

**MIFFLINBURG BOROUGH**  
**UNION COUNTY, PENNSYLVANIA**  
**RESOLUTION NO. 2022-10**

A RESOLUTION OF THE BOROUGH OF MIFFLINBURG, UNION COUNTY, PENNSYLVANIA, ESTABLISHING THE MINIMUM STANDARDS IN THE CONSTRUCTION AND DESIGN FOR STREETS AND LOCAL ROADS.

WHEREAS, pursuant to 8 Pa.C.S. § 3301.1(b), the Borough of Mifflinburg, Union County, Pennsylvania (the "Borough"), is authorized to adopt ordinances regulating land use, development, and subdivision in the Borough; and

WHEREAS, pursuant to 8 Pa.C.S. § 3301.1(c), the Borough is authorized to adopt resolutions for any purpose, including for setting forth certain rules, regulations, and standards pertaining to Borough ordinances; and

WHEREAS, the Borough has determined it to be in the best interest of the health, safety, and welfare of the residents of the Borough to enact certain construction and design standards for streets and local roads pursuant to and in accordance with the Borough's Subdivision and Land Development Ordinance (Ch. 23 of the Mifflinburg Code of Ordinances); and

WHEREAS, the Borough desires to further clarify its existing regulations and provide for more specific construction and design standards for such streets and local roads.

NOW, THEREFORE, the Council of the Borough of Mifflinburg, in a public session duly assembled, hereby RESOLVES as follows:

The Construction and Design Standards for Streets and Local Roads, attached hereto and incorporated herein as Exhibit "A" is adopted and may be further amended by resolution from time-to-time as warranted.

In the event that any provision, section, sentence, clause, or part of this Resolution shall be held to be invalid, such invalidity shall not affect or impair any remaining provision, section, sentence, clause, or part of this Resolution. It is the intent of the Borough that such remainder shall remain in full force and effect.


All Resolutions or parts of Resolutions of this Borough which shall be inconsistent with this current Resolution are expressly repealed.


This Resolution shall become effective February 15, 2022.

ADOPTED AND RESOLVED, this 18<sup>th</sup> day of January, 2022 by the Council of Mifflinburg Borough, Union County, Pennsylvania, at its regular meeting.

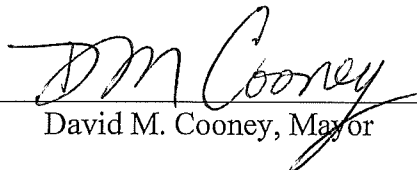
ATTEST:

BOROUGH OF MIFFLINBURG:

  
\_\_\_\_\_  
Margaret A. Metzger, Secretary

By: \_\_\_\_\_  
Richard J. Fry, President

Approved this 18<sup>th</sup> day of January, 2022.

  
\_\_\_\_\_  
David M. Cooney, Mayor

## EXHIBIT "A"

### Construction and Design Standards for Streets and Local Roads

#### Street Design Standards

The following design criteria shall be considered the minimum standards in the design of local roads serving all subdivisions and land developments. Design criteria and standards for arterials and collectors shall be in accordance with PennDOT Publication 70M.

A. Streets shall be designed for a twenty (20)-year service life. If a street is to be utilized prior to completion of construction, the utilized portion must be structurally designed to support all anticipated loading without significant loss of the designed service life of the street.

B. Special consideration for future bus and truck routes must be taken into account in the design of streets for pavement thickness and width, sight distances and curb radii.

C. Streets located in floodplain or flood prone areas shall be designed and constructed to meet the requirements of the applicable Floodplain Management Ordinance and Section 526 of this Ordinance.

D. The existing Level of Service (LOS) on any adjacent street and intersection that will be affected by a proposed subdivision or land development shall not fall below LOS C if it is currently at LOS A, B, or C and shall not be further reduced if it is at LOS D, E, or F.

E. Traffic calming techniques should be considered with projects that result in high vehicular or pedestrian traffic, areas of commercial development, and transition areas between commercial and residential development. Techniques shall be employed based on PennDOT, Publication 383.

