to review.

- (2) Attendance at the Borough Council meeting by the Applicant or authorized agent is mandatory to answer technical questions and establish the acceptance of any possible recommended conditions of approval. If there exists uncertainty of the acceptance of conditions of approval, the plan may be recommended for disapproval.
- c) No plat which will require access to a highway under the jurisdiction of the PA Department of Transportation (PennDOT) shall be finally approved unless the plat contains a notice that a highway occupancy permit is required pursuant to Section 420 of the act of June 1, 1945 (P.L.1242, No.428), known as the "State Highway Law," before Driveway access to a State highway is permitted. The Department shall, within sixty (60) days of the date of receipt of an application for a highway occupancy permit:
 - (1) Approve the permit, which shall be valid thereafter unless, prior to commencement of construction, the geographic, physical or other conditions under which the permit is approved change, requiring modification or denial of the permit, in which event the Department shall give notice thereof in accordance with the specified regulations;
 - (2) Deny the permit;
 - (3) Return the application for additional information or correction to conform with Department regulations; or
 - (4) Determine that no permit is required in which case the department shall notify the Borough and the Applicant in writing. If the department fails to take any action within the sixty (60) day period, the permit will be deemed to be issued. The plat shall be marked to indicate that access to the State highway shall be only as authorized by a highway occupancy permit. Neither the department nor any municipality to which permit-issuing authority has been delegated under Section 420 of the "State Highway Law" shall be liable in damages for any injury to persons or property arising out of the issuance or denial of a Driveway permit, or for failure to regulate any Driveway. Furthermore, the municipality from which the building permit approval has been requested shall not be held liable for damages to persons or property arising out of the issuance or denial of a Driveway permit by the department.

(H) Procedure Following the Borough Council Decision. When the Borough Council makes a decision on a Final Plan, one of the following procedures will be followed, depending on the type of decision:

- 1) Denial. If the Borough Council denies a Final Plan, then the written notification to the Applicant shall specify the defects found in the application and describe the requirements which have not been met and shall cite the provisions of the statute or ordinance relied upon.
- 2) Approval. If the Borough Council approves a Final Plan, as filed by the Applicant, then the Secretary will so certify thereon, and a copy of the approved plan will be forwarded to the Applicant. The Applicant shall then submit three (3) paper copies of the approved plan for Borough seal and signature.

- 3) *Approval Subject to Conditions.* If the Borough Council approves a Final Plan, conditioned upon the performance of any act or the obtaining of any other approval or permit by the Applicant, the Applicant shall be given the opportunity to accept or reject the conditions within a ten (10) business day period. The approval of the plan shall be rescinded automatically without action of Borough Council, at the end of ten (10) days from the date at which conditional approval was granted or notice received by the Applicant regarding the conditional approval, upon either the Applicant's failure to execute the written acceptance or upon rejection of such conditions by the Applicant. Written notice will be provided to the Applicant in the following manner:
 - a) Specify the conditions of approval and request the Applicant's written agreement to the conditions.
 - b) State that the application will be denied if the Applicant does not agree to the conditions, and specify the defects found in the application, describe the requirements which have not been met, and cite the provisions of the statute or ordinance relied upon for denial of the plan.
 - c) State that the plan approval shall be rescinded automatically upon the Applicant's failure to accept or reject the conditions within ten (10) business days following the decision by Borough to grant conditional approval.
 - d) Following submission of written agreement to the conditions specified by Borough Council the Applicant shall submit three (3) paper copies of the Final Plan, which show compliance with the conditions, by plan revision or notation, for Borough seal and signatures.
- 4) Written notification of the Borough Council decision shall be hand delivered to the Applicant or be mailed to the Applicant's last known address not later than fifteen (15) business days following the decision.
- 5) Failure of the Borough Council to render a decision and communicate it to the Applicant within the time and in the manner required in subsection H(4) above shall be deemed an approval of the application unless the Applicant has agreed in writing to an extension of time or change in the manner by which the decision would be delivered. A sample Agreement to Extend the Time for Rendering and Communicating a Decision on Certain Final Subdivision Plans is contained in Appendix C herein. An extension of time shall not be exceeded more than twice in one year from the original date of filing without a refiling fee of fifty (50) percent of the first fee.
- 6) *Approval of the Final Plan.*
 - a) Approval of the Final Plan authorizes the developer to proceed to a pre-construction meeting with the Borough which is required prior to making any improvements to the site.
 - b) Where a proposed subdivision or land development is located in more than one municipality, the Borough Council may defer action on the plan until approval from the adjacent municipality is granted.

(I) Effective Period of Approval. Approval will be effective for a period of five (5) years from the date of plan approval in accordance with the MPC, unless extended in writing by the Borough Council.

- 1) No subsequent change or amendment to this Chapter, the Borough's Zoning Ordinance (Chapter 27), or other governing ordinance or plan shall be applied to affect adversely the right of the Applicant to commence and to complete any aspect of the approved development in accordance with the terms of approval within that five (5) year period.
- 2) In a case of a Final Plan calling for the installation of improvements beyond the five (5) year period, a schedule shall be filed by the Applicant with the Final Plan delineating all proposed sections as well as deadlines within which applications for Final Plan approval of each section are intended to be filed.
 - a) Such schedule shall be updated annually by the Applicant on or before the anniversary of the Final Plan approval, until Final Plan approval has been granted to the final section.
 - b) Any modification in the aforesaid schedule shall be subject to approval of Borough at its discretion.
 - c) Each section in any residential subdivision or land development, except for the last section, shall contain a minimum of twenty-five (25) percent of the total number of dwelling units as shown on the Final Plan, unless a lesser percentage is approved by the Borough Council in its discretion.
 - d) For any section or sections, beyond the initial section, in which the required improvements have not been substantially completed within the initial five (5) year period, no subsequent change or amendment in the zoning, subdivision, or other governing ordinance or plan shall be applied to affect adversely the right of the Applicant to commence and to complete each subsequent section for an additional term of three (3) years from the date of Final Plan approval of each section.

§22-310 Recording the Final Plan

- (A) Within ninety (90) days following Final Plan approval or ninety (90) days following the delivery of the signed plans to the Applicant by the Borough or following completion of conditions imposed for such approval, the Applicant shall record the Final Plan in the Office of the Recorder of Deeds of Lehigh County.
- (B) In accordance with the MPC, whenever Final Plan approval is required by a municipality, the Recorder of Deeds shall not accept any plan for recording unless it contains the official approval of Borough Council and certification of review by the County Planning Commission.
- (C) Prior to recording, the Applicant shall present the approved plan to the Lehigh Valley County Planning Commission for its stamp and seal, with (1) one paper copy given to the County Planning Commission for its files.

(D) After recording and prior the issuance of any building permits, the Applicant shall return to the Borough 2 paper copies of the signed record plan, the recorder's receipt from the Lehigh County Recorder of Deeds, a certificate of insurance, the maintenance and improvements agreement with financial security as required by Part 7, and the stormwater Best Management Practices (BMP) agreement. A copy of the plan will also be provided to the Borough Engineer.

§22-311 Minor Plan Filing Requirements and Review Procedure

(A) General. Minor Plans may be filed and processed only for Lot Line Adjustments, Simple Conveyances, Minor Subdivisions, Mortgage Subdivisions, or Minor Land Developments as characterized herein, in accordance with the standards and requirements in this Section.

(B) Standards for Qualification as a Minor Plan Submission.

- 1) Lot Line Adjustment.
 - a) A proposal between two abutting, existing, legally approved and recorded lots.
 - b) A common lot line is proposed to be adjusted in terms of its location or configuration or eliminated.
 - c) The land area of each lot may be different after adjustment, but the total lot area of the two (2) lots will be unchanged.
 - d) No alteration will occur to the perimeter boundary lines of the two (2) lots.
 - e) Neither lot shall violate the applicable dimensional requirements of the Borough Zoning Ordinance (Chapter 27) as a result of the lot line adjustment, unless a pre-existing legal nonconformity exists on the lot(s).
 - f) Possible reasons for lot line adjustments include, but are not necessarily limited to:
 - (2) Correcting errors regarding locations of existing improvements.
 - (3) Relating the line to definitive physical characteristics.
 - (4) Preferences of the landowners involved.
- 2) Simple Conveyance.
 - a) A proposal between two abutting, existing, legally approved and recorded lots.
 - b) A portion of one (1) lot is being divided off to be conveyed to the owner of the abutting lot.
 - c) The land area of each lot will be different after conveyance, but the total lot area of the two (2) lots will be unchanged.
 - d) The lot from which the land is being conveyed must be suitable in terms of the applicable dimensional requirements of the zoning ordinance, so that after conveyance, it will remain in compliance with those requirements.

- e) The land area being conveyed need not satisfy any of the dimensional requirements applicable to lotting in the district in which it is located, nor the Street frontage requirements of the zoning ordinance, provided that it shall be deed restricted to the extent that it may not be transferred independently but must be transferred together with the lot to which it is being functionally added by the process of simple conveyance.

3) Minor Subdivisions.

- a) A subdivision plan where two (2) or fewer lots are proposed to be subdivided from a tract of land or where land is being transferred to be combined with an existing lot or lots, each of which will comply with the dimensional requirements of the applicable zoning district(s) in which the existing lot is located.
- b) The existing lot has sufficient frontage on an existing, improved public Street to satisfy the applicable Borough requirements for lot frontage and access to a public Street for all proposed lots.
- c) The existing lot has not been a part of an approved subdivision plan during the five (5) years prior to the current application.
- d) The subdivision will not require new road construction, road improvements, or the extension of existing public utility lines.
- e) The proposal will not involve significant stormwater and/or erosion control issues, as determined by the Borough Engineer.
- f) Any additional subdivision of a tract from which a minor subdivision has already been formed shall be deemed to be a major subdivision and shall follow the procedure applying thereto.
- g) Disqualification. The Borough Council may require standard Preliminary Plan submission in place of a Minor Plan when conditions warrant it, at the recommendation of the Planning Commission or Borough Engineer.

4) Mortgage Subdivisions.

- a) A subdivision established for the sole purpose of granting separate and distinct mortgages on each parcel within a commonly managed and maintained land development. The individual parcels created as a result of the mortgage subdivision may not individually meet the required yard setbacks, ground cover, limitations, or other bulk and area requirements of the zoning district in which the property is situated provided that the Applicant documents to the satisfaction of the Borough the following:
 - (1) The responsibility for the construction, control, and maintenance of development shall be carried by a single entity irrespective of parcels to be established through the mortgage subdivision.

- (2) Irrevocable cross easements shall be established in favor of all parcels created through the mortgage subdivision within the land development as respect to the use, control, and maintenance for the facilities and areas to be used in common so that each parcel becomes an integral of the land development.
- (3) Declaration that the interest of any mortgagee and that of any transferee of the mortgaged property upon any default of the mortgage, shall be subject to the obligations and responsibilities as to the facilities and areas to be used in common and the requirements of the cross easements so that such a mortgagee or transferee, in the event of such default or transfer of title to the property, shall be bound thereby.
- b) In the event of a subdivision for mortgage purposes, the entire area included within the plan shall continue to be treated by the Borough as a single parcel for the purposes of maintaining compliance with the Borough Zoning Ordinance (Chapter 27).

5) Minor Land Developments.

- a) A land development proposal where it is determined by the Borough Zoning Officer and the Borough Engineer that the intended development or modification of a site or use and occupancy of an existing structure will create a minimal impact upon traffic, drainage, visual image, landscaping, buffering, lighting, or other elements described within the purposes of this Chapter.
- b) Parking lot expansions of greater than 10 new parking spaces or 4,000 sf or more of impervious surface.
- c) The conversion of a residential dwelling that results in the creation of no more than four (4) new dwelling units.

(C) Submission Requirements and Review Procedure.

- 1) The Planning Commission, being advised by the Borough Staff and the Borough Engineer, in response to a written request by the Applicant for a Minor Plan submission meeting any of the above stated qualification standards, may waive the requirements of this Chapter for Preliminary Plan requirements, provided such Minor Plan proposal is on an existing Street and no new streets are involved. In such cases the Applicant shall submit a Final Plan as follows:
 - a) The Final Plan shall be submitted and processed as required by §22-309, Final Plan Filing and Review Procedure, and contain the following data and plan specifications:
 - (1) Submit an erosion and sedimentation control plan as required by the Pennsylvania Clean Streams Law, and the Pennsylvania Department of Environmental Protection, Erosion Control Rules and Regulations (Title 25, Part 1, Subpart C, Article II, Chapter 102), with the erosion control measures set forth in the Erosion and Sediment Pollution Control Manual prepared by the Department of Environmental Protection.

(2) Four (4), twenty-four (24) inches by thirty-six (36) inches copies, four (4) reduced sized copies, and an electronic PDF copy of all documents submitted clearly labeled "Final Plan" shall be submitted containing the following information:

- (a) Outline of the property from which the lot or lots are being subdivided.
- (b) Bearings and distances of the property taken from the property deed, including the primary control point and benchmark.
- (c) Adjacent landowners' names and deed references.
- (d) Location on the property map of existing streets, streams, woods, and other significant site features.
- (e) A separate drawing of the proposed lot scaled to one (1) inch equals one hundred (100) feet (1:100), or as otherwise approved by the Borough Engineer, with lot area, lot number, lot dimensions, bearings and distances of lot lines, existing Street right-of-way, Street name and route number, building setback lines, and contours with a five-foot interval or less for sufficiently flat lots.
- (f) A location map on the plan scaled to a minimum one (1) inch equals one thousand (1,000) feet (1:1,000) showing property location, streets, and other pertinent information.
- (g) All dimensions shall be shown in feet or hundredths of a foot.
- (h) Name of the Zoning District in which the site is located.
- (i) Additional data required on the plan.
- (j) Name, address, and telephone number of owner or Applicant.
- (k) Name, address, and telephone number and seal of professional engineer certifying engineering aspects and professional land surveyor certifying the accuracy of plan survey (See Exhibit C, Sample Plat Approval Blocks).
- (l) Date of plan preparation.
- (m) Borough name.
- (n) North point and scale.
- (o) Certification of ownership and a dedicatory statement signed by the Applicant/owner (See Exhibit D for Sample Certification and Dedicatory Blocks).

- (p) Notary public and recording statement (See Exhibit D for Sample Certification and Dedicatory Blocks).
- (q) Approval block to be signed by the Borough Council.
- (r) Signature block for the Borough Planning Commission indicating a recommendation for approval by the Borough Council. (See Exhibit D for Sample Certification and Dedicatory Blocks).
- (s) Location and description of survey monuments, as described in §22-515, shown on the plan.
- (t) Proposed protective covenants running with the land, if any.
- (u) Reference to recorded subdivision plans of adjoining planned land and by recorded name, date, and number, including reference to recorded deed information.
- (v) When applicable, a copy of the Sewage Module for Land Development or other equivalent documentation approved by the Department of Environmental Protection in compliance with the requirements of the Pennsylvania Sewage Facilities Act and Chapter 71 of Title 25 of the Pennsylvania Code.
- (w) Compliance with regulations within a flood hazard area.
- (x) Such other data as may be required by the Borough Planning Commission or Borough Council in the enforcement of this Chapter.

§22-312 Excluded Land Developments (De minimis Improvements)

(A) The following activities shall be excluded from the land development review and approval requirements, provided they meet all criteria required in the Zoning Ordinance, or have obtained the relevant zoning approval from the Zoning Board:

1. The conversion of single family detached or semi-detached homes into not more than three (3) residential units unless they are intended to be condominiums.
2. The addition of an accessory building less than nine hundred (900) square feet in size that is proposed on a lot or lots subordinate to an existing principal building at that same location.
3. The addition to a principal building less than 5,000 square feet in size or 25% of the existing square footage.
4. Parking lot expansions of less than 4 new parking spaces or 4,000 sf or less of impervious surface.
5. Projects qualifying as De Minimis Improvement may still be subject to stormwater management requirements in Chapter 26, Part 3.

§22-313 De minimis Improvement Process

(A) No subdivision or land development approval is needed for a De Minimis Improvement as defined in Part 2, Definitions, of this Chapter. An Applicant who wishes to proceed under these provisions shall submit to the Borough Zoning Officer the following for their review:

1. A building permit application setting forth the proposed improvement, the cost thereof, and any changes to be made to the land.
2. Where the project has a previously recorded land development plan, the applicants must file an amended land development plan for the record.
3. The Plan, when filed, shall undergo engineering and zoning review to address all zoning issues such as trash enclosures, landscaping, site access, and stormwater management. An escrow shall be established with the Borough to cover appropriate fees for plan review as determined by staff.
4. Any given building may have no more than three (3) de minimis improvements including the current application, provided that, when taken together, do not exceed the De minimis.
5. Upon completion of the appropriate staff review, if the Applicant agrees in writing to the conditions, improvements, and/or requirements determined by the review, the application will be approved, and the appropriate permits will be issued. In the event that the Applicant does not agree with the review conclusions, the application is deemed denied, and the Applicant may elect to resubmit the application under the standard land development procedures as set forth herein.

§22-314 Other Approvals

The Applicant is responsible for making the appropriate applications for various federal, state, county, and municipality permits or other approvals from governments, private utilities, or service providers. These shall be sought in a timely manner that fits into the overall plan review and approval process described in this Part. To the extent that the Applicant is required to modify the plan as a result of permits or other approvals, the Applicant is still required to comply fully with this Chapter and other applicable regulatory requirements.

§22-315 Development Disclosure

All developers, owners, builders, or agents representing them who are selling a vacant subdivided residential lot or a newly constructed home to a member of the general public shall adhere to the following disclosure requirements:

- (A) The seller of any newly constructed residential property or subdivided lot for a residential building shall prominently display the approved subdivision or land development in the location where property sales are transacted so as to be plainly visible to all potential buyers. The approved subdivision or land development plan shall include the record plan, complete with all approval notations and all accompanying plans approved with the record plan.
- (B) Before signing a sales agreement for a newly constructed property or a newly subdivided lot for a residential building, buyers shall sign a disclosure statement that verifies that the seller has been provided all relevant information described below and limitations or restrictions associated with them, which are clearly displayed on plans with appropriate narrative materials including:
 - 1. Common areas such as park lands, streets, and open space which are part of or adjacent to the subdivision or land development. Any improvements to these common areas that may occur in the future as described during the development process or as noted on the plans should be discussed.
 - 2. All lot lines in the development.
 - 3. All limits to the use of the lot subject to purchase, including the setbacks for building, building coverage restrictions, and height restrictions.
 - 4. All uses permitted in the development under the Borough's current Zoning Ordinance (Chapter 27).
 - 5. All dimensional requirements for accessory structures on the lot to be purchased.
 - 6. Any easements, deed restrictions, or conservation areas in the development and what limitations they make to the property.
 - 7. Membership requirements for the homeowner's or condominium association. A copy of the homeowner's association or condominium agreement shall be provided.
 - 8. The location of all wetlands in the development.
 - 9. The location of all 100-year floodplains in the development.
 - 10. The location of steep slopes between 15% – 25% and in excess of 25%
 - 11. The location of all stormwater management facilities, including maintenance requirements and drainage easements including references to facility ownership, maintenance requirements, and drainage easements.
 - 12. Public pathways and trails.
 - 13. Proposed new road rights-of-way in or adjoining the development, including the extension of temporary cul-de-sacs.

PART 4 SITE PLANNING AND DESIGN SPECIFICATIONS

§22-401 General

The following principles, standards, and design requirements shall be used by the Borough in the evaluation of all subdivision and land development applications submitted under the requirements of this Chapter. The standards and requirements contained herein shall be considered the minimum for the promotion of public health, safety, convenience, and general welfare. Other design requirements as established in the Borough Municipal Code or other municipal ordinances shall be used in addition to the following:

1. Proposed land uses shall conform to the Emmaus Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code), as amended.
2. All portions of a tract shall be designated as to its proposed use, such as lots, roads, open space, parking areas, etc.
3. Land which is unsuitable for development because of hazards to life, safety, health, or property, shall not be subdivided or developed until such hazards have been eliminated or unless adequate safeguards against such hazards are provided for in the Subdivision or Land Development Plan. Land included as having unsuitable characteristics would be the following:
 - a. Land located in a floodplain subject to flooding or which has a high ground water table.
 - b. Land which, if developed, will create or aggravate a flooding condition upon other land.
 - c. Land subject to subsidence.
 - d. Land subject to underground fires.
 - e. Land containing significant areas of slopes greater than 10%.
 - f. Land which, because of topography or means of access, is considered hazardous by the Borough Council.
 - g. Land which is subject to ground pollution or contamination
4. Proposed subdivisions of land developments shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.
5. Applicants shall preserve scenic areas, historic sites, other community assets and landmarks, and natural amenities such as trees and waterways.
6. Plans shall be designed to avoid excessive disturbance of vegetation and movement of earth.
7. Development and disturbance of floodplain land areas shall be governed by additional standards contained in this Chapter, the Borough Municipal Code, and the Borough Building Code.

