

ORDINANCE NO. 60,  
(Adopted February 21, 1994,  
*amended by:*  
*Ordinance No. 76*  
*Ordinance No. 79)*

## STREET STANDARDS

For

Benner Township

Centre County, Pennsylvania

**ORDINANCE NO. 60**

*(Amended by:  
Ordinance No. 76 ,  
Ordinance No. 79)*

**BENNER TOWNSHIP**

**STREET, SIDEWALK, CURB AND  
DRIVEWAY STANDARDS  
ORDINANCE**

**WHEREAS**, the intent of these guidelines and specifications is to provide uniform standards and procedures for the design and construction of streets within Benner Township. The street design standards and construction specifications provided herein are regarded as minimum standards and specifications. These standards were developed giving the highest priority to the safety and durability of future Township streets;

**WHEREAS**, the *Benner Township Comprehensive Plan*, adopted February 1993, recommends, as part of the Township's preparation for its land development and subdivision ordinance that Benner Township adopt specific street standards governing the development of all private and public street systems; and

**WHEREAS**, the standards and procedures set forth in this Ordinance were prepared by Herbert, Rowland & Grubic, Inc. of State College, PA, comprised of highly qualified engineers serving Benner Township as municipal engineers; and

**BE IT ENACTED AND ORDAINED**, and it hereby is enacted and ordained by the Board of Supervisors of Benner Township as follows:

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## ARTICLE I

### GENERAL PROVISIONS

#### Section 1. Title

This Ordinance shall be known as the *"Benner Township Street, Sidewalk, Curb and Driveway Standards Ordinance."*

#### Section 2. Authorization

- a. This Ordinance is authorized by *Section 503 of the Pennsylvania Municipalities Planning Code, 53 P.S. 10503, as amended.*
- b. This Ordinance enacts street, sidewalk, curb and driveway standards and regulations which repeal protanto *Sections 402.C, 403 and 404 of the Centre County Subdivision and Land Development Ordinance No. 3 pursuant to Section 502(b) of the Pennsylvania Municipalities Planning Code, 53 P.S. 10502(b), as amended.*

#### Section 3. Purpose

The purpose of this Ordinance is to provide uniform standards and procedures for the design and construction of streets, sidewalks, curbs and driveways within the Township. This Ordinance enacts regulations by the Township in lieu of, and which repeal protanto *Sections 402.C, 403 and 404 of the Centre County Land Development and Subdivision Ordinance No. 3, as amended..*

#### Section 4. References

The following is a list of references from which the design standards of this Ordinance were derived. The current revisions of these sources shall be utilized.

1. *Penn DOT Design Manual, Part 2, Highway Design*
2. *Penn DOT Design Manual, Part 4, Structures*
3. *Pennsylvania Code, Title 67*
4. *Penn DOT Specifications, Pub. 408*
5. *Penn DOT Guidelines for the Design of Local Roads and Streets, Pub. 70*
6. *Penn DOT Standards for Roadway Construction, Series RC, Pub. 72*
7. *AASHTO Standard Specifications for Highway Bridges*

#### Section 5. Language Interpretations

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

- a. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender, and words of feminine gender include masculine gender.

- b. The word "includes" or "including" shall not limit the term to the specific example, but is intended to extend its meaning to all other instances of like kind and character.
- c. The words "person", "applicant", "subdivider", "developer" and "owner" include an individual, firm, association, organization, partnership, trust, company, public or private corporation for profit or not-for-profit, political subdivision, agency or instrumentality of the Commonwealth, bureau or agency of the United States, or any other similar entity.
- d. The words "shall" and "must" are mandatory and directive; the words "may" and "should" are permissive.
- e. The words "used" or "occupied" include the words "intended, designed, maintained, or arranged to be used or occupied".
- f. The word "municipal" shall mean Township.
- g. The word "municipality" shall mean Township of Benner
- h. The term "county" shall mean the County of Centre.

## **Section 6. Defintions**

Unless a contrary intention clearly appears, the following words and phrases shall have the meaning given in this section. All words and terms not defined herein shall have their ordinarily accepted meaning or such as the context may imply.

**Applicant** – Landowner or developer, as hereinafter defined, who has filed an application for development including his heirs, successors and assigns.

**Backfill** - Material used to replace or the act of replacing material removed during construction.

**Base course** - Layer or layers of specified or selected material of designed thickness placed on a subbase or a subgrade to support a surface course.

**Bridge** - Structure including supports, erected over a depression or an obstruction, as water, highway or railway, which has a track or passageway for carrying traffic or other moving loads and having an opening measured along the center of the pavement of more than 20 ft. between supports.

**Cartway** - Portion of a street right-of-way designed or intended for vehicular use.

**Centerline** - Line running parallel to and equidistant from both sides of a street.

**Class A Concrete** - Cement concrete meeting the requirements set forth in *Penn DOT Pub. 408*.

**Cul-de-sac** - Street intersecting another street at one end and terminating in a vehicular turnaround at the other end.

**Curb return** - Curved curb connecting the tangents of two intersecting curbs of streets or driveways.

**Cut** - Difference between a point on the original ground and designated point of lower elevation on the final grade; an excavation.

**Dead-end street** - Street with only one vehicular traffic outlet.

**Dedication** - Conveyance of land or objects to some public use, made by the owner, and accepted for such use by or on behalf of the public by a municipality, school district, or public authority.

**Department** - Pennsylvania Department of Transportation (Penn DOT).

**Design Manual, Part 2** - Department publication containing the Department's highway design criteria.

**Design speed** - Speed, selected for a specific street, which governs the geometric limits, such as degree of curvature, super elevation, sight distances, etc., and which controls the safe operation of the vehicle as well as allowing for safe pedestrian traffic. The design speed is governed by the volume of traffic, parking, speed limits, turning movements at intersections, intersection controls, lane width, and pavement surface conditions.

**Driveway** - Corridor providing motor vehicular access from a street into or across a lot.

**Emergency** - An unforeseen occurrence or combination of circumstances which calls for immediate action or remedy.

**Engineer** - Licensed professional engineer registered by the Commonwealth of Pennsylvania.

**Excavation** - Any act by which earth, sand, gravel, rock or any other similar material is dug into, cut, quarried, uncovered, removed, displaced, relocated, or bulldozed.

**Flexible pavement** - Pavement structure maintaining intimate contact with and distributes loads to the subgrade and depends on aggregate interlock, particle friction and cohesion for stability.

**Fill** - Any act by which earth, sand, gravel, rock or any other similar material is placed, pushed, dumped, pulled, transported, or moved to a new location above the natural surface of the ground or on top of the stripped surface; the difference in elevation between a point on the original ground and a designated point of higher elevation of the final grade; the material used to make fill.

**Grade** - Slope of ground, street, or other public way, specified in percentage of change in elevation per horizontal distance; the act of altering the topography of undisturbed land.

**Grout** - Mixture of cement, water and sand.

**Half street** - Street, generally parallel with and adjacent to a property line, having a lesser right-of-way width than required by this Ordinance for improvement and use as a street.

**Improvement** - Those physical additions and installations required to render land suitable for the use intended, and including streets, curbs and gutters, sidewalks, street signs and lights, walkways, sewer and water facilities, monuments and markers, shade trees, grading, and storm water drainage facilities.

**Municipal engineer** - Professional engineer licensed as such in the Commonwealth of Pennsylvania, duly appointed as the engineer for a municipality, planning agency or joint planning commission.

**Pennsylvania Municipalities Planning Code (MPC)** - *Act of 1968, July 31, P.L. 805, as amended (53 P.S. § 10101 et seq.).*

**Private driveway access easement** - Any existing, recorded or proposed easement for private driveways in which a private right-of-way agreement is properly executed between the landowner(s) granting access and all affected parties abutting the easement.

**Private street** - All streets which are not public, including, but not limited to, streets maintained by private agreements, by private owners or for which no maintenance responsibility has been established; and including all private driveway access agreements or right-of-way for access.

**Public street** - Streets ordained or maintained or dedicated and accepted by the Township, County, State or Federal Governments, and open to public use.

**Publication 408** - Department publication containing the Department's highway construction specifications, as supplemented.

**Right-of-way** - Corridor of land set aside for use, in whole or in part, by a street, and area for associated improvements.



**Rigid pavement** - Pavement structure which distributes loads to the subgrade having as one course a portland cement concrete slab of relatively high bending resistance.

**Select granular material or 2 RC** - Material meeting specifications in Publication 408, when placed and compacted.

**Shoulder** - Improved or graded portion of the highway, contiguous to the traffic lanes, for accommodation of stopped vehicles, emergency use, or lateral support of base and surface courses of pavements.

**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. The following terms used therein are further defined for the purpose of this Ordinance as follows:

- a. **Alley:** Street, usually located to the rear or side of properties otherwise abutting a street, used primarily for vehicular service access.
- b. **Arterial street:** Major street with fast or heavy traffic of considerable continuity used primarily as a traffic artery connecting two or more neighborhoods or areas.
- c. **Collector street:** Major street which carries traffic from local streets to arterial streets.
- d. **Local street:** Any street which is not defined herein as either an arterial, collector street, or alley.

**Subbase** - Layers of specified or selected material of designed thickness placed on a subgrade to support a base course.

**Subgrade** - Top surface of a roadbed upon which the pavement structure and shoulders including curbs are constructed.

**Surface Course** - One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate. The top layer is sometimes called "Wearing Course".

**Surveyor** - Licensed professional land surveyor registered by the Commonwealth of Pennsylvania.

**Tack Coat** - Application of bituminous material to an existing surface to provide bond with a superimposed course.

## ARTICLE II

### STREET STANDARDS

#### Section 1. General

- 1.1 Proposed streets shall be properly related to such street plans or parts thereof as have been officially adopted by the Township and shall be coordinated with existing or proposed streets in adjoining subdivisions or land developments.
- 1.2 Streets shall be laid out to preserve the integrity of their design. Streets which provide ingress and egress to single-family or multiple family developments shall be laid out to discourage their use by through traffic and, where possible, collector and arterial streets shall be designed for use by through traffic.
- 1.3 Proposed private streets (streets not offered for dedication) shall meet all the design standards of this Ordinance, including but not limited to right-of-way, curbs, sidewalks, drainage, construction, traffic control, and setback line.
- 1.4 Streets being offered for dedication must meet *Penn DOT* requirements for liquid fuel allocation.
- 1.5 Streets shall be related to the topography so as to establish usable lots and satisfactory street grades.
- 1.6 Proposed street arrangements shall make provisions for the continuation of existing streets in adjoining areas, the proper projection of streets into adjoining undeveloped or unplatted areas, and the continuation of proposed streets to the boundaries of the tract being developed. No tract or parcel of land shall be landlocked.
- 1.7 New half or partial streets shall be prohibited, except where essential to reasonable development of a tract in conformance with the other requirements and standards of these regulations. Except where satisfactory assurance for dedication of the remaining part of the street can be obtained, a permanent cul-de-sac shall be constructed at the end of such half street, unless a temporary cul-de-sac is approved.
- 1.8 Names of new streets shall not duplicate existing or platted street names, or approximate such names by the use of suffixes such as "lane", "way", "drive", "court", "avenue". In approving the names of streets, cognizance should be given to existing or platted street names within the postal delivery district served by the local post office. New streets shall bear the same name or number of any continuation of alignment with an existing or platted street.

- 1.9 In the case where a new subdivision or land development abuts an existing street, the applicant shall provide any required dedication for the standards set forth herein, including but not limited to required right-of-way and cartway width. Where the cartway is widened by the installation of curbing or otherwise, fill-in paving shall be required.
- 1.10 Applicant for a subdivision or land development abutting a state highway shall be responsible for obtaining approval of any proposed improvements, and for obtaining a *Pennsylvania Department of Transportation Highway Occupancy Permit* for any proposed improvements, including driveways. *Penn DOT* permits (excluding driveways) are required prior to Township approval.
- 1.11 Applicant shall certify prior to final approval of a subdivision or land development plan that title to any street right-of-way is free and clear of all liens and encumbrances and that no prior right-of-way has been granted to any utility or any other person.
- 1.12 Right-of-way widths are based upon the need to serve utilities, to accommodate ponding of runoff, storage of plowed snow, emergency parking, temporary roadway adjustments during maintenance and accidents, and to accommodate future improvements.
- 1.13 Where a subdivision or land development is partially located in another municipality, the provisions of this Ordinance shall apply to the portion located in Benner Township.
- 1.14 Where it is estimated that the subdivision or land development will generate over 1,000 vehicle trips a day (based upon ITE generation rates), the applicant shall provide a Traffic Engineer report indicating an estimated volume of vehicular traffic movement and the adequacy of the proposed and existing streets and highways to carry the traffic both within and beyond the proposed subdivision or land development and possible solutions to such problems as may be thereby identified.

## **Section 2. Interpretation of Design Standards**

- 2.1 Street design standards and construction specifications herein are regarded as minimum standards and specifications. These standards were developed giving high priority to the safety and durability of future township streets.

## **Section 3. Design Standard References**

- 3.1 All standards contained in this Ordinance are supplemented by the information, alternatives, and standards contained in the references set forth in *Article I, Section 4*.
- 3.2 Streets shall be designed for a 20-year service life. If a street is to be utilized prior to complete construction, the utilized portion must be structurally designed to support all anticipated loading without significant loss of the designed service life of the street.