F. **Design Speed.** The maximum design speed for local roads shall be as shown in Table 1.

G. **Vertical Alignment.**

1. Vertical curves shall be used in changes of grade exceeding one percent. In order to provide proper sight distances, the minimum length (in feet) of vertical curves shall be as computed in accordance with the Commonwealth of Pennsylvania, Title 67, Transportation, Chapter 441 as from time to time reenacted, amended, and/or replaced.

2. The minimum grade on all local streets shall be one half (0.5) percent. The maximum grade on any street shall not exceed twelve (12) percent; however, grades not more than sixteen (16) percent may be used for limited distances less than three hundred (300) feet and shall be subject to the approval of the Borough Engineer prior to design. Refer to Table 1.

3. Grades at intersections shall be as flat as possible. The grade of the approach where the traffic is required to stop shall not exceed four (4) percent grade change for forty (40) feet or

greater depending on the stacking length of the vehicles caused by high traffic volume areas. Refer to Table 2 for further design requirements.

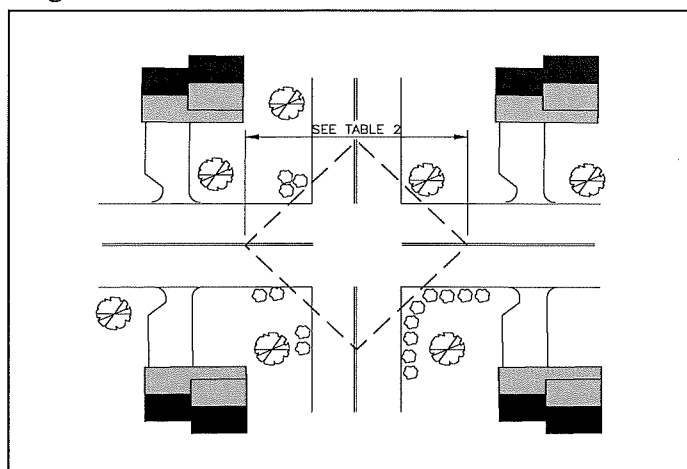
#### H. **Horizontal Alignment**

1. 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.
2. Horizontal curves shall be designed in accordance with Table 1.

#### I. **Intersections**

1. Streets shall intersect as nearly as possible at right angles, and no street shall intersect another at an angle of less than seventy-five (75) degrees, or more than one-hundred and five (105) degrees.
2. No more than two (2) streets shall intersect at the same point.
3. Street intersections shall be designed with a minimum of fifteen (15) foot radii, but should at all times be designed to safely accommodate the intended vehicular traffic such as combination trucks and buses. Refer to Table 2 for additional minimum curb radii.
4. The corner sight distances or clear sight triangle for each design speed shall be as specified in Table 2. The clear sight triangle shall be maintained as open space with no visual obstructions (Refer to Figure 1).
5. Sight distances for all intersection, horizontal alignments, or vertical alignments shall be designed to achieve the required minimum safe sight distances and safe stopping distances as specified in accordance with the Commonwealth of Pennsylvania, Title 67, Transportation, Chapter 441 as from time to time reenacted, amended and or replaced.
6. Any street intersecting with another street shall not be located closer than the distances specified in Table 512-2. Distances shall be measured from the centerline of the two intersecting streets along the centerline of said local, collector, or arterial street.
7. Where a subdivision or land development is provided access by a single street, the Mifflinburg Borough Planning Commission may require a boulevard-type entrance that would consist of two streets having a width of 20 feet each separated by an island having a width of 10 feet within a right-of-way having a width of 70 feet.