8. The Applicant shall construct, install, and guarantee, at no expense to the Borough or its authorities, all improvements required as part of plan approval, including, but not limited to, streets, curbs, sidewalks, water and sewage facilities, stormwater management facilities, streetlight, fire hydrants, parking lots, road signs, monuments, lot pins, utilities, and shade trees.
9. The standards contained within this Part are the minimum standards and requirements for the protection of the health, safety, and welfare of the residents of the Borough and are to be used in all subdivisions and land developments. In addition, the Borough Council reserve the right to require standards that exceed the minimum requirements if warranted to protect the health, safety, and general welfare of the community.
10. Whenever a subdivision or land development plat or plan is submitted and sets forth new streets or other ways of ingress and egress, two separate points of ingress to and egress from the land affected must be designated thereon. Such points of ingress and egress must be designed and built to conform to the Borough's standards for public streets as specified in this Part.

§22-402 Conformance with Plans

- (A) ***Comprehensive Plans.*** Proposals for land development or subdivision shall be generally consistent with the Borough Comprehensive Plan, especially as to the use of land, intensity of development, transportation, community facilities, and resource protection. All proposals should be located in areas designated for development in the future land use plan element and be serviced by currently available infrastructure or infrastructure that will be developed concurrent with the development.
- (B) ***Other Plans.*** Proposals shall be generally consistent with the appropriate state, regional, county, and the municipally adopted comprehensive plan and other plans. Where regional facilities are proposed in the plan, such as highways, effort shall be made to preserve needed right-of-way for future infrastructure projects in the proposed land development or subdivision.
- (C) ***Public Service Improvements.*** Proposals shall be consistent with the location and timing of public service improvements, such as water and sewage facilities, in accordance with the appropriate infrastructure plans governing those facilities. In addition, the location of public service facilities as outlined in a capital improvement program or official map should be considered.
- (D) ***Official Map.*** Proposals shall be generally consistent with the Official Map for Emmaus Borough, especially as to existing and proposed public Street widenings and narrowing, existing and proposed public parks and open space reservations, and pedestrian ways and easements.

§22-403 Site Organization

(A) Proposed land developments and subdivisions shall be designed to address the opportunities and limitations present on a site and its adjacent surroundings. The plan shall use site opportunities to enhance the overall quality of the development and lessen potential negative impacts upon a site and the surrounding community. The physical, social, and psychological needs of the users of the site should be evaluated and appropriately incorporated into the final subdivision layout or site design. The impacts of the proposed development on the natural environment and surrounding land uses shall be given a high priority and made an integral part of the overall design for the land development and subdivision. The following site organization guidelines shall be used:

1. *Site Improvement Layout*. The buildings shall be placed in consideration with the site's topography, existing vegetation, and surrounding land uses, taking into account energy conservation, solar access, and pertinent natural features.
2. *Existing Natural Features*. Existing natural features should be recognized and integrated into the site layout. Natural features such as streams, hillsides, wetlands, unique habitat, woods, and similar natural resources should be considered strong design determinants and be incorporated into the overall site plan to strengthen the unique quality of the land.
3. *Open Space and Scenic Views*. The placement of open space and preservation of scenic views should be a fundamental design decision. Open space lands should provide for a variety of benefits, including recreation, natural resource protection, scenic views, vistas, and buffers for site elements and land uses.
4. *Circulation*. Movement within a site and access to the site should be designed for the safety and convenience of various types of users. Cross access between properties and joint access are encouraged to improve circulation and improve access safety.
5. *Relationship to Surrounding Uses*. The proposed design should complement appropriate surrounding uses through building setbacks, buffers, and separation of uses. Various potential negative impacts upon surrounding land uses, including noise, light, and loss of privacy, should be mitigated.
6. *Sustainable Development*. The development of a site should use methods that reduce energy, water, and fuel consumption needs of the property. Opportunities to utilize renewable energy sources, conserve and reuse water resources, and reduce fuel consumption are strongly encouraged.
7. *Health Hazards*. The configuration of a subdivision or land development should reduce potential health hazards to the future users of the subdivision or land development and to the community as a whole.

§22-404 Lots

(A) *Lot Size and Width*.

- a Each lot shall comply with the minimum area and width requirements of the Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code) and be generally sufficient in size and shape to adequately accommodate the development or use proposed for it.
- b Lots that contain natural restrictions such as wetlands, floodplains, water bodies, steep slopes, land subject to ground pollution, or other features shall be made large enough to provide a suitable area for the intended use of the lot without requiring encroachment upon natural amenities.
- c Lots with existing or planned public improvements such as fuel pipelines, underground utility easements, stormwater detention basins, high voltage power lines, or other facilities should be sized to allow suitable room for the intended use of the lot without requiring encroachment on the public facilities or easements.

(B) Lot Frontage.

- a Lot frontage shall be in accordance with the Borough of Emmaus Zoning Ordinance Street Front Requirements (§27-508).
- b Sufficient frontage is the minimum width required to site a Driveway into the property in accordance with the design requirements in this section, the Borough Zoning Ordinance, and other appropriate state, federal, and local regulations. Corner lots will meet lot frontage requirements on two streets.
- c No residential lots shall be created which front upon a Street with a right-of-way of 60 feet or greater except in accordance with §22-404(D)

(C) Lot Lines.

- a Lot lines shall be drawn parallel, concentric, at right angles, or radial to the Street right-of-way line unless not feasible or undesirable due to existing, permanent, natural, or man-made features or need for solar access.
- b Lot lines shall coincide with abutting lot lines and lot lines across streets. Generally, lot corners of multiple lots should coincide.

(D) Reverse Frontage Lots.

- a Reverse frontage lots may be used as an alternative to marginal access streets or normal lotting when the lots abut a major collector Street or Street of a higher classification or have natural conditions along one Street that prevents safe access.

(E) Flag Lots. Flag Lots, as defined under the Emmaus Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code), are prohibited.

§22-405 Blocks

- (A) Unless stipulated otherwise in the Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code), the minimum block length shall be five hundred (500) feet length, and the maximum block length shall be sixteen hundred (1,600) feet in length.
- (B) Residential blocks shall generally be of sufficient depth to accommodate two tiers of lots, except where reverse frontage lots bordering an arterial or collector Street are used or, where due to the contour of the land or the necessary layout of the subdivision, there is insufficient depth between intersecting streets for such two-tier design.
- (C) Blocks for commercial and industrial areas may vary from the elements of design contained in this Part if the nature of the use requires other treatment. In such cases, off-Street parking for employees and customers shall be provided along with safe and convenient limited access to the Street system. Space for off-Street loading shall also be provided with limited access to the Street system. Extension of streets, railroad access rights-of-way, and utilities shall be provided as necessary.
- (D) Crosswalks or interior pedestrian walks shall be required in blocks exceeding one thousand (1,000) feet in length to provide for pedestrian circulation or access to community facilities. Such walks shall be paved for a width of not less than four feet, shall be located in easements not less than 10 feet in width, and shall, insofar as possible, be located in the center of any such block.
- (E) Blocks shall be designed to continue the Borough's existing Street pattern and provide efficient, convenient, and safe pedestrian and vehicular circulation, including the reduction of intersections with arterial streets.
- (F) Blocks shall be designed to reflect natural features that may constrain subdivision and land development. Unless a watercourse is located along the rear of lots in the block, drainage should be away from the interior of the block toward the abutting streets.

§22-406 Open Space

- (A) Open Space Criteria. Open space preserved in fulfillment of the requirements of this Article shall be in accordance with the following standards and principles.
 - 1. Applicants shall provide open space, including appropriate recreation facilities and trails pursuant to the Borough's Comprehensive Parks, Recreation and Open Space Plan, Greenways and Trails Plan, the Borough's Comprehensive Plan, and Borough's Official Map as adopted and amended by the Borough Council.
 - 2. The Borough Council shall review and approve all uses proposed for Parks and Open Spaces. Their review shall take into the consideration the consistency of the proposed open space with the recommendation of both the Borough Planning Commission and Borough Staff.

3. Open space shall connect to permanently preserved land on abutting property, if possible, including provisions for access ways for public use to permit residents safe and easy access to open space.
4. Open space areas shall be contiguous, except that two or more separate open space parcels may be connected by other legal public access means.
5. Open space shall have frontage on a public or private road or easement capable of providing suitable grade for access to the open space from the roads for maintenance vehicles and equipment traffic.
6. Open space may include land within utility corridors only if the utility companies having legal rights to these corridors do not prohibit their use for such purposes.
7. Open space shall have the physical characteristics capable of serving the purposes intended for such areas, including recreational use.
8. Open space shall be visible from dwelling units and roadways.
9. Open space shall protect environmentally sensitive and/or aesthetic features and be landscaped to provide sufficient screening or buffer areas to minimize any negative impacts from or upon adjacent development.

(B) Conservation of Natural Resources in Open Space.

1. Tree preservation. Trees shall not be removed unless they are located within the proposed street right-of-way, within the proposed building area, or within utility locations and equipment access areas. In areas where trees are retained, the original grade level shall be maintained, if possible, so as not to disturb the trees.
2. Topsoil preservation. All the topsoil from areas where cuts and fills have been made should be stockpiled and redistributed uniformly after grading. All areas of the site shall be stabilized by seeding or planting on slopes of less than 10% and shall be stabilized sodding on slopes 10% or more and planted in ground cover on slopes 20% or greater.
3. Watercourse Protection. Where a subdivision or land development is traversed by a natural watercourse, there shall be provided a drainage easement or right-of-way conforming substantially with the line of such watercourse at its high-water mark. Such easement shall be in addition to the open space required in this section.
4. Steep slope preservation. Steep Slopes greater than 15% shall be preserved wherever possible. Refer to §27-520 in the Borough of Emmaus Zoning Ordinance for additional steep slope protections. The Borough Council may limit disturbance of no more than 30% of Steep Slopes for development proposals that can show just cause for such disturbances.

§22-407 Recreation Land Dedication

(A) Suitable recreation land shall be dedicated for recreation and park use according to the requirements of this Subpart.

(B) *All developments shall dedicate 1,100 square feet per lot or dwelling unit for residential uses and 1,100 square feet for every building 50,000 square feet or smaller for non-residential uses. An additional 1,100 square feet will be required for every 50,000 increments above the minimum total building square footage for non-residential uses.*

(C) Location and Criteria for Dedicated Recreation Land. Lands to be dedicated shall:

1. Implement the findings of the Borough's Comprehensive Parks, Recreation and Open Space Plan, Borough Comprehensive Plan, and Borough Official Map as adopted and amended by the Borough Council.
2. Be suitable for the location of facilities that can meet the various recreational needs of the residents, businesses, and industries.
3. Consist of a single contiguous tract of land.
4. Be readily accessible with at least fifty (50) feet of public road frontage or accessible via a twenty (20) foot access easement.
5. Be generally well-drained and suitable for different forms of active and passive recreation with the following features:
 - a. No more than fifteen (15) percent of the area consisting of environmental constraints such as wetlands, the one (1) percent chance of flood floodplain, or areas with greater than fifteen (15) percent slopes.
 - b. No more than fifty (50) percent of the area should be wooded.
 - c. No more than fifteen (15) percent of the area should be encumbered by easements, utilities, or stormwater management facilities. Land within utility easements may be used for recreation purposes only if the utility companies possessing legal rights to the easements do not prohibit their use for such purposes.

(D) Acceptance and Use of Park and Recreation Land.

1. Borough Council shall determine if land will be dedicated for recreation and park use or if it will be held in private ownership.

2. When land is dedicated, acceptance by the Borough shall be by means of a signed resolution to which a property description of the dedicated area shall be attached. A fee simple warranty deed conveying the property shall be delivered to the Borough with title free and clear of all liens, encumbrances, and conditions excepting public utility easements.

(E) Alternatives to the Dedication of Park and Recreational Land. Upon agreement of both the Borough and the Applicant, the Applicant may pursue the following alternatives:

1. Fee in Lieu. The Applicant may pay a fee in lieu of dedication of park and recreational land. The amount of the fee shall be established by resolution of the Borough Council and modified from time to time, based upon the estimated market value of suitable recreation land.
2. Improvements to Other Recreation Sites. The Applicant may, through an agreement with the Borough, construct recreational facilities on existing or proposed parkland that is readily accessible to residents of the proposed development as defined in this Part. The value of such improvements shall be comparable to the fee in lieu of dedication that would have otherwise been required, based upon the Applicant's estimates, as reviewed by the Borough Engineer.
3. A combination of land dedication and/or alternative approaches listed herein may be pursued based upon an agreement between the Applicant and the Borough Council.

(F) Use of Fees.

1. Fee in lieu payments shall be used only for the purpose of providing, acquiring, operating, or maintaining park or recreational facilities reasonably accessible to the development.
2. A fee authorized by this Chapter shall, upon receipt by the Borough, be deposited in an interest-bearing account that is a separate trust account established for this purpose by Borough Council. Funding shall be utilized to improve the recreation and park facility located nearest to the proposed development.
3. Cash in lieu of recreation land dedication shall be deemed as an improvement and subject to the provisions of Part 6 and subsequent section of the Pennsylvania Municipalities Planning Code.

§22-408 Grading and Excavation

(A) General.

1. It shall be unlawful for any Person to make, cause, or permit to be made any excavation or fill in the Borough except in accordance with an Erosion and Sediment Control Plan reviewed and approved as specified herein; provided, however, that no plan shall be required to fill or excavate:
 - a. By the Federal government, the Commonwealth of Pennsylvania, or any political subdivision thereof.

- b. Where less than 5,000 square feet of earth or material are moved, and no drainage is involved.
- c. Where excavation or fill for a building site is being done for the purpose of immediate construction of a building or improvement thereon for which a building permit has been issued, if, in the opinion of the Zoning Officer evidenced, in writing, on such building permit, no hazard to property rights of the Borough or adjoining landowners will be encountered or created by such excavation or fill.
- d. Trenching for utilities covered by other Borough ordinances.

2. Erosion and Sedimentation Control Plan and Required Fees.

- a. Requirements. No subdivision or land development plan shall be approved unless:
 1. There has been an Erosion and Sedimentation Control Plan approved by the Borough Council that provides for minimizing erosion and sedimentation consistent with this section, and acceptable securities are deposited with the Borough in the form of an escrow guarantee which will ensure installation and completion of the required improvements; or
 2. There has been a determination by the Borough Council that a plan for minimizing erosion and sedimentation is not necessary.
- b. Erosion and Sedimentation Control Plan Standards. Plan requirements are as follows:
 1. The name, identity, address, and telephone number of the owner
 2. The name, identity, address, and telephone number of the contractor shall be provided to the Borough and other necessary entities prior to commencement of construction.
 3. The description, location of the property involved, and grading plan shall be furnished in triplicate to the Zoning Officer.
 4. BMP details as found in the PA DEP Erosion and Sediment Pollution Control Program manual.
 5. Grading Plan. A scaled drawing illustrating the exact nature of the proposed grading, excavation, or fill, indicating the slope of the sides and the level of the finished surface, the type of earth or material to be moved, the method, manner, and equipment to be used in the work and the disposition of material at the site.

6. Proposed time of commencement and completion of the work.
7. An agreement that if the excavation of fill is not completed in accordance with the plans and specifications, then the work may be completed by the Borough, the cost thereof to be paid by the owner. Failure to execute such agreement shall not constitute a waiver of this provision.
8. An agreement to indemnify and save harmless Emmaus Borough and its agents from all liabilities, costs, and expenses which may result from, or be a consequence of, the granting of such permit. Failure to execute such agreement shall not constitute a waiver of this provision.

c. Required Fee(s).

1. Schedule of Fees. At the time of filing the application to excavate or fill, the Applicant shall pay a filing fee as set by resolution of the Council, which fee schedule shall be posted for public inspection in the office of the Zoning Officer and shall be based on costs.
2. Additional Costs in Special Cases. When, in the opinion of the Zoning Officer, the proper investigation of an application for a permit to excavate or fill will require the services of the Borough Engineer for technical help and advice, the Zoning Officer may consult with the Engineer and require him to make inspections of the work in progress. In such cases, prior to the issuance of the permit, the Zoning Officer shall notify the Applicant of the necessity for engineering inspection, and the Applicant shall pay, prior to commencing work, reasonable engineering fees at current rates, to be determined in advance of the issuance of the permit, and the amount thereof shall be deposited with the Borough.

(B) Performance Principles. The following measures are effective in minimizing erosion and sedimentation and shall be included where applicable in the control plan:

1. Stripping of vegetation, regrading, or other development shall be done in such a way that will prevent all but minor erosion.
2. Development plans shall preserve salient natural features, keep cut-fill operations to a minimum, and ensure conformity with topography so as to create the least erosion potential and adequately handle the volume and velocity of surface water runoff.
3. Whenever feasible, natural vegetation shall be retained, protected, and supplemented.
4. The disturbed area and the duration of exposure shall be kept to a practical minimum.
5. Disturbed soils shall be stabilized as quickly as practicable.
6. Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.

7. The permanent final vegetation and structural erosion control and drainage measures shall be installed as soon as practical in the development.
8. Provisions shall be made to effectively accommodate the increased runoff caused by changed soil and surface conditions during and after development. Where necessary, the rate of surface water runoff will be structurally reduced.
9. Sediment in the runoff water shall be trapped until the disturbed area is stabilized by the use of debris basins, sediment basins, silt traps, or similar measures.

(C) *Grading and Excavating Standards.* All permanent and temporary cutting, excavating, filling, grading, regrading, and/or other forms of earth-moving activities shall be known as "grading" and shall be conducted only in compliance with the standards as described below.

1. All grading shall be set back from property lines at least three (3) feet, or a sufficient distance to prevent any adverse effects on adjacent properties.
2. No permanent excavation or fill shall be made which may result in or otherwise produce a cut face or exposed fill surface with a slope of three (3) horizontal units to one (1) vertical unit or greater (i.e. 6' horizontal and 1.5' vertical would be permissible). For steeper slopes, a soils report prepared by a licensed engineer or geologist experienced in performing such studies and registered in the Commonwealth of Pennsylvania shall be prepared to document the soil stability.
3. Wherever grading will increase the volume or velocity of stormwater flow toward a property line, the Applicant shall install and maintain drainage facilities sufficient to prevent adverse effects on the adjoining property. The construction and operation of these drainage facilities shall not cause any adverse effects on abutting properties.
4. Within the property proposed for development or along property lines, where grading creates a 5:1 slope or greater in contrast to a previously existing gradual change or where a wall is being installed, the Applicant shall be required to install a fence or other suitable protective barrier.
5. The bottom of the excavation shall not be lower than the level specified in the permit and shall be capable of being drained.
6. If, in the opinion of the Zoning Officer, Borough Engineer, or Borough representative, any excavation will create or aggravate a dangerous condition if left open, such excavation shall be enclosed by a fence sufficiently high, tight, and strong to eliminate such dangerous condition.
7. Any rock, earth, or other material which may be dropped or deposited on any public road or place from any vehicle transporting such materials from any such excavations shall be immediately removed in a manner and to an extent satisfactory to the Borough at the expense of the Applicant.

8. The Applicant shall agree to indemnify and save the Borough and its agents harmless from all liabilities, judgments, costs, and expenses which may result from or be a consequence of the granting of such permit.
9. The Applicant shall submit said plan to the Lehigh County Conservation District for its review and approval of an erosion and sedimentation control plan. For plans involving greater than one (1) acre, a Chapter 102 permit from the Pennsylvania Department of Environmental Protection is required. Any such activity taking place within the floodplain or affecting wetlands or watercourses shall be in compliance with and receive approval of the appropriate State and Federal regulatory agencies as required.

§22-409 *New and Existing Streets Design Standards*

(A) All new streets and additions to existing streets shall:

1. Be offered for dedication to the Borough pursuant to this Chapter. The Borough Council may accept or refuse the dedication of any Street.
2. Conform with the Borough Official Map and county or state highway plans and be designed to conform with the existing Street system.
3. Provide appropriate access between abutting tracts of land for immediate or future use.
4. Create a road hierarchy among interior subdivision and land development streets and exterior streets to ensure proper through-traffic flow, local access, and internal traffic distribution and flow.
5. Conform to existing topography to assure reasonable grades, alignment and drainage, appropriate access to lots, and minimize regrading and removal of vegetation.
6. Be designed to continue existing streets at equal or greater right-of-way and cartway width, as recommended by the Borough Engineer and Planning Commission.
7. Include curbs and sidewalks installed along all existing and proposed public and private streets and common parking areas except when this requirement is waived at the discretion of the Borough Council, upon recommendation of the Borough Planning Commission and Engineer.
8. Curvilinear streets and cul-de-sacs should be used only where their use will be consistent with adjoining development patterns, topography, and natural features of the site. Curvilinear streets shall not be used immediately adjacent to an existing grid Street system without providing a transition that continues and protects the existing grid pattern. New Street systems platted adjacent to an existing residential neighborhood shall not be merely looped back on local access streets but shall connect with, or be designed to connect with in the future, streets of a higher class. Consideration shall be

given to the dispersal of traffic from commercial and employment centers and to the ultimate functioning of the Street system.