- 3.3 Drainage design shall be in accordance with the *Benner Township Stormwater Management Ordinance*. The applicant shall provide the Township with completed calculations and drawings for sizing and locating of all piping and inlets.
- 3.4 Special consideration for future bus and truck routes must be taken into consideration in the design of streets for pavement thickness and width, sight distances and curb radius.
- 3.5 Turning lanes, medians, acceleration and deceleration lanes and traffic control devices shall be required according to the references set forth in *Article I, Section 4*.

#### **Section 4. Plan Content Requirements**

- 4.1 All plans submitted shall be drawn to a scale of 1" = 50 ft. or larger (1 inch  $\geq$  50 ft.).
- 4.2 The cover sheet shall contain the following information:
  - a. Name of proposed street(s)
  - b. North point
  - c. Graphic scale
  - d. Day, month, year plan prepared and revised
  - e. Name of owner
  - f. Name and address of individual or firm preparing plans
  - g. Seal and signature of registered professional engineer
  - h. Key map showing location of proposed street(s) and all roads within 1000 ft. therefrom
  - i. List of necessary permits
  - j. Existing zoning
  - k. Floodplain information
- 4.3 **Proposed street(s) information:**
  - a. Location and width of rights-of-way and cartways
  - b. Proposed street name
  - c. Typical cross-section showing materials for base and surfacing and method of construction

- d. Profiles along centerline of each proposed street, showing finished grade at a scale of 1 inch = 50 ft. horizontal and 1 inch = 5 ft. vertical
- e. Cross sections for cut and fill areas
- f. Radius of horizontal curves
- g. Length of tangents between reverse curves
- h. Curb radii at intersections
- i. Vegetation to be planted between curb or shoulder and right-of-way line
- j. Curbs and gutters, location and typical design
- k. Sidewalks, including location, width, grades, and ramps for handicapped
- l. Yard setback lines as required by the *Benner Township Zoning Ordinance*
- m. Location of street lights, street name signs and traffic control signs
- n. Utility and drainage easements
- o. Location and species of shade trees within street rights-of-way
- p. Location and pipe diameter (I.D.) of storm water lines, sewer and water mains and laterals to each lot
- q. Fire hydrants

#### **4.4 Natural features**

- a. Sinkholes, water courses, and tree masses
- b. Floodplain and steep slopes as defined by *Benner Township Floodplain Ordinance* and *FEMA Mapping*
- c. Topographic contour lines at vertical intervals of 2 ft. for land with average undisturbed slope of 4%
- d. Wetlands as defined by National Wetland Inventory Maps and Hydric Soil Maps

**4.5 Signature and Certificates**

- a. Signature and seal of the registered professional engineer certifying the accuracy of the plan
- b. Signed, notarized statement by the owner certifying ownership of the property and acknowledging all offers of dedication of lands and/or facilities to the municipality, and acknowledging that the owner will be responsible for maintenance of lands and/or facilities until they are completed and accepted for dedication by the municipality
- c. Space for approval signatures by the Chairman and Secretary of the Board of Supervisors, including date of such approval.
- d. Offer of Dedication:  
We the undersigned, owners of the real property shown and described herein, do hereby certify that we have laid off, platted and subdivided said property and that all proposed streets, easements and other property identified as proposed public property shown and not heretofore dedicated (excepting those areas labeled as "private"), are hereby dedicated to the public use.

\_\_\_\_\_ 19\_\_ \* \_\_\_\_\_

\*Owner/subdivider.

- e. Recording Certificate:

State of Pennsylvania, County of Centre

Recorded on this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_ in the Recorder of Deeds Office, in Plat Book Vol. \_\_\_\_\_, Page \_\_\_\_\_.

Witness my hand and seal on the day and date written above.

\* \_\_\_\_\_

\*Recorder of Deeds.

**Section 5. Street Design Standards****5.1 Design speed**

- a. The maximum design speeds and operating speeds shall be as shown in *Table 1*.

**5.2 Vertical alignment**

- a. Vertical Curves shall be used in changes of grade exceeding 1%. In order to provide proper sight distances, the minimum length (in feet) of vertical curves shall be as computed in *Table 1*.

- b. The minimum grade on all local streets shall be 0.5%. The maximum grade on any street shall not exceed 10%. *Refer to Table 1.*
- c. Grades at intersection shall be as flat as possible. The grade of the approach where the traffic is required to stop shall not exceed 4% grade for 60 ft.

### 5.3 Horizontal alignment

- a. Alignment between control points should conform to topography, following closely the natural contours, consistent with the design speed, the traffic volumes to be served, the right-of-way, and construction cost.
- b. Horizontal curves shall be designed in accordance with *Table 1*.

### 5.4 Rights-of-way

- a. Right-of-way width should not be less than that required for all the elements of the design cross sections, utility accommodation and appropriate border areas. *Refer to Table 1.*
- b. The Township shall reserve the right to require right-of-way greater than Penn DOT regulations and standards set forth in the references contained in *Article I, Section 4*.
- d. All of the right-of-way shall be graded similar to the street grade. The slope of banks along street centerline shall be no steeper than the following:
  - (1) 1 ft. of vertical measurement for 3 ft. of horizontal measurement for fills.
  - (2) 1 ft. of vertical measurement for 2 ft. of horizontal measurement for cuts.

Where the cut or fill slope abuts a sidewalk, there shall be a 2 ft. level area adjacent to sidewalk and the fill slope shall not exceed three to one slope.

### 5.5 Intersections

- a. Streets shall intersect as nearly as possible at right angles, and no street shall intersect another at an angle of less than 75 degrees, or more than 105 degrees.
- b. No more than two (2) streets shall intersect at the same point.
- c. Street curb intersections where curbs are installed shall be rounded by a tangential arc with a minimum radius of 20 ft. for intersections involving only local streets, 35 ft. for intersections involving a collector street, and 50 ft. for intersections involving an arterial street or industrial street. See *Table 2* for additional minimum curb radii.

- d. The corner sight distances for each design speed should be as specified in *Table 2*.
- e. Any street intersecting with a collector street shall be located no closer than 300 ft. from another street intersecting the same collector street, and any collector street intersecting with an arterial street shall not be located closer than 800 ft. from another street intersecting the same arterial street, on the same side of said arterial street. Distances shall be measured from the centerline of the two intersecting streets along the centerline of said local, collector, or arterial street. See *Table 2* for additional minimum distances for intersecting local, collector, and arterial streets.
- f. At intersections, all earth banks and vegetation shall be cut and removed when such will impede vision between a height of 2 ½ ft. and 10 ft. above the centerline grades of the intersecting streets and within an area bounded by the street right-of-way lines of such corner lots and a line joining points on these street right-of-way lines 25 ft. from their intersection.
- g. Where a subdivision or land development is provided access by a single street, the Township may require a boulevard-type of entrance which would consist of two (2) streets having a width of 20 ft. each separated by an island having a width of 10 ft. within a right-of-way having a width of 70 ft.
- h. Any subdivision or land development which can be expected to generate more than 750 vehicle trips per day shall provide any or all of the following facilities as may be required by the Township to provide safe and efficient operation at any proposed driveway or street: acceleration or deceleration lanes, concrete median or median barriers, left-turn lanes, traffic signals, lane markers and such other traffic control devices as may be necessary.

## 5.6 Roadway cross sections

- a. Minimum and desirable widths of roadway surface, shoulders, curbs, base, subbase material and surface courses are shown in *Tables 1 and 3* and *Figures 1 and 2*.

## 5.7 Structures

- a. The design of bridges, culverts, walls, tunnels and other structures should be in accordance with the current AASHTO publication "*Standard Specifications for Highway Bridges*" and the Department's *Design Manual, Part 4, "Structures"*. The design of such structures is subject to the review and approval by the Township Engineer.



- b. For new construction projects, the bridge widths required shall be designed using the *Rural Design Criteria Charts in the Department's Design Manual, Part 2*.
- c. A 14 ft. minimum vertical clearance plus an allowance of 6 inch to accommodate future resurfacing shall be provided for all new and reconstructed facilities on or over Collector and Local Road facilities. A 16 ft. minimum vertical clearance plus an allowance of 6 inch to accommodate future resurfacing shall be provided for all new and reconstructed facilities on or over Interstate, Limited Access and Arterial facilities. For additional vertical clearance requirements, refer to the *Department's Design Manual, Part 2 and Design Manual, Part 4*.
- d. The minimum width criteria and minimum design load structural capacities for bridges shall be as indicated in the applicable Design Criteria Charts.
- e. For guidance on the retention of narrow bridges, refer to the *Department's Design Manual, Part 2 and Design Manual, Part 4*.

#### **5.8 Cul-de-sac or dead-end streets**

- a. Dead-end streets are prohibited unless designed as cul-de-sac streets or designed for future access to adjoining properties.
- b. Any dead-end street, for access to an adjoining property or because of authorized phased development, shall be provided with a temporary, all-weather turn-around. The use of such turn-around shall be guaranteed to the public until such time as the street is extended.
- c. Cul-de-sac street, permanently designed as such, shall not exceed 1,000 ft. in length in single-family development, 800 ft. in length in commercial or industrial development, and 600 ft. in multi-family developments.
- d. Unless future extension is clearly impractical or undesirable, the turn-around right-of-way shall be placed adjacent to the tract boundary with sufficient additional width provided along the boundary line to permit extension of the street at full width.
  - (1) The minimum radius of a cul-de-sac to the curb line shall be 40 ft., and the minimum radius of the right-of-way lines shall be 50 ft.
  - (2) No interior island shall be permitted, as to allow for unobstructed maneuvering area.
- e. Drainage of a cul-de-sac street shall preferably be towards the open end. If drainage is toward the closed end, it shall be conducted away in an underground storm sewer.

- f. The centerline grade on a cul-de-sac street shall not exceed 10% and the grade of the diameter of the turn-around shall not exceed 2%.

## 5.9 Private streets

- a. It is the policy of the Township that all streets shall be planned to be dedicated as public streets, and such dedication of streets is encouraged. However, sometimes private streets, to be maintained by the adjoining lot owners, are preferred. Private streets shall only be permitted when the following conditions are met:

- (1) When the private streets shall serve not more than 7 lots;
- (2) When the adjoining landowners all agree that the street shall not be dedicated, but shall be maintained by the adjoining landowners;
- (3) When the adjoining landowners agree to the maintenance of the private street in a mud-free condition, and agree that the adjoining lot owners agree to provide for repair, snow removal, and any other necessary maintenance.
- (4) Where the adjoining landowners agree on a procedure for future dedication of the street as a public street;
- (5) Where such agreement is in writing and addresses all of the general provisions for right-of-way agreement in a form acceptable to the Township Solicitor.
- (6) Where said street is described and laid out in conformity with all the requirements of *Section 5.9*.

- b. **General provisions for right-of-way agreement**

The following contains a check list of provisions that should be incorporated into a private right-of-way agreement for ingress, egress, and regress.

- (1) Type of instrument
  - Deed of easement
  - Agreement for easement
- (2) Date
- (3) Parties--All property owners affected
  - Joining spouses, if any--heirs
  - Corporations--designate and state of incorporation
  - Partnership--the partners and partner designation

- (4) Consideration--Is anything being paid for easement?
  - (5) Grant
    - Personal to parties involved
    - Binding on heirs and assigns
    - Covenant running with the land
  - (6) Description
    - Political subdivision where located
    - Metes and bounds
    - Courses and distances
    - Monuments, adjoiners
    - Recorded map or plan
    - Surveys
    - Quantity
  - (7) Recitals--Origin of the parties' title entering agreement or deed of easement
  - (8) Subject matters
    - Purpose of right-of-way (access and utilities)
    - Width (berm, cuts, slopes, culverts)
    - Drainage
    - Maintenance, repair
    - Cleaning
    - Limitations on use
    - Liability of parties or land for subject matters agreed upon--  
Damages
- c. The private street system shall be designed to accommodate the type and volume of traffic anticipated to be generated and shall be constructed to a sound all-weather driving surface, reasonably smooth and free from mud, dust or standing water. The private street system shall be built to at least the following design requirements which shall first be reviewed and approved by the Township Engineer:
- (1) Right-of-way width - 50 ft.
  - (2) Cartway width - 18 ft.
  - (3) Cartway construction specifications: 6 inches of suitable stone base material appropriately compacted and graded to provide a permanent, all-weather surface which will facilitate storm water drainage patterns.

- (4) Maximum allowable grade: The maximum allowable grade for private access streets shall be a finished grade of 12% slope. Special drainage considerations shall be required to eliminate or control erosion, sedimentation and storm water management, especially on grades exceeding 6% slope. These shall include special roadway cross sections, grading, shoulder construction and stabilization, cross drainage and cut and fill slopes as approved by the Township Engineer.
- (5) Cul-de-sac length: There shall be no minimum or maximum required length.
- (6) Cul-de-sac turnaround area: A turnaround area shall be provided at the terminus of all dead-end access streets and at other appropriate areas which shall have a minimum unobstructed maneuvering area equal to or equivalent of a 40 ft. turning radius.
- (7) Building setback lines: Building setback lines shall be established at the right-of-way line. These setbacks shall be determined by the Township.
- (8) Plan Notation: A notation shall be placed on the Final Plan identifying the right-of-way as "Private".
- (9) Private streets shall be considered a required improvement and must be constructed prior to Final Plan Approval or, in lieu of completion of improvement, the applicant must provide an acceptable guarantee to be approved by the Township and its Solicitor.

## 5.10 Private Driveway Access Easements

- a. In general, the policy of the Township is that all private driveway access shall be to a public street. However, private driveway access to private streets or across the land of another shall be only permitted in the following circumstances:
  - (1) Private driveway access shall be permitted to private streets when said streets are permitted under *Section 5.9*.
  - (2) Private driveway access over lands of another shall be permitted only where: (1) not more than two (2) lots are involved; (2) a complete right-of-way or easement agreement is prepared in a form acceptable to the Township Solicitor and Planning Commission; (3) the total number of lots involved shall include all existing and/or proposed lots utilizing the private driveway for access; and (4) all of the other requirements of *Section 5.10* are met.

b. **Requirements for private driveway access agreement.**

- (1) The private driveway access easement shall be designed to provide a driveway to accommodate the type and volume of traffic anticipated to be generated and shall be constructed to provide a sound, all-weather driving surface, reasonably smooth and free from mud, dust or standing water.
- (2) A private right-of-way agreement shall be properly executed between the landowner granting access and all affected parties abutting and adjoining said easement and shall create a private right-of-way which shall be covenant running with the land. As a condition for Final Plan approval, this agreement shall include all provisions in listed in *Section 5.9(b)*.
- (3) Such private right-of-way easement shall be 50 ft. in width.
- (4) The maximum allowable grade for a private driveway access shall be 12% for distances not greater than 500 ft. the grade may be increased to 14%.
- (5) The private driveway access must be constructed and found acceptable by Township review and inspection prior to Final Plan approval.

**5.11 Access over Lands of Others**

When a "landlocked" parcel exists which is proposed to be developed or subdivided, the landowner/developer shall give notice to prospective buyers that the access is not a public street. A notice shall be in three (3) forms:

- a. A letter shall be submitted from the subdivider's attorney. This letter shall contain specific identification of the plan by name and number and a statement that the subdivider has authorized the letter. The letter should specifically identify the location of the access road; describe the existing/proposed features; i.e., right-of-way width, length, cartway width, type of construction, etc.

It should also list all construction and design standards as specified in the *Street Standards Ordinance* which cannot be met and provide reasons why the normal standards cannot be met.

The letter must also contain a clear opinion of the subdivider's attorney that the subdivider and all prospective purchasers will have either an easement or right-of-way across intervening lands of others. There must be a statement that access is not restricted in any manner, other than such limitation expressly contained in the letter.

Please be advised that generally the same road construction specifications should apply within the easement/right-of-way over lands of others as shall apply within the property being subdivided. It shall be the subdivider's responsibility to make any required improvements subject to obtaining the necessary rights to do so over lands of others.

- b. Notation on the plan to be recorded should reflect the above situation and be in a prominent location of larger and bolder type than customary plan notes. The note should describe the location and design of the access road over land of others, identify all normal construction or design standards which are not met, and describe the legal nature of the subdivider's use (i.e., easement or right-of-way).

This notation should also relieve the Township and County of any liability with respect to the provision of an access road by a statement placing such responsibility on either the seller and/or buyer.

- c. Preparation of proper legal documentation concerning the easement rights and responsibilities for that portion of the access easement "over lands of others"; for recording in the Centre County Recorder of Deeds Office.

## **5.12 Access Streets for Recreation Subdivisions and Land Developments**

A recreation subdivision or land development includes the improvement and development of land for seasonal or leisure time activities (not intended now or in the future for year-round dwelling purposes) including cottages, cabins, second homes, travel trailers and other forms of camping accommodations intended for recreational and/or educational purposes, and land intended for various other outdoor recreation activities such as hunting and fishing.

The subdivision or land development shall be designed to provide an access street system adequate to accommodate the type and volume of traffic anticipated to be generated and shall be constructed to provide a sound, all-weather driving surface, reasonably smooth and free from mud, dust or standing water. Where private access streets are to be provided they shall meet the following minimum specifications:

- a. Right-of-way width -- 50 ft;
- b. Cartway width -- 16 ft;
- c. Cartway construction specifications:
  - 6 inches of suitable stone base material appropriately compacted and graded to provide permanent, all-weather surface which will facilitate stormwater drainage patterns;

- d. Maximum allowable grade: The maximum allowable grade for private access streets shall be a finished grade of 12% slope and for distances not greater than 500 ft. the finished grade may be increased to 14% slope. Special drainage considerations shall be required to eliminate or control erosion, sedimentation and stormwater management, especially on grades exceeding 6% slope, these shall include special roadway cross sections, grading, shoulder construction and stabilization, cross drainage and cuts and fill slopes as approved by the Township Engineer.
- e. Cul-de-sac length: There shall be no minimum or maximum required length; however, excessive access street length shall be discouraged due to the increased difficulty which would be experienced by emergency vehicles;
- f. Cul-de-sac turnaround area: Turnaround area shall be provided at the terminus of all dead end access streets and at other appropriate areas which shall have a minimum unobstructed maneuvering area equal to or equivalent to 40 ft. turning radius;
- g. Building setback lines: Building setback lines shall be established at the right-of-way line. These setback shall be determined by the Township;
- h. Plan notation: A notation shall be placed on the Final Plan identifying the right-of-way as being "private;"
- i. Private streets shall be considered a Required Improvement and must be constructed prior to Final Plan approval or, in lieu of completion of improvement, the applicant must provide an acceptable guarantee to be approved by the Township and its Solicitor.

Note: Where appropriate, the Township may allow certain reduction in the above standards, subject to specific topographical and/or environmental constraints; whereby an innovative design is submitted consistent with the intent of this Ordinance.

### 5.13 Stormwater management

- a. The design of stormwater systems shall be done in accordance with the *Benner Township Stormwater Management Ordinance*.

### 5.14 Curb and Curb Gutter

- a. Curbs shall be required on public streets except for subdivisions having lots one acre or more in size.
- b. Concrete curb shall be 18 inches high, 8 inches wide, and have an exposed face of 8 inches. Refer to *Figure 3*.

- c. Terminal concrete curb end shall be 8 inches high, 8 inches wide, and have an exposed face of 2 inches at the terminal end and 8 inches at the last curb section end. Refer to *Figure 3A*.

### 5.15 Sidewalks

- a. Sidewalks shall be required for streets where the distance to the nearest school is within State limits which require students to walk rather than be transported; to continue existing sidewalks from adjoining Subdivisions or Land Developments; to provide access to community facilities; and in Subdivisions with lots of less than 15,000 sq. ft. in size.
- b. Sidewalks, where provided, shall be located within the street right-of-way. The minimum width of all sidewalks shall be 4 ft. There shall be a minimum four-foot wide planting strip of grass between the curb or shoulder and the sidewalk. This planting strip may be used for the location of the underground utilities, street lights, and street signs. Trees shall not be planted in the right-of-way.
- c. The grades and paving of the sidewalks shall be continuous across driveways except in non-residential and high-density residential developments and in certain other cases where heavy traffic volume dictates special treatment.
- d. Sidewalks shall be constructed of at least 4 inches of Class A concrete underlaid by 4 inches of compacted crushed stone or gravel. Refer to *Figure 4*.
- e. Sidewalks shall be laterally pitched at a slope toward the street not less than 1/8 inch per foot to provide for adequate surface drainage.
- f. At corners and pedestrian street-crossing points, sidewalks shall be extended to the curb line with an adequate apron area for anticipated pedestrian traffic and curb cuts and ramps for wheelchairs designed in accordance with *ADA Accessibility Guidelines*.
- g. Sidewalks shall not exceed a 7 % grade. All sidewalks and ramps, (e.g. slopes greater than 5%), shall be designed in accordance with *ADA Guidelines*.

### 5.16 Shoulders

- a. Paved shoulders shall be required on public streets for subdivisions having lots one acre or more in size.
- b. The depth of shoulders shall be the combined depth of the surface and base courses. Refer to *Figures 1, 2, and 5* for additional information.



**5.17 Test borings**

- a. All test holes and boring in the right-of-way shall be immediately restored to its prior condition.

**5.18 Property pins and monuments**

- a. No property pin or monument in the Township shall be removed, altered or buried at any time. When work in the right-of-way requires the temporary removal of a property pin or monument, it must be preserved at the site and reset by a Professional Land Surveyor by the applicant.

**5.19 Street Lighting**

- a. Street lighting as recommended by the electric utility company shall be provided by the applicant and shown on the plans as follows:
  - (1) All new intersections in commercial and industrial areas.
  - (2) All new intersections on existing arterial or collector streets.
  - (3) All existing intersections in commercial and industrial areas and existing intersections on arterials and collector streets when they abut the subdivision or land development.
  - (4) At the driveway, access or entrance of any new commercial, industrial, institutional or multi-family units with more than 4 units.
- b. Intersections or areas with lower levels of lighting shall be improved as necessary to meet the recommendations of the electric utility company.

**Section 6. Street Construction****6.1 Stake-out**

- a. All property pins or monuments shall be marked with suitable 4 ft. high stakes before the beginning of construction.
- b. All streets prior to being rough cut shall be laid out in accordance with approved design plans, using hubs and stakes set at 50 ft. intervals to provide both horizontal and vertical control.

**6.2 Excavation**

- a. Work shall include excavation for roadways, shoulders, ditches, drainage structures, structures and stream channels.
- b. During construction, excavation shall be graded to drain.
- c. All suitable excavated materials as determined by the Township may be used for the construction and preparation of the roadway embankments, subgrade,

shoulders, driveway approaches, ditches, structures, stream channels, and required backfilling.

### 6.3 Embankment

- a. This work shall consist of the construction of embankment in accordance with *Penn DOT Pub. 408*, and conforming to lines and grades on the drawings as approved.
- b. Placement of embankment shall be in layers not exceeding 8 inch and be suitably compacted by means of approved equipment as specified in *Penn DOT Pub. 408*.
- c. Material for the construction of embankment shall consist of all excavation on the project except such materials as may be determined to be unsuitable under *Penn DOT Pub. 408*, as amended, and when required, will include approved Common Borrow Excavation, Foreign Borrow Excavation, and Selected Borrow Excavation.

### 6.4 Subgrade

- a. Refer to *Penn DOT Pub. 408* for subgrade requirements, including compaction, density and test requirements.
- b. The bottom of the excavation and the top of the fill when completed will be known as the improved subgrade and shall conform to the line, grades and cross sections as shown on the approved plans.
- c. Subgrade shall be inspected and approved by the Township before placing of subbase.
- d. Completed subgrade shall be maintained and protected in advance of the succeeding operation. Prior to placement of subbase and the pavement structure, damaged or unsatisfactory areas shall be promptly and satisfactorily reshaped and recompact or removed and replaced.
- e. All surface irregularities exceeding 1/2 inch shall be corrected by loosening the surface and removing or adding material as required. The corrected area and surrounding surface shall be compacted by rolling.
- f. All unsuitable material which will not compact satisfactorily shall be removed and replaced with suitable material.
- g. All large rocks, boulders or ledges shall be broken off 6 inches below the improved subgrade surface.

- h. The applicant shall use all means necessary to control dust on and near the work and on and near all off-site borrow areas if such dust is caused by the Contractor's operations during performance of the work or is a result of the condition in which the Contractor leaves the site. The applicant shall thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors, and concurrent performance of other work on the site.

## 6.5 Subbase

- a. Refer to *Penn DOT Pub. 408*, for material, placement, compaction, density and test requirements.
- b. Subbase material shall not be placed on soft, muddy or frozen areas. Unsatisfactory subbase conditions developing ahead of the base and paving operations shall be corrected by scarifying, reshaping and recompacting or by replacement.
- c. Subbase shall be inspected and approved by the Township before placing base material.

## 6.6 Paving

- a. **Bituminous Concrete Base Course (BCBC)**
  - (1) The bituminous material shall be Class AC-20 as specified in *Penn DOT Pub. 408*. Aggregates shall conform to *Penn DOT Pub. 408*.
  - (2) Construction shall meet the requirements of *Penn DOT Pub. 408*.
  - (3) Bituminous concrete base course shall be approved by the Township prior to the placing of the wearing course.
- b. **Bituminous Wearing Course**
  - (1) Bituminous material shall conform to *Penn DOT Pub. 408*. Skid-resistance level shall be as required by *Penn DOT Design Manual, Part 2*.
  - (2) Construction shall conform to *Penn DOT Pub. 408*. A tack coat shall be applied to the surface of any pavement that has been in place for more than 7 days prior to placement of subsequent course.

## 6.7 Shoulders

- a. Refer to *Penn DOT Pub. 408*.
- b. Material shall conform to *Penn DOT Pub. 408*.
- c. Construction shall conform to *Penn DOT Pub. 408*.

**6.8 Curb and Gutter****a. Plain cement vertical concrete curb**

- (1) For plain cement vertical concrete curb, refer to *Penn DOT Pub. 408*.
- (2) Material shall conform to *Penn DOT Pub. 408*.
- (3) Construction shall conform to *Penn DOT Pub. 408*.

**6.9 Sidewalks****a. Cement concrete sidewalks**

- (1) Refer to *Penn DOT Pub. 408*.
- (2) Cement concrete material shall conform to *Penn DOT Pub. 408* for Class A concrete.
- (3) Construction shall conform to *Penn DOT Pub. 408*, except that aggregate for bed shall be a 4-inch deep foundation.
- (4) Joints shall be provided in accordance with good construction practice.

**6.10 Drainage Control**

- a. Drainage design shall be in accordance with the *Benner Township Stormwater Management Ordinance*. The Owner/Applicant shall provide the Township with complete calculations and drawings for sizing and locating all piping and inlets.

**6.11 Work Zone Traffic Control**

- a. The Contractor shall furnish the necessary guards, watchmen, warning lights and similar items necessary to maintain state highway and other road/street traffic in accordance with *Penn DOT Pub. 203* requirements. In general, the Contractor shall not be permitted to interrupt traffic without specific arrangements for detouring traffic in accordance with Penn DOT requirements. When traffic cannot be detoured, a minimum of 1/2 the roadway width shall be open at all times with traffic control.

**Section 7. Inspection**

- 7.1** Applicant shall bear all costs of inspection of such roads, streets, lanes or alleys as per the *Memorandum of Understanding* signed between the applicant and the Township.
- 7.2** All construction shall be inspected by the Township. The Township shall be notified of the construction schedule at least 48 hours prior to commencement of the following stages of work:

<b><u>Phase of Construction</u></b>	<b><u>Description of Work to be Inspected</u></b>
1	Soil erosion & sedimentation control measures.
2	Any excavation, installation, backfilling within the right-of-way or easements and construction of including Stormwater Facilities.
3	Rough grading of street per Township standards and approved design. Fine grading and compaction of street (subgrade preparation) per Township standards and approved design.
4	Construction of curb.
5	Placement of subbase to include fine grading and compaction.
6	Placement of BCBC (each successive left shall require inspection notification). Placement of ID2 wearing course as a scratch coat.
7	Construction of curb or sidewalk.
8	Placement of ID2 wearing course (as a general practice, no coring of top course shall be required).
9	Stormwater Control Facilities (as built shall be provided to the Township).

**7.3** The contractor shall not, under any circumstances, proceed with subsequent stages of construction until written authorization to proceed is given by the Township.

**7.4** Final inspection of road shall occur just prior to acceptance by the Township to assure it meets the standards and the specifications herein.

## **Section 8. Application**

In the application, the applicant shall agree to open, lay out and improve the roads, streets, lanes or alleys and to construct all of the improvements, including sewers and drainage facilities shown on the plan within the time or times therein specified, and agree to enter into a contract in writing prepared by the Township Solicitor to install, erect and construct the said improvements.

**SECTION 9. PERMITS**

All permits or plans required by any state, federal, local or other applicable regulatory agencies, in conjunction with the project, shall be secured by and at the expense of the applicant. Soil Erosion and Sedimentation Plans and Controls shall have the concurrence of the Centre County Conservation District or its agent.

**Section 10. Removal of Droppings and Deposits**

- 10.1** During all phases of construction, if any earth, stones, mud, gravel or other foreign matter is deposited on any Township road, the applicant and/or his contractor shall be responsible for removal of such material(s) from the road so as to maintain safety of vehicular traffic. The applicant and/or his contractor shall provide for the removal such material immediately.
- 10.2** In the event that the applicant and/or his contractor fails to clean up such droppings or deposits immediately, the Township shall issue a citation for violation of this section, and shall also issue a notice to the applicant and/or his contractor requiring that such droppings or deposits be cleaned up within 4 hours of delivering such notice. Failure by the applicant and/or his contractor to clean up such droppings or deposits, within such time period shall constitute a further violation of this Ordinance.

**Section 11. Insurance**

- 11.1** The applicant shall protect, defend, indemnify, and save harmless the Township, its officers, employees, and agents thereof from all claims, suits, actions and proceedings of every nature and description which may be thereof for, or on account of any injuries or damages to persons or public or private property, because of any materials or appliances used in the work, or by or on account of improper materials or workmanship, or for or on account of any accident of any other act, negligence or omission of said applicant, or his agents, servants, or employees and the Township shall not in any way be liable therefore, during the period of the work progress and an 18-month guarantee period following the acceptance of the work.
- 11.2** Minimum insurance shall be:
- a. \$300,000 liability per individual with \$500,000 limit for each occurrence for bodily injury.
  - b. \$300,000 liability for property damage.
- 11.3** Applicant shall have the Township and Engineer named on the insurance policy as an "Additional Insured", and shall provide a copy of said policy to Township. At the request of Township, the applicant shall execute a document containing the covenants of protection, defense, indemnity, and save harmless contained in this subsection.

## Section 12. Performance Bonds

- 12.1** Construction of all improvements is to be completed within one year of the date the plan is approved by the Township Supervisors, unless a time extension is granted by the Board prior to the expiration of the one year period. The applicant performing the work shall provide a Performance Bond or other acceptable surety in an amount to be determined by the Township Engineer in accordance with *Section 509 of the MPC*.
- 12.2** When the applicant has completed all of the necessary and appropriate improvements, the applicant shall follow the procedures set forth in *Section 510 of the MPC* to be released from the Performance Bond.

## Section 13. Maintenance Guarantee

The applicant shall provide the Township with a maintenance bond to secure structural integrity of improvements as well as the functioning of improvements in accordance with the design and specifications as depicted on the final plat equivalent to 15% of project construction cost for an 18-month guaranty period following the date of acceptance of the work, in accordance with *Section 509(k) of the Municipalities Planning Code of Pennsylvania*.

## Section 14. Liquid Fuel Tax Requirements

Any street, or part thereof, offered for dedication or intended to be offered for dedication to the Township under this Ordinance into the road system, shall comply with the minimum requirements of the Pennsylvania Department of Transportation covering the allocation of liquid fuel tax receipts and the standards outlined within this Ordinance.

## Section 15. Final Street Acceptance

- 15.1** Streets will be accepted for public ownership by the Township by passage of a resolution at a public meeting. Acceptance will not occur until the following items are satisfactorily met:
- a. A final inspection report is prepared by the Township Engineer;
  - b. All inspection fees are paid;
  - c. Compliance with Liquid Fuel Tax Requirements;
  - d. A maintenance bond is posted;
  - e. A Deed of Dedication is provided;
  - f. All other matters relating to the construction of said street(s) are resolved.

## Section 16. Associated Fees

- 16.1** The applicant shall reimburse the Township for the actual cost of all fees and expenses for engineering services (reviews and inspections) that the Township incurs related to the application, as per a *Memorandum of Understanding* signed between the applicant and/or his contractor and the Township.

- 16.2** The cost of filing applications and of the permit(s) to be issued thereon and the cost of any inspection deemed necessary by the Township shall be determined according to a schedule of fees adopted by the Township by resolution, and all such fees and costs shall be paid into the Township Secretary/Treasurer.



## ARTICLE III

### DRIVEWAYS

#### Section 1. Application Procedures

- 1.1 No driveway shall be constructed, altered, or paved without first obtaining a permit from the Township. A permit shall not be required for maintaining the driveway for existing service.
- 1.2 Permit applications shall be submitted in the name and executed by the owner of the property.
- 1.3 Permit applications shall be submitted to the Township.
- 1.4 Permit applications shall be submitted prior to the construction of any building which the proposed driveway will serve to assure that the driveway can be constructed in accordance with this Ordinance.
- 1.5 **Permit applications:**
  - a. Shall be submitted in person or by mail on a properly completed Township Driveway Form;
  - b. Shall be signed by the applicant;
  - c. Shall include three sets of plans detailing the location and pertinent dimensions of both the proposed installation and related highway features;
  - d. Shall be accompanied by a check or money order, payable to the Township, in the appropriate amount, as set forth by the Township.
  - e. Shall be submitted to the Township at least 15 days prior to the anticipated start of work.
- 1.6 The permit application for all driveways other than those classified as minimum use shall include a plan which illustrates, as a minimum, the following, including dimensions where applicable:
  - a. Existing highway pavement, ditches, right-of-way and relevant property lines, highway appurtenances, utilities, and medians.

- b. Existing and proposed building, including a description of present and proposed use of building.
- 1.7** Submission of the traffic control plan shall be as follows:
- a. When the applicant anticipates that it will be necessary to close a portion of a lane to vehicular traffic in order to perform the permitted work, the applicant shall submit a traffic control plan with the application.
  - b. The Township may require the applicant to submit a traffic control plan if it is anticipated that a potential hazard or interference to vehicular or pedestrian traffic will result from performance of the work.
  - c. The traffic control plan shall be either:
    - (1) A detailed drawing, showing all traffic control devices; or
    - (2) A reference to a standard drawing in *Penn DOT Pub. 203*, provided the referenced standard drawing properly depicts the work area and completely addresses the needed traffic control.

## Section 2. Design Standards

- 2.1** The ability of a driveway to safely and efficiently function as an integral component of a highway system requires that its design and construction be based on the amount and type of traffic that it is expected to serve and the type and character of roadway which it accesses. This section separates driveways into four classifications, based on the amount of traffic they are expected to serve. A description of each classification and typical examples of land uses normally associated with each follows:
- a. **Minimum use driveway**, see *Figure 6*. A driveway normally used by not more than 25 vehicles per day, such as:
    - (1) Single family dwellings, duplex houses; or
    - (2) Apartments with five units or less.
  - b. **Low volume driveway**, see *Figure 7*. A driveway normally used by more than 25 vehicles per day but less than 750 vehicles per day, such as:
    - (1) Office buildings;
    - (2) Elementary and junior high schools; or
    - (3) Car washes.

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- c. **Medium volume driveway**, see *Figures 8 and 10*. A driveway normally used by more than 750 vehicles but less than 1,500 vehicles per day, which does not normally require traffic signalization, such as:
- (1) Motels;
  - (2) Fast food restaurants; or
  - (3) Service stations and small shopping centers or plazas.
- d. **High volume driveway**, see *Figure 9*. A driveway normally used by more than 1,500 vehicles per day, which often requires traffic signalization, such as:
- (1) Large shopping centers; or
  - (2) Multi-building apartment or office complexes.
- 2.2 Driveways shall have a throat width and curb return radius based on the volume of traffic use of the intersection in accordance with *Figures 6 through 10*.
- 2.3 The design features described in this section and illustrated in the figures are to be used by the applicant in designing the driveway plans which accompany the application. Dimensions shall be selected from the range of values shown on the appropriate feature, unless site conditions warrant a deviation.
- 2.4 On arterial streets, access for each lot shall be limited to not more than two (2) driveways for the first 300 ft. of frontage or fraction thereof, and one driveway for each additional 300 ft. of frontage.
- 2.5 On all other streets, access for each lot shall be provided by not more than one driveway for the first 50 ft. of frontage or fraction thereof, and one driveway for each additional 50 ft. of frontage.
- 2.6 No driveway shall be closer to the side or rear property line than 5 ft. for Single-Family Houses in the Residential Districts, and for all other uses and Districts 10 ft., unless the two adjoining property owners mutually agree to a common driveway. A written agreement approved by the Solicitor and Zoning Officer and acceptable to be recorded by the Recorder of Deeds must be submitted with the application for zoning permit.
- 2.7 In the Multi-Family Dwellings, and all Commercial and Industrial Districts, all driveways shall enter a street right-of-way at least 100 ft. from the intersection with another street, except for intersections of two (2) or more arterial streets, in which case the minimum distance shall be at least 200 ft. In all other districts, all driveways shall enter a street right-of-way at least 50 ft. from its intersection with another street of any classification. If the lot is insufficient to provide for the required distance, access shall be as far from the intersection as the lot and other provisions of this Ordinance will permit. For all cases cited above, the distance in which access is

- prohibited shall be measured from the tangent of the curb return of the intersection street cartway to the tangent of the curb return of the driveway, but shall not include, in measurement, any portion of either curb return.
- 2.8** In the Residential Districts, if two (2) or more driveways of the same lot enter a street right-of-way, the distance between the entrances of the driveways shall be at least 50 ft., as measured in the section above.
- 2.9** *Figures 6, 7, and 8* show two sets of design values. The applicant shall design his driveway using the values appropriate for the posted speed of the roadway being accessed.
- 2.10** Angle of driveway approach shall include the following:
- a. Driveway approaches used for two-way operation shall be positioned at right angles, that is, 90 degrees, to the highway or as near thereto as site conditions permit.
- 2.11** Conditions for sight distance shall be as follows:
- a. Driveways shall be located at a point within the property frontage limits which provides at least the minimum sight distance listed in the appropriate following tables.
  - b. In using *Tables 1 through 4*, the following additional requirements shall apply:
    - (1) *Tables 2 and 4* shall be used in lieu of *Tables 1 and 3* only when combination traffic exceeds 5.0% of the total traffic using the proposed driveway.
    - (2) Posted speeds shall be used unless operating speeds vary from the posted speed by more than ten miles per hour, in which case the Township may require that operating speeds be used.

**Table 1** -- Safe Sight Distance for passenger cars and single unit trucks exiting from driveways onto two-lane roads.

Posted Speed (mph)	Safe Sight Distance--Left <sup>1</sup> (feet)	Safe Sight Distance--Right <sup>1</sup> (feet)
25	250	195
35	440	350
45	635	570
55	845	875

<sup>1</sup> Measured from a vehicle ten feet back of the pavement edge.