Figure 1



**TABLE 1 – LOCAL ROAD DESIGN STANDARDS**

<b>CRITERIA/CONTEXT</b> (See PennDOT Pub 70 M)	<b>Rural</b>	<b>Suburban Neighborhood</b>	<b>Town/Village</b>	<b>Private</b>
DESIGN SPEED	25 – 30 MPH	20-25 MPH	20-25 MPH	20-25 MPH
TRAVEL LANES	2	2	2	2
MINIMUM VERTICAL GRADE <sup>1</sup>	0.5%	0.5%	0.5%	0.5%
MAXIMUM VERTICAL GRADE <sup>2</sup>	12%	12%	12%	12%
RIGHT-OF-WAY WIDTH (FEET)	50	50	50	50
CARTWAY WIDTH (FEET)	9	10	10	9
SHOULDER WIDTH (FEET) <sup>3</sup>	2	4	2	2
PARKING LANE WIDTH (FEET)	NA	8	8	NA
MINIMUM CROSS SLOPE	2%	2%	2%	2%
MAXIMUM CROSS SLOPE	6%	6%	6%	8%
HORIZONTAL CURVATURE (FEET) <sup>3</sup>	150	150	150	150
REVERSE CURVE OFFSET (FEET)	100	100	100	100
VERTICAL CURVES (FEET)	See (4)	See (4)	See (4)	See (4)

<sup>1</sup> – Streets constructed at minimum grades of 0.5% shall have a 3% cross slope minimum.

<sup>2</sup> –Maximum vertical grades in commercial and industrial areas shall not exceed 8%.

<sup>3</sup> –Shoulders in streets with curbs shall be constructed to cartway standards.

<sup>4</sup> – All sight distances shall be in accordance with the Commonwealth of Pennsylvania, Title 67, Transportation, Chapter 441 as from time to time reenacted and amended.

8. Any subdivision or land development, which can be expected to generate more than 200 vehicle trips per day shall provide any or all of the following facilities, as may be required to provide safe and efficient operation at any proposed driveway or street:

- a. acceleration or deceleration lanes;

- b. concrete median or median barriers;
- c. left-turn lanes;
- d. traffic signals;
- e. lane markers; and
- f. other such traffic control devices as may be necessary.

9. Turning lanes, medians, acceleration and deceleration lanes, traffic signals, lane markers and other such traffic control devices required shall be designed in accordance with PennDOT Design Manuals.

**J. Roadway Cross Sections**

Minimum and desirable widths of roadway surface, shoulders, curbs, base, subbase material and surface courses shall be in accordance with the requirements specified in Table 1 and Table 2 below and Figure 2.

**TABLE 2 - INTERSECTION DESIGN SPECIFICATIONS**

DESCRIPTION	INTERSECTION TYPES				
	ARTERIAL WITH COLLECTOR	ARTERIAL WITH LOCAL <sup>2</sup>	COLLECTOR WITH COLLECTOR	COLLECTOR WITH LOCAL	LOCAL WITH LOCAL
MINIMUM DISTANCE BETWEEN CENTERLINES (Same Side/Opposite Side)	800'/800'	800'/300'	500'/300'	500'/300'	300'/150'
ANGLE OF STREET INTERSECTIONS <sup>1</sup>	90	90	90	75 TO 105	75 TO 105
LENGTH/GRADE CHANGE OF INTERSECTION APPROACHES	100'/4%	80'/4%	80'/4%	60'/4%	40'/6%
MINIMUM CURB RADIUS	50'	20'	35'	25'	20'
MINIMUM INTERSECTION SIGHT TRIANGLE DISTANCE <sup>3</sup>	300'	200'	200'	200'	150'

<sup>1</sup> – Angles should be designed to 90 degrees when possible.

<sup>2</sup> – Where the centerlines of local streets opening onto opposite sides of an arterial street are within 150 feet of each other, they shall be made to coincide by curving the streets to form a four-way intersection whenever possible.

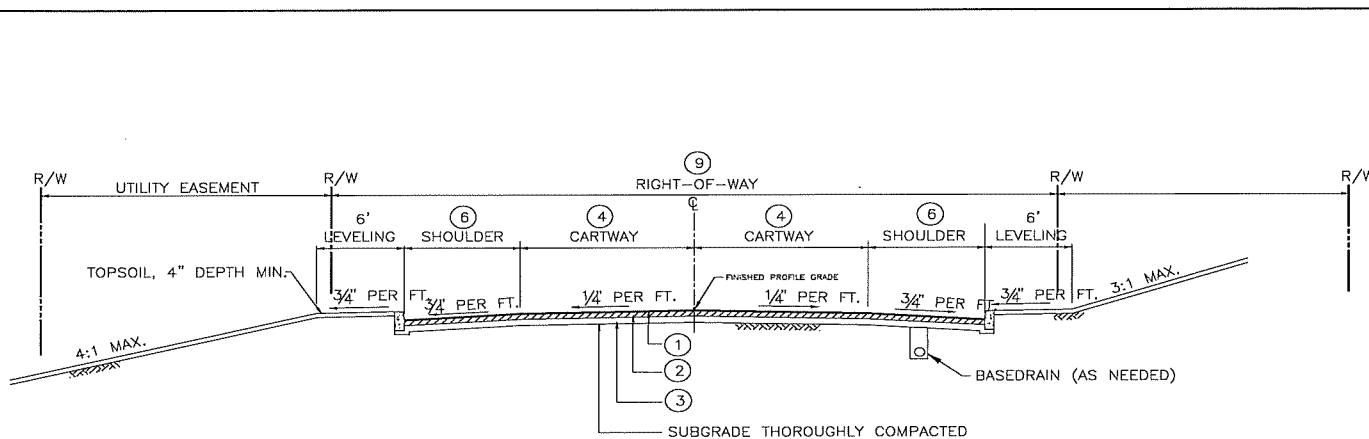
<sup>3</sup> – This includes railroads. Refer to the detail for proper alignments.

K. Structures

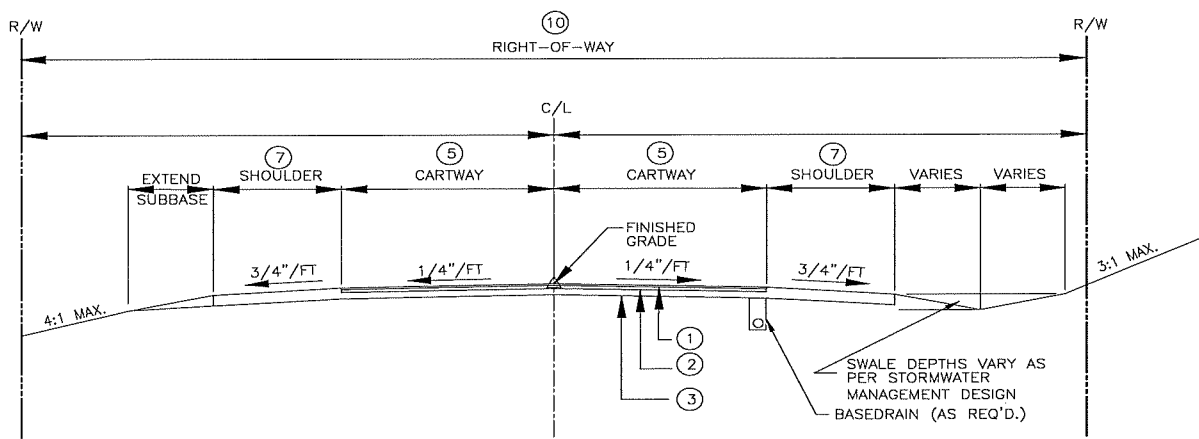
1. Bridges, culverts, walls, tunnels and other structures should be designed in accordance with the current AASHTO publication "Standard Specifications for Highway Bridges" and PennDOT Design Manual, Part 4, "Structures".

2. The design of all structures is subject to the review and approval of the Borough Engineer.

Figure 2



TYPICAL ROADWAY SECTION WITH CURBING  
NOT TO SCALE



TYPICAL ROADWAY SECTION WITH SHOULDERS  
NOT TO SCALE

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

**TABLE 3 – ROAD & PARKING AREA CONSTRUCTION STANDARDS**

MATERIAL	TYPE <sup>1</sup>			
	LOCAL	PRIVATE <sup>2</sup>	COMMERCIAL	INDUSTRIAL
WEARING COURSE  Superpave Asphalt Mixture Design, 9.5mm, PG 64-22, 0.0 to 0.3 million ESALS, SRL L <sup>3</sup>	1.5"	1.5"	1.5"	1.5"
BASE COURSE  Superpave Asphalt Mixture Design, 25mm, PG 64-22, 0.0 to 0.3 ESAL's <sup>4</sup>	4"	3"	4.5"	4.5"
BINDER COURSE  Superpave Asphalt Mixture Design, 25 mm, PG 64-22, 0.3 to 3.0 million ESAL's	-	-	-	2"
COMPACTED 2A AGGREGATE SUBBASE	6"	6"	8"	8"

1 – Arterial and Collector Streets shall be constructed to PennDOT standards and approved by the Commission Engineer.

2 – Alternates as per PennDOT Publication 70M may be considered for private streets serving ≤5 lots and <100 ADT.

3 – Commercial and Industrial is 0.3 to 3.0 million ESAL's, SRL M

4 - Commercial and Industrial is 0.3 to 3.0 million ESAL's

3. For new construction projects, required bridge widths and design load structural capacities shall be designed using Penn DOT Design Manual, Part 2, "Rural Design Criteria Charts"



4. A 14'-0" minimum vertical clearance, plus an allowance of six (6) inches to accommodate future resurfacing, shall be provided for all new and reconstructed facilities on or over collector and local road facilities.

5. A 16'-0" minimum vertical clearance, plus an allowance of six (6) inches to accommodate future resurfacing, shall be provided for all new and reconstructed facilities on or over Interstate, limited access, and arterial facilities.

6. For additional vertical clearance requirements refer to PennDOT Design Manual, Part 2 and PennDOT Design Manual, Part 4.

7. The minimum width criteria and minimum design load structural capacities shall be as indicated in the applicable PennDOT Design Manual, Part 2, Design Criteria Charts.

#### L. **Special Streets**

##### 1. Cul-de-Sacs

a. A cul-de-sac will not be permitted when a through street is feasible. The feasibility of a through street will be based on the physical features of the tract proposed for development, the potential for extension of the street to adjoining lands, restrictions imposed by other government regulations, and the ability to design to meet all other requirements of this Ordinance. When cul-de-sacs are proposed, the application shall be accompanied by a written analysis of the merits of the design and the reasons that a through street would not be feasible. Approval of cul-de-sac streets shall be at the discretion of the Borough Engineer and the Borough Planning Commission.

b. Cul-de-sacs shall not be used immediately adjacent to an existing grid street system without providing a transition that continues and projects the historic grid.

c. Cul-de-sacs shall be prohibited where it is possible to provide loop streets that provide better access for emergency vehicles, fewer restrictions on snow removal, and improved pedestrian access.

d. Permanently designed as such a cul-de-sac street shall not exceed one thousand (1,000) feet in length in a single family residential development, eight hundred (800) feet in length in commercial or industrial developments, and six hundred (600) feet in multi-family housing developments the length of which is measured from the centerline intersection with the through street to the center point of the turnaround.

e. Permanent cul-de-sac streets shall have a paved, circular turnaround with a minimum radius to the curb line of forty-five (45) feet and the minimum radius of the right-of-way lines shall be fifty (50) feet. Refer to Figure 3 for minimum geometrical requirements.

f. An interior island may be permitted in the cul-de-sac turnaround in residential areas at the discretion of the Borough Engineer and the Borough Planning Commission.

g. The centerline grade on a cul-de-sac street shall not exceed ten (10) percent and the grade of the diameter of the turnaround shall not exceed four (4) percent.

h. Temporary cul-de-sacs may have circular, “T” shaped, or “hammerhead” shaped turnarounds. Turnarounds shall be constructed completely within the right-of-way. Restoration of paved areas within the right-of-way shall be the responsibility of the developer connecting to the temporary cul-de-sac.

i. Unless future extension is clearly impractical or undesirable and is clearly demonstrated by the applicant to the Borough Engineer and the Borough Planning Commission, the turnaround 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.

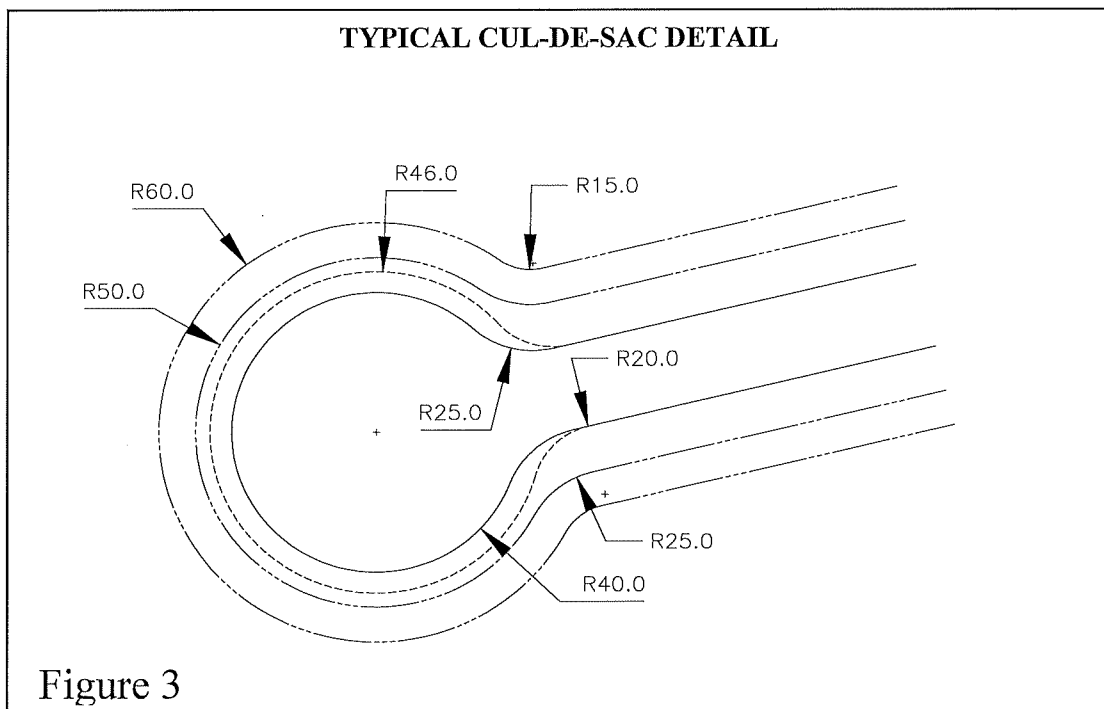


Figure 3

2. 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 turnaround. The use of such turnaround shall be guaranteed to the public until such time the street is extended.

3. Half or Partial Streets - New half or partial streets are prohibited.

4. Alleys - Alleys may be permitted with the concurrence of the Borough and shall comply with the following standards:

- a. Alleys may not be used as the only means of access to a lot.
- b. Alleys in residential developments shall have a minimum right-of-way width of 16 feet and a minimum cartway width of 12 feet.
- c. Alleys in nonresidential developments shall have a minimum right-of-way width of 20 feet and a minimum cartway width of 16 feet. Where necessary, corners shall have a radius adequate to accommodate any large vehicles that may be expected to use the alley.
- d. Dead end alleys shall not be permitted without an all-weather turnaround, subject to the approval of the Borough Planning Commission and the Borough Engineer.
- e. The use of alleys for residential development shall be limited to PRD's, TND's, and Open Space Subdivisions with lot widths of 80 feet or less.
- f. Alleys should be designed in accordance with the street standards in Section 512 of this Ordinance.
- g. Alleys serving commercial developments should be sized to accommodate emergency vehicles and the vehicular turning movements desired.

5. Private Streets

- a. All streets shall be planned to be offered for dedication as public streets.
- b. Private streets shall be approved at the sole discretion of the Mifflinburg Borough Planning Commission and shall not be approved without the concurrence of the Borough and the Borough Engineer.
- c. Private streets shall be prohibited unless design objectives of the development warrant private ownership, and the Borough will not accept dedication of the street, unless the following conditions are met:
  1. The private street shall serve not more than five (5) lots;
  2. A private right-of-way agreement shall be properly executed between the landowner granting the access and all affected parties abutting and adjoining said easement and shall create a private right-of-way not less than fifty (50) feet that shall run with the land and be available for the use of all owners, present and future. This agreement at a minimum shall include all the provisions listed in Appendix F of the Borough's Subdivision and Land Development Ordinance and must be approved by the Borough Planning Commission and the Borough prior to plan approval;
  3. The adjoining landowners or an association of property owners must agree that the street(s) shall not be dedicated but shall be maintained by the adjoining landowners or association of property owners;

4. The adjoining landowners or association of property owners must agree to the maintenance of the private street in a mud-free condition and agree that the adjoining lot owners or an association of property owners will provide for repair, snow removal, and any other necessary maintenance;

5. The private street arrangement and agreement must be acceptable to the Borough; and

6. An agreement must be entered into by the adjoining landowners or an association of property owners that shall be recorded with the Union County Recorder of Deeds as part of the Final Plan and subsequently reflected in the deeds of all future lot owners. This agreement shall establish the conditions under which the street will be constructed and maintained as well as conditions controlling the offer of dedication and provisions for funds sufficient to restore the private street to the standards required for public streets should dedication occur. At a minimum the agreement shall stipulate the provisions contained in Appendix F of the Borough's Subdivision and Land Development Ordinance.

d. The private street system shall be designed and built to accommodate the type and volume of traffic anticipated to be generated and shall be constructed in accordance with the standards and criteria established in Sections 511, 512, 514 and 516 of the Borough's Subdivision and Land Development Ordinance.

e. A notation shall be included on the final plan and reflected in the deeds of sold lots identifying the street right-of-way as "Private" and identifying the entity responsible for maintenance.

f. All gates on private streets shall be located a minimum of thirty (30) feet from the public right-of-way and shall not open outward. Local fire department personnel shall have ready access to locking mechanisms on any gate restricting access.

g. Private streets shall be considered a required improvement and must be constructed prior to Final Plan approval or, in lieu of completion of improvements, the applicant must provide an acceptable guarantee to be approved by the Borough Planning Commission, Borough Engineer, Borough Solicitor, and the Borough in accordance with Article VII of the Borough's Subdivision and Land Development Ordinance.

### **Street Construction Standards**

A. At a minimum all street construction activities shall be performed in strict accordance with PennDOT, Publication 408 including all references, supplements, and revisions, with Table 3, and with applicable municipal ordinances and requirements in order to ensure proper serviceability.

B. **Liquid Fuels Requirement.** Any street or part thereof offered for dedication, or intended to be offered for dedication to the Borough for inclusion into the road system under this Resolution, shall comply with the minimum requirements of Penn DOT covering the allocation of liquid fuel tax receipts and the standards outlined in the Borough's Subdivision and Land Development Ordinance.

C. All streets and related facilities shall be staked-out during construction by a qualified individual in the construction, engineering, or surveying field to ensure that infrastructure is constructed in accordance with the approved design drawings.

D. The applicant shall be responsible for implementing all necessary plans to control, mitigate, and eliminate any forms of pollution, disturbance, or destruction resulting from noise, odor, stormwater, and/or excessive loads or repetitions of loads that may occur during construction.

E. The applicant shall furnish the necessary guards, watchmen, warning lights and similar items necessary to maintain state highway and other street traffic in accordance with Penn DOT Publication 203 requirements. In general, the applicant 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  $\frac{1}{2}$  the roadway width shall be open at all times with traffic control.