9. Where a development abuts an existing or proposed arterial Street, the Borough Council may require the use of marginal access streets, reverse frontage lots, or other such treatment that will provide protection for abutting properties, reduce the number of intersections with the arterial Street, and separate the local and through traffic.

§22-410 Traffic Impact Studies

(A) ***Purpose.*** In order to ensure that a proposed subdivision and land development plan promotes public safety and provides for safe and efficient access to and egress from a development as well as safe movement within the site, the plan shall take into consideration the movement of people and goods, which may include improvements or actions to accommodate increased traffic volumes; to facilitate turning movements; to increase sight distances; to ensure safe vehicular and pedestrian movements within parking lots and loading/unloading areas; and to promote pedestrian, bicycle and mass transit access to the site.

(B) A transportation impact study, prepared in accordance with PennDOT's Policies and Procedures for Transportation Impact Studies, shall be required for developments or changes in use generating, on the average, greater than 75 new or additional trips during a single peak hour or greater than 1,500 average weekday trips. Also, in cases where known deficiencies exist in the area of the proposed development, a transportation impact study may be required. If access is proposed to a State highway, the transportation impact study, or traffic impact assessment, shall be coordinated and reviewed jointly with PennDOT in accordance with their current policies.

(C) The Borough may waive the transportation impact study requirements where a proposed development was incorporated as part of a previously approved traffic study.

(D) Prior to beginning a transportation impact study, the applicant shall submit a proposed scope of services to the Borough for review and approval. The scope shall be submitted in accordance with the current scoping form utilized by PennDOT. It shall be reviewed and approved by PennDOT concurrently with the Borough if access is being requested onto a State highway. The transportation impact study shall include the following, if appropriate, as determined by the Borough:

1. A brief description of the proposed project in terms of land use and magnitude.
2. An inventory and analysis of existing roadway and traffic conditions in the site environs, including:
 - a. Roadway network and traffic control.
 - b. Existing traffic volumes in terms of peak hours and average daily traffic (ADT). Previously collected traffic data can be used, but it must have been collected

- within the last two years of the date of the transportation impact study submission.
- c. Crash data for the previous 5 years at all study intersections.
- d. Planned roadway improvements and developments by others. Planned improvements can be assumed under future conditions only if the improvements are funded and if final land development approvals have been obtained from the Borough.
- e. Intersection Levels-of-Service and average delays per vehicle reported by approach, movement, and overall intersection.
- f. Other measures of roadway adequacy, i.e., lane widths, traffic signal warrants, gap studies, vehicle delay studies, multi-way stop-control warrants, etc.

3. Projected site generated traffic volumes in terms of:

- a. Peak hours and ADT (by development phase, if required). Trip reductions for alternative transportation modes, such as pedestrian, bicycle, and transit, can be considered in accordance with current PennDOT procedures. Any reductions must be approved by the Borough and PennDOT if access is to a State highway.
- b. Approach / departure distribution including method of determination.
- c. Site traffic volumes on the study roadway(s).

4. An analysis of future traffic conditions including:

- a. Future design year, which shall be 5 years beyond the anticipated opening year of the development. If phasing is proposed, the design year for each phase shall be evaluated and shall be agreed upon in the scoping form.
- b. Intersection Levels-of-Service and average delays per vehicle reported by approach, movement, and overall intersection. Traffic signal timings shall be optimized for any signalized intersections.
- c. A pavement analysis of roadways which are projected to experience significant increases in ADT volumes offsite.
- d. Other measures of roadway adequacy, i.e., lane widths, traffic signal warrants, gap studies, vehicle delay studies, multi-way stop-control warrants, etc.
- e. When access is onto a State highway, the analysis of future conditions shall be consistent with current PennDOT policies and requirements.

5. A description of future Levels-of-Service and their compliance with standards for traffic capacity of streets, intersections, and driveways. New streets shall be designed for adequate traffic capacity defined as follows: All reference to Levels-of-Service (LOS) shall be defined by the current edition of the Highway Capacity Manual, published by the Transportation Research Board.

- a. Traffic capacity LOS shall be based upon a future design year, which coincides with completion of the development.
- b. Unsignalized intersections or driveways, existing or new, which intersect public streets shall maintain or be designed for a LOS D or better for each traffic movement unless otherwise specified by the Borough.
- c. New signalized intersections shall be designed for overall intersection LOS D or better. Existing signalized intersections impacted by development traffic shall

maintain the same Level-of-Service as under pre-development conditions; however, an overall intersection increase in delay of up to 10 seconds is acceptable. If overall intersection delays increase by more than 10 seconds, mitigation strategies shall be developed. If mitigation is not feasible, then the following alternatives apply:

1. The Borough will allow a marginal LOS degradation with municipal concurrence if recommended by the Borough Traffic Engineer. If access is proposed to a State highway, PennDOT must also approve the marginal LOS degradation.
2. The Borough may approve an alternative transportation plan, in accordance with current PennDOT policies, if mitigation is not feasible. The alternative transportation plan must be approved by the Borough and PennDOT, if access is to a State highway.
3. A design waiver may be applied for per current PennDOT policies, if access is onto a State highway. If access is to a Borough street, the LOS waiver does not apply.
- d. Streets shall be designed for a minimum LOS D.

6. A description and analysis of the proposed access plan and site plan, including:
 - a. Access plan, including analysis of required sight distances using applicable PennDOT criteria, using geometric conditions and traffic control.
 - b. On-site circulation plan showing parking locations and dimensions, loading access, pedestrian facilities and circulation, and traffic control signage
7. Traffic circulation mitigating action plan shall include:
 - a. Project features relative to site access and on-site circulation, which could be modified to maximize positive impact or minimize negative impact.
 - b. Off-site improvement plan, depicting required roadway and signal installation and signing improvements to meet the minimum Level-of-Service requirements. Conceptual designs and preliminary construction cost estimates shall be included for any off-site improvements.

(E) Review. The applicant shall be required to pay for the cost of all review(s) by the Borough Traffic Engineer, including:

1. If a transportation impact study or traffic impact assessment is required.
2. When a Highway Occupancy Permit is required for access to a State Highway, a copy of the application and two copies of the plans must be submitted to the Borough for review and approval.
3. No permits for construction or occupancy of a site shall be issued until said review fees are paid.

§22-411 Private Streets

Private Streets may be permitted by the Borough during review and approval of Subdivision and Land Development Plan proposals. All Private Streets must be constructed to meet public road standards as defined by the Borough and the Borough Engineer.

§22-412 Street Classifications

General. Every Street, road, or highway within the Borough shall be classified by its function and shall be subject to the requirements for its classification as contained in this Chapter. These classifications are based on the PennDOT's functional classifications that incorporate standards established by the American Association of State Highway and Transportation Officials (AASHTO). Street classifications are intended to provide appropriate standards for each road, as well as to coordinate Street functions and improvements among neighboring municipalities, the region, and the state. The classifications are as follows:

- (A) Interstate Highways/Expressways. The highway carrying the largest traffic volume is an expressway which is a multi-lane divided highway with fully controlled access provided only at grade-separated interchanges. Interstate Highways/Expressways serve high volumes of traffic at high speeds while providing high levels of safety and efficiency. The typical posted speed is fifty-five (55) miles per hour or greater.
- (B) Arterials. Arterial roads provide a high degree of mobility in order to better serve trips of longer length. Since access to abutting property is not their major function, access controls are desirable to enhance mobility. This classification includes highways which provide intra-county or inter-municipal traffic of substantial volumes where the average trip lengths are usually five miles or greater. Generally, these highways should accommodate operating speeds of 35 to 55 miles per hour. The design standards for arterials are contained in Table 3-2.
- (C) Collectors. Collector roads serve a dual function of providing a mix of accessibility and mobility. They typically serve trips of up to four (4) miles in length and channel or distribute traffic to or from a road of a higher classification. Collectors provide a combination of access and mobility with more emphasis on access. They allow more access to abutting properties with little or no restriction. Individual Driveway access is permitted. Generally, collectors accommodate trips only within a small segment of the Borough. They are spaced at intervals to collect traffic from local roads and neighborhoods and channel it to urban collectors and arterials. Finally, Collectors may serve as a major road through a residential neighborhood. The typical posted speed is twenty-five (25) to thirty-five (35) miles per hour. The design standards for Collectors are in Table 3-2.
- (D) Local Roads. Local roads and streets have relatively short trip lengths, generally not exceeding one mile. Because property access is their main function, there is little need for mobility and high operating speeds. This function is reflected by the use of lower posted speed between twenty-five (25) and thirty-five (35) miles per hour. Thru traffic is discouraged from using local roads. Local roads can only provide a link between individual properties and the collector road network.

Table 3-2, Road Design Standards-

			Travel		Paved	Parking		Border Area (7)
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(DRAFT) Emmaus Borough Subdivision and Land Development Ordinance

Functional Classification	Right of Way (1)	Number of Lanes (2)	Lane Width (3)	Left Turn Width	Shoulder Width (4)	Lane Width (5)	Bicycle Lane	Grass Strip (8)	Sidewalk/Pathways (8)
								Width (6)	
Arterial	80'-120'	2-5	12'-14'	11'-12'	8'-10'	8'-10'	5'-6'	1.5'	5' 6"
Collector	57'	2-3	11'-14'	10'-12'	6'-10'	8'-10'	5'-6'	1.5'	5' 6"
Local	50'	Total Cartway Width 26' to 30' (9)						1.5'	5' 6"

- (1) Right-of-Way. The right-of-way may be adjusted to accommodate highly urbanized and laterally restricted areas as well as unrestricted areas.
- (2) Number of Lanes. The number of lanes varies to accommodate the traffic volume, turning movements, and land capacity demand for the selected level of service. This number does not include right-turn lanes where needed.
- (3) Range of Lane Width. Lane width is based upon the minimum and desirable standards as well as other conditions, such as being adjacent to a curb or the anticipation of heavy truck traffic. When feasible, a fourteen (14) foot lane should be located next to a curb.
- (4) Shoulder. Shoulder width is based upon the minimum and desirable standards as well as other conditions such as highly urbanized and laterally restricted areas or the anticipation of heavy truck traffic. Wide shoulders may function as bike lanes.
- (5) Parking Lane. Parking lane width is based upon the minimum and desirable standards as well as other conditions such as lot size, the intensity of development, or potential for use as a traffic lane where required by future demand. For principal arterials, parking lanes are only recommended in highly developed areas.
- (6) Bicycle Lane. A portion of a roadway that has been designated by striping, signing, or pavement markings for the preferential or exclusive use of bicyclists. Width specifications must be in accordance with FHWA / AASHTO standards. Adequate shoulders of at least 4' or more in width may function as bike lanes.
- (7) Border Area. The presence of curbing, grass planter strips, and sidewalks will depend upon adjacent land uses and site conditions.
- (8) Sidewalks/ Pathway/Grass Strip. Sidewalk width is based upon minimum desirable standards for use along each particular roadway. Under certain circumstances, the location, feasibility, and other site-specific conditions may require deviations from these guidelines particularly in areas with existing sidewalks and grass strips that may be narrower or wider than current standards. Profiles for existing sidewalks shall be used in such cases.
- (9) Cartway Width. For local roads, the total cartway width generally includes travel lanes, parking lanes, and/or shoulders.

§22-413 Street Alignment

- (A) General. Sight distance, horizontal, and vertical curvature, super-elevation, and maximum and minimum Street grades shall be determined by the Borough Engineer in compliance with the standards contained in *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway Transportation Officials (AASHTO), most recent edition, or PennDOT standards, whichever is more suitable to site conditions. In addition, the following standards and guidelines shall be complied with:
 1. Street Alignment.
 - a. Whenever street lines are deflected by more than 5°, connection shall be made by horizontal curves.
 - b. The minimum radius at the center line for horizontal curves on collector and arterial streets shall be 300 feet, and for local streets the minimum radius shall be 100 feet.
 - c. On local access streets, the minimum tangent between reverse curves shall be at least 100 feet; on collector and arterial streets, the minimum tangent shall be at least 250 feet.

- d. Minimum vertical sight distance shall conform with the standards contained in "A Policy of Geometric Design of Highways and Streets" published by the American Association of State Highway Transportation Officials (AASHTO), most recent edition, or PennDOT standards, whichever is more suitable to site conditions.

§22-414 Street Intersection Design

(A) General. All Street intersections shall be governed by the standards of this section and the appropriate PennDOT or AASHTO Standards.

1. Number of Streets. Not more than two streets shall intersect at the same point.
2. Three-Way/Four-Way Intersections. Three-way or "T" intersections should be used instead of four-way intersections involving local streets intersecting arterial or collector streets unless the four-way intersection would promote necessary and desirable traffic movements or where traffic signals or four-way stop signs are proposed.
3. Local streets shall not intersect with collector or arterial streets on the same side at intervals of less than 800 feet as measured from center line to center line.
4. The distance between center lines of streets opening onto the opposite side of a proposed or existing street shall be not less than 150 feet unless the streets are directly opposite each other.
5. Streets shall be all laid out to intersect as nearly as possible at right angles. Local streets shall not intersect collector or arterial streets at an angle of less than 75°. The intersection of two local streets shall not be at an angle of less than 60°.
6. Minimum curb radius at the intersection of two local streets shall be at least 20 feet; and minimum curve radius at an intersection of a local street and a collector or arterial street shall be at least 25 feet.
7. Intersections shall be designed with a flat grade wherever practical. Where the grade of any street at the approach to an intersection exceeds 7%, a leveling area shall be provided having a grade of not greater than 4% for a distance of 25 feet measured from the nearest right-of-way line of the intersecting street.
8. Waiver of Improvements. The Borough Council, upon advisement of the Borough Engineer, may waive the above requirements for improvements to intersections under one or more of the following conditions:
 - a. When changes made on the Applicant's land will not improve the intersections deficiencies.
 - b. When other road improvements are already planned, which would correct the problem without changes required of the Applicant.

- c. When not required by PennDOT where the intersections are under their jurisdiction.

(B) *Single-access Street Intersections.*

- 1. Single access streets shall be established beginning at a three-way intersection perpendicular to a through Street.
- 2. Four-way intersections may be created using two permanent single access streets intersecting directly opposite one another along a through Street, when the through Street is a local Street.

(C) *Sight Distance.* Proper sight lines must be maintained at all Street intersections. Any building or obstruction higher than thirty (30) inches above the grade of the center line of the streets within sight lines of the driver of a vehicle using the intersection is prohibited. The clear sight triangle will consist of an area calculated as per PennDOT Publication 441 and Publication 282 for Driveways, and Publication 70 for local roads from the driver of the vehicle entering the intersection to the points at which the minimum sight distance is calculated.

(D) Street intersection spacing shall be in compliance with the regulations contained in this section, measured from centerline to centerline.

(E) *Offset Intersections.* In any case, where the centerlines of Street intersections are or would be within one hundred fifty feet (150) feet of each other, they shall be made to coincide by relocating the Street within the Applicant's land, unless additional problems of sight distance or other safety-related problems would be created. As an alternative, relocation further away from the offset intersection may be done in compliance with the Intersection Spacing requirements contained herein, when approved by the Borough

§22-415 Single-Access Street Standards

(A) *General.* Any Street which is served by only one (1) intersection with a through-Street shall be considered a single-access Street, regardless of the Street's configuration within the proposed subdivision or land development.

(B) Single-access streets shall be classified as one of the following:

- 1. Single-access loop streets.
- 2. Cul-de-sac Street.
- 3. Stub streets (temporary cul-de-sacs).

(C) Single-Access Loop Streets. Single-access loop streets shall be subject to the requirements for their Street classification and the following additional requirements.

1. Shall not serve more than three hundred (300) average daily trips.
2. In addition to required sidewalks, streets shall be served by an appropriately located pedestrian access when required by the Emmaus Borough Council upon the advice of the Borough Planning Commission and Engineer, to connect surrounding neighborhoods and pedestrian destinations.
3. Shall not exceed two thousand (2,000) feet in length, measured from the intersection with the through Street, along the entire centerline around to its intersection with itself.

(D) Cul-de-Sac Streets.

1. Shall be permanently closed to vehicular traffic at one end.
2. Shall be identified by a standard warning sign stating "No Outlet" when deemed appropriate by the Borough Council to help avoid mistaken turning movements.
3. Shall not be permitted when a through Street is possible for the tract under consideration. All cul-de-sac streets must be approved by the Borough Council, with the Borough reserving the right to reject any and all proposed cul-de-sac streets. The following criteria shall be used to determine the necessity of the cul-de-sac:
 - a. Adverse topography such as steep slopes, floodplains, streams, etc.
 - b. The shape of the tract does not lend itself to a through Street.
 - c. Adequate access for emergency vehicles is provided, as determined by the Borough's Fire Chief.
 - d. Areas to accommodate snow removal is provided.
 - e. Improved pedestrian access is provided.
 - f. Is consistent with adjoining development patterns, topography, and natural features of the site.
4. Shall not exceed six hundred (600) feet in length. Measurement of the length shall be made from the centerline of the abutting through road or point of intersection with another cul-de-sac to the centerline of the turnaround, measured along the cul-de-sac Street's centerline.
5. Shall be provided with a vehicular turnaround at the closed end with a right-of-way radius of at least fifty (50) feet and a paved radius of at least forty (40) feet. Alternative vehicular turnaround designs are encouraged to improve traffic flow and the overall design of the subdivision. If an off-set bulb turnaround is used, the bulb should be configured to the left of the approaching road center line. In addition, parking may be prohibited on the cul-de-sac by order of the Borough.

6. A permanent easement for snow removal may be required at the cul-de-sac bulb. When curbing is required, a curb depression shall also be placed in this easement area. No shrubbery, fence, mail-box, or any other obstruction shall be placed within the easement to hinder the placement of the snow.
7. Shall not extend from a single-access loop Street.
8. Existing temporary cul-de-sac streets, stub streets, and rights-of-way located on adjacent parcels, whether improved or not, shall be used by the Applicant to connect with their proposed roadway system. It shall be the responsibility of the Applicant to complete all roadway improvements at their expense within the existing rights-of-way of adjacent parcels.
9. Shall be served by an appropriately located and constructed emergency access way when required by the Borough Council using the following standards:
 - a. Minimum cartway width shall be twenty (20) feet.
 - b. Pavement shall satisfy the standards of the Borough Engineer with input from Emergency Services.
 - c. Emergency access ways shall be maintained through properly recorded easements or deed restrictions which at a minimum prohibit the planting of any vegetation except grass within the access way.
 - d. May be made available for pedestrian access
10. Landscaped cul-de-sac islands are encouraged and shall conform to the following standards:
 - a. Shall be located within the bulb of a cul-de-sac and be concave for use as part of the stormwater management infrastructure. Efforts should be made to retain the existing vegetation on the site within these islands.
 - b. Shall have a maximum radius of twenty-four (24) feet and be surrounded by paving on all sides.
 - c. Shall be designed to allow for emergency vehicle access into the cul-de-sac.
 - d. In the event that right-of-way grading will not permit the retention of existing vegetation in a cul-de-sac, the landscaping proposed for the island shall be of low-maintenance varieties as approved by the Borough Council. The landscaping plan shall specifically describe the maintenance required for any landscaping proposed on the landscape island.

(E) Stub Streets or Temporary Cul-de-Sacs.

1. Shall be provided in appropriate locations for vehicular access to abutting undeveloped lands when required by the Borough Council, upon the advice of the Borough Planning Commission and Engineer.
 - a. The length shall be designed in accordance with cul-de-sac Street standards specified in Subparagraph (D) above.
 - b. The width and other road improvements of temporary stub streets or temporary cul-de-sacs shall generally conform with the future functional classification of the roadway once it is fully connected.
2. Shall be provided with a vehicular turnaround that meets cul-de-sac standards.
3. Shall be constructed to the property line in accordance with the standards of this Chapter applicable to the classification of streets it will be upon extension.
4. Tee Turn-Arounds will not be permitted as temporary or permanent facilities.

§22-416 Driveway Access

(A) Driveways with the following characteristics will be reviewed in the manner prescribed below:

1. When any residential dwelling driveway will access an existing Arterial or Collector Street.
2. For all non-residential proposals which require a new Driveway or upgrading of an existing Driveway.
3. For all proposals where driveways would generate twenty-five (25) or more vehicular trips per day, based on the latest edition of the Institute of Traffic Engineers *Trip Generation Manual*.

(B) Where applicable, no Driveway location, classification, or design shall be considered finally approved by the Borough until a Highway Occupancy Permit (HOP) has been issued by PennDOT and Preliminary Plan approval has been granted by the Borough Council for the subdivision and/or land development which the Driveway(s) will serve.

(C) Driveway Intersections with Streets.

1. Driveways and Street intersections shall only be permitted at locations in accordance with the following provisions:
 - a. Sight distance is adequate to allow safe movements to be made into and out of the Driveway or road,
 - b. The free movement of normal road traffic will not be impaired,

- c. The Driveway or road will not create a hazard,
- d. The Driveway or road will not result in an area of undue traffic congestion,
- e. The stability of the roadway will not be compromised, and
- f. Roadway drainage will not be altered.
- g. If a driveway or accessway enters onto a collector or arterial street, then the center line of that driveway or accessway from where it enters the collector or arterial street shall be a minimum of 75 feet from the center line of any other street, where that street enters the collector or arterial street at a different point than the driveway or accessway.

2. Sight and Distance Determinations. Determination of sight distances at intersections of new driveways and streets with existing Borough roads shall be in accordance with the following provisions:

- a. Access driveways shall be located at a point within the property frontage limits which provides at least the minimum safe stopping sight distance (SSSD), as determined by the standards within PA Chapter 441 (Access to and Occupancy of Highways by Driveways and Local Roads) Title 67 of the Pennsylvania Code.
- b. The calculated minimum SSSD shall be measured per the standards within PA Chapter 441 (Access to and Occupancy of Highways by Driveways and Local Roads) Title 67 of the Pennsylvania Code.
- c. If the minimum required SSSDs cannot be achieved, the Borough may exercise one (1) or more of the following options:
 1. Prohibit left turns by exiting vehicles.
 2. Restrict turning movements to right turns in and out of a Driveway.
 3. Require installation of a right turn acceleration lane or deceleration lane.
 4. Require installation of a separate left turn standby lane.
 5. Alter the horizontal or vertical geometry of the roadway.
 6. Deny access to the road.

(D) In order to facilitate safe and efficient access between streets and driveways, the number of driveways permitted to serve individual parcels of land shall be kept to the minimum needed to adequately serve the parcel in question. Shared access between adjoining lots should be considered first.

1. Properties with frontage of one hundred (100) feet or less may be permitted no more than one (1) Driveway intersection with a Street. Exceptions may be made when adjacent property owners share parking or when the need is determined in a traffic study prepared by a qualified traffic engineer.

2. Not more than two (2) Driveway intersections with the same Street may be permitted for any parcel of land unless anticipated traffic volumes warrant more than two (2), and then only when supported by a traffic study prepared by a qualified engineer warrants more than two Driveway intersections.

(E) Driveway intersections serving individual parcels of land may be prohibited by the Borough Council where such intersections would create congestion, interference, and/or hazards to traffic flow and safety because of Street grades, landforms, vegetation, frequency of Driveway intersections, limited sight distances, and/or high-speed traffic flow. In such cases, the Borough Council may permit reasonable alternative forms of vehicular access to the parcel of land by means of:

1. Marginal access streets or driveways.
2. Reverse frontage lotting.
3. Other means which are legally and technically suitable in the opinions of the Borough Solicitor and Engineer.

(F) Where Driveway intersections are prohibited by the Borough Council and alternative forms of vehicular access would cause an undue burden upon an Applicant, the Borough Council may permit an alternative, interim access solution in compliance with the following:

1. It is the safest feasible alternative, acceptable to the Borough Engineer and/or PennDOT.
2. Suitable provisions are made for a preferable permanent access solution, consistent with this Section including legal agreements to enable the implementation of the permanent solution.

(G) Choice of Streets. When a lot adjoins streets of different classes, the Driveway shall provide access to the Street of lesser classification, unless this requirement is waived by the Borough Council because of sight distance, incompatibility of traffic, grading, drainage, or other major reasons.

(H) Maximum Grades for Driveways.

1. Residential driveways shall not exceed ten (10) percent grade.
2. All other driveways shall not exceed seven (7) percent grade.
3. All driveways shall be provided with a stopping area within which the grade shall not exceed four (4) percent. The stopping area shall be measured as follows:
 - a. The length of stopping area shall be a minimum of twenty (20) feet, or the length of the longest vehicles anticipated to use the Driveway, whichever is greater.

- b. Stopping areas shall be measured from the ultimate right-of-way line for all streets.
4. Maximum grade requirements shall not be waived unless extremely difficult circumstances exist and cannot be mitigated by alternative locations, designs, or lotting, in which case a safe, practical alternative may be permitted by the Borough Council, upon recommendation of the Borough Engineer.
5.
(I) Driveway Layout and Dimensional Standards.
 1. Driveway Dimensions
 - a. Width of Driveway at entrance onto a public street (measured at the edge of the cartway)

	1 – Way Use	2 – Way Use
Minimum*	12 Feet	20 Feet
Maximum*	35 Feet	50 Feet

**Unless a different standard is required by PennDOT for an entrance to a State road.*

2. Separation Between Driveways.
 - a. At least 50 feet shall be provided between the centerlines of any two driveways along one street and within one lot.

§22-417 Parking, Loading, and Related Internal Driveways

(A) General. Parking, loading, and related internal driveways shall be governed by the following regulations.

1. The specific purposes to be served by these requirements are:
 - a. To add visual character and improve the appearance of parking areas by reducing their massiveness into smaller units.
 - b. To integrate parking areas into the pedestrian circulation system.
 - c. To provide shade for parked cars and reduce heat islands, stormwater runoff, and air pollution.
 - d. To reduce random vehicular flow across parking areas.
 - e. To permit a high level of visibility for those uses for which visibility is an important factor.
 - f. To facilitate snow removal and storm drainage and to conserve energy in construction and resurfacing operations by laying out the paving surface with minimal obstructions.

2. The terms "parking lot," "parking area," and "parking" are interchangeable. "Parking" includes the Driveway, which provides direct access to the parking spaces.
3. Off-Street parking and loading facilities shall be provided in compliance with the parking requirements specified under §27-517 Parking of this Chapter.
4. Parallel parking shall be used along streets where needed. Angled parking may be permitted along public or private streets or within parking lots when it is specifically designed to address potential safety issues associated with vehicles using the parking. Perpendicular parking shall not be permitted along public or private streets.
5. Stormwater management shall be provided in accordance with Chapter 26 of the Borough Municipal Code.

(B) Parking Space Design. All Off Street parking spaces shall be designed to meet the following minimum design standards:

1. Parking space dimensions shall be no less than those listed in the following Table 3-5.
2. Upon the recommendation of the Borough Engineer and Borough Planning Commission, the Borough Council may reduce the minimum length of parking stalls by one (1) foot if stalls are designed to allow vehicles to overhang an area of grass or other pervious surfaces. Bumper stops shall be provided, which allow the parked vehicle to extend at least one (1) foot over the edge of the pavement.
3. Where parking stalls abut sidewalks, parked vehicles shall not overhang the sidewalks unless the sidewalk is widened by two (2) feet. Wheel stops are required to allow for full pedestrian use of the sidewalks.
4. Compact. If a lot or parking deck includes more than 30 parking spaces, a maximum of 20% of the required spaces may include a rectangle with a minimum width of eight feet and a minimum length of 16 feet; provided, that those spaces are marked as "Compact Cars Only" and provided that those spaces do not include the most desirable spaces in the lot or deck.
5. If parking area is permitted to not be paved, then a minimum width of 10 feet per space shall be used.

Table 3-5, Parking Space Dimensions

Angle of Parking	Parking Bay Width	Length of Parking Stall	Aisle Width	
			One-Way	Two-Way
Parallel	9 ft.	21 ft.	12 ft.	20 ft.
30 degrees	9 ft.	18 ft.	12 ft.	20 ft.
45 degrees	9 ft.	18 ft.	14 ft.	20 ft.
60 degrees	9 ft.	18 ft.	18 ft.	20 ft.
90 degrees	9 ft.	18 ft.	20 ft.	20 ft.

6. Parking Access Drives.

- a. Parking spaces shall be accessed by means of an Access Drive. Spaces shall be setback at least two (2) feet from property lines. Areas between property lines and parking spaces shall be landscaped.

- b. Parking areas shall not require or encourage vehicles to back into a public Street or alley in order to leave a parking space, except for a single-family or two-family dwelling with its access onto a local street or parking court.
- c. A Clear Sight Triangle shall be maintained at all Street intersections pursuant to §22-414 Street Intersection Design of this Chapter.

7. Surfacing. Off-Street parking shall be paved to provide a durable and dust-free surface. Entrance and exit drives shall be paved in accordance with PennDOT Publication 408 Design Specifications.
8. Drainage. Drainage shall be installed to prevent water runoff to adjacent properties. When determined necessary by the Borough Engineer, stormwater drainage facilities shall discharge to an adequate storm drainage system. All storm drainage facilities and plans shall be approved by the Borough Engineer.
9. Fire Lanes. Fire lanes shall be provided in accordance with the International Fire Code, Chapter 5 where determined necessary by the Borough Council, Planning Commission, Fire Chief, and Zoning Officer.
10. Circulation Control. Circulation control shall be provided in one-way directional travel whenever possible. Access Drives shall be uniform in width and provide for ninety (90) degree intersections wherever possible. Circulation traffic lanes shall be at least twelve (12) feet wide for one-way traffic with a maximum of thirty-five (35) feet and be between twenty-four (20) feet and fifty (50) feet wide for two-way traffic in all areas not controlled by other entrance or exit drives and parking access drive standards.
11. Traffic Control. Entrance and exit arrangements and traffic signals may be required depending on the amount of anticipated traffic and the condition of the public Street.
12. Service Traffic. Service and customer traffic shall be separated whenever possible. Loading and unloading areas shall not interfere with customer parking areas.

(C) All Parking Lots.

1. Parking shall not be permitted along driveways that serve as the entrance(s) or exit(s) from arterial or collector roads to parking areas with a capacity of fifty (50) vehicles or more. A minimum Driveway throat length of fifty (50) feet shall be provided between the road ultimate right-of-way line and the first parking space or internal Driveway intersection in parking lots with fifty (50) vehicles or more.
2. Parking areas shall be set back from tract boundary lines and ultimate right-of-way lines in compliance with the requirements of the Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code). In any case not regulated by the Borough Zoning Ordinance, parking areas shall not be located closer than fifteen (15) feet from any side or rear year setback line.

3. *Dead-end Parking Areas.* Dead-end parking areas shall not be used when the required parking capacity can be accommodated in a layout that permits more convenient vehicular movements. However, extraneous through-traffic flow should be avoided.
 - a. Up to thirty (30) parking spaces may also be located in a dead-ended parking area, provided there is no other feasible and suitable alternative, and sufficient backup areas are provided for the end stalls.
 - b. More than thirty (30) parking spaces may be located in a dead-ended parking area only if a turnaround area is provided at the closed end, suitable for passenger car turning. The turnaround area may be circular, "T" or "Y" shaped, or other configuration acceptable to the Borough Council.
 - c. All dead-end parking lots shall be designed to provide a backup area for the end parking stalls. The backup area shall be a minimum of five (5) feet deep.
4. Parking spaces designated for exclusive use by disabled persons shall be installed in all parking lots as close and convenient to building entrances as is reasonable. The specific number and locations of handicapped stalls shall be in conformance with the Americans with Disabilities Act (ADA).
5. Provisions for pedestrian safety within a parking lot shall be required by providing sidewalks, delineated crosswalks, traffic calming devices, and other measures.
6. Innovative stormwater management controls such as rain gardens and porous pavement may be used in parking lot design.

(D) Non-Residential Parking Lots.

1. Parking lots with a capacity of fifty (50) to one hundred (100) cars shall require a minimum fifteen (15) feet wide planting strip around the perimeter and one (1), eight (8) foot wide minimum planting island for every twenty-five (25) spaces within the perimeter of the lot. Parking lots for more than one hundred (100) cars shall be divided into sections no greater than one hundred (100) stalls each by planting strips.
 - a. These planting strips shall be located parallel to the rows of parking, to serve the following purposes:
 1. To separate main access (entrance-exit) driveways from rows of parking spaces.
 2. To separate other major driveways (service drives, general internal circulation) from rows of parking spaces.

3. To separate large parking areas into smaller units at intervals of not more than four (4) rows of parking stalls.
- b. Maximum length of parking aisles shall be 300 feet.
- c. The Applicant may request the Borough to permit an alternative design that achieves the purposes of these parking area requirements as well or better than the requirements herein. The final decision to permit an alternative design shall be made by the Borough Council, with the advice of the Borough Planning Commission and Engineer.

2. Shared Access.

- a. Where a development abuts an existing or proposed arterial or collector Street, the Borough Council, upon the recommendation of the Borough Planning Commission, may require the use of shared access drives or driveways between adjacent lots or uses in order to reduce the number of access drives and driveways connecting to such arterial or collector streets for traffic safety and congestion reasons.
- b. Non-residential lots shall provide cross-access easements for parking areas and driveways guaranteeing access to adjacent lots. Interconnections shall be logically placed and easily identifiable to ensure convenient traffic flow.
- c. When two (2) or more abutting lots share an access Driveway, the Driveway should be designed as the main access to those lots, and one or more existing access driveways should then be closed.
- d. Where development of three or more adjoining parcels consolidates vehicular access into one shared Driveway, that Driveway may be upgraded into a medium volume Driveway according to PennDOT standards.
- e. Shared access may be located entirely on one lot or be split among a common lot line.
- f. Access easement and maintenance agreements or other suitable legal mechanisms shall be provided in a form acceptable to the Borough Council in consultation with the Borough Solicitor.
- g. Liability safeguards for all property owners and lessees served by the shared access shall be guaranteed to the satisfaction of the Borough Council in consultation with the Borough Solicitor.

(E) Driveways Within Sites Proposed for Non-residential Development. The following requirements apply to all driveways within all sites proposed for non-residential land development.

1. A smooth transition shall be provided between the Driveway section required for access to a public Street and other driveways required for internal site circulation.
2. Main access driveways (entrance-exit) and service driveways handling large trucks shall be a minimum paved width of thirty (30) feet, with one lane in each direction, unless otherwise required by PennDOT standards governing the volume of traffic anticipated.
3. Access driveways for cars and other small vehicles, which are clearly secondary in importance, may be reduced to twenty (20) feet in paved width, unless otherwise required by PennDOT standards governing the volume of traffic anticipated.
4. Interior storefront driveways in shopping centers shall be a minimum paved width of twenty-eight (28) feet to allow one lane in each direction and a drop-off/pick-up lane along the sidewalks.
5. Driveways along other non-residential buildings shall be a minimum paved width of twenty-two (22) feet, except where a drop-off/pick-up lane is proposed.
6. Parking Aisles shall be a minimum twenty-two (22) feet wide with two-way traffic flow for convenience and efficiency, except where one-way traffic is used to access angled or parallel parking.
7. Wherever feasible, internal circulation driveways shall extend from access drives in locations that permit and encourage entering traffic to turn and enter the parking aisles without first traveling along a building-front Driveway. This feature is intended to reduce the volume of vehicular traffic along building-front driveways to make it safer for pedestrian traffic.

(F)

Parking Demand Analysis. To provide flexibility for certain uses, the Borough Council permits applicants so identified within the Zoning Ordinance to submit a written computation of their required off-Street parking spaces based on the estimated parking demand of the proposed Use(s). This approach shall serve as the Applicant's justification for off-Street parking space requirements, as required within the Borough's Zoning Ordinance.

1. The Applicant shall prepare a Parking Analysis Report to propose the number of required off Street parking spaces. The Report shall be prepared by a qualified professional. The Parking Analysis Report shall contain the following:
 2. *Site Plan.* A Site Plan containing the following:
 - a. Legal property boundary.
 - b. Existing and proposed project layout.
 - c. All existing and proposed uses and tenant spaces.

- d. All existing and proposed parking spaces.
3. Analysis of parking demand information from professional literature that is pertinent to the proposed development. Such information may include data or literature from the Institute of Transportation Engineers, American Planning Association, Urban Land Institute, or other similar organizations.
4. Current parking quantity and parking Use data from existing developments that are similar to the proposed use. The information about the existing development and its parking demand shall include enough detail to evaluate similarities and differences between the existing development and the proposed development.
5. Peak Hours of Operation and Parking Occupancy. Final number of proposed required parking spaces with justification and summary of findings (Note: Where the calculation of minimum parking spaces does not result in a whole number, the result shall be rounded up to the next whole number).
6. Borough Approval. Borough Council, in consultation with the Borough Planning Commission, Zoning Officer, and Borough Engineer, shall consider the final parking requirements determination made in the Applicant's Parking Analysis Report. Based on the Applicant's materials and other data the Borough deems relevant, the Borough Council shall set the requirements for minimum and maximum parking allowed. Conditions of approval may be placed on the Decision to ensure compliance with the parking determination.

(G)

Reserve Parking. If the number of required spaces is substantially larger than the number of spaces anticipated for use by the Applicant, the reserve parking option may be utilized to avoid unnecessary paving, in accordance with the following criteria:

1. The total number of spaces which must be paved initially may be reduced up to fifty (50) percent by the Borough Council, upon recommendation of the Borough Planning Commission and Borough Engineer.
2. Suitable area must be available and reserved for construction of the balance of the total number of spaces otherwise required. A reevaluation of parking capacity shall be required upon a change in status (use, building addition or number of employees) to determine whether additional parking is needed. Whenever a parking capacity problem is identified, the Borough Council may require installation of additional parking spaces, upon recommendation of the Borough Planning Commission and Engineer.
3. A financial guaranty must be provided by the Applicant to cover the cost of installation of the reserved parking spaces, for a period of one year after ninety (90) percent of the

building floor area on the site is occupied. The type and dollar value of the guaranty must be approved by the Borough Council upon recommendation of the Borough Solicitor and Engineer.

(H) *On-Street Parking.* Where on-Street parking is permitted to meet a portion or all of the computation of off-Street parking requirements specified within the Zoning Ordinance, the following On-Street parking standards shall apply:

1. On-Street parking may be provided within Street rights-of-ways parallel to the curb line, only when parking on that Street Right-of-Way has been approved by PennDOT, for all state-owned Streets, or by the Borough Council for Borough owned Streets.
2. On-Street parking areas may only be counted within the Street rights-of-way abutting the Lot lines of the Lot owned by the Applicant or landowner, exclusive of any Driveway, access drive or other curb cuts, and exclusive of any existing cartway and perpendicular Street, Alley, or Access Drive.
3. On-Street parking spaces parallel to the curb line shall measure at least nine (9) feet in width and twenty-two (22) feet in length, exclusive of any Street cartway. Otherwise, if angled parking is permitted along the Street by the Borough or PennDOT, then dimensions and number of on-Street parking spaces shall be acceptable to the Zoning Officer and/or PennDOT.
4. All eligible on-Street parking areas shall be graphically depicted on the Development Plan required under Part 3 of this Chapter. Such parking areas shall not conflict with any turning movements off the cartway or obstruct access to any Street, access drive, Driveway, sidewalk, crosswalk, other access way, or fire hydrant.

(I) *Joint Parking Facilities.* Joint parking facilities are permitted and may be used to meet a portion, or all of the computation of off-Street parking requirements specified under this section. In such instances, the following standards shall apply:

1. The nearest point of the parking Lot shall be no further distance to the nearest point of the property served as provided below (unless patron transport is provided from the parking Lot the property being served):
 - a. *Residential Use.* 75 feet.
 - b. *Commercial Use.* 100 feet.
 - c. *Industrial Use.* 100 feet.
2. It shall be demonstrated that those jointly using the parking facility are using the facility at different periods of the day or different days of the week.

3. An agreement for the joint use and maintenance of a parking facility shall be recorded as a deed restriction, irrevocable license, Easement, or other recordable document(s) in a form satisfactory to the Borough Solicitor filed in the Lehigh County Courthouse in the chain of title of the land to be burdened in perpetuity or for a period to extend throughout the life of the Use requiring the maintenance of the required number of spaces.

(J) Drive-Thru Standards. Drive-Thru requirements shall be as follows:

1. Drive-thru lanes shall be required for all drive-thru facilities and shall have a minimum width of ten (10) feet along straight segments.
2. The minimum number of required queue spaces specific to business type is listed in Table 3-6.

Table 3-6, Queue Spaces for Drive-Thru Types

Type of Facility	Inbound Vehicles	Outbound Vehicles
Drive-in bank	2 spaces per Service Position	1 space per Service Position
Drive-in beverage, food sales	8 spaces per Service Position	1 space per Service Position
Drive-in pharmacies	3 spaces per Service Position	1 space per Service Position
Laundry / Cleaners	3 spaces per Service Position	1 space per Service Position
Attendant car wash	5 spaces per Service Position to wash line	3 spaces between end of wash stall and other circulation lane
Automatic car wash	3 spaces per Service Position	1 space per Service Position
Automatic car wash as an accessory use	2 spaces per Service Position	1 space per Service Position
Service station	4 spaces per Service Position	1 space per Service Position

3. Canopy supports and raised concrete pads designed to support pneumatic tubes, automatic teller machines, and other Structures shall not be located within the area required for minimum drive-in lane widths.
4. All drive-thru lanes shall be clearly separated from parking spaces, travel aisles, maneuvering areas, and Access Drives.
5. A Breakaway Lane must be added to the site to allow for a vehicle to exit the Drive-thru queue.
6. The Planning Commission may recommend a reduction to the minimum stacking distance of drive-thru lanes for uses if it can be demonstrated that the vehicular frequency for the Use does not warrant multiple vehicle stacking.

(K) Loading Standards.

1. Required Spaces or Berths. Where off-Street loading space is required, loading spaces or berths shall be provided for standing, loading, and unloading operations, either inside or outside a building and on the same or adjoining premises.

- a. Each Use receiving or shipping material and/or merchandise by trucks shall provide off-street loading facilities – compliant with the provisions of this section – sufficient to accommodate the maximum demand(s) generated by the use.
- b. At the time of submission of the Site Plan or land development review, the Applicant shall provide evidence to the Borough that the use will contain sufficient numbers and sizes of loading facilities. For the purposes of this section, the words "*loading*" and "*unloading*" are used interchangeably.

2. Location.

- a. Except where permitted within the Borough of Emmaus Zoning Ordinance, all loading facilities shall not be located on the front of a Building.
- b. In no case shall the use of a loading space or berth hinder the movement of vehicles and pedestrians over a Street, alley, or sidewalk.
- c. Maneuvering areas shall not be located so as to require vehicles to back into an Alley or Street when unloading materials.
- d. Loading spaces shall be located in the rear of the property of the business to be served.
- e. Loading spaces shall not be placed in the front, rear, or side yard minimum Setbacks, as defined in the Zoning Ordinance.
- f. Each loading space shall have sufficient maneuvering room to avoid conflicts with parking and traffic movements within and outside of the lot. No facility shall be designed or used in such a manner that it threatens a safety hazard, public nuisance, or a serious impediment to traffic off the lot.

3. Dimensions. Loading spaces shall provide ample maneuvering space for vehicles as follows:

- a. Loading Space. Shall be the width and length of a standard parking space.
- b. Loading Berths for Local Delivery Trucks. Shall have a minimum width of ten (10) feet, minimum length of twenty-five (25) feet and a minimum vertical clearance of sixteen (16) feet Above Finished Grade.
4. Loading Berth for Semi-Trailers. Shall have a minimum width of twelve (12) feet, minimum length of sixty (60) feet and a minimum vertical clearance of sixteen (16) feet Above Finished Grade. These spaces may be reduced to a minimum width of ten (10) feet and minimum length of forty five (45) feet if the Applicant can prove, to the satisfaction of the Borough, a smaller space will adequately handle the required semi-trailer maneuvers.

5. Screening.

- a. A solid masonry wall, decorative wood, or vinyl fence shall be erected where a loading berth or space is located, directly across a Street from a dwelling with one or two units. Where a loading space or berth is located directly across from a dwelling with one or two units, mitigation of the vehicular impacts as may be required by the Borough include, but are not limited to, restricted loading and unloading times and landscape enhancements.

6. Off-Street Parking Prohibited. A loading space shall not be considered an off-Street parking space, and therefore shall not be considered a credit to the number of required parking spaces as required under Subparagraph (F) above.



(L) Dumpster Specifications.

1. Dumpster Pads.

- a. A dumpster pad shall be constructed of concrete (3,500 PSI minimum) and shall be sized pursuant to industry standards for the dumpster size utilized. Steel bollards set in 16-inch x 16-inch x 16-inch concrete footers shall be provided to guide dumpster placement. Bollard placement shall also be according to industry standards for the dumpster size utilized. Where front wheels sit during the dumping cycle, concrete must be able to withstand up to a 32,000 pound load that bounces. Notes on the plans must state these requirements.
- b. Trash dumpsters shall be treated as the equivalent of a loading dock and shall have minimum Setbacks as set forth in the Borough of Emmaus Zoning Ordinance.

2. Service Access.

- a. Placement of trash dumpsters and enclosures shall be planned and constructed in a manner that allows unobstructed access to each trash dumpster and the unobstructed opening of the gates during the disposal process.
- b. Trash dumpsters shall not be located in such a manner that the service Vehicle will block any public Street or Alley.
- c. When trash dumpsters are to be serviced from a Public Street , enclosures shall be angled thirty (30) degrees and recessed off the Public Street approximately six (6) feet

(recessing the enclosure is necessary so that gates do not open into the Alley so as to obstruct traffic and so that a Clear Sight Triangle can be achieved).

3. Screening and Minimum Size.

- a. All trash dumpsters shall be enclosed on three (3) sides by a six (6) foot tall enclosure to ensure that the trash area is:
 1. Not visible from the Street, and
 2. Not visible from any single- or two-family home within fifty (50) feet.
- b. Each screened enclosure shall provide a minimum ten (10) foot interior length and width subject to the following requirements:
 1. Each enclosure shall provide a minimum of twelve (12) inches of clear space between each side of the trash dumpster (including lifting flanges) and the adjacent wall surface of that enclosure, or any other trash dumpsters within that same enclosure; and
 2. Commercial trash dumpsters may be sized appropriately based on specific Use requirements.
- c. Permitted materials for trash enclosures include materials that provide solid, opaque screening, such as:
 1. Masonry (such as concrete block, brick, or stone);
 2. Chain link with privacy slats; or
 3. Vinyl fencing.

§22-418 Sidewalks and Planter Strip Areas

(A) General.

1. To increase pedestrian connectivity and accessibility, sidewalks shall be installed along all existing and proposed public and private streets, common driveways, and common parking areas. The Borough Council may require additional sidewalk width in areas where higher volumes of pedestrian traffic are anticipated.
2. The developer of one or more buildings on a public Street or a private Street shall be required, at the time of construction, to install sidewalks on both sides of the Street in accordance with Borough specifications.

3. Where an expansion of existing building is proposed, all existing sidewalks shall be improved to meet Borough standards and all new sidewalks required as part of this Chapter shall be installed.
4. In the event that a new development, redevelopment of an existing building, or expansion of a building is proposed and there is an existing sidewalk that is in need of repair or replacement, the existing sidewalk will be brought to current Borough of Emmaus standards.
5. *Sidewalk Waivers.*
 - a. The Borough Council may waive, in the Borough's sole discretion, the sidewalk requirements if an alternative pedestrian circulation system can be shown to be more desirable, especially when using open space areas, provided that appropriate connections are provided between the open space walkways and the surrounding pedestrian origins and destinations or when it is determined that sidewalks are only necessary on one side of the Street.
 - b. The Borough Council may waive, in the Borough's sole discretion, the installation of sections of sidewalks when adjoining sections of the road do not have sidewalks, and in the opinion of the Borough Planning Commission and Borough Engineer, it would be better to install the sidewalks at the same time sidewalks are installed in adjoining sections of the Street or roadway.

A request for a waiver shall be in writing and shall state the reason for the hardship.

(B) *Sidewalk Design.*

1. Sidewalks and border areas shall be provided in appropriate locations to provide safe and efficient pedestrian access between parking areas, buildings, and other pedestrian destinations.
2. Sidewalks shall be constructed in accordance with Chapter 21, Streets and Sidewalks.
3. Sidewalks shall be within the right-of-way of the Street and shall extend in width from the right-of-way line toward the curb line.
4. Sidewalks shall be at least five (5) feet six (6) inches wide unless the new sidewalk will be connected to an existing sidewalk that is narrower in width, then the Borough Council may permit a narrower width. Sidewalks adjacent to a Planter Strip may be reduced in width to four (4) feet and six (6) inches if a five (5) foot by five (5) foot passing/turning area is provided at intervals no greater than 200 feet.
5. If an approved waiver allows a bituminous path, it shall be at least six (6) feet wide.

(C) *Planter Strip.*

1. A Planter Strip, where deemed appropriate by the Borough, shall exist between the curb

line or edge of cartway and the sidewalk.

2. The Planter Strip design shall consist of turf grass and may contain amenities such as streetlights, trees and landscaping, rain gardens, benches, trash cans, mailboxes, or newspaper boxes. However, no amenity shall reduce the required sidewalk width for use by pedestrians nor interfere with this Chapter's required Clear Sight Distance requirements.
3. Planter Strips shall be a minimum of one and one-half (1.5) feet wide. However, where Planter Strips are required, the area shall be sufficient in size to ensure the survivability of the Street Tree.
4. Trees planted in the Planter Strip shall be done in accordance with Chapter 25, Trees, of the Borough Code.
5. Planter Strips shall be maintained by the owner of the property adjacent to the Planter Strip.

§22-419 Crosswalks

- (A) Where a pedestrian crossing can be legally established, crosswalks shall be designed pursuant to PennDOT Publication 111, Traffic Control – Pavement Markings and Signing Standards, TC-8600.
- (B) Crosswalk pavement markings must conform to statutory and regulatory requirements outlined in the Pennsylvania Vehicle Code (Title 75) and PennDOT Publication 212, Official Traffic-Control Devices.

§22-420 Trails and Pathways

- (A) When a subdivision or land development includes an existing or a proposed trail with public access customarily used by pedestrians, bicyclists, and/or equestrians as delineated in the Borough's Official Map, the Applicant shall make provision for the continued recreational use of the trail subject to alterations of the course of the trail within the boundaries of the development under the following conditions:
 1. The points at which the trail enters and exits the tract shall remain unchanged.
 2. The proposed alteration will not diminish the trail design and function.
 3. Where an existing trail runs coincidentally with the paved road intended for use by motorized vehicles, landscaping and other physical structures shall be used to increase the separation between the trail and the road.
- (B) When trails are intended for public or private use, they shall be protected by a permanent access easement on the properties on which they are located. The width of the protected area in which the trail is located should be a minimum of ten (10) feet. The language of the access easement, including responsibility as to who will maintain the trail, shall be to the satisfaction of the Borough Council upon recommendation of the Borough Solicitor.
- (C) Trail Design. An Applicant may propose and develop a new trail for pedestrians, bicyclists, and/or equestrians.
 1. Trails shall be available for use by the general public and shall connect with an existing trail or make provisions for such connection on adjacent property.
 2. Trail improvements shall demonstrate adherence to principles of quality trail design, as determined by the Borough Engineer.
 - a. Trails shall have a vertical clearance of no less than ten (10) feet.
 - b. Width of the trail surface may vary depending upon the type of use to be accommodated, but in no case shall it be less than six (6) feet or greater than eight (8) feet.

- c. No trail shall be designed with the intent to accommodate motorized vehicles except for emergency or maintenance access.
 - d. The trail should be laid out in such a manner that trail users are visible to other trail users and vehicles on intersecting roads. Sharp curves and excessive grade change should also be avoided.
- (D) The Borough Council may require, as a condition of Final Plan approval, the guarantee of public access and improvement of trails when the site is traversed by or abuts an existing trail, or a trail proposed in an adopted open space or trail plan of the county, municipality, or adjacent municipality.
- (E) When existing developed parcels adjacent to a proposed subdivision or land development allow for dedicated public access through a defined area for the purpose of connecting to a county or municipal trail, this connection should be continued through a dedicated public access way to serve the proposed development.
- (F) When a subdivision or land development lies adjacent to a park, school, or other pedestrian destination, pedestrian connections should be made to that destination.
- (G) All trails and pathways shall be constructed before the occupancy of residences and other buildings adjoining the trail.
- (H) When trails are intended for public use, they shall be protected by a permanent access easement on the properties on which they are located. The width of the protected area in which the trail is located shall be a minimum of twenty (20) feet. The language of the easement shall be to the satisfaction of the Borough Council upon recommendation of the Borough Solicitor.
- (I) Any of the methods cited under §22-407 Recreation Land Dedication regarding ownership and dedication of recreation and open spaces may be used either individually or in combination to own and perpetually preserve trail easements provided in fulfillment of this Chapter.
- (J) Trails and pathways shall have adequate access for use by all residents of the development or, preferably, the general public.
- (K) The land area permanently designated for trails for public use may be credited toward any open space and recreational requirement as described in this ordinance and the Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code).

§22-421 Bicycle Routes and Facilities

- (A) Bicycle facilities and trails shall be provided in all developments as specified in the Borough's Official Map and as recommended by the Borough's adopted Greenways and Trails Plan (See Appendix E).
- (B) Bicycle and trail facilities shall provide for logical connections to other proposed, planned, or existing pathways and trails.
- (C) On-road bicycle facilities shall be installed according to the appropriate type, as specified within the Borough's Greenways and Trails Plan (See Appendix E). Facility types shall be located on all new or upgraded streets within the borough.
- (D) Bicycle lanes shall be designed pursuant to the most current edition of the AASHTO *Guide for the Development of Bicycle Facilities*.

§22-422 Street Trees

- (A) General Requirements.
 - 1. Street trees and associated planting shall be required for any subdivision or land development as part of the design and construction of:
 - a. New streets;
 - b. New sidewalks or pedestrian ways;
 - c. Existing streets, sidewalks, pedestrian ways, highways, bicycle or other trails or pathways when they abut or lie within the subdivision or land development; and
 - d. Access driveways to residential developments serving greater than four dwelling units.
 - 2. Trees shall be placed in such a position as to minimize conflict with overhead utilities.
 - 3. Plant material shall not at maturity obstruct the necessary visibility of traffic control signs or signals, nor obstruct visibility at street intersections or driveway entrances.
 - 4. Plant material shall be selected to minimize future maintenance costs, including but not limited to considerations of pruning, tree removal, and sidewalk repair.
 - 5. Plant material shall not interfere with underground utilities or stormwater management facilities.
 - 6. Plant material shall be adaptable to the specific planting site and to achieve the specified design objectives of the plan.
 - 7. Plant material shall be spaced to permit the healthy growth of each plant.

8. Plant material shall attempt to mitigate adverse microclimate conditions.

(B) Quantity.

1. Street trees generally shall be at intervals not to exceed 25 feet along the street right-of-way as part of a residential or nonresidential subdivision or land development, with trees alternating from side to side 50 feet maximum spacing on any one side, or as otherwise specified by the Planning Commission.
2. An equivalent number may be planted in an informal arrangement.

(C) Location.

1. Street trees shall be planted opposite each other but shall alternate.
2. At intersections, trees shall be located no closer than 30 feet from the intersection of the curb.
3. Street trees shall be located within the Planter Strip and spaced to ensure the survivability of the tree and to eliminate any conflict with the curb, sidewalk, or underground utility.

(D) Size.

1. Tree caliper at time of planting, as measured six inches above ground level, shall be no less than 2 1/2 inches in both residential and nonresidential areas.

(E) Approved Plant Material. Plant material shall be in accordance with Appendix A, Planting Materials Standards.

(F) Reasonable effort should be made by the Applicant to preserve existing shade trees and, in addition, deciduous hardwood trees.

§22-423 Buffering and Screening

(A) Use Requirements. Buffer plantings shall be installed in subdivisions and land developments to integrate new development with its surroundings, to separate incompatible land uses by providing screening, to reduce wind, and to minimize or eliminate views to certain site elements in compliance with the following regulations.

(B) Buffer and screen plantings shall be required for the following types of development and as otherwise specified in the Borough Zoning Ordinance (Chapter 27 of the Borough Municipal Code):

1. All nonresidential development.

2. All single-family detached development.
3. All multi-family, single-family attached, and semi-attached development.
4. All manufactured home parks.
5. Active recreational facilities.

(C) An on-site investigation by the Applicant shall determine the adjacent land uses along each property boundary. In the case of vacant land, the existing zoning shall be used. The existing or zoned uses shall be noted on the plan. In the case when several uses are allowed on a site, the most restrictive landscaping requirements shall apply as determined by the Borough. See Table 3-8.

Table 3-8, Land Uses and Buffer Types

Proposed Use	Existing Uses		
	Non-Residential	Single-Family Attached/ Multi-Family/ Manufactured Home Park	Single-Family/ Two-Family
Non-Residential	Softening	Screening	Screening
Residential	Screening	Softening	Filtering
Active Recreation	Filtering	Softening	Softening

(D) Buffer Area Location and Dimensions.

1. A buffer planting area of not less than eight (8) feet in width shall be established along all property lines and external Street boundaries of the tract proposed for subdivision or land development unless otherwise specified in the zoning ordinance. Where zoning regulations allow building setbacks less than eight (8) feet, the buffer area may be reduced to equal the width of the minimum building setback.
2. The buffer area may be included within the front, side, or rear yard setback.
3. The buffer area shall be a continuous pervious planting area consisting of canopy trees, small understory trees, and shrubs, with grass or ground cover. No paving shall be permitted within the buffer areas except for Driveway crossing and/or walkways.
4. Parking is not permitted in the buffer area.

(E) Minimum Plant Material Requirements. Table 3-09 specifies the minimum plant material requirements. Additional plant material, grading treatments, or architectural elements may be included in the plan at the Applicant's discretion. Each one hundred (100) linear feet of property line or external Street boundaries of the tract proposed for subdivision or land

development shall be buffered with the specified minimum quantities, types, and sizes of plant material. All plant material must meet the Planting Standards listed under §22-426

Table 3-09, Minimum Plant Material Requirements

Buffer Type	Minimum Plant Materials
Softening Buffer	1 canopy tree 2 understory trees 2 evergreen trees
Filtering Buffer	2 canopy trees 2 understory trees 5 evergreen trees 5 shrubs
Screening Buffer*	8 evergreen trees 2 understory trees 2 canopy trees 10 shrubs -OR- 30 upright evergreen shrubs -OR- 15 upright evergreen shrubs 4 ornamental trees or 3 canopy trees -or an alternative planting design that will result in at least an equivalent degree of visual screening to one of the above screening buffers.
Limited Area/Buffer**	1 upright evergreen shrub per 3' -OR- 4-6 foot solid fence or wall

*A screening buffer must be adequate to visually screen the proposed land use or development from off-site view. Several different planting options could be used to create an effective buffer. Grading treatments and architectural features, such as walls, fences, and/or naturally undulating berms may be required in addition to the minimum planting quantities in order to effectively provide a visual screen.

**The limited area buffer can be used in older developed areas where space for planting is severely restricted. The planting screen would be equivalent to an evergreen hedge planting. Alternative planting arrangements, such as shade or flowering trees with deciduous shrubs, could be considered in conjunction with a fence or wall, at the discretion of the Borough.

(F) Mitigation of Visual Impacts.

1. The use of a screening buffer planting shall be required to mitigate the adverse visual impacts that the proposed land uses, or site elements have on the subject tract, adjoining properties, and the community in general. In addition to the requirements for buffer

plantings as listed in Table, the following proposed land uses and site elements shall be screened from off-site with a screening buffer planting:

- a. Dumpsters, trash disposal, recycling areas, and mechanical equipment.
- b. Service and loading docks.
- c. Outdoor storage areas.
- d. Sewage treatment plants and pump stations.

2. Existing topographic conditions, such as embankments or berms, in conjunction with existing vegetation, may be substituted for part or all of the required buffers at the discretion of the governing body. The minimum visual effect shall be equal to or exceed that of the required buffer or screen.
3. Constructed berms or other architectural elements, such as walls or fencing, may be substituted for part of the landscape buffering requirements.

(G) A buffering and landscaping plan shall be prepared and submitted pursuant to the land development plan application requirements specified under Part 2 of this Chapter.

§22-424 Parking Lot Landscaping

(A) General.

1. Parking lots and access drives shall be effectively landscaped with trees and shrubs to reduce the visual impact of glare from headlights and parking lot lights; delineate driving lanes; and define rows of parking. Furthermore, parking lots shall be adequately landscaped to provide shade in order to reduce the amount of reflected heat and to improve the aesthetics of parking lots.
2. All parking spaces and access drives shall be placed behind the building setback line; except where buffer yards are required in which case such parking spaces and access drives may not encroach on the buffer yard area.

(B) Planting Regulations. All parking lots shall be landscaped according to the following regulations:

1. Parking Stall Rows.
 - a. One (1) planting island shall be provided for every fifteen (15) parking stalls. There shall be no more than fifteen (15) contiguous parking stalls in a row without a planting island.

- b. Alternatively, the Applicant may provide one (1) canopy tree for every ten (10) parking spaces in other planting island areas and in perimeter parking planting areas at the discretion of the governing body.
2. The ends of all parking rows shall be divided from drives by planting islands.
3. In residential developments, large parking lots shall be divided by planting strips into smaller parking areas of no more than forty (40) stalls.
4. In mixed-use and nonresidential developments, large parking lots shall be divided by planting strips into smaller parking areas of no more than one hundred (100) stalls.
5. Planting islands shall be the dimensions of one parking stall or a nine (9) feet by eighteen (18) feet area, whichever is greater, underlain by soil, and shall be protected from vehicle traffic with curbing, wheel stops, or bollards. Each planting island shall contain one shade tree plus low-growing shrubs and/or groundcover over the entire area.
6. All planting strips shall be a minimum of fifteen (15) feet wide. Strips shall run the length of the parking row, underlain by soil, and shall be protected with curbs, wheel stops, or bollards. Planting strips shall contain plantings of one canopy tree every twenty-five (25) feet, plus shrubs and/or groundcover to cover the entire area at maturity.
7. The placement of light standards shall be coordinated with the landscape plan to avoid a conflict with the effectiveness of light fixtures.

(C) Screening Requirement. All parking lots shall be screened from public roads and from adjacent properties according to the following:

1. The perimeter of all parking lots shall be planted with a filtering buffer as per §22-423 Parking Lot Landscaping.
2. Reduction in Width. The width of the perimeter parking lot planting area may be reduced to a minimum width of eight (8) feet if an enhanced landscape buffer is provided as follows:
 - a. The landscape buffer shall be planted with a combination of trees, shrubs, perennials, groundcovers, and grass.
 - b. The landscape buffer shall be designed with a minimum forty (40) percent coverage in trees and large shrubs.
 - c. Small shrubs, perennials, ornamental grasses, groundcover, and grass may constitute no more than sixty (60) percent coverage of the landscape buffer.

- d. Landscape buffers shall have a minimum of one (1) street tree for every twenty-five (25) linear feet of a landscape buffer to the nearest whole number. Street trees shall be in accordance with §22-332, Figure 3-1.
- e. The required plant materials may be installed in the required area in any arrangement and do not need to be linear in design. Trees and shrubs required herein may be planted and spaced singly or in groups so long as the total number of plantings is achieved. Clumping is permitted provided that adequate spacing is allowed for future growth.
- f. Where street trees are permitted to be placed outside of the street right-of-way, said street trees are permitted to be included towards meeting the planting requirements for the adjacent buffer areas.
- g. Landscape buffer coverage will be calculated as follows:
 - 1. Calculate the total spatial area required for the landscape buffer.
 - 2. Calculate the total coverage of landscape materials, ensuring that the coverage of trees and large shrubs is greater than or equal to forty (40) percent of the total area of the buffer. Areas provided provide some credit for the tree cover canopy at full growth. The following sizes shall be used when calculating coverage of the landscape materials:
 - a. Large deciduous trees at least two and one-half (2½) inches caliper at the time of planting, with an expected mature height of at least thirty (30) feet: one hundred fifty (150) square feet.
 - b. Small ornamental or under-story trees at least one and one half (1½) inches caliper at the time of planting, with an expected mature height of at least eighteen (18) feet: fifty (50) square feet.
 - c. Evergreen trees shall be at least six feet tall at the time of planting, with an expected mature height of at least thirty (30) feet: fifty (50) square feet.
 - d. Large shrubs at least thirty (30) inches tall at the time of planting and at least five-gallon container size; mature height shall reach at least four feet: sixteen (16) square feet.
 - e. Small shrubs shall be at least eighteen (18) inches tall at the time of planting and at least three-gallon container size; mature height shall reach at least three feet: nine square feet.
 - f. Ornamental grasses shall be at least three-gallon container size: five square feet.

- g. Shrubs used as ground cover shall be at least one-gallon container size: three square feet.
- h. "Ground cover" is defined as plantings to prevent soil erosion and may include small shrubs, herbaceous perennials, meadows, grasses, bulbs, and annuals. Plants shall be spaced appropriate to type and size at installation. Ground cover plants shall be spaced and seeding rates sufficient so the 100% of the beds are covered after three years growth.
3. Any exposed ground should be planted with a ground cover or an appropriate mulching material. Mulching materials shall not exceed four inches in height.
4. The remaining ground area shall be sodded, seeded or hydroseeded with grass, and/or planted with groundcover species and/or provided with other landscaping material, or any combination thereof.

§22-425 Stormwater Basin and Natural Areas Planting

(A) Landscaping shall be required in and around all stormwater management basins and natural areas according to the following:

1. All areas of stormwater management basins, including basin floors, side slopes, berms, impoundment structures, or other earth structures, shall be planted with suitable vegetation, such as naturalized meadow plantings or lawn grass specifically suited for stormwater basins.
2. Trees and shrubs shall be planted in and around stormwater basins if they do not interfere with the proper function of the basin and no trees are planted within thirty (30) feet of an outlet/drain structure, emergency spillway, or dam. A minimum of one (1) tree per forty-five (45) linear feet of basin perimeter shall be planted in and around the basin.
3. Naturalized ground cover plant species, such as wildflowers, meadows, and nonaggressive grasses specifically designed for the permanently wet, intermittently wet, and usually dry areas of stormwater basins, shall be seeded in the floors and slopes of the basin and meet the following requirements:
 - a. The plantings provide a satisfactory continuous cover for all areas of the basin.
 - b. The plantings do not interfere with the safe and efficient function of the basin as determined by the Borough Engineer.
 - c. Tree plantings on berms is prohibited.

4. Lawn grass areas may be sodded or hydro-seeded to minimize erosion during the establishment period. Once established, these turfgrass areas shall be maintained at a height of not more than six (6) inches.
5. Stormwater basins shall be screened from adjacent properties using the buffer plantings standards according to §22-423 Buffering and Screening.

§22-426 Plant Materials Specifications

A) General Requirements.

- 1) Plant species shall be selected from the species listed in subsection Appendix A and shall not be included on the current list of Invasive Plants in Pennsylvania as published by the PA Department of Conservation and Natural Resources (PA DCNR).
- 2) The location, dimensions, and spacing of required plantings should be adequate for their proper growth and maintenance taking into account the sizes of such plantings at maturity and their present and future environmental requirements and tolerances, including wind, moisture, and sunlight.
- 3) Plantings should be selected and located where they will not contribute to conditions hazardous to public safety. Such conditions include, but are not limited to, public Street rights-of-way, underground and above ground utilities, and sight triangle areas required for unobstructed views at Street intersections.
- 4) Bare root trees are not permitted.

B) Plant Specifications.

- 1) All plants shall meet the minimum standards for health, form, and root condition as outlined in the American Association of Nurserymen (AAN) Standards.
- 2) All plant material shall be hardy and within the USDA hardiness Zone 6, applicable to Lehigh County, Pennsylvania.
- 3) Canopy trees or shade trees shall reach a minimum height and spread of thirty (30') feet at maturity as determined by the AAN Standards and shall be deciduous. New trees shall have a minimum caliper of two and a half (2-1/2) inches at planting. Larger size trees may be required as Street trees in commercial areas.
- 4) Ornamental trees or large shrubs shall reach a typical minimum height of fifteen (15) feet at maturity, based upon AAN standards. Trees and shrubs may be deciduous or evergreen and shall have distinctive ornamental characteristics such as prominent flowers, fruit, habitat, foliage, or bark. New ornamental trees shall have a minimum height of six (6) feet or one and a half (1-1/2)

inch caliper at the time of planting. New large shrubs shall have a minimum height of two and a half (2-1/2) feet at the time of planting.

- 5) Evergreen trees shall reach a typical minimum height of twenty (20) feet at maturity based upon AAN Standards for that species and shall remain evergreen throughout the year. New evergreens shall have a minimum height of seven (7) feet at the time of planting.
- 6) Small shrubs may be evergreen or deciduous and shall have a minimum height at maturity of four (4) feet based upon AAN Standards. New shrubs shall have a minimum height of eighteen (18") inches at the time of planting.

C) Maintenance.

- 1) Safety. All sight triangles shall remain clear, and any plant materials that could endanger safety, such as unstable limbs, shall be removed, and the plant materials shall be replaced if necessary. It shall be the responsibility of all property owners to maintain all plantings and architectural elements to ensure a safe environment.
- 2) Maintenance guidelines for the plantings should be developed by the planting plan designer to be used by grounds maintenance personnel.

§22-427 Preservation and Protection of Existing Vegetation

(A) Preservation of Existing Vegetation.

1. All subdivisions and land developments shall be laid out in such a manner as to minimize the removal and/or disturbance of healthy trees, shrubs, and other vegetation on the site. Special consideration shall be given to mature specimen trees and ecologically significant vegetation.
2. Removal or disturbance of vegetation in environmentally sensitive areas, including wetlands, floodplains, steep slopes, riparian corridors, wildlife habitats, and ecologically significant woodlands shall be undertaken only as permitted in this Subpart to minimize the adverse effects of such actions.
3. The Applicant shall prove to the satisfaction of the Borough Council that vegetation removal is minimized. A written document or plan may be requested to be performed by a registered landscape architect or other qualified professional, showing that no more desirable layouts are possible and no alternative clearing or grading plan would reduce the loss of mature trees, tree masses, and woodlands.
4. Each freestanding mature tree, tree mass, or woodland on the site shall be designated "TO REMAIN" or "TO BE REMOVED" in accordance with the following criteria:
 - a. A mature tree, tree mass, or woodland may be designated "TO BE REMOVED" only if it meets all of the following criteria:

- (1) The outermost branches of the tree(s) are at least five (5) feet or the trunk of the tree at least twenty-five (25) feet, whichever is less, from any proposed buildings, structures, paving, parking, or utilities (overhead or underground).
- (2) The outermost branches of the tree(s) are at least five (5) feet, or the trunk of the tree is at least twenty (20) feet, whichever is greater, from any proposed changes in grade or drainage, such as excavations, mounding, or impoundments.
- (3) The tree(s) interfere with traffic safety or are located within proposed sight triangles.
- (4) The tree(s), by its location or apparent health, poses any undue threat to the health, safety, and welfare of the community.
- (5) The tree blocks required solar access.

- b. Mature trees, tree masses, or woodlands that do not fit the above criteria should be designated "TO REMAIN."
- c. Unique or Specimen Trees should be preserved.

(B) Protection of Existing Vegetation.

- 1. Existing vegetation designated "TO REMAIN," in accordance with this Subpart., as part of the landscaping of a subdivision or land development plan, shall be identified in the field prior to any clearing and shall be physically protected throughout the construction process.
- 2. A temporary, sturdy physical barrier, such as a snow fence, shall be erected a minimum of one (1) foot outside the drip line or a minimum of twenty (20) feet from the tree's trunk, whichever is greater on all sides of freestanding trees, tree masses, or woodlands prior to major clearing or construction. The barrier shall be placed to prevent disturbance to or compaction of soil inside the barrier and shall remain until construction is complete. The barrier shall be shown on the erosion and sedimentation control plan and the landscape plan.
- 3. Reference to the installation of tree protection should be included in the sequence of construction notes to ensure incorporation of tree protection before the earliest stages of site disturbance.
- 4. All subdivisions and land development shall be laid out in such a manner as to preserve the healthy trees on the site. If trees greater than eight (8) inches in caliper are removed,

they shall be replaced by trees of 3 ½ inch minimum caliper which appear on the recommended plan list. Appendix A: Planting Materials Standards.

§22-428 Natural Features Preservation

- A) General. The design and development of all subdivision and land development plans shall preserve, whenever possible, natural features which will aid in providing open space for recreation and conditions generally favorable to the health, safety, and welfare of the residents of the Borough. These natural features include: the natural terrain of the site, woodland areas, large trees, natural watercourses and bodies of water, wetlands, rock outcroppings, and scenic views.
- B) Lake, Stream, and Riverfront Protection.
 - 1) Maintenance easement for the Borough or its designee, with a minimum width of twenty-five (25) feet, shall be provided along all stream and riverbanks and lake edges. Such easement, in all cases, shall be of sufficient width to provide proper maintenance.
 - 2) Lake, stream, and river frontage shall be preserved as open space whenever possible.
 - 3) Access shall be provided to the water and maintenance easement area. The width of such access points shall not be less than fifty (50) feet.
- C) Wetlands.
 - 1) When hydric soils are indicated on the site, a wetlands study should be conducted in accordance with the current edition of the U.S. Army Corps of Engineers Wetlands Delineation Manual. In the event no wetland study is undertaken, the location of soils rated as all hydric in the Lehigh County Soil Survey on site will be assumed to be wetlands for the purpose of this Chapter and so noted on the plan.
 - 2) Wetlands, as defined by the U.S. Army Corps of Engineers and the Commonwealth of Pennsylvania in accordance with Section 404 of the Federal Clean Water Act of 1977 and the Pennsylvania Clean Streams Act, shall be preserved in subdivisions and land developments. Required permits shall be obtained at an early stage to determine the extent and location in the proposed subdivision and/or land development.
 - 3) After recommendation of the Planning Commission, the Borough Council may require a buffer setback around the perimeter of all identified wetlands. The buffer area shall consist of permanent vegetation consisting of predominantly native trees, shrubs, and forbs maintained in a natural state or sustainably managed to protect and enhance water quality. No removal of vegetation, except the selective removal of dead trees and or other noxious vegetation in the wetland area or buffer shall take place without the specific permission of the Borough.
- D) Setback from Liebert's Creek and Major Drainage Channels.

- 1) Purposes. To protect the water quality of surface waters, preserve physical access to surface waters in case of future public acquisition, minimize erosion and sedimentation, preserve the natural stormwater drainage system of the area, conserve sensitive wildlife and aquatic habitats, preserve vegetation along waterways that will help screen out eroded soil and other pollutants and provide for setbacks that can be used as required yard areas for a use.
- 2) Setback From Liebert's Creek and Major Drainage Channels. No building or paved area (other than approved street and driveway crossings) shall be located within:
 - a) 50 feet of the top of bank of Liebert's Creek; or
 - b) within 10 feet of the edge of the top of bank of any other drainage channel or as required by Pennsylvania DEP.
- 3) Exemption. The setbacks of this section shall not apply to public utility facilities or publicly owned recreational facilities.
- 4) Setback Areas and Construction. During any filling, grading, or construction activity, all reasonable efforts shall be made to leave the setback areas of this section undisturbed, except at approved waterway crossings.

E) Topography. The existing natural terrain of the proposed subdivision tract shall be retained whenever possible. Cut and fill operations shall be kept to a minimum.

F) Slopes. Areas of steep slope shall be preserved as required below.

- 1) All grading and earthmoving on slopes exceeding fifteen (15) percent shall be minimized.
- 2) No site disturbance shall be allowed on slopes exceeding twenty-five (25) percent except grading for a portion of a Driveway accessing a single-family dwelling when it can be demonstrated that no other routing which avoids slopes exceeding twenty-five (25) percent is feasible.
- 3) On slopes of fifteen (15) percent to twenty-five (25) percent, the only permitted grading beyond the terms described above shall be in conjunction with the siting of a single-family dwelling and its access Driveway.
- 4) Grading or earthmoving on all sloping lands of fifteen (15) percent or greater shall not result in earth cuts or fills whose highest vertical dimension exceeds six (6) feet, except where in the judgment of the Borough Council no reasonable alternatives exist for the construction of roads, drainage structures and other public improvements, in which case, such vertical dimensions shall not exceed twelve (12) feet. Roads and driveways shall follow the line of existing topography to minimize the required cut and fill. Finished slopes of all cuts and fills shall be as required to minimize disturbance of natural grades.

G) Soils – Alluvial Soils

1) Determination of Alluvial Soils Areas.

a) The following soil types have been designated as "alluvial soils" by the USDA Natural Resources Conservation Service (NRCS), and are identified as "soils subject to flooding" on the soil maps published by the US Department of Agriculture:

- (1) Aw Atkins silt loam
- (2) Ln Linside silt loam
- (3) Mh Melvin silt loam
- (4) MkA Melvin silt loam, local alluvium, 0-3% slopes
- (5) MkB Melvin silt loam, local alluvium, 3-8% slopes

b) The Borough Zoning Officer shall require that a detailed on-site survey be made (by a qualified engineer, soil scientist or qualified sanitarian approved by the Borough Council) in accordance with accepted on-site survey techniques to determine the exact extent and nature of all areas susceptible to potential problems of flooding, wetness, or pollution before issuing a zoning permit for:

- (1) Any proposed use within an "alluvial soils" area; or,
- (2) Any underground sewage disposal system which is located within 100 feet of an "alluvial soils" area.

2) Use Regulations. The following uses shall be prohibited on any portion of a site which, upon completion of the detailed on-site survey is found to contain potential hazards due to flooding, wetness, or pollution:

- a) All new or substantially improved residential dwellings and commercial, institutional, or industrial structures, including hospitals, nursing homes, jails and manufactured homes and their accessory structures.
- b) Any new or substantially improved structure which will be used for the production or storage of any of the following materials or substances, or which will be used for any activity requiring the maintenance of a supply (more than 550 gallons or other comparable volume, or any amount of radioactive substances) of any of the following materials or substances on the premises: acetone, ammonia, benzene, calcium carbide, carbon disulfide, celluloid, chlorine, hydrochloric acid, hydrocyanic acid, magnesium, nitric acid and oxides of nitrogen, petroleum products (such as gasoline or fuel oil), phosphorus, potassium, sodium, sulfur and sulfur products, pesticides (Including insecticides, fungicides and rodenticides), and radioactive substances, insofar as such substances are not otherwise regulated, and substances and materials defined by applicable federal and state regulations as toxic or hazardous.

§22-429 Outdoor Lighting

- A) *Illumination Levels.* Lighting, where required by this Ordinance or otherwise required by the Borough shall have intensities and uniformity ratios in accordance with the recommended practices of the Illuminating Engineering Society of North America (IESNA) *Lighting Handbook*, 9th edition, Chapters 21 & 22. (i.e., Minimum Average = 0.5 fc; Minimum = 0.1 fc; Uniformity = 6:1) 2. Future editions to said Lighting Handbook and Recommended Practices shall become a part of this Chapter without further action by the Borough.
- B) *Lighting Fixture Design.*
 - 1) Street lighting shall meet the specifications of the electric utility provider.
 - 2) Building entrances, sidewalks, paths, site entrances, parking areas, and fixtures shall be aimed straight down and shall be full cutoff or fully shielded.
 - 3) For the lighting of non-horizontal surfaces such as, but not limited to, facades, landscaping, signs, fountains, displays, flags, and statuary, the use of lighting fixtures that are not full cutoff or fully shielded, shall be permitted only with the approval of Borough Engineer, based upon acceptable shielding and other glare control. At a minimum, shielding shall render the light source not visible from neighboring properties.
 - 4) “Barn lights,” (i.e., fixtures which are not full-cutoff, or cutoff, but which have a diffuser which transmits the light at angles above full-cutoff or cutoff angles) shall not be permitted where they are visible from other uses unless fitted with a reflector or other device to render them fully shielded or full cutoff.
 - 5) All Outdoor Lighting Plans shall include the manufacturers specification and details for each fixture to ensure that standards are being met.
- C) *Control of Nuisance and Disabling Glare (Excessive Brightness in the Field of View).*
 - 1) All lighting shall be aimed, located, designed, fitted, and maintained so as not to present a hazard to drivers or pedestrians by impairing their ability to safely traverse and so as not to create a nuisance by projecting or reflecting objectionable light onto a neighboring use or property.
 - 2) Floodlights and spotlights that are not full-cutoff or fully shielded, where specifically approved by the municipality, shall be so installed, and aimed that they do not project their output into the windows of neighboring properties, adjacent uses, past the object being illuminated, skyward or onto a public roadway. Authorities having jurisdiction shall take specific care to ensure this criterion by requiring submission of photometric plots of the illuminated surface and its surroundings.
 - 3) Unless otherwise permitted by the Borough (e.g., for safety, security, or all-night commercial operations), lighting for commercial, public recreational, and institutional applications shall be controlled by programmable timers that accommodate seasonal and annual variations and battery or mechanical (e.g., spring-wound) backup, to permit extinguishing sources between 10

p.m. and dawn or within 1-hour of the close of business, whichever is earlier, to conserve energy and to mitigate nuisance glare and sky-lighting consequences.

- 4) Security lighting proposed for use after 10:00 p.m. or after the normal hours of operation for commercial, industrial, institutional, or municipal applications, shall be accomplished using no more than twenty-five (25) percent of the number of fixtures used during normal business hours, from then until the start of business in the morning. Alternatively, where reduced but continued activity requires even illumination, the use of dimming circuitry to reduce illumination levels by seventy-five (75) percent after 10:00 p.m. or after normal business hours, shall be permitted.
- 5) Glare control shall be achieved primarily with such means as cutoff fixtures, shields and baffles, and appropriate application of fixture mounting height, wattage, aiming angle, and fixture placement. Vegetation screens shall not be employed to serve as the primary means for controlling glare, except that the use of dense evergreen hedges, such as yew or juniper, to shield ground-mounted floodlights may be used with signs.
- 6) The level of illumination projected onto a residential use from another property shall not exceed 0.3 initial horizontal footcandles, at the property line. The level of illumination projected onto a non-residential use shall not exceed 1.0 initial horizontal footcandle at the property line.
- 7) Directional fixtures for such applications as façade, fountain, feature, and landscape illumination shall be aimed so as not to project their output beyond the objects intended to be illuminated and shall meet requirements stated above with respect to light trespass. Directional fixtures shall be extinguished between the hours of 10:00 PM EST and dawn and shall not conflict with the principles stated throughout this Chapter.
- 8) Only the United States Flag and the Pennsylvania State Flag shall be permitted to be illuminated from dusk till dawn and each flag shall be illuminated by a source or sources with a beam spread no greater than necessary to illuminate the flag. Flag lighting sources shall not exceed 7,000 lumens per flagpole.
- 9) The use of white strobe lighting for tall structures such as smokestacks, chimneys and radio/communications/television towers are prohibited during hours of darkness, except as specifically required by FAA.
- 10) Canopy lighting, for such applications as gas/service stations, banks, drugstores and fast-food drive-thru, shall be accomplished using flat-lens full-cutoff fixtures aimed straight down and shielded in such a manner that the lowest opaque edge of the fixture shall be level with or below the light source.
- 11) Temporary residential holiday lighting is exempt from the requirements of this Section, except as it creates a hazard or nuisance.

D) Street and Parking Lot Lighting for Residential Applications

- 1) For residential developments where lot sizes are or average less than 20,000 square feet, Street lighting shall be provided as follows:
 - a) At the intersection of public roads with entrance roads to the development
 - b) At the intersection of roads within the development
 - c) At cul-de-sac bulb radii
 - d) At terminal ends of center median islands having concrete structure curbing, trees, signs, or other fixed objects, and at cul-de-sac center islands with curbing
 - e) At defined pedestrian crossings located within the development
 - f) At other locations along the Street as deemed necessary by Borough Council.
 - g) Where lot sizes permit the parking of less than two (2) vehicles on the lot, thereby necessitating on-Street parking, Street lighting shall be provided along the length of the Street, in accordance with the illuminance requirements contained in Subparagraph (A) above.
 - h) In multi-family developments, common parking areas shall be illuminated in accordance with the luminance requirements contained in Subparagraph (A) above.
- 2) Lighting fixtures for parking lots and roadways in residential developments shall be mounted not more than fourteen (14) feet Above Finished Grade.

E) Installation.

- 1) Pole-mounted fixtures for roadways, pedestrian walkways, parking lots, and similar uses shall be aimed straight down.
- 2) Mounting Heights. The following maximum fixture mounting heights, Above Finished Grade (AFG), shall prevail:
 - a) Full-cutoff fixtures with 44,000 lumen lamps maximum, in parking lots: twenty (25) foot AFG.
 - b) Full-cutoff fixtures with 115,000 lumen lamps maximum, shall be permitted only in large (100 spaces or more) commercial, institutional, and industrial parking lots at a mounting height of thirty-five(35) feet, except when the facility is adjacent to a residential district or use or an environmentally sensitive area where the mounting height shall not exceed twenty-five feet within two hundred (200) from a residential district or use or environmentally sensitive area.
 - c) Decorative-cutoff or fully shielded fixtures with 17,500 lumen lamps maximum: 16 feet AFG
 - d) Fully shielded bollard fixtures with 6,200 lumen lamps maximum: 42" AFG e. Recreational Use. See Subparagraph (D) above.

F) Post-Installation Inspection.

- 1) The Borough reserves the right to conduct post-installation nighttime inspections to verify compliance with the requirements of this Chapter and approved plans, and if appropriate, to require remedial action at no expense to the Borough.

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PART 5 – ENGINEERING AND CONSTRUCTION IMPROVEMENT STANDARDS

§22-501 General

- A) This Part contains the construction and engineering standards for required improvements, utilities, grading and erosion control, survey detail, stormwater drainage, paving, curbing, pathways and sidewalks, emergency access, bridges, signage and markings, lighting, solid waste storage, Street names, and easements.
- B) All improvements shall be constructed and installed as designed and shown in the approved Final Plan. Construction of facilities shall conform with applicable local, state, or federal standards, requirements, and specifications.
- C) Streets shall be brought to the grades and dimensions drawn on plans, profiles, and cross-sections submitted by the subdivider and approved by the Borough Engineer. The subdivider must install the required utilities and provide, where necessary, adequate subsurface drainage for the streets. The streets shall be designed and constructed to the standards set forth in
- D) Curbs and sidewalks shall be provided in accordance with the standards set forth in §22-505 of this chapter.

§22-502 Sewers

Public Sewer Systems. When the subdivision or land development is to be provided with a complete sanitary sewer system connected to a public sanitary sewer system, a statement of approval from the engineer of the sewerage system to which it will be connected shall be submitted to the Borough Council. Where required, DEP Planning Module approval shall also be obtained for final plan approval.

§22-503 Water

- A) Provision of System. The subdivision or land development shall be provided with a complete water main supply system which shall be connected to a municipal water supply or with a community water supply approved by the engineer of the applicable water utility company and the Pennsylvania Department of Environmental Protection with satisfactory provision for the maintenance thereof.
- B) Plans. The plans for the installation of the mains of a water supply system shall be prepared for the subdivision or land development with the cooperation of the applicable water supply agency and approved by its engineer. A statement of approval from the engineer of the water supply agency to which the subdivision or land development will be connected, shall be submitted to the Borough Council. Upon the completion of the water supply system, one copy of each of the plans for such system shall be filed with the Borough.

C) **Fire Hydrants.** Fire hydrants shall be provided as an integral part of any public water supply system. The Borough Fire Chief or Fire Official shall be consulted to determine the location of proposed fire hydrants.

§22-504 Asphalt Roadway Improvements

A) All adjacent structures and areas disturbed or damaged during construction shall be properly repaired, restored, or replaced to the satisfaction of the Borough by the party causing the damage.

B) All trees, roots, stumps, brush, down timber, wood, rubbish, and any objectionable material shall be removed from the full legal right-of-way, or as approved by the Borough Engineer. Efforts shall be made during construction of roadways to preserve any vegetation, specifically for preservation, as identified in the landscaping plan.

C) ***Paving.*** The pavement of all streets and all commercial, industrial, multifamily parking areas, and driveways into and out of parking areas shall be installed as shown on the Final Plan and in accordance with the following standards:

- 1) ***General.*** All paving shall be constructed both as to materials and methods, generally in conformance with applicable portions of PennDOT Specifications Publication 408.
- 2) ***Pavement Design.*** Pavement construction shall conform to the minimum standards for different types of streets and parking areas as indicated in Table 5-1.
- 3) ***Pavement Cross-Section.*** All pavements, except where super elevated for curves, shall conform with the Typical Roadway Cross-Section Construction Standards illustrated in Figure 5-2.
- 4) ***Alternative Paving.*** Alternative paving specifications may be approved for roads, driveways, and parking lots not intended for dedication to the Borough, in commercial, industrial, rural, multifamily, and Manufactured Home Park areas.
- 5) Aggregates, coarse and fine, for binder coarse shall be made from stone, gravel, or other recycled aggregate, or glass and shall meet the quality requirements for Type A stone and Type A gravel. Fine aggregate shall be natural sand, manufactured sand, or fine recycled glass cullet composed of free hard, durable, uncoated particles and free of lumps of clay and organic material. Fine sand shall meet the gradation requirements in Table A, Section 703, Penn DOT Publication 408, latest revision. The coarse aggregates shall meet the grading requirements indicated above.

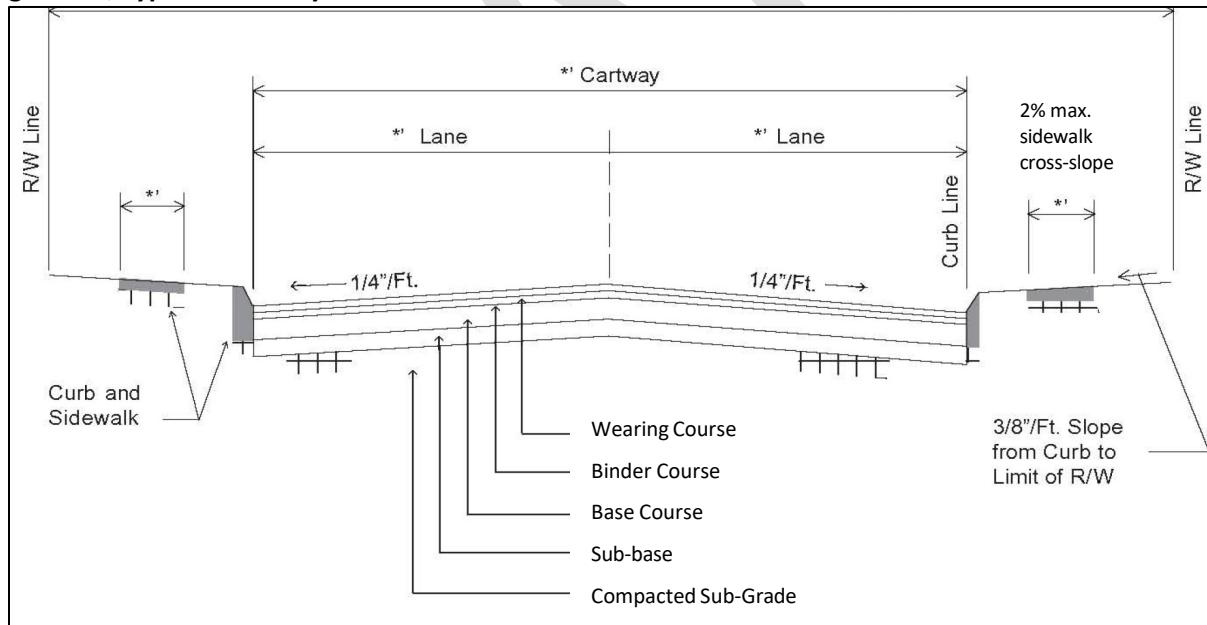
D) ***Pavement Cross Slopes.*** The typical pavement cross slope on proposed streets shall not be less than one fourth (1/4") inch per foot and not more than one half (1/2")-inch per foot. The typical slope of the shoulder areas shall not be less than three fourth (3/4")-inch per foot and not more than one (1")-inch per foot.

Table 5-1, Minimum Street Construction Standards

Material Type	Local Road	Arterial or Collector Road
WMA Wearing Course – 9.5MM	1-1/2"	1-1/2"
WMA Binder Course, 19.0 MM	3"	3"
WMA Base Course 25.0 MM	5"	5"
PennDOT No. 2A Coarse Aggregate Subbase	6"	8"
Minimum Design Structural Number	2.8	3.5

NOTES:

1. All thickness specifications are for compacted materials.
2. Permanent cul-de-sac Street, marginal access Street, service Street, and off-Street parking construction shall conform to standards for local roads.
3. All base courses and/or binder courses shall be overlaid with a wearing course no later than one year after installation unless approved otherwise. Binder course shall be installed immediately following base course installation. Parking construction shall conform to standards for local roads.

Figure 5-2, Typical Roadway Cross-Section Construction Standards.

§22-505 Concrete Sidewalk Improvements

- A) Concrete sidewalks shall be constructed in accordance with Chapter 21, Part 4 of the Code of Ordinances.
- B) Sidewalks shall be inspected by the Borough Engineer or his designated agent after the forms have been placed, just prior to the pouring of concrete and after completion of all work.

§22-506 Crosswalk Improvements

- A) Crosswalks shall be installed pursuant to Chapter 3 of PennDOT Publication 46, Traffic Engineering Manual and extend from curb ramp to curb ramp or shoulder to shoulder. If traffic stop bars are installed, they should be located at least four (4) feet in advance of and parallel to the crosswalk lines.
- B) Pavement markings shall be installed using approved materials specified in Chapter 3 of PennDOT Publication 46, Traffic Engineering Manual. Corresponding sections in the PennDOT Specifications (PennDOT Publication 408, Specifications, along with a list of approved manufacturers (PennDOT Publication 35/Bulletin 15) shall also be consulted.

§22-507 Trails and Pathways Improvements

Trails and Greenways shall be developed in accordance with the Borough of Emmaus Greenways and Trails Plan (See Appendix E)

§22-508 Driveways

- A) Driveway Crossover The crossover in the Driveway area shall be constructed in accordance with Part 4, Sidewalk and Curb Construction, Section 21-4040.10
- B) Driveways normally used by not more than twenty-five (25) vehicles per day shall comply with the standards contained in the Pennsylvania Code, Title 67, Transportation, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads, Section 441.8, (i), (5), Grade Requirements Where Curbs and Sidewalks are Present. Driveways normally used by more than twenty-five (25) vehicles per day shall comply with standards appropriate for their anticipated traffic volumes in conformance with accepted engineering standards and practices.

§22-509 Curb Construction

- A) Curbs shall be constructed in accordance with the cross-section details shown on approved drawings.
- B) Curbs shall be set and finished to the line and grade as shown on approved drawings.
- C) Curb construction shall be in accordance with Part 4, Sidewalk and Curb Construction, of the Borough of Emmaus Municipal Code.

- D) Curbs shall be inspected by the Borough Engineer after the forms have been placed, just prior to the pouring of concrete and after completion of all work.
- E) The Borough Engineer shall determine which curbs and sidewalks do not meet the specifications required above or have substantial spalling or deterioration.

§22-510 Stormwater Management and Drainage Improvements

Refer to Chapter 26, Part 3 for all Stormwater Management standards.

§22-511 Utility Locations, Easements, and Rights-of-Way

A) General.

- 1) Easements and required front, side, or rear yards may co-occupy the same land as utilities.
- 2) Nothing shall be permitted to be placed, planted, set, or put within the areas of an easement unless it is a portable or removable object unless written consent is provided by the holder of the easement.
- 3) The owner of any lot, upon written request by the Borough and at the owner's sole expense, shall remove anything placed, planted, set, or put (with or without knowledge of these regulations) within the area of any easement.
- 4) To the fullest extent possible, easements shall be adjacent to rear or side lot lines and occupying only a portion of one (1) lot (not centered on two (2) lots).

B) Widths and locations of easements and rights-of-way shall be determined by the Borough Engineer or the appropriate authority or utility company for all utilities, including stormwater facilities. The location and design of the utilities shall be governed by the requirements specified herein.

C) No right-of-way or easement for any purpose whatsoever shall be recited or described in any deed unless the same has been shown on the approved plan. Any error found in a deed shall be immediately corrected and re-recorded in the office of the Lehigh County Recorder of Deeds at the sole expense of the Applicant.

D) Utility Easements. A minimum width of fifteen (15') feet shall be provided for common utilities and drainage when provided in undedicated land for one use. Multiple utility uses within one (1) easement require additional easement width.

E) Public Utilities. All water, sewer, gas mains, and other underground facilities shall be installed prior to Street paving at locations approved by the Borough Engineer.

F) Underground Utilities. All water, sewer, and gas mains shall be installed underground. All electric, telephone, and communication services, both main and service lines, shall be provided by underground cables, installed in accordance with the prevailing standards and practices of the utility

or other companies providing such services, except where it is demonstrated to the satisfaction of the Borough Engineer those underground installations herein required are not feasible because of physical conditions of the lands involved. All main underground cables which are within the right-of-way of a Street shall be located as specified by the utility company, subject to approval by the Borough Council, upon recommendation of the Borough Engineer.

- 1) To promote and facilitate the underground installation of utility distribution lines, a letter of endorsement shall be required from the suppliers of utility service (not limited to electrical, telephone, or cable television) of the developer's choice wherein the Applicant acknowledges that underground utilities are feasible and shall be consummated as part of the improvement plan.
- 2) A written statement relative to the intent of the developer to provide underground utility service shall be placed on the Final Plan prior to final approval of the plan.
- 3) The provisions in this Chapter shall not be construed as to limit or interfere with the construction, installation, operation, and maintenance of public utility structures or facilities which may hereafter be located within public easements or rights-of-way designated for such purposes.

§22-512 Domestic Wastewater Facilities

The construction of all public sanitary sewer systems shall conform to the specifications, requirements, rules, and regulations of the municipal authority and the PADEP Protection Domestic Wastewater Facilities Manual.

§22-513 Water Supply

The construction of all public water supply systems shall conform to the specifications, requirements, rules, and regulations of the appropriate public water utility provider and the PADEP.

§22-514 Bridges and Culverts

- A) Bridges and culverts shall be constructed pursuant to the design standards specified on the approved Final Plan.
- B) A permit from PADEP shall be obtained to make any change or addition to any existing water obstruction or in any manner change or diminish the course, current, or cross-section of any stream or body of water.

§22-515 Survey Monuments

A) Permanent Monuments.

- 1) Permanent monuments shall be indicated on the record plan

- 2) All monuments shall be constructed of precast concrete or durable stone with metal insert(s) and be six (6) inches square with at least thirty (30) inches extending below ground level, or an alternate design approved by the Borough Council in consultation with the Borough Engineer.
- 3) Street right-of-way reference monuments shall be located on the right-of-way lines at corners, angle points, beginning and end of curves, and as otherwise required by the Borough Engineer for all new and existing streets. They shall be placed after a new Street and/or lot grading has been completed. The centerline of all new streets shall be marked with spikes (P.K. nails) and referenced to permanent monuments or structures.
- 4) Certified copies of permanent monument reference information shall be submitted to the Borough Engineer. When final lot grading has been completed, and before the issuance of a certificate of occupancy, permanent monuments shall be set by the Applicant at all lot corners and angle points and at all Street intersections and intermediate points as may be required.

B) *Lot Pin Requirements.*

- 1) All lots upon which construction is planned shall be temporarily staked or pinned, or permanently monumented and certified to such by a registered surveyor for the owner, Applicant, builder, or developer before issuance of a building permit.
- 2) Temporary stakes or pins with a surveyor's ribbon attached may be acceptable on existing lots where construction of an accessory building or an addition to the primary structure is proposed. Temporary stakes or pins shall remain in place until witnessed and accepted by the Borough Building Official.
- 3) Prior to final approval of a new subdivision plan, all new lot corner markers shall be marked with a minimum five-eighth (5/8) inch diameter metal pin extending at least twenty-four (24) inches into the ground and at least one (1) inch revealed above the ground surface, or an equivalent metal marker, approved by the Borough Engineer. Upon completion of construction and final grading, pins shall be replaced with permanent monuments, which shall be either concrete monuments or permanent pins.

C) *Original Monuments.*

- 1) In situations where they may be of legal or historical importance, the original monuments and marks must not be destroyed, defaced, hidden, or possibly confused by creating new monuments and marks unless necessary, e.g., the originals are decayed, destroyed, or unsafe.
- 2) In some cases, to be determined by the Borough Engineer, new monuments should be set as a reference or witness to the original monument to avoid disturbing the original. When in the opinion of the Borough Engineer, the angle point falls in a location that is not appropriate to set a concrete monument, a written request for a waiver shall be submitted for consideration by the Borough Council.

§22-516 Emergency Accessways

- A) Minimum cartway width for the emergency access shall be twelve (12) feet.
- B) When paved, the pavement shall conform to §22-504 Asphalt Roadway Improvements.
- C) When not paved, the cartway shall be constructed of crushed stone of appropriate size, depth, and compaction to support the largest emergency response vehicle in the vicinity of the site under all weather conditions. The emergency access may also be constructed from fiber-reinforced polyethylene or concrete grass pavers. All void areas shall be filled with topsoil and seeded with an appropriate grass mix.
- D) An “Emergency and Authorized Vehicle Sign” shall be placed at the entrance to the emergency access way. If necessary, breakaway bollards shall be installed at each end of the emergency access way. Other access security measures, including the installation of Knox box systems or other applicable technologies shall be approved by the Borough Fire Marshall.
- E) Emergency accessways shall be maintained through properly recorded easements or deed restrictions which at a minimum prohibit the planting of any vegetation except grass within the access way and a buffer area of five (5) feet on either side.
- F) Emergency accessways shall be approved by the Borough Council in consultation with the Borough Engineer and Borough Fire Marshall.

PART 6 – GUARANTEE OF IMPROVEMENTS STANDARDS

§22-601 Applicability

Before the Final Plan is signed and made ready for recording or prior to the issuance of any permits needed for construction or occupancy of any subdivision or land development, all applicants are required to complete, to the satisfaction of the Borough Council, or ensure the completion of all required public improvements in the manner set forth in this Part.

§22-602 Completion or Guarantee of Improvements

- (A) The Applicant shall comply with the public improvement construction requirements in the following ways:
 - 1. Complete all improvements required by the Borough Council for Final Plan Approval, in compliance with the requirements of this Chapter;
 - a. OR
 - 2. Provide proper financial security in a manner acceptable to the Borough to ensure the completion of all improvements, as required by this Article, in compliance with the MPC.
- (B) The work completed or guaranteed shall be in strict accordance with the conditionally approved plans and the requirements of this Chapter.
- (C) No lot in a subdivision may be sold, and no permit to erect, alter, or repair any building upon land in a subdivision or land development will be issued unless and until a subdivision and/or land development plan has been approved, and where required, recorded, and until the required improvements in connection therewith have either been completed or guaranteed for completion as required herein.
- (D) The Applicant shall also guarantee that no lot will be sold or building constructed in any floodplain area except in compliance with Chapter 5 (Borough Code Enforcement), Chapter 8 (Floodplains), and Chapter 27 (Zoning) of the Borough Municipal Code.
- (E) The Borough Council may defer at the time of Final Plan approval, subject to appropriate conditions, the provision of any or all required improvements, as in its judgment, are not requisite in the interests of public health, safety, and welfare, or which are inappropriate due to the inadequacy or nonexistence of connecting facilities. A separate public improvement agreement may be executed by the Borough Council, guaranteeing completion of any deferred improvement at some later date.
- (F) The Developer shall remit a certificate of liability insurance to the Borough prior to commencing any public improvements.

§22-603 Financial Security

- (A) In lieu of the completion of improvements required for Final Plan approval, financial security, in an amount required, shall be guaranteed to the Borough in compliance with the applicable requirements of the MPC. Such financial security shall assure the complete installation of all the required improvements to be completed on or before the date fixed in the conditional plan approval, subdivision agreement, and/or development agreement for completion of such improvements.
- (B) The amount of such security to be posted for the completion of required improvements shall be equal to one hundred ten (110) percent of the cost of completion estimated as of ninety (90) days following the date scheduled for completion by the developer. Annually, the Borough may adjust the amount of the required financial security by comparing the actual cost of improvements that have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the ninetieth (90th) day after the originally scheduled date for completion or a rescheduled completion date.
- (C) Determination of the cost of the completion of improvements used for setting the amount of financial security shall be based upon an estimate of the cost of completion of required improvements submitted by the Applicant or developer and prepared by a professional engineer and certified to be fair and reasonable. The Borough Council, under the recommendation of the Borough Engineer, may refuse to accept the estimate for good reasons provided to the Applicant. If the Applicant or developer and the Borough are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another professional engineer who is mutually chosen by the Borough and the Applicant. The estimate certified by the third-party engineer shall be presumed to be fair and reasonable and shall be the final estimate.
- (D) When requested by the Applicant to facilitate financing, the Borough Council shall furnish the Applicant with a signed copy of a resolution indicating approval of the Final Plan contingent upon the Applicant obtaining satisfactory financial security. Final Plans will not be signed or recorded until the financial improvement agreement is executed. The resolution of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within ninety (90) days unless a written extension is granted by the Borough Council.
- (E) The Borough at its option, may accept financial security in the form of cash escrow, irrevocable letter of credit, or escrow account by a chartered lending institution chosen by the party posting financial security provided said institution or company is authorized to conduct such business in the Commonwealth of Pennsylvania.

§22-604 Release of Financial Security

- (A) General. The Borough Council may release all or parts of the posted financial security as completion of improvements proceeds, in compliance with the applicable requirements of the MPC.
- (B) Partial Release of Security. As the work of the installation of the required public improvements proceeds, the party posting the financial security may request the Borough to release or authorize the release, from time to time, such portions of the financial security necessary for the payment

of the contractor or contractors performing the work. Any such request shall be made in writing addressed to the Borough. Upon receipt of the request for release of a portion of the improvement security, the municipality shall within forty-five (45) days allow the Borough Engineer to certify, in writing, that such portion of the public improvements has been completed in accordance with the approved plan at which time the Borough shall authorize the release to the Applicant or his designee by the bond company or lending institution of an amount of funds that the Borough Engineer feels fairly represents the value of the work completed. If the municipality fails to act upon a request for release of security within forty-five (45) days, the Borough shall be deemed to have approved the full release of security as requested.

(C) Incomplete Improvements. If the required improvements are not completely installed within the period fixed or extended by the Borough Council, the Council may take one or more of the following actions:

1. Declare the financial security in default and require that all improvements be installed regardless of the extent of the building development at the time the agreement is declared in default;
2. Suspend Final Plan approval until the development improvements are completed and record a document to that effect for the purpose of public notice;
3. Obtain funds under the security and complete improvements;
4. Assign the right to receive funds under the security to any third party, including a subsequent owner of the property wherein improvements were not completed in exchange for that subsequent owner's promise to complete improvements; and/or
5. Exercise any other available rights under the MPC.

(D) Post-Completion Security. The Applicant shall be responsible for maintenance of all improvements for a period of eighteen (18) months after final acceptance and certification of project completion.

(E) Landscape Security. The Applicant shall be responsible for the full replacement of all dead or diseased trees or shrubs for eighteen (18) months after final acceptance and certification of project completion. Final inspection of landscaping shall be performed while the plant leaves are in full maturity stage, typically, May 1 through November 1.

§22-605 Inspection of Work and Materials

(A) Notice. The Borough Engineer shall be notified forty-eight (48) hours in advance of the commencement of any construction or installation operation to schedule an inspection by the Borough. Construction and installation operations shall also be subject to inspection by the Borough during the progress of the work. The Applicant, developer, or builder shall pay the reasonable and necessary expenses for inspections in accordance with the fee schedule established by resolution of the Borough Council.

(B) Improvement Specifications. All required road improvements should be constructed in accordance with the applicable provisions of PennDOT Form 408, including the latest revisions and other applicable regulations. All other required improvements shall be constructed in accordance with approved specifications found in Parts Three, Four, and Five of this Chapter. If the appropriate standards are not provided in this Chapter, the following procedures shall be used:

1. Specifications. The specifications will be furnished to the Applicant by the Borough. If any of the specifications are unavailable at the Borough Municipal Building, the Borough Engineer shall provide the applicable specifications.
2. Sample of Materials. During or after construction of any required improvement, if the Borough requires a sample of materials, said sample shall be furnished by the appropriate contractor, in a form specified by the Borough Engineer.

(C) Delivery Slips. Copies of all delivery slips for materials used in the construction of any storm sewers, sanitary sewers, roads, curbs, sidewalks, or any other facility within a Borough owned right-of-way or easement or in areas proposed for future dedication to the Borough, as shown on the Borough's Official Map, shall be supplied to the Borough.

§22-606 Off-site Improvements

(A) Certain improvements beyond the geographical boundaries of a site to be subdivided and/or developed, including but not limited to road improvements, may be requested by the Borough Council where it can clearly be demonstrated that such improvements have been made necessary solely through the additional burden imposed by the developer's subdivision and/or development of the site. All such improvements or contributions for future offsite improvements shall be considered voluntary and will not be refunded to the developer.

(B) The developer may also be requested to cover certain costs which must be incurred by the Borough or other governmental jurisdiction to make these improvements feasible. The legal and financial arrangements to cover the costs of the offsite improvements shall be the same as those prescribed in §22-602 Completion or Guarantee of Improvements.

§22-607 Conditions of Acceptance

The requirements and specifications of the Borough shall be followed to dedicate a street and related improvements or a portion thereof to Emmaus Borough.

§22-608 Guarantee of Completed Improvements

(A) When the Borough Council accepts dedication of required improvements following their completion or certifies project completion, the Borough Council may require posting of financial security by the Applicant to secure the structural integrity and functioning of these improvements in accordance with the design and specifications, as depicted on the approved Final Plan.

- (B) Said financial security shall be of the same type as otherwise required by §22-702 Completion or Guarantee of Improvements.
- (C) The amount of financial security shall be fifteen (15) percent of the actual cost of installation of the improvements.
- (D) The term of the guarantee shall be eighteen (18) months from the date of acceptance of dedication or certification of project completion.

§22-609 Private Maintenance of Improvements

Where the maintenance of improvements is to be the responsibility of individual lot owners, a homeowners' association or similar entity, or an organization capable of carrying out maintenance responsibilities, the Borough Council shall require that maintenance responsibilities be set forth in perpetual covenants or deed restrictions binding on the landowners' successors in interest and may further require that an initial maintenance fund be established in a reasonable manner.

§22-610 Required Contracts

- (A) Before the Borough Council shall cause its approval to be endorsed upon the Final Plans of any subdivision or land development (except in the case of minor subdivisions wherein Borough Council may impose no condition or conditions for the approval of the plan), and as a requirement for the approval thereof, the owners shall enter into a written agreement with the Borough in the manner and form set forth by the Borough Solicitor, which shall include but not be limited to the following:
 1. To construct or cause to be constructed or installed, at the owners' expense, all streets, curbs, sidewalks, fire hydrants, streetlights, stormwater facilities, water and sewer facilities, Street signs, monuments, capped sewers, parks, landscaping, parking lots, lighting, line painting, and other improvements shown in the Final Plan when required to do so by Borough Council, in accordance with the standards and specifications of the Borough.
 2. To maintain at the owners' expense all streets, curbs, sidewalks, stormwater facilities, water and sewer facilities, Street signs, parks, monuments, fire hydrants, streetlight, capped sewers, line painting, landscaping, and other improvements, until the same are accepted or condemned by the Borough for public use, and for a period of eighteen (18) months thereafter to repair and reconstruct the same of any part of one of them when such repair or reconstruction shall be specified by Borough Council as necessary by reason of faulty construction, workmanship, or materials, or the structural integrity or functionality of the improvements are not satisfactory as determined by the Borough or Borough Engineer.
 3. To pay all costs, charges, or rates of the utility furnishing electric service for the lighting of the streets on or abutting said subdivision, from the lights installed by the owner, until such time as the streets shown on the subdivision plans shall be accepted as public streets

of the Borough by ordinance (or resolution) , and to indemnify and hold harmless the Borough from and against all suit, actions, claims, and demands for electric service to the streets shown on said plans, or any part thereof, to the time that said streets shall be accepted as public streets of the Borough in the manner hereinabove set forth.

4. Pay the inspection fees required by the Borough.
5. Provide written agreements for all maintenance of improvements and for Stormwater BMP and proof that said agreements have been recorded at the Lehigh County Recorder of Deeds. Such proof is a requirement prior to obtaining any building permit for the project.
6. To obtain, at their own cost, the easements and releases required when any Street, drainage facility, or other improvement, wherein a subdivision abuts or traverses land of persons other than the person holding legal title to the lands of the subdivision.
7. To obtain from the owner of the lands so abutted or traversed, full releases from all damages which may change in grade, construction, or otherwise, of the Street, drainage facility or other improvements and such releases shall insure to the benefit not only of the owner of the subdivision but to the Borough as well.
8. To promptly remove or cause to be removed snow from the streets as may be required for safe traverse of the streets prior to dedication.
9. To promptly reimburse to the Borough reasonable Borough Solicitor's and Borough Engineers' fees.
10. To provide in a timely manner all construction shop drawings and plans, including a full set of "as built" plans in paper and in appropriate electronic format as specified by the Borough Engineer.
11. Such other provision(s) as deemed necessary or desired by the Borough Council.

§22-611 As-Built Survey and Plan

(A) General. Within thirty (30) business days of the completion of the final inspection, the Applicant shall submit an As-Built Survey and Plan of the completed project to the Borough. The As-Built Survey and Plan shall be submitted as follows:

1. Three (3) sets of certified, full size, black line prints of the As-Built Survey and Plan signed and sealed by the Applicant's engineer.
2. A digital version of the certified, hard copy As-Built Survey and Plan and portable document file (pdf) formats.
3. As-Built plans shall be required to be submitted to the Borough prior to release of construction improvement securities.

(B) Requirements. The As-Built Survey and Plan shall include the following information:

1. Utilities. Elevations of inverts and structure covers, hydrants, and shutoffs for all underground utilities (water, sanitary, storm) along with actual pipe lengths and type of material shall be obtained and noted on the plans. All gatewells, manholes, catch basins, shutoffs, and similar types of structures are to be located and noted on the plans. Location of edge drains, electrical, gas, phone, cable, or other underground facilities not included above shall also be noted on the plans. All structures at ground level, which are not in the road pavement, shall be tied in an acceptable fashion to property corners or other suitable witnesses.
2. Grading. Perimeter lot grades and additional grades at appropriate intervals to detail flow of drainage and character of finished grading work (berms, swales etc.) shall be noted on the plans. Sufficient information shall be provided to describe detention/retention areas and actual volumes on the plans. Permanent pond elevations and/or retention-storage elevations shall also be provided.
3. Paving. Finished pavement cross section grades shall be obtained at appropriate intervals or where there is significant break in road profile grade. Low points (sags) and crests in road profile are to be identified. Cross sections at existing adjoining streets are also required.
3. Sidewalks. Elevations of sidewalks and pathways shall be obtained at intervals not to exceed 100 feet in length and shall be obtained where there are apparent breaks in grade and/or intersection with driveways or side streets. Two elevations shall be taken at each interval to determine crown of pathway.
4. Foundation Walls. The elevation of the top of all foundation walls shall be shown on the As Built Plan

APPENDIX

A: PLANTING MATERIAL STANDARDS (STILL UNDER DEVELOPMENT)

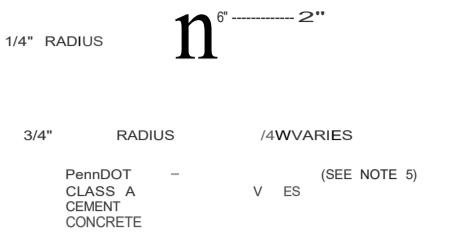
B: OTHER ENGINEERING SPECIFICATIONS

C: A SAMPLE AGREEMENT TO EXTEND THE TIME FOR RENDERING AND COMMUNICATING A DECISION ON CERTAIN FINAL SUBDIVISION PLANS

D: SAMPLE PLAT APPROVAL BLOCKS

E: BOROUGH OF EMMAUS GREENWAY AND TRAILS PLAN

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TYPICAL CROSS SECTION

N.T.S.

NOTES:
 1. MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 408, SECTION 630.
 2. CONSTRUCTION JOINTS ARE TO BE SPACED IN UNIFORM LENGTHS OR SECTIONS AND ARE TO EXTEND THE FULL DEPTH OF THE CURB.
 3. NO CONSTRUCTION JOINTS MAY BE PLACED IN THE CURB RADIUS PORTION OF ANY CURBS.
 4. PLACE 3/8" PREMOLDED EXPANSION JOINT FILLER MATERIAL AT 30 FOOT INTERVALS ON CENTER, AT STRUCTURES, AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
 5. TOTAL CURB DEPTH OF 23" FOR LOCAL STREETS, 25" FOR COLLECTOR AND ARTERIAL STREETS.

CONCRETE CURB

NO SCALE

PLASTIC PIPE

CONNECT TO EXIST DOWNSPOUT

PLATE TO BE THOROUGHLY ATTACHED TO PREVENT MOVEMENT

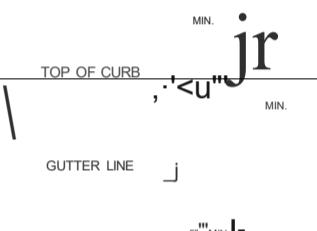


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1/4" DIAMOND PLATE AT SIDEWALK SLOPE

VARIES

CONNECT TO EXIST DOWNSPOUT OR EXIST TROUGH



r1

DRAFT DETAILS NOT FOR MUNICIPAL ADOPTION

REPLACE PAVEMENT PER
BOROUGH OF EMMAUS
STANDARD ROADWAY
PAVEMENT CROSS-SECTIONS

NEATLY CUT
PAVEMENT AT A
MAX. OF 18" FROM
PROP. CURBLINE

EXIST.
PAVEMENT

BACKFILL WITH

2A MODIFIED STONE

6'-0"

3/8" EXPANSION
JOINT

1/4" PER FT.

EWALK (5" THICK)
(4" THICK)

CONCRETE SIDEWALK/
COMPACTED SUBBASE

<

CURB AND SIDEWALK DETAIL SHOWING STREET TRENCH RESTORATION

N.T.S.

NOTE: REFER TO BOROUGH OF EMMAUS
ORDINANCE CHAPTER 21 FOR
ADDITIONAL INFORMATION.

SIGN POST MOUNTING DETAIL

TYPICAL SIGN POST IN SIDEWALK
N.T.S.

DIAMOND PLATE COVERED DRAINAGE IN SIDEWALK AREA

N.T.S.

RIGHT-OF-WAY LINE

CARTWAY

3(MAX)

71

3/8'-/FT.

n L- ;(bxi

CONCRETE CURB

WELL ROLLED
SUBGRADE

6" FOR LOCAL ROADS, 8" FOR COLLECTOR & ARTERIAL ROADS
TYPICAL STREET CROSS-SECTION
(WITH CURB)
NO SCALE

1/4" RADIUS
3/4" RADIUS
C-1-1/2" REVEAL

-S..... PAVEMENT SURFACE
CLASS A CONCRETE

5" CLASS A CONC.
4" CRUSHED S
PENNDOT No. 2A

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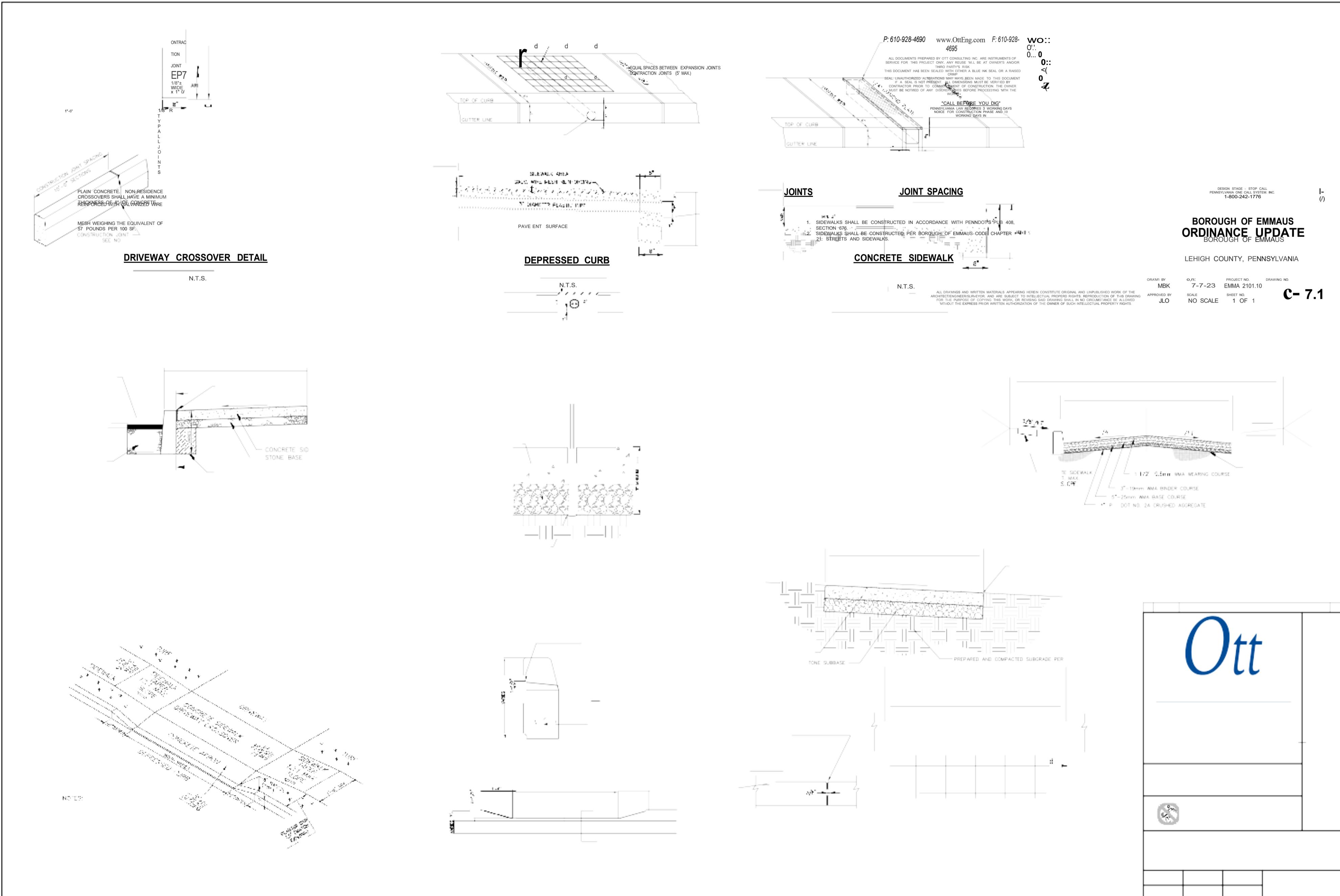
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EXTENSION OF TIME AGREEMENT

[DEVELOPER NAME] hereby agrees to extend the time in which the Emmaus Borough Council may render a decision on its application requesting approval for a [TYPE OF DEVELOPMENT] on property located at [ADDRESS] in the Borough's [ZONE NUMBER AND NAME] district, currently designated as Lehigh County Block/Lot No. [PARCEL ID], until **[DATE OF EXTENSION]**.

[DEVELOPER NAME] also hereby waives the review time provisions referenced in the Pennsylvania Municipalities Planning Code, 53 P.S. § 10101 *et seq.*, for the above-referenced application until **[DATE OF EXTENSION]**.

Name of Applicant: _____ **DEVELOPER NAME &/OR AGENT** _____

Signature of Applicant: _____

Title: _____

Date: _____

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Borough of Emmaus Format for "Approval" Spaces

Borough Engineer:

Reviewed this _____ day of _____, 20_____, and found to meet the requirements for a Final Plan as stated in the Subdivision and Land Development Ordinance.

_____ Borough Engineer _____ Date

Borough Planning Commission:

Recommended for Approval by the Borough of Emmaus Planning Commission this _____ day of _____, 20_____.

_____ Chairman _____ Date
_____ Secretary _____ Date

Borough Council:

Approved by the Borough of Emmaus Council this _____ day of _____, 20_____.

_____ Chairman _____ Date
_____ Secretary _____ Date

Owner's Statement

I/we make this statement being duly sworn according to law. I/we state that for the land involving the accompanying plans, we are the majority owners of this property or the authorized officers of the corporation that owns this property, and are in peaceful possession of it, and that there are no suits pending affecting the title of same, and that I/we acknowledge and endorse the accompanying plans and that we will propose a record plan for recording (as applicable), after receiving all required Borough approvals.

Owner's or Authorized Corporate Officer's Signatures

Printed Name

Printed Name