**Table 2** -- Safe Sight Distance for buses and combinations exiting from driveways onto two-lane roads.

Posted Speed (mph)	Safe Sight Distance--Left <sup>1</sup> (feet)	Safe Sight Distance--Right <sup>1</sup> (feet)
25	400	300
35	675	625
45	1225	1225
55	2050	2050

<sup>1</sup> Measured from a vehicle ten feet back of the pavement edge.

**Table 3** -- Safe Sight Distance for passenger cars and single unit trucks entering driveways by left turns.

Posted Speed (mph)	Safe Sight Distance in Feet <sup>1</sup>	
	2-Lane	4-Lane
25	190	204
35	300	320
45	445	470
55	610	645

<sup>1</sup> Measured from the point where a left-turning vehicle stops to a vehicle in the outside lane.

**Table 4** -- Safe Sight Distance for buses and combinations exiting from driveways by left turns.

Posted Speed (mph)	Safe Sight Distance in Feet <sup>1</sup>	
	2-Lane	4-Lane
25	330	360
35	485	530
45	690	750
55	905	990

<sup>1</sup> Measured from the point where a left-turning vehicle stops to a vehicle in the outside lane.

- (3) The sight distances in *Tables 1 and 2* apply only when highway grades are zero to 3%, either up or down.
  - (a) When the highway grade in the section to be used for acceleration, after leaving the driveway, ascends at 3% to 5%, the sight distance in the direction of approaching ascending traffic shall be increased by a factor of 1.4.
  - (b) When the highway grade ascends at greater than 5%, sight distance shall be increased by a factor of 1.7.
  - (c) When the highway grade in the section to be used for acceleration after leaving the driveways descends at 3% to 5%, sight distance in the direction of approaching descending highway traffic shall be reduced by a factor of 0.6.
  - (d) When the road descends at greater than 5%, sight distance shall be reduced by a factor of 0.5.
- (4) The sight distance values in *Tables 1 through 4* are required for safe operation of the driveway. Sight distance values less than required shall only be accepted if it is impossible to achieve the values in *Table 1* by locating the driveway at any point within the property frontage boundaries. The minimum acceptable sight distance values shall be computed from the following formula:

$$SSSD = 1.47 Vt + \frac{V^2}{30 (f \pm g)}$$

SSSD = Minimum safe stopping sight distance (feet).

- V = Velocity of vehicle (miles per hours).  
 t = Perception of time of motorist (average = 2.5 seconds).  
 f = Wet friction of pavement (average = 0.30).  
 g = Percent grade of roadway divided by 100.

- c. If sight distance requirements as specified in this section cannot be met, the Township may:

- (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 highway

**2.12** Grade of driveway shall be constructed in the following manner:

- a. All driveways shall be constructed so as not to impair drainage within the right-of-way, alter the stability of the improved area, or change the drainage of adjacent areas.
- b. All driveways shall be constructed so that stormwater runoff will not be directed onto a Township road or right-of-way. (*as amended by Ordinance No. 76*).
- c. Where a drainage ditch or swale exists, applicant shall install adequate pipe under the driveway according to *PA DOT Pub. 408*. Drainage pipe installed under driveways shall be at least 18 inches in diameter.
- d. Side slopes for driveway embankments within the right-of-way shall not be steeper than 10 to 1.
- e. All driveways shall maintain a minimum, positive grade of 0.5%, but shall not exceed 10% within the street right-of-way (*as amended by Ordinance No. 76*).

**SECTION 3. DRIVEWAY CONSTRUCTION** (*as amended by Ord. No. 76 and 79*)

**3.1 Driveway Entrances**

- a. Driveway entrances or aprons within the street right-of-way shall be surfaced to their full width as follows:
  - 1. 1 ½" ID-2 or ID-3 binder and 1" ID-2 or ID-3 wearing course with a 6" subbase of 2A aggregate, in accordance with Penn DOT Pub. 408.
  - OR
  - 2. 4" Plain cement concrete (PCC) over a 6" subbase of 2A aggregate, in accordance with *Penn DOT Pub. 408*.
- b. When sidewalks are installed, all driveways within the street right-of-way shall be paved as specified above. This shall apply to the apron section between the curb and sidewalk and sections between the sidewalk and the street right-of-way line.
- c. Depressed curbs shall be required for all driveways, as applicable. Refer to *Figure 3B*.

### 3.2 Driveway Surfacing

All driveway surfaces shall be constructed to their full widths to meet the following minimum standards. All materials shall be installed in accordance with *PA DOT Pub. 408*.

- a. Minimum Use Driveway: 6 inches of compacted PA DOT No. 2A aggregate in accordance with *PA DOT Pub. 408*.
- b. Low Volume Driveway:
  - (1) 1 1/2 inch ID-2 or ID-3 binder and 1 inch ID-2 or ID-3 wearing course with a 6 inch subbase of 2A aggregate.
  - (2) 4 inches Plain Cement Concrete with a 6 inch subbase of 2A aggregate.
- c. Medium Volume Driveway: 1 1/2" ID-2 wearing course and 4 inches BCBC with a 6 inch subbase of 2A aggregate.
- d. High Volume Driveway: 1 1/2 inch ID-2 wearing course and 6 inch BCBC with a 6 inch subbase of 2A aggregate.

### 3.3 Depressed Curbs

Depressed curbs shall be required for all driveways where applicable. *Refer to Figure 3B. (as amended by Ordinance No. 76)*

### 3.4 Depressed Sidewalks

Depressed sidewalks shall be required for all driveways where applicable. *Refer to Figure 3B. (as amended by Ordinance No. 76)*

### 3.5 Driveway Intersections

Where driveways intersect a non-curbed Township roadway, the driveway shall have a taper constructed abutting both the Township roadway and the driveway as shown in *Figure 11*. The taper shall be constructed of the same surfacing material as the driveway. The purpose of the apron is to provide a surfaced transition for entering/existing vehicles and maintenance vehicles.

### 3.6 Driveway curb cuts for lots fronting curbs *(as amended by Ord. 79)*

- a. **Posting of financial bond.** Prior to the issuance of a Zoning Permit or Driveway Permit, the owners of residential and/or commercial lots with curbed street frontage shall post a financial bond to insure proper installation of curb cuts and to insure against damage to the curbing during construction. The financial bond amount shall be set by Resolution, as set by the Township Supervisors, and shall be held by the Township until the completion of construction. The financial bond amount will be refunded to the owner upon completion of construction. Any damages to the curb during construction



activities shall result in the Township withholding all or part of the financial bond as deemed necessary by the Township to affect the necessary repairs.

- b. **Curb Cut Construction.** Curb cuts shall be not less than 10 feet nor greater than 20 feet in width, and shall be installed pursuant to Figure 3B.

#### **Section 4. Drainage Control Plan for Other Than Minimum Use Driveways**

- 4.1 If it can reasonably be anticipated there will be an increase in the flow of water onto the highway or into highway drainage facilities as a result of action by the applicant, or there will be an increase in the flow of water onto the property of some other person as a result of any action authorized by the permit, drainage control plans shall be submitted with the application. Drainage control plans shall contain the following:
  - a. Source of water
  - b. Existing flow in cubic feet per second
  - c. Predicted flow in cubic feet per second
  - d. Where drainage currently flows
  - e. Where drainage ultimately outlets
  - f. Hydraulic computations showing effect of additional flow on existing highway drainage system
- 4.2 Where driveways other than minimum use driveways are constructed at a positive grade from the Township roadway, a trench drain shall be installed across the driveway to collect stormwater runoff. *Refer to Figure 11. (as amended by Ordinance No. 76)*
- 4.3 Issuance of a driveway permit shall be conditioned upon the Township's approval of the drainage control plan.

#### **Section 5. Maintenance**

- 5.1 All driveways and adjacent areas within the highway right-of-way shall be continuously maintained by the property owner so as to conform to the driveway permit and so as not to interfere or be inconsistent with the design, maintenance, and drainage of the highway, or the safe and convenient passage of traffic upon the highway.

#### **Section 6. Permits and Associated Fees**

- 6.1 The applicant shall reimburse the Township for actual cost of all fees and expenses for engineering services (reviews and inspections) that the Township incurs related to the application, as per a *Memorandum of Understanding* signed between the applicant and/or his contractor and the Township.
- 6.2 Permit fees shall be established by resolution of the Township.

**6.3** Permit fees shall not be payable by any of the following:

- a. The Commonwealth.
- b. Political subdivisions of this Commonwealth.
- c. Municipal authorities organized under the *Pennsylvania Municipality Authority Act of 1945 (53 P.S. Section 30 et. seq.)* registered under the *Act of December 19, 1990 P.L. 1220, No. 202 (10 P.S. §§ 162.1 - 162.24) as amended*.
- d. The Federal government.
- e. Charitable organizations which are exempt from or in compliance with *Act of August 9, 1963, P.L. 628, No. 337 (10 P.S. §§ 160-1 --160-17)*.

## ARTICLE IV

### WAIVERS, VARIANCES AND APPEALS

#### Section 1. Waivers

- 1.1 **Request of Waiver.** A landowner may request a waiver of one or more specific technical requirements of the Ordinance applicable to the plan submitted. Such request for waiver shall be made in writing by the landowner or his agent to the municipal engineer. Such request shall specify each specific requirement of the Ordinance, identifying the section of the Ordinance, and stating the reasons that waiver is requested.
- 1.2 **Engineer's Recommendations.** The municipal engineer shall review the request for waiver, and shall report thereon in writing to the landowner his recommendations.
- 1.3 **Waiver for alternative and de minimis:** Upon consideration of final approval of the street plan, the Board of Supervisors may waive specific technical requirements of this Ordinance upon receipt of the written recommendation of the municipal engineer. In order to qualify for a waiver, the municipal engineer shall certify in writing that the proposed item recommended for waiver meets the requirements for waiver specified in *Article IV, Section 1.1* above.
- 1.4 **Disputes.** In the event of a dispute between the landowner and municipal engineer regarding the municipal engineer's recommendation as to a waiver, the Board of Supervisors shall consider the waiver at the time of final approval and may grant or deny the waiver after hearing both parties. It shall be presumed in all events that the requirements specified are valid, reasonable and binding upon all developments, and the only grounds for granting of a waiver shall be: (1) uniqueness where, in the circumstances, an alternative technical solution is as practical and effective as the technical requirement in the Ordinance; and (2) uniqueness, where because of the circumstances, meeting the specific requirement would be of negligible importance (i.e., de minimis), in meeting the specific requirement of the Ordinance.

#### Section 2. Waviers Because of Hardship

- 2.1 The landowner or developer may apply for a modification or waiver to the minimum standards of the Ordinance where it is alleged that compliance with the minimum standards is (1) unreasonable; and (b) causes undue hardship. Such requests for waiver or modification on the grounds shall be made in accordance with *Section 512.1 of the Pennsylvania Municipalities Planning Code*.

### Section 3. Appeals

- 3.1** All appeals from the decisions of the governing body made under the terms of this Ordinance shall be made according to *Article IX and X* of the *Pennsylvania Municipalities Planning Code*.

## ARTICLE V

### VIOLATIONS

#### Section 1. Enforcement Remedies

- 1.1 Any person, partnership or corporation who or which has violated the provisions of this Ordinance shall upon being found liable therefor in a civil enforcement proceeding commenced by a municipality, pay a judgment of not more than \$500 plus all court costs, including reasonable attorney fees incurred by the municipality as a result thereof. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the district magistrate.
- 1.2 The court of common pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.
- 1.3 Nothing contained in this section shall be construed or interpreted to grant to any person or entity other than the municipality the right to commence any action for enforcement pursuant to this section.


**ARTICLE VI****ENACTMENT****SECTION 1. REPEALER**

All other ordinances or parts of ordinances of the Township of Benner which are contrary to the provisions of this Ordinance are hereby repealed to the extent necessary to give this Ordinance full force and effect.

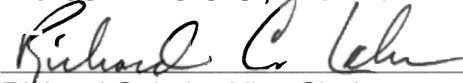
**SECTION 2. EFFECTIVE DATE**

This Ordinance shall become effective within five (5) days after its enactment on February 21<sup>st</sup>, A.D. 1994.

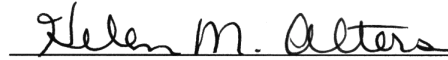
BY: Benner Township Board of Supervisors



Michael R. Kelleher, Chairman

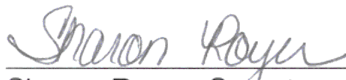


Richard C. Lahr, Vice Chairman



Helen Alters, Supervisor

ATTEST:



Sharon Royer, Secretary  
Benner Township

**ATTESTATION**

I acknowledge that I am the Secretary of the Board of Supervisors of Benner Township and hereby attest that the foregoing is a true and correct copy of the proposed ordinance to be filed with Chief Clerk of the Centre County Commissioners who is designated in Centre County for the filing of proposed ordinances.

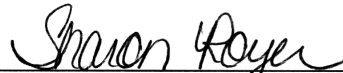
DATED, this 21<sup>st</sup> day of February A.D. 1994

  
Sharon Royer, Secretary, Benner Township

**CERTIFICATION**

I hereby certify that I am the Secretary of Benner Township and that the foregoing Ordinance was adopted on a regular or special meeting of the Board of Supervisors held on 21<sup>st</sup> day of February A. D. 1994, by a vote of 3 in favor, 0 opposed, 0 abstaining, and 0 absent.

DATED, this 21<sup>st</sup> day of February A.D. 1994

  
Sharon Royer, Secretary, Benner Township

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TABLE 1  
DESIGN STANDARDS

CRITERIA	ARTERIAL	COLLECTOR	LOCAL	INDUSTRIAL
ADT	>3,000	,000 - 3,000	200 - 1,000	200 - 750
Design speed (mph)		40	30	
Operating speed (mph)		35	25	20
Vertical curves (feet)	55 x algebraic difference in grade	30 x algebraic difference in grade	15 x algebraic difference in grade	30 x algebraic difference in grade
Minimum grade	0.5%	0.5%	0.5%	0.5%
Maximum grade	5%	8%	10% (1)	8%
Horizontal curvature (feet)	750	500	250	500
Right-of-Way width (feet)	70 or greater	60	50	60
Cartway width (feet)	24	22	20	22
Shoulder width (feet) (2)	8	6	4	6
Without curbs (feet)	24	22	20	22
With curbs (feet) (3)	28	28	26	28
Parking lane width (feet)	No parking lane permitted	8	8 (4)	10
		If permitted		If permitted
Cartway with parking and curb (feet)	No parking lane permitted	36	34	38
Reverse curves (feet)	300	150	100	150
Stopping sight distance (feet)	400	275	200	275

(1) Grades of up to 12% may be allowed for distances up to 500 ft.

(2) Not required with curbs.

(3) All streets shall be curbed

(4) No parking lane is permitted unless the shoulder is greater than 8 ft.



ABLE  
INTERSECTION DESIGN SPECIFICATIONS

	Intersection Types			
	Arterial with Collector	Arterial with Local (1)	Collector with Collector	Local with Local
Minimum distance between centerlines intersecting with Arterial, Collector or Local streets Same side/opposite side	800'/800'	800'/300'	00'/300'	500'/300'
Angle at intersection of street centerlines	90	90	90	75 to 105
Length, grade of intersection approach measured from the nearest nearest right-of-way of the street being intersected	50'/4%	50'/4%	50'/4%	50'/4%
Minimum curb radius	50'	20'	35'	20'
Minimum intersection corner sight triangle along centerlines of streets 2)	300'	200'	200'	150'

1) Where the centerlines of local streets opening onto opposite sides of an  
Arterial street are within 150' of each other, they shall be made to coincide  
by curving the streets to form a four-way intersection whenever possible.

2) Including railroads

TABLE 3  
ROAD CONSTRUCTION CRITERIA (1)

	ARTERIAL	COLLECTOR	LOCAL	INDUSTRIAL
ID-2 Wearing course	1.5"	1.5"	1.5"	1.5"
Bituminous concrete base course	7"	5"	4"	7" (2)
2A stone subbase	6"	6"	6"	6"
Pavement cross slope	2% min, 4.5% max	2% min, 4.5% max	2% min, 4.5% max	2% min, 4.5% max
Shoulder cross slope	6%	6%	6%	6%

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(1) Alternative designs in accordance with PennDOT Pub. 70

(2) The bituminous concrete base course will be placed in two lifts.

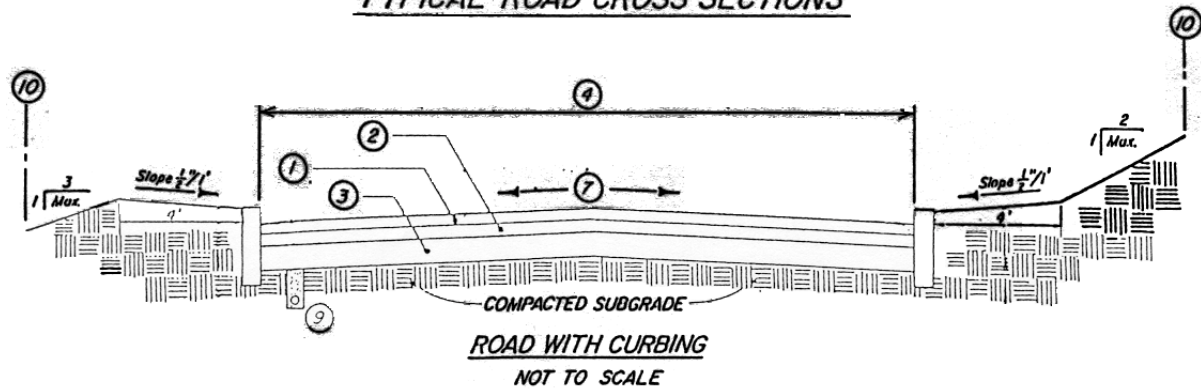
TYPICAL ROAD CROSS SECTIONS

FIGURE 1

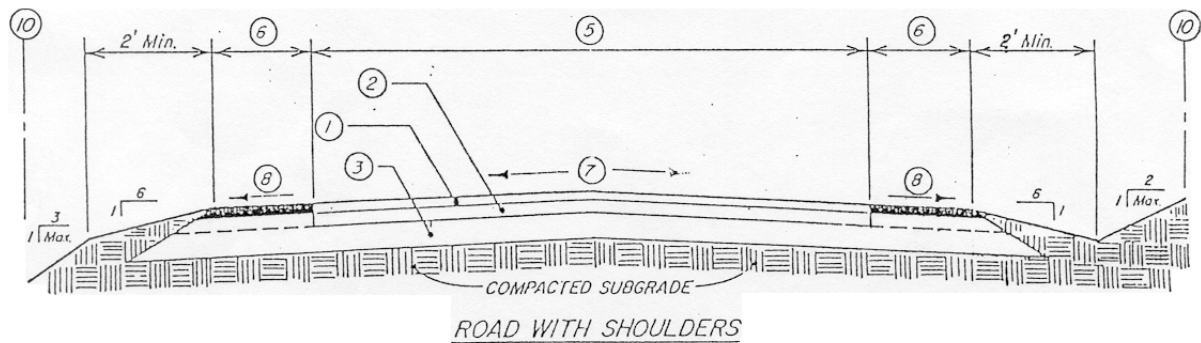


FIGURE 2

- ① - ID-2 WEARING COURSE - SEE TABLE 3
- ② - BITUMINOUS CONCRETE BASE COURSE - SEE TABLE 3
- ③ - 2A STONE SUBBASE - SEE TABLE 3
- ④ - CARTWAY WIDTH - SEE TABLE 1
- ⑤ - CARTWAY WIDTH - SEE TABLE 1
- ⑥ - SHOULDER WIDTH - SEE TABLE 1
- ⑦ - PAVEMENT CROSS SLOPE - SEE TABLE 3
- ⑧ - SHOULDER CROSS SLOPE - SEE TABLE 3
- ⑨ - PAVEMENT BASE DRAIN WHEN REQUIRED
- ⑩ - RIGHT-OF-WAY LINE

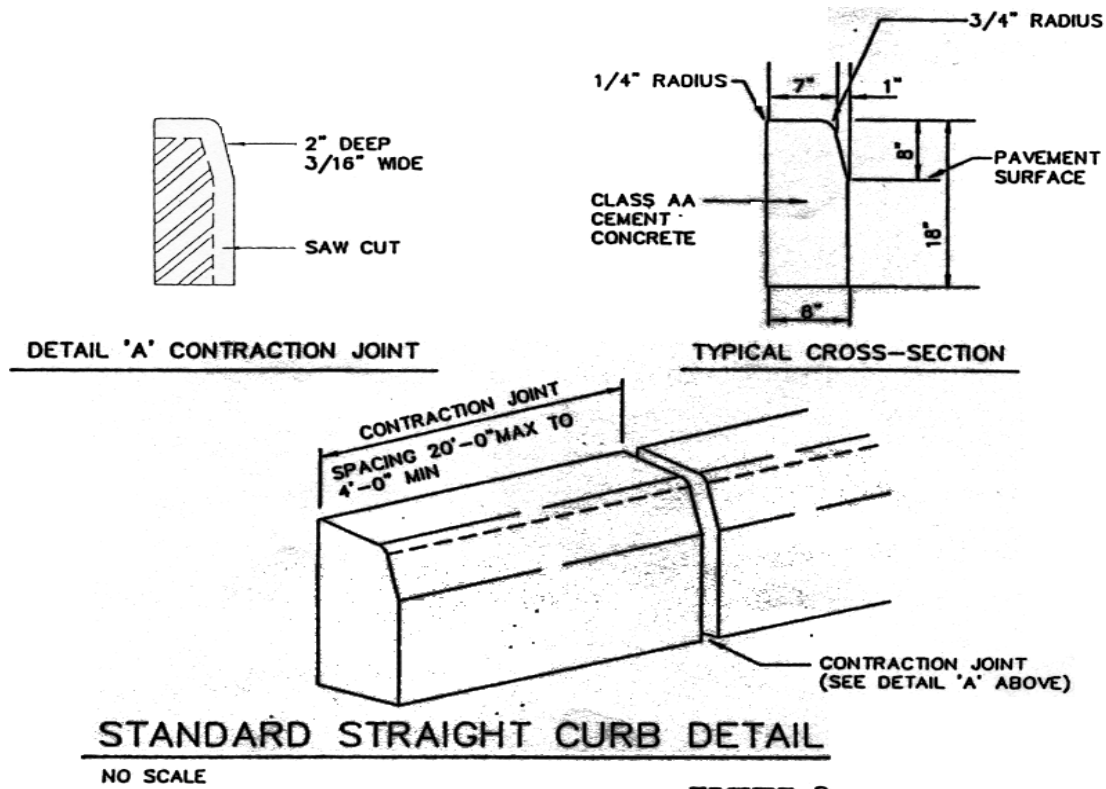
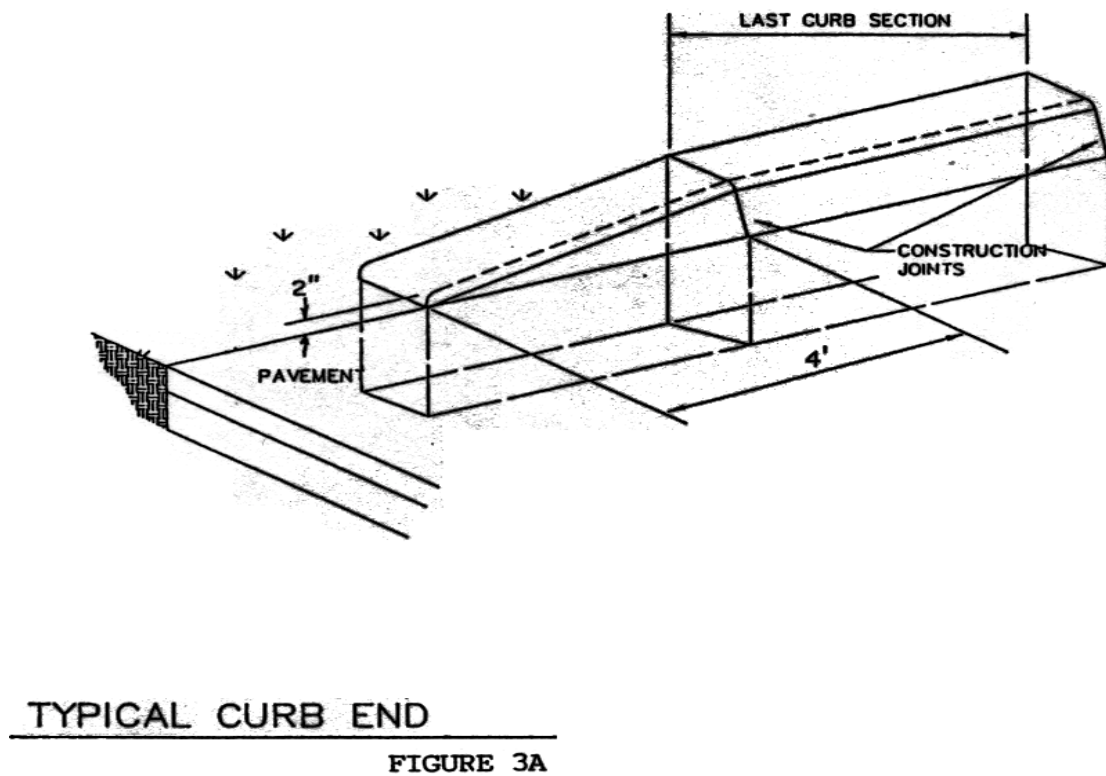


FIGURE 3



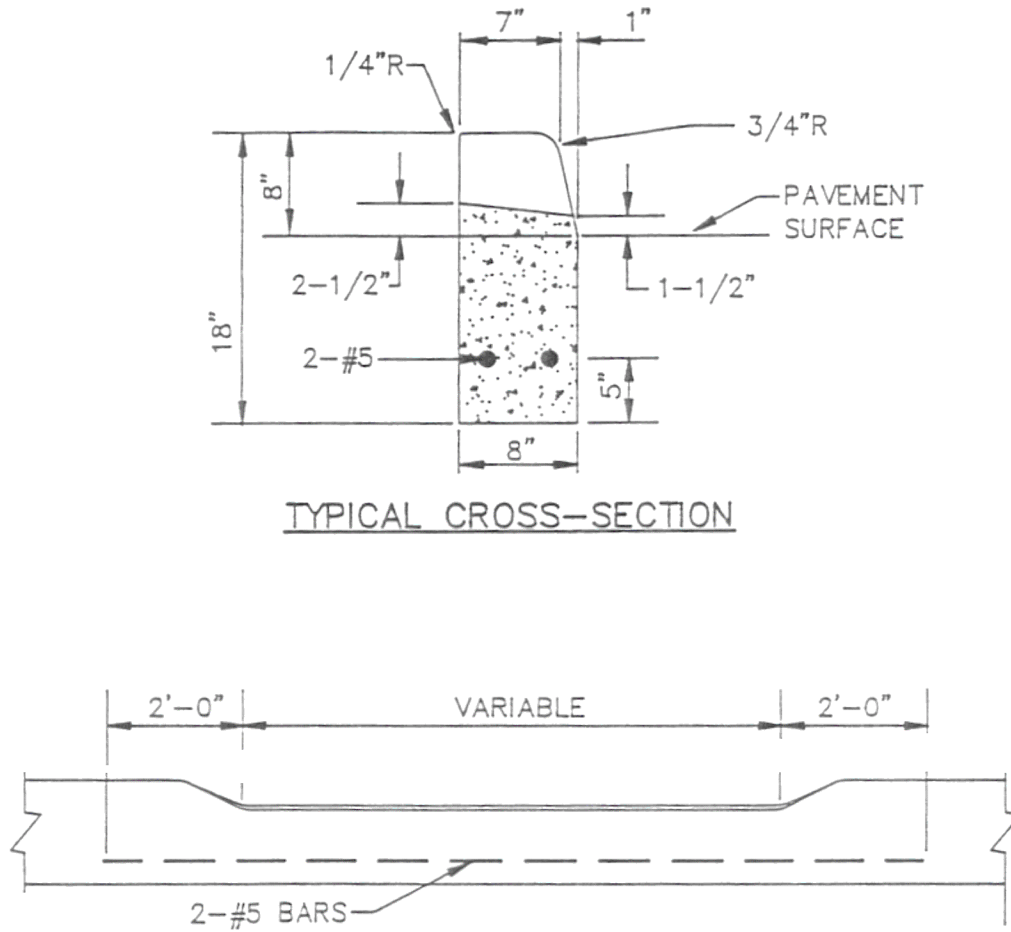
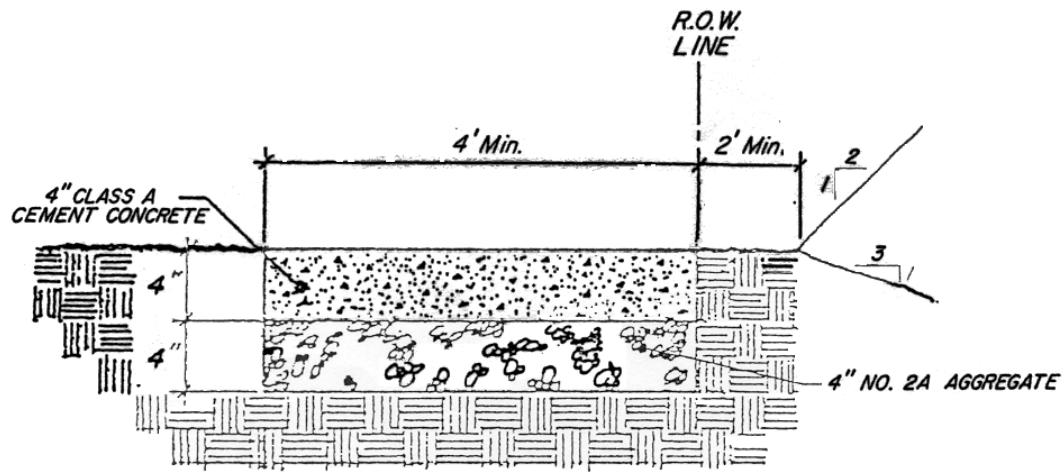


FIGURE 3B. DEPRESSED CURB

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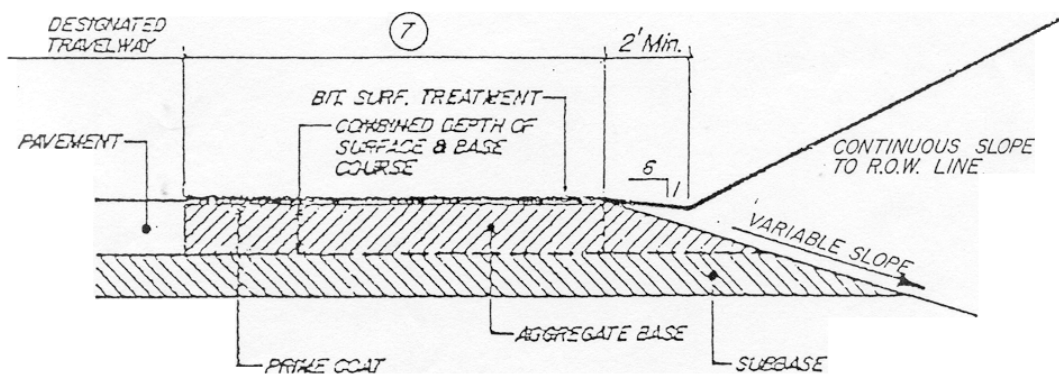
NOT TO SCALE



### PLAIN CEMENT CONCRETE SIDEWALK DETAIL

NOT TO SCALE

FIGURE 4



### TYPE 3 SHOULDER DETAIL

NOT TO SCALE

FIGURE 5

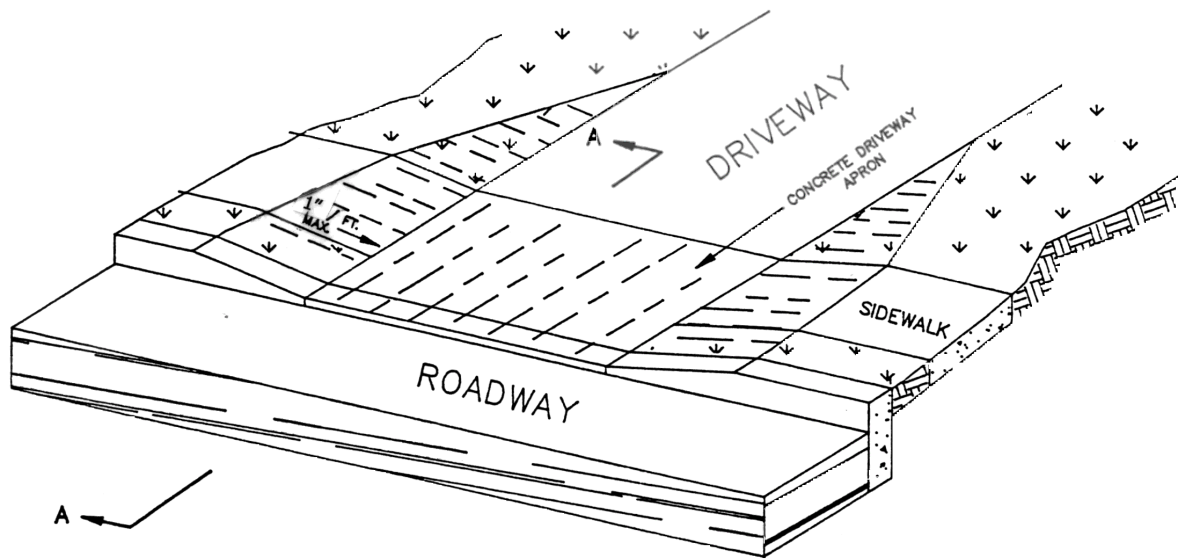
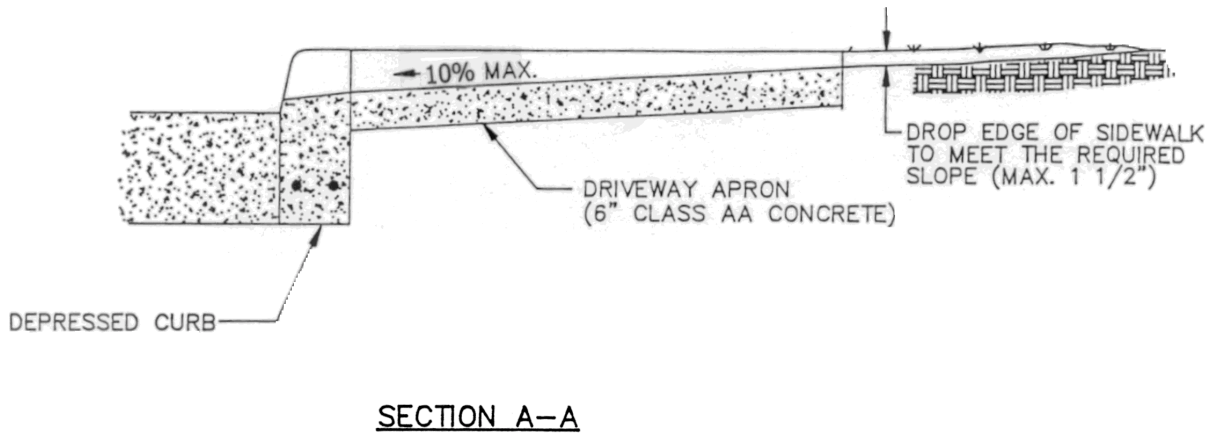
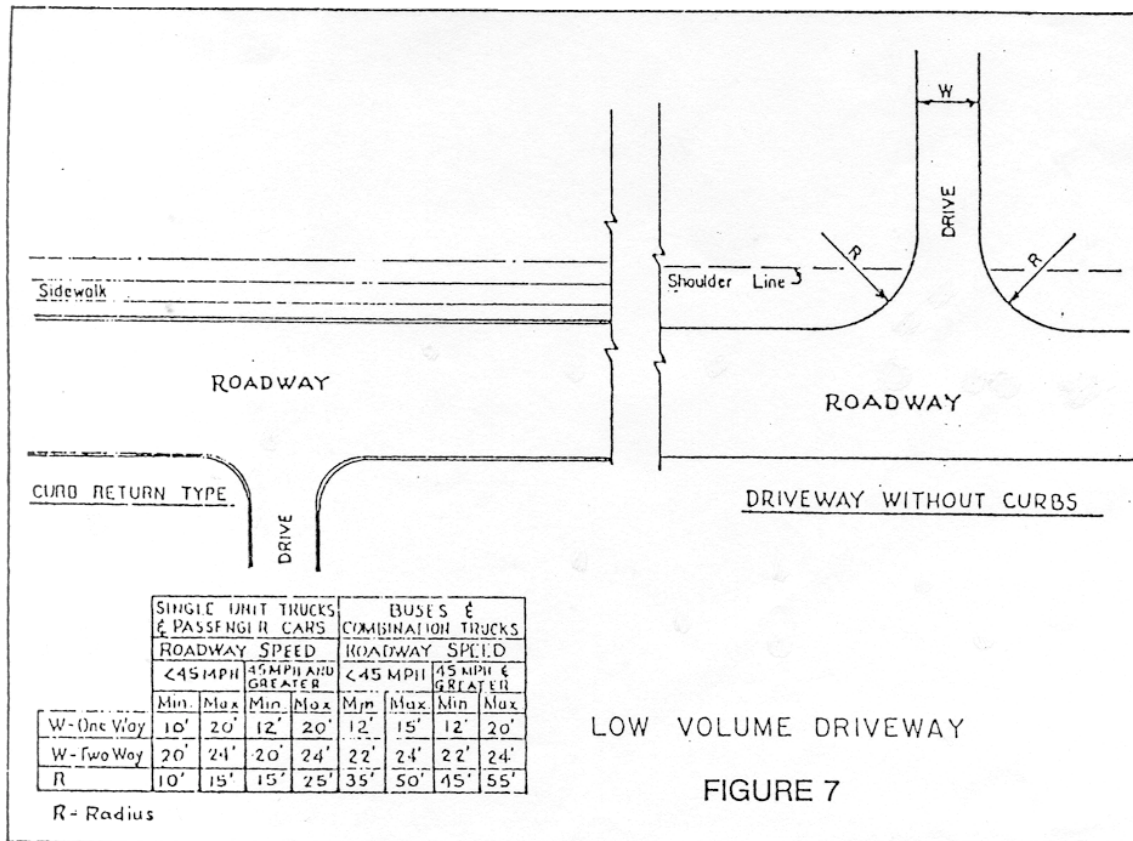
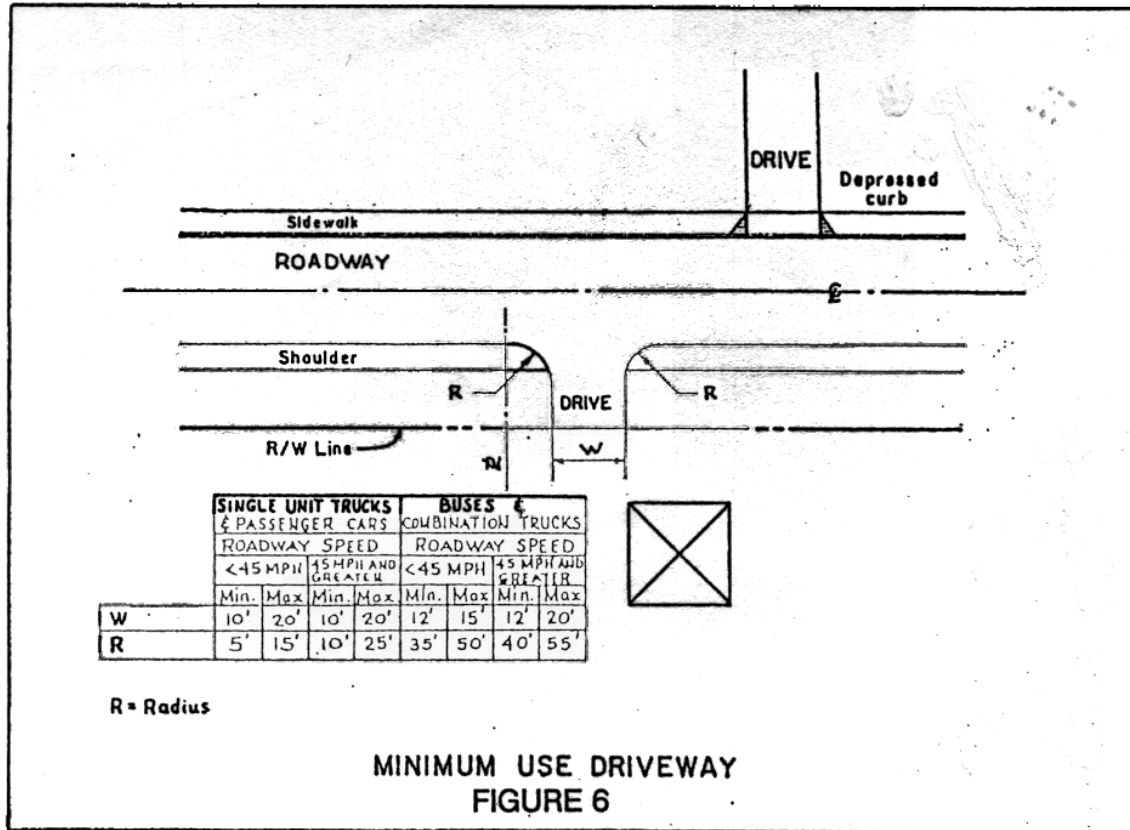


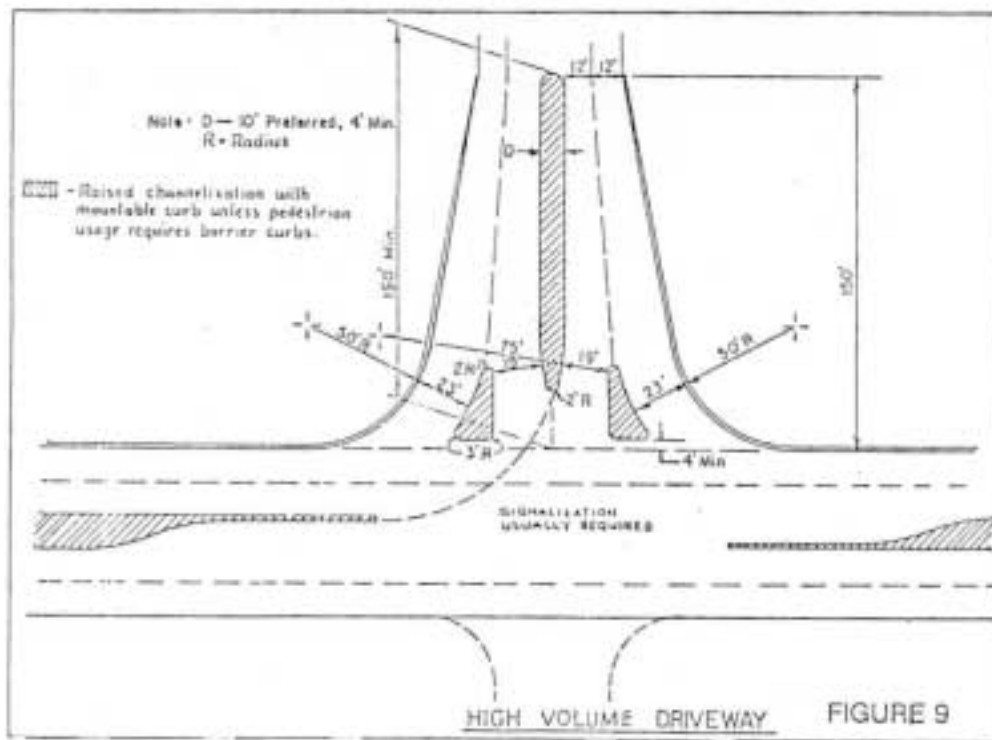
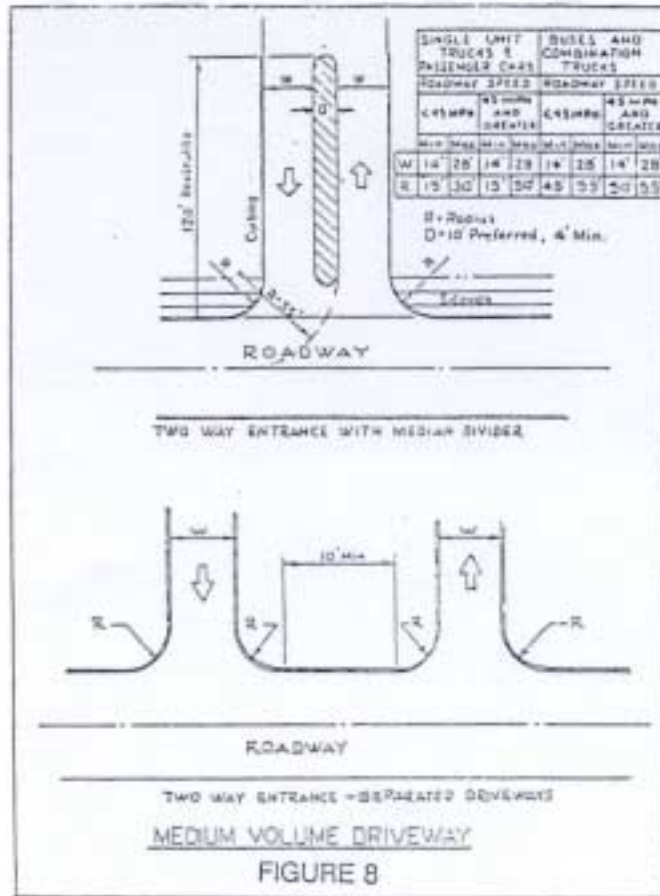
FIGURE 4A

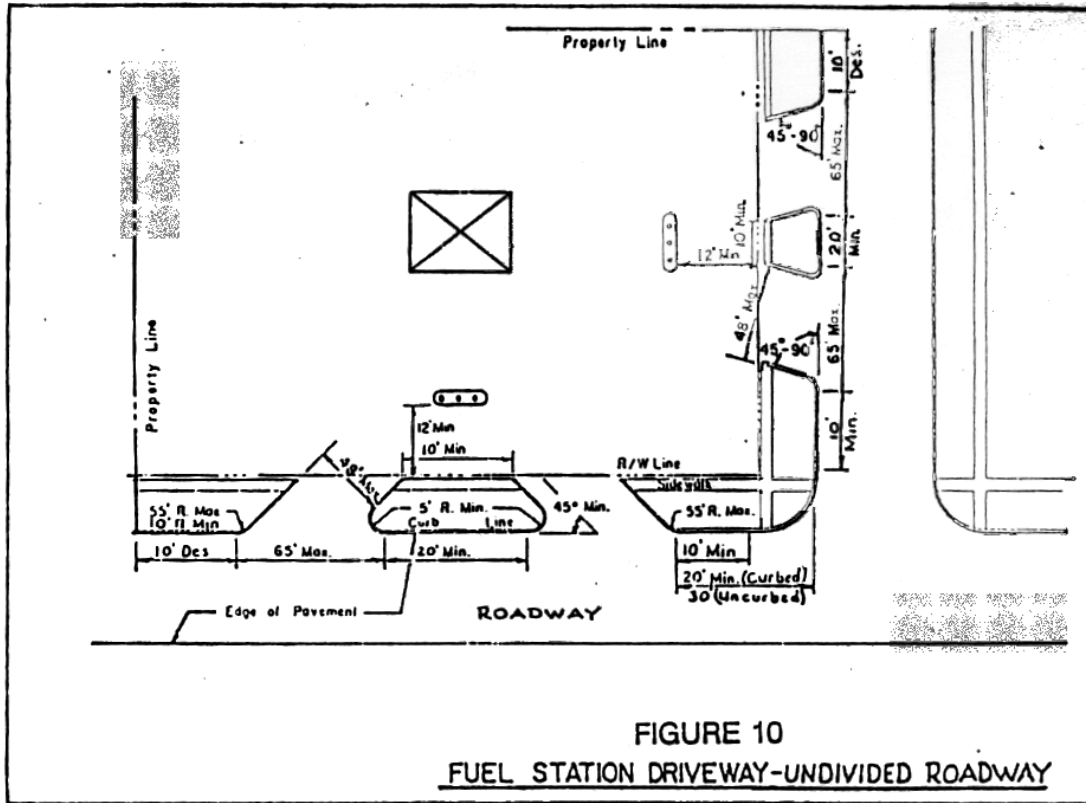
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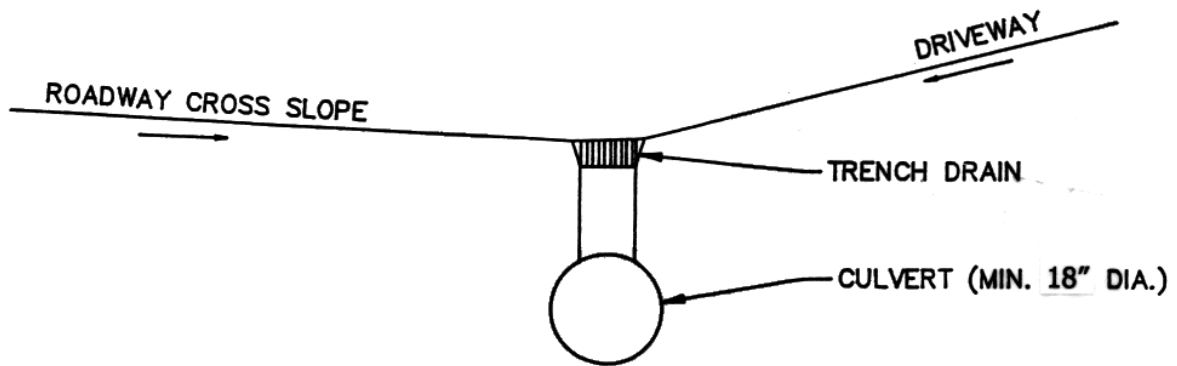
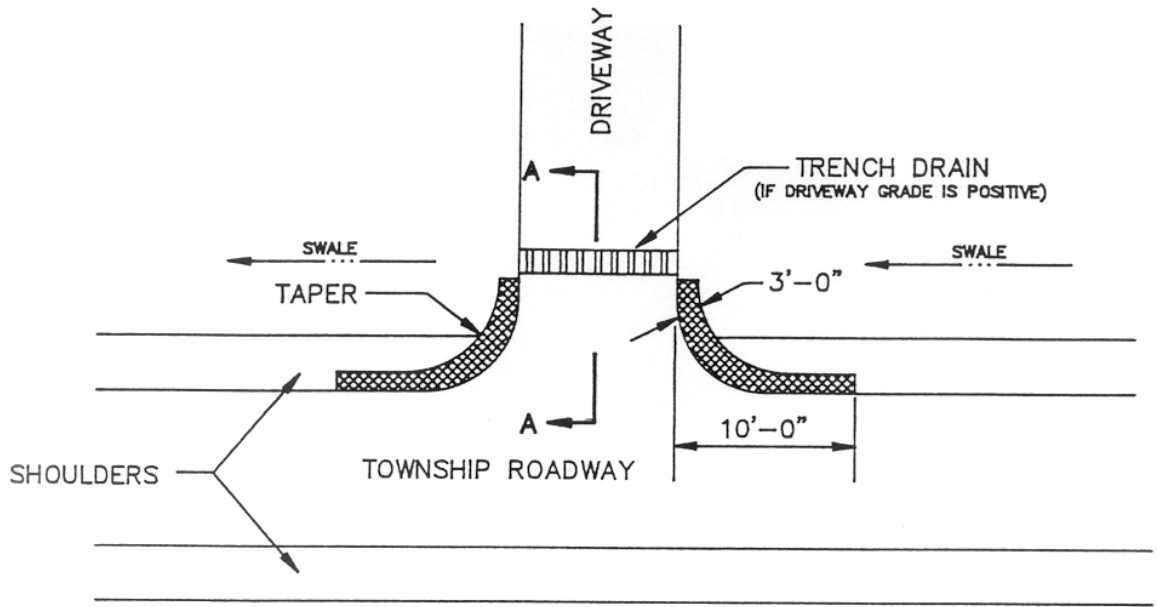












SECTION A-A

FIGURE 11

NOT TO SCALE