NOTES
1) This typical section may be used in subdivisions in which the average lot size is 18,000 sf or greater on streets that have an ADT up to 5499.
2) For streets with projected traffic volumes over 8000 ADT, or serving heavy commercial or industrial traffic, the street must be designed in accordance with the current VDOT Road Design Manual. Pedestrian facilities must be provided in accordance with Chapter 8 of the Public Facilities Manual.
3) Distances between features, and distances between features and right-of-way line must be in accordance with the current Appendix B of the VDOT Road Design Manual. VDOT will accept sidewalks, which is a minimum of 1 foot from the right-of-way line.
4) For streets with an ADT of 4000 or less; design speed 14 mph, sight distance, centerline radius, pavement width (except as set forth in Note 6), shoulder width, grade, K values for sag and crest, and clear zone must be in accordance with the current Appendix B of the VDOT Road Design Manual.
5) For streets with an ADT between 4001 and 5499, sight distance, centerline radius, shoulder width, grade, K values for sag and crest and clear zone must be in accordance with the current VDOT Road Design Manual based on urban road criteria and a 40 mph design speed. The minimum pavement width must be 24 feet.
6) The pavement width for one-way streets must be a minimum of 18 feet.
7) Streets with ADTs greater than 4000 must be super-elevated in accordance with the VDOT Road Design Manual.
8) The required right-of-way width must be based on containing the features to be maintained by VDOT within the right-of-way in accordance with the current VDOT Road Design Manual.
9) Surface, base and subbase designs must be predicated upon a subgrade CBR of 10 or greater and must be designed in accordance with the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.
10) Grades of relatively short length (up to 295'), which are on a street with a projected traffic volume up to 400 ADT, may be increased by 50% of the value upon approval by the Director and VDOT.
11) Sidewalk must be provided in accordance with Section 8–0100 et seq. of the Public Facilities Manual and must meet the standards set forth in the current Appendix B of the VDOT Road Design Manual. Sidewalk cross slope, including passing areas (full 5-foot width and driveway crossings (3-foot width), should not exceed 2%. The sidewalk must be a minimum of 7' from the edge of the shoulder, if no physical barrier is provided. Sidewalk along ditch section streets must be in accordance with the current Appendix B of the VDOT Road Design Manual, on compacted subgrade, and include underdrains in accordance with VDOT UD–3. Careful consideration must be given to drainage and sidewalk/street intersections early in the design.
12) Underdrains and combination underdrains must be provided in accordance with the current VDOT Road and Bridge standards. Underdrains are required on streets with an ADT of 1000 or greater. The section of the shoulder over the underdrain must be paved.
13) The ditch details (e.g. width, depth, and slope) must be determined in accordance with Chapter 6 of the Public Facilities Manual and Appendix B of the VDOT Road Design Manual. Ditches may not be required on fill sections with no sidewalk, if adequate drainage facilities are located out of the right-of-way. The width of the ditch must be considered when determining the appropriate right-of-way width.
NOTES

1) This typical section may be used in subdivisions in which the average lot size is less than 18,000 sf on streets that have an ADT up to 5499.

2) For streets with projected traffic volumes over 8000 ADT, or serving heavy commercial or industrial traffic, the street must be designed in accordance with the current VDOT Road Design Manual. Pedestrian facilities must be provided in accordance with Chapter 8 of the Public Facilities Manual.

3) Distances between features, and distances between features and the right-of-way line must be in accordance with the current Appendix B of the VDOT Road Design Manual. VDOT will accept sidewalk, which is a minimum of 1 foot from the right-of-way line.

4) For streets with an ADT of 4000 or less; design speed, sight distance, centerline radius, street width from face of curb to face of curb, grade, K values for sag and crest, and clear zone must be in accordance with the current Appendix B of the VDOT Road Design Manual.

5) For streets with an ADT between 4001 and 5499; sight distance, centerline radius, grade, K values for sag and crest, and clear zone must be in accordance with the current VDOT Road Design Manual based on urban road criteria and a 40 mph design speed. The minimum street width from face of curb to face of curb must be 40 feet.

6) Streets with an ADT greater than 4000 must be super-elevated in accordance with VDOT Road Design Manual.

7) The required right-of-way width must be based on containing the features to be maintained by VDOT within the right-of-way in accordance with the current VDOT Road Design Manual.

8) Grades of relatively short length (up to 295 feet), which are on a street with a projected traffic volume up to 400 ADT, may be increased by 50% of the value upon approval by the Director and VDOT.

9) Surface, base and subbase designs must be predicated upon a subgrade CBR of 10 or greater and must be designed in accordance with the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.

10) Stone base or subbase material must extend under the curb and gutter a minimum distance of 18" from the face of curb. The stone thickness under the curb and gutter must be the pavement depth in excess of the 7" depth of the gutter face but no less than 4".

11) Sidewalk must be provided in accordance with Section 8–0100 et seq. of the Public Facilities Manual and must meet the standards set forth in the current Appendix B of the VDOT Road Design Manual. Sidewalk cross slope, including passing areas (full 5-foot width) and driveway crossings (3-foot width) should not exceed 2%.

12) Underdrains and combination underdrains must be provided in accordance with the current VDOT Road and Bridge Standards. Underdrains are required on streets with an ADT of 1000 or greater.
GENERAL NOTES AND FOOTNOTES

1) Street must be superelevated in accordance with Standard TC-5 of VDOT Road and Bridge Standards.

2) Sight distance, centerline radius, clear zone, grade, K values for sag and crest, distance between features, and distance between features and right-of-way line must be in accordance with the current VDOT Road Design Manual based on urban road criteria and a 45 mph design speed.

3) The right-of-way width shown is based on the features shown, which are to be maintained by VDOT. If additional features such as guard rail are required, the right-of-way width may change and must accommodate all features, which are to be maintained by VDOT, in accordance with the current VDOT Road Design Manual.

4) Surface, base and subbase designs must be predicated upon a subgrade CBR of 10 or greater and must be designed in accordance with current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.

5) Stone subbase material must extend under the curb and gutter a minimum distance of 18" from the face of curb. The stone thickness under the curb and gutter must be the pavement depth in excess of the 7" depth of the gutter face but no less than 4".

6) 12'-wide left turn lanes must be provided at all median crossovers. Any portion of the raised median that becomes less than 6' wide must be constructed in concrete.

7) Sidewalk must be provided in accordance with Section 6-0100 et seq. Width of sidewalk and distance between sidewalk and the right-of-way line must be in accordance with the current Appendix B of the the VDOT Road Design Manual. VDOT will accept sidewalk, which is a minimum of 1 foot from the right-of-way line.

8) Streets with an ADT in excess of 4000 ADT must be designed in accordance with VDOT Road Design Manual.

9) Underdrains and combination underdrains must be provided in accordance with the current VDOT Road and Bridge Standards.
Easement width (EW)

Pavement width (PW)

2 1/2'

NO SIDEWALKS

Easement width (EW)

Pavement width (PW)

4' 1/2'

CG-3

ABUTTING SIDEWALK - 1 SIDE

Pavement width (PW)

2' 4' 2'

GRASS STRIP - SIDEWALK 1 SIDE

Easement width (EW)

Pavement width (PW)

4' 1/2'

CG-3

ABUTTING SIDEWALK - 1 SIDE

GRASS STRIP - SIDEWALK 1 SIDE

Easement width (EW)

Pavement width (PW)

2' 4' 1/2'

GRASS STRIP SIDEWALK - 2 SIDES

NOTES:
1. For pavement section, see Section 7-0402.
2. Trails must be in separate easements when provided.
3. Optional curb and gutter standards CG-6, CG-6R, CG-7, and CG-7R. Curb cut, driveway and storm structure transition details will be provided when CG-7 and CG-7R are used.
4. For single family detached condominium, single family detached (only in those zoning districts where permitted), patios and garden courts with 5 or less lots, geometrics of street may conform to pipestem lot standards. Methods and details for providing adequate turnarounds must be as required by the Director.
5. Sidewalks and trails must be provided in accordance with Chapter 8-0000 et seq.
6. For all entrances, a 3/4" lip must be maintained across the frontage of the driveway at the gutter pan.

Ref. Sec. 7-0101.2, 7-0103, 7-0105.1, 7-0306.8B, 7-0402.2A

Rev. 1-00, 2011 Reprint, 2018 Reprint

PRIVATE STREETS
TOWNHOUSE, PATIO,
GARDEN COURT, ETC.

PLATE NO. 4-7
STD. NO. TS-5A
This standard section is applicable to subdivisions which are approved for R-C cluster development.

This standard section is required on private streets in R-C cluster developments. This standard is not required for private streets in a 5-acre subdivision, not subject to the Subdivision Ordinance.

Base course is based on a subgrade CBR value of 10. Where CBR is less than 10, 1" of base material must be added for each point below CBR 10. Where CBR is more than 10, subbase may be reduced 1" for each 5 points above CBR-10. All special designs are subject to the approval of the Director.

A 6" Aggregate Base Course, Type I or II is required. The surface course must be prime coat and double seal surface treatment or prime coat and 100 LB/SY bituminous concrete, Type SM-9.5A.

The construction must be inspected by the County.

All materials and construction of this design must conform to the current VDOT Road and Bridge Specifications and VDOT Road and Bridge Standards.

* Max. % of grade may be increased to 15% for relatively short lengths with the approval of the Director. Pavement widths must be increased to 24' at intersection locations.

** Slope may be increased to 1 1/2: 1 for heights not exceeding 10', subject to approval of Director.

*** See Section 7-0101.3 for easement widths to adjoining properties that are landlocked.
NOTES:
1. Turnarounds must be provided at the end of all public streets, both permanent and temporary except those streets covered by the stub street criteria.
2. Construction methods must conform to the Typical Street Standards as presented in this PFM.
3. Temporary turnarounds at tends of streets to be extended at some future date:
   a. Geometric must conform to cul-de-sac standard.
   b. Typical section must conform to TS-1 or TS-2 Standard for subbase and base requirements. The surface must be temporary 2-shot treatment.
4. Sidewalks, when required on cul-de-sac streets, must be provided within the right-of-way and extend around the cul-de-sac to a point which is at least one-half of the distance between the PC and PT of the cul-de-sac. At the point at which the sidewalk terminates standard CG-12 must be provided.
5. Sidewalk must be provided in accordance with Section 8-0100 et seq.

Ref. Sec. 7-0101.2, 7-0103, 7-0105.1, 7-0306.6B, 7-0702.1
Rev. 1-00, 11-05, 2011 Reprint, 2018 Reprint

TYPICAL STANDARD FOR CUL-DE-SAC AND "Y" TURNAROUND

PLATE NO. STD. NO.
6-7 TU-1
All materials and construction of this design in a R/W to be maintained by VDOT must conform to current VDOT Road and Bridge Specifications and VDOT Road and Bridge Standards.

Note: Curb having a radius of 300' or less (along face of curb) is considered radial curb.

Note: CG-6R cannot be used in VDOT R/W.

Note: Subgrade for all sidewalks, curb and gutter must be compacted to min. 95% density at optimum moisture to full width of R/W in accordance with AASHTO T99-61.
Driveway Clearances
Grading Plans must provide for adequate vehicular clearance for driveway approach, departure and breakover transitions. Driveway profiles are required where steep grades prevail.

Culvert pipe, if needed, is to be 40' in length.

Pipestem driveways must be paved to the terminal point of the driveway easement.

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<tr>
<th>NUMBER OF LOTS</th>
<th>WIDTH OF EASEMENT</th>
<th>WIDTH OF PAVEMENT</th>
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<tr>
<td>2</td>
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<td>12'</td>
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<td>3-5</td>
<td>30'</td>
<td>18'</td>
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See Plates 21-7 and 22-7 for paving details.

Ref. Sec. 2-0103.3, 7-0101.2, 7-0105.1, 7-0306.6B, 7-0403.2A, 7-0701, 7-0702.1
Rev. 1-00, 2011 Reprint, 2018 Reprint

STANDARD ENTRANCE
PIPESTEM LOTS
DITCH SECTION

PLATE NO. 9-7
STD. NO. PS-1
Driveway Clearances
Grading Plans must provide for adequate vehicular clearance for driveway approach, departure and breakover transitions. Driveway profiles are required where steep grades prevail.

Pipestem driveways must be paved to the terminal point of the driveway easement.

See Plates 21-7 and 22-7 for paving details
NOTES:

1) Distance between back of curb to sidewalk, width of sidewalk, and distance between sidewalk and right-of-way line must be in accordance with the current Appendix B of the VDOT Road Design Manual. VDOT will accept sidewalk, which is a minimum of 1’ from the right-of-way line.

2) Surface, base and subbase designs are predicated upon a subgrade CBR value which equals or exceeds a value of 10. Pavement design and materials must be in accordance with the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.

Ref. Sec. 7–0103, 7–0104.2, 7–0105.1, 7–0306.6B
Rev. 1–00, 4–07, 2011
Reprint, 2018 Reprint

STANDARD TYPICAL STREET CONSTRUCTION SECTION FOR SERVICE DRIVES WITH CURB & GUTTER

PLATE NO.   STD. NO.
11–7       TS–3
The shoulders will be paved with a min. 2-shot surface treatment throughout the intersection to each point of tangency. A min. 25' taper will be required from these points to the edge of pavement.
Square corners

Mounting Bracket

2 3/8" O.D. galvanized steel post

Ground line

Concrete

Anchor rod

NAME PLATE
(Aluminum)

Extruded

Min. 30" to 48"

STANDARD STREET NAME SIGN POST MOUNTED

PLATE NO. 13-7

STD. NO. SNS-1
Cross Bracket 90° and 45°

1/2" clearance hole on opposite sides for perfect alignment with vandal proof bolts.

POST TOP BRACKET

Holes for four hex head set screws with center pin are not to be less than 90° or more than 135° apart

ALTERNATE POST ANCHORING DETAIL (FOR ROUND POSTS)

VANDAL-PROOF SPLINE HEAD BOLT WITH SHOULDER STOPS TO KEEP SIGN FROM WIGGLING

VANDAL-PROOF HEX HEAD SET SCREW WITH CENTER PIN

HOLE DETAIL FOR EXTRUDED STREET NAME PLATE

STANDARD ALUMINUM STREET NAME SIGN BRACKET AND PLATE

PLATE NO.  STD. NO.
14-7          SNS-2
Z POST ANCHOR
Available in 2" OD or 2 1/2" OD size

13.5 GAUGE GALVANIZED METAL

Ref. Sec. 7–0107.1,
7–0107.4, 7–0107.5,
7–0107.6C, 7–0107.6F

Rev. 1–00, 2011 Reprint,
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ALTERNATE POST
ANCHORING DETAIL
FOR ROUND POST

PLATE NO. 15–7
STD. NO. SNS–2
At signalized intersections, street name signs for both streets will be installed on all vertical supports for the traffic signals. Signs will be mounted with standard aluminum cantilevered pole mounted street name brackets.

At signalized intersections, the bottom of the lowest street name sign will be 16’ above ground level.
Exploded view of sawtooth fastener

See specification for this bracket in Section 7-0107.7
1. Reserve 18" above top of sign for mounting of 9" x 18' min. size route marker.

2. 24" stop or 30" yield sign location.

3. The lowest portion of stop/yield sign must be placed a min. of 7' above the top of curb on streets with curb & gutter or above the nearest edge of pavement on streets without curb & gutter.

4. Signs are mounted on 4" x 4" salt treated unpainted wood posts unless otherwise directed by VDOT.

**INSTALLATION DETAILS**

**SET IN EARTH**

- Ground line
- Wood post
- Backfill material to be tamped. No concrete used.

**SET IN CONCRETE**

- Wood post
- Standard bituminous mix Type S-4
- Backfill material to be tamped.

100 lbs of the dry ingredients as in Class A3 concrete must be mixed with backfill material during tamping.

Ref. Sec. 7-0107.4, 7-0107.5

Rev. 1-00, 2011 Reprint, 2018 Reprint
The "Multiway Stop" installation is useful as a safety measure at some locations. It should ordinarily be used only where the volume of traffic on the intersecting roads is approximately equal. A traffic control signal is more satisfactory for an intersection with heavy volume of traffic.

Any of the following conditions may warrant a multiway STOP sign installation.

1. Where traffic signals are warranted and urgently needed, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the signal installation.

2. An accident problem, as indicated by 5 or more reported accidents of a type susceptible of correction by a multiway stop installation in a 12-month period. Such accidents include right- and left-turn collisions as well as right-angle collisions.

3. Min. traffic volumes:
   (a) The total vehicular volume entering the intersection from all approaches must average at least 500 VPH for any 8 hrs of an average day, and
   (b) The combined vehicular and pedestrian volume from the minor street or highway must average at least 200 units per hr for the same 8 hrs, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the max. hr, but
   (c) When the 85-percentile approach speed of the major street traffic exceeds 40 MPH, the min. vehicular volume warrant is 70% of the above requirements.

For placement of multiway stop sign identification plates reference the FHWA "Manual on Uniform Traffic Control Devices".

Ref. Sec. 7-0107.4, 7-0107.5, Plate 17A-7

Rev. 1-00, 2011
Reprint, 2018 Reprint

TYPICAL LOCATIONS FOR STOP AND YIELD SIGNS

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<th>PLATE NO.</th>
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<td>TCS-2</td>
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1. Sign blank is to be of aluminum, 0.08” thickness.

2. Sign colors must be white lettering on blue background with white border, with face of reflective 3M capsulated sheeting or equal.

3. Alternate sign designs or specific text such as "Leavitt Road will be extended to Almquist Drive" may be provided if approved by the Director.
NOTICE
TEMPORARY
CUL-DE-SAC
THIS ROAD
WILL BE EXTENDED
BEYOND THIS POINT

Dimensions are in inches. tenths
Letter locations are panel edge to lower left corner

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<th>LETTER POSITION</th>
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Ref. Sec. 7-0107.4, 7-0107.5
Rev. 8-04, 2011
Reprint, 2018 Reprint

TEMPORARY CUL-DE-SAC SIGN DETAIL

PLATE NO. 17D-7
STD. NO. PDS-1
GENERAL REQUIREMENTS

1. The pipestem driveway sign must contain the street name, the house numbers and the words "Private Drive" or "Private Street."

2. The sign is to be placed on a 3" "U" channel post 8' long.

3. The sign is to be placed on the right side of the pipestem drive when site distance permits.

4. The sign must be made with reflective materials and be green with white border and standard 2" lettering.

5. Alternate design may be approved by the Director.
This barricade is to be placed at the end of all dead end streets.

Lumber dimensions are nominal sizes.

The reflectorized area must have a smooth, sealed encapsulated lens material outer surface. The predominant color for other barricade components must be white, except that unpainted galvanized metal or aluminum components may be used. Because of their vulnerable position and possible hazard they could create, barricades should be constructed of light weight materials and have no rigid stay bracing.

Planks are to be fastened to posts with 2-3/8” x 6 1/2” carriage bolts and washers or with 2-7/16” x 4” lag screws and washers. Bolts and screws are not to be placed closer than 2” from the edge of planks.

The following note must appear on all plans: "The barricade must be removed at such time as the need no longer exists, as determined by the Director." If the barricade is within VDOT R/W, a permit is needed for its removal.

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Color of stripes</th>
<th>Reflectorized red and reflectorized white</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of rail</td>
<td>8” min. – 12” max.</td>
</tr>
<tr>
<td>Number of reflectorized rail faces</td>
<td>3 if facing traffic in 1 direction</td>
</tr>
<tr>
<td></td>
<td>6 if facing traffic in 2 directions</td>
</tr>
</tbody>
</table>

This barricade and other traffic barricades are described in the latest edition of VDOT’s Work Area Protection Manual Standards and Guidelines and MUTCD.
A paved ditch is required where soil conditions and runoff velocities will cause erosion.

Surface to R/W line, min. 1 1/2" of the same type of surfacing as used on the street and 6" of base or 5" of concrete.

Pipe culvert if necessary

Concrete or asphalt collar to min. cover over pipe

*Radius Note:
For the entrances to roadways having ADT ≥ 2000, use a radius of 20'. For ADT under 2000, the radius may be 12'.

Concrete pipe or corrugated metal pipe may be used. Indicate type and size on plans. Driveways must be surfaced from edge of pavement to property line with the same type of surfacing as used on street.

All driveway grades must start back of the shoulder line. In cut sections, sides of driveway must be graded to a max. 3:1 slope. Lengths of culverts if not shown on plans must be a min. of 20'. For dimension of S, see Plate No. 1–7.

* Ditch line may be moved back to provide required cover. The transition of the ditch line must be smooth with a min. length of 10'.

Driveway Clearances—

Grading plans must provide for adequate vehicular clearance for driveway approach, departure and breakover transitions. Driveway profiles are required when steep grades prevail.

All materials and construction of this design in a R/W to be maintained by VDOT must conform to the current VDOT Road and Bridge Specifications and VDOT Road and Bridge Standards.

Ref. Sec. 7–0403.1A

STANDARD DRIVEWAY ENTRANCE STREETS—NO CURB & GUTTER

PLATE NO. 20–7

STD. NO. DE–5
STANDARD PIPESTEM

Tack coat  
1-1/4" Type SM-9.5A surface course  
Min. pitch 1/4":1' slope continuous  
Prime coat  
1/2":1' slope  
Well defined swale as required  
varies  
4' min.  
6" Type 21-A compacted aggregate base  
Compacted subgrade

NOTE: SEE SECTION 7-0403.2 FOR SUBGRADE, SUBBASE AND BASE MATERIAL PREPARATION AND PLACEMENT

HIGH WATER TABLE PIPESTEM*

Porous aggregate #57 stone  
Tack coat  
1-1/4" Type SM-9.5A surface course  
1-1/4" Type SM-9.5A leveling course  
Prime coat  
1/2":1' slope  
Well defined swale as required  
4' min.  
6" min. Type 21-A compacted aggregate base  
Compacted subgrade

Corrugated perforated plastic pipe, size to be determined by engineer  
*As required by the Engineer or Director

Ref. Sec. 7-0403.2A, 7-0701, 7-0703.2, Plates 9-7, 10-7

Reprint, 2018 Reprint

ASPHALT CONCRETE PIPESTEM STANDARDS  
PLATE NO.  
STD. NO.  
21-7  
PS-3
WWF reinforcement must consist of members rigidly attached at all joints or points of intersection. Longitudinal members must be No. 2 gauge wire spaced at 6" OC. Transverse members must be No. 4 gauge wire spaced at 12" OC. (Reinforcing Steel Institute designation 6 x 12 – W5.5 x W4)

**STANDARD PIPESTEM**

Pipestem driveway underdrain is to be used when the driveway longitudinal gradient is 3% or more and when the underlying soil has 34% or more passing the No. 200 sieve and has a PI of 13 or less.

NOTE: SEE SECTION 7–0403.2 FOR SUBGRADE AND BASE MATERIAL PREPARATION AND PLACEMENT.

**HIGH WATER TABLE PIPESTEM**

Corrugated perforated plastic pipe, size to be determined by Engineer.

6" min. Type 21–B compacted base

1/2": 1' Slope

Grade A natural sand or No 8 aggregate as defined by VDOT.

Geotextile filter fabric opening size to be determined by Engineer according to properties of soil

**CONCRETE PIPESTEM STANDARDS**

<table>
<thead>
<tr>
<th>PLATE NO.</th>
<th>STD. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>22–7</td>
<td>PS–3A</td>
</tr>
</tbody>
</table>
This is a proposed hypothetical residential subdivision containing lots averaging less than 18,000 square feet. According to §7–0802.1A, street lighting is required at all entrances to the subdivision and along all roads to be included in the State roadway system. A minimum of three lights are required at the entrances to the subdivision. This existing State roadway is a curb and gutter roadway with a 44-foot pavement width. Therefore, the standard RF–2 must be utilized in accordance with §7–0804.1. According to Table 7.7, 71 watt street lights at a maximum spacing of 200 feet are required with a mounting height of 35 feet.

According to §7–0804.1B, the preferred luminaire within this proposed subdivision is the standard RF–3. According to Table 7.8, for a local residential road with single family detached dwellings, a luminaire size of 72 watts is required at a spacing of 160 feet. The poles must be placed 2 feet behind the curb as specified on Plate 30–7 and along the property line between the lots.
This is a proposed hypothetical residential subdivision containing lots averaging 18,000 square feet or greater. According to §7–0802.1B(2), a minimum of three street lights are required at the proposed subdivision entrance along the existing State road. This existing State road is a 24-foot wide ditch section road. According to §7–0804.6A and Table 7.7, a 37 watt RF–1 or RF–2 light must be utilized at a spacing of 170 feet with a mounting height of 25 feet.
This is a proposed hypothetical industrial subdivision. According to §7-0802.2, street lighting is required at the entrance to the subdivision and along the proposed State road within the subdivision. The existing State road is a 44-foot wide curb and gutter section road. According to §7-0804.1, the standard RF-2 fixture must be utilized. As shown in Table 7.7, 145 watt street lights are required at a spacing of 220 feet at a mounting height of 35 feet. According to §7-0804.3B(1), a standard roadway fixture must be utilized to light the interior road of this subdivision. Since this proposed road will be located in an industrial area, the standard RF-2 fixture must be used (Plate 29-7). The proposed 44-foot wide road is a local industrial road with curb and gutter. Therefore, according to Table 7.7, it requires a 145 watt street light at a spacing of 220 feet and mounting height of 35 feet. Assume poles placed 9 feet behind the face of curb and a 10-foot bracket length.

**Design Example:**

**Industrial Subdivision**
This is a proposed hypothetical commercial development. According to §7-0802.3, street lights must be installed along all existing State roads providing frontage to the site. The existing State roads are curb and gutter section roads 36 feet wide. Therefore, according to Table 7.7, a 105 watt street light at a spacing of 215 feet with a mounting height of 35 feet is required.

Ref. Sec. 7-0802.3B, 7-0804.7
Rev. 1-00, 2011 Reprint, 2018 Reprint, 7-19
This is a proposed hypothetical planned development. Street lights must be provided according to §7–0802.4. According to §7–0804.1A, the standard roadway fixture must be utilized. As shown in Table 7.7, for a 44-foot wide residential collector road with curb and gutter, 71 watt RF-2 street lights are required at a spacing of 200 feet along the road at a mounting height of 35 feet. Assume poles placed 11 feet from the face of the curb and 12-feet bracket lengths.
Luminaire 2

Bracket length
From 6' to 20' long, in 2' increments)

Roadway Overhang

STANDARD SYMBOL  ● (RF-1 or Optional RF-2)

RF-1—Watts—Bracket Length(Mounting height)

Symbol/label to be shown on the plans at each streetlight location.
The pole is to be set a minimum of 10' from the E.P.
The luminaire size and mounting height is to be in accordance with Table 7.7.

To determine the required pole setback distance from the E.P.,
consult the current VDOT Road Design Manual, Section A-2 Clear Zone Guidelines.

Wood pole for overhead wiring (requires downguide for brackets longer than 12').
Optional concrete pole may be used with underground wiring (downguide is not required).
Concrete Pole (Special concrete pole required for brackets > 12')

STANDARD SYMBOL  (RF-2)

RF-2—Watts—Bracket Length (Mounting Height)

Symbol/label to be shown on the plans at each streetlight location. The pole is to be set a minimum of 7.5' from the face-of-curb or 2.0' behind the sidewalk. The luminaire size and mounting height is to be in accordance with Table 7.7.

Underground wiring

Rev. 1-00, 12-03, 2011
Reprint, 2-12, 2018
Reprint, 7-19

Ref. Sec. 7-0804.1A(1), 7-0804.6A, 7-0804.6B
STANDARD SYMBOL: ▶ (EX-1 or EX-2, Preferred)

EX-2-Watts-Bracket Length(Mounting Height)(Tilt)

Symbol/label to be shown on the plans at each streetlight location. The pole is to be set a minimum of 20' from the E.P.

To determine the required pole setback distance from the E.P. Consult the VDOT Road Design Manual, Section A-2 Clear Zone Guidelines.

Underground wiring

EX-2, Concrete pole, for underground wiring or EX-1, Wood pole for overhead wiring
STANDARD SYMBOL ⚫ (RF-3)

RF-3—Watts

Symbol/label to be shown on the plans at each streetlight location. The pole is to be set in the utility strip in accordance with VDOT clear zone requirements. The luminaire size and mounting height are to be in accordance with Table 7.8.

Ref. Sec. 7-0804.1A(2), 7-0804.6C
Rev. 1-00, 11-05, 7-06, 2011 Reprint, 2-12, 2018 Reprint, 7-19

COLONIAL STYLE FIXTURE
FOR SUBDIVISION ROADWAYS
WITH CURB AND GUTTER
PLATE NO. 30–7
STD. NO. RF-3
## Accessible Parking Signs

### DMV Permit Required

- **Penalty:** $100–500 fine
- **Tow-Away Zone**

**Note:** Sign must have white lettering on a blue background.

**Dimensions:**
- Width: 12"
- Height: 24"
- 2" at top
- 3/4" centered above 1 1/2"
- 2" centered above 1 1/2"
- 1 1/2" centered above 3/4"
- 1 1/2" centered above 3/4"
- 1 1/2"

---

### Van Accessible

- **Dimensions:**
  - Width: 12"
  - Height: 7"
  - 1 1/4" centered above 1 3/4"
  - 1 3/4" centered above 1 1/4"

**Note:** Sign must have white lettering on a blue background.

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<table>
<thead>
<tr>
<th>Ref. Sec. 7-0602.4</th>
<th>ACCESSIBLE PARKING SIGNS</th>
<th>PLATE NO.</th>
<th>STD. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev. 1-00, 2011 Reprint, 2018 Reprint</td>
<td>DMV PERMIT REQUIRED</td>
<td>30A-7</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ref. Sec. 7-0602.4</th>
<th>VAN ACCESSIBLE PARKING SIGNS</th>
<th>PLATE NO.</th>
<th>STD. NO.</th>
</tr>
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<tbody>
<tr>
<td>Rev. 1-00, 2011 Reprint, 2018 Reprint</td>
<td>VAN ACCESSIBLE</td>
<td>30B-7</td>
<td></td>
</tr>
</tbody>
</table>
FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

TYPICAL SIGN POST PLACEMENT IN PAVEMENT

STANDARD "A"

DMV PERMIT REQUIRED

PENALTY $100 - 500 FINE

TOO-NARROW ZONE

VAN ACCESSIBLE

4" MIN. DIA. STEEL PIPE
FILLED WITH CONCRETE

* METAL "U" CHANNEL OR EQUIVALENT MAY BE IMBREDDED OR STRAPED TO THE POST

PARKING LOT

1'-0" MIN.

CLASS "B"
CONCRETE FOOTING

PARKING LOT

3'-0" MIN.

CLASS "B"
CONCRETE FOOTING

TYPICAL SIGN PLACEMENT IN GROUND

TYPICAL SIGN PLACEMENT ON WALL

DMV PERMIT REQUIRED

PENALTY $100 - 500 FINE

TOO-NARROW ZONE

VAN ACCESSIBLE

4" X 4" MIN. PRESSURE TREATED WOOD POST OR 4" MIN. DIA. STEEL PIPE

* MUST BE SET BACK 2.5' FROM HEAD OF PARKING SPACE AND/OR PROTECTED BY WHEEL STOP

Ground line  Wood post

PARKING SPACE

3'-0" MIN.

4'-0" MIN.

3'-0" MIN.

4'-0" MIN.

4'-0" MIN.

NOTE: SIGN POSTED IN A ROADWAY'S CLEAR ZONE MUST MEET VDOT STANDARDS

* ALL SIGNS MUST BE LOCATED DIRECTLY IN FRONT OF PARKING SPACE

Ref. Sec. 7-0602.4

POSTING SIGNAGE FOR ACCESSIBLE PARKING

PLATE NO. 30C-7

STD. NO.

Rev. 3-04  2018 Reprint
Natural gas mains, at the discretion of the Director, may be installed with the centerline of the main a min. of 1' behind the curbside when it can be determined that subbase, base or surface paving will be placed prior to gas main installation.

Grid Streets

Water mains should be generally placed 8' North and/or East of the centerline of R/W. Gas mains should be generally placed 8' South and/or West of the centerline of the R/W. Sanitary sewer lines should generally be placed to follow the centerline of the R/W.

In order to reduce the number of MHs in curvilinear streets, MHs must be located within the pavement area but beyond the spread of stormwater gutter flow and a min. of 6' from edge to edge from the water, storm and gas pipes. The sanitary sewer pipe may be located anywhere within the R/W to within 5' of the R/W line.

Where it is necessary to cross the water line, the crossing must be in accordance with the requirements of Section 12.05 of the Virginia Waterworks Regulations.
Poles must be located behind the ditch line of ditch section streets.

Poles to be located within a R/W to be maintained by VDOT require a permit from VDOT.
Notes:

1. On ditch section streets, face of mail box to be in line with back edge of shoulder.

2. On ditch section streets in cut, support for mail box to be min. 2' to the outside of the ditch line.

3. On curb and gutter section streets, face of box to be in line with back edge of curb line.

4. Mail box height must be:
   a. On ditch section, 36” to 42” from shoulder grade to bottom of box.
   b. On curb and gutter section, 36” from top of curb to bottom of box.

5. The face of the mail box and post must be set, as shown on the fill section detail, within the radius of the DE-5 Entrance.
These delineators consist of reflectorized sheeting, cut to a 3" by 8" vertical rectangle, mounted on a backing of aluminum alloy, not less than 0.063" thick. The color of the reflective sheeting must, in all cases, conform to the color of the edge-lines. The reflectors are attached to wood posts with aluminum alloy nails or screws. The top of the posts may have a flat, shed, or pyramid cut; however, they must be uniform throughout a project. Material specifications may be found in the VDOT Road and Bridge Specifications.