Attachment A

AMENDMENTS TO CHAPTER 7 OF THE PUBLIC FACILITIES MANUAL

Amend Chapter 7 Table of Contents, by deleting the references to Tables 7.6 and 7.7

Amend Chapter 7 Table of Contents by adding the following plate:

TS-2	3-7(3M-7)	Standard Typical Section for Multi-Lane Streets with Curb and Gutter	7-0101

Amend Section 7-0101.2 of the PFM, where insertions are underlines and deletions are strikeouts, to read as follows:

7-0101.2 All rights-of-way shall conform to the standards set forth in the current VDOT Subdivision Street Requirements and Plates 1-7 (1M-7) through 11-7 (11M-7), and § 7-0406.14~~F~~E.

Amend Section 7-0102, where insertions are underlines and deletions are strikeouts, to read as follows:

7-0102 Street Dedication

7-0102.1 The width of the right-of-way shall be established in accordance with the current VDOT Subdivision Street Requirements and the current VDOT Road Design Manual. The width shall account for all features, which are to be maintained by VDOT.

7-0102.2~~1~~ The subdivider may be required to dedicate more than 1/2 of the right-of-way, if necessary, to improve the horizontal alignment or meet the minimum design standards for that street.

7-0102.3~~2~~ Also, the subdivider may be required to assume responsibility for such grading, widening or surfacing and curbing of such street as may be deemed necessary by the Director and VDOT to meet minimum State and County safety and/or design standards.

7-0102.4~~3~~ When a development abuts 1 side of any street which has been included in the VDOT Roadway System, the developer shall be required to dedicate 1/2 of any right-of-way necessary to make such street comply with the minimum width established for same. The subdivider may be required to dedicate more than 1/2 of the right-of-way, if necessary, to improve the horizontal alignment or meet the minimum design standards for that street.

Amend Section 7-0107.6D, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0107.6D The sign background shall be blue sheet reflective materials, letters shall be silver reflective sheeting, 3M brand, conforming to the specifications for "Encapsulated Lens Reflective Sheeting for Traffic Control Signs", as specified by VDOT Road and Bridge Specifications, Section 701.02~~(c)~~, also specified in Federal Specification LS300C, Reflectivity 2, and specifications on file with the Director, or approved equal. (Approval by the Director and Sign Shop Supervisor of DPWES). The specification on file with the Director contains a sheeting manufacturer's field performance and replacement obligation. The reflective material shall be applied to both sides of the treated blank name plate with mechanical equipment in a manner specified by the sheeting manufacturer. The sign background shall be comprised of not more than 1 piece of reflective sheeting. Reverse screen process color method of fabrication is acceptable, provided that only process colors are used that are approved by the sheeting manufacturer. Screen process colors must be clear coated.

Amend Section 7-0201, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0201 General Requirements. (62-98-PFM) All streets which are to be dedicated for public use, shall be designed to comply with the applicable geometric standard ~~as referenced~~ in accordance with the current VDOT Road Design Manual and Plates 1-7(1M-7) through 3-7(3M-7).~~Plates 1-7 (1M-7) and 2-7 (2M-7). These standards require that design be based on projected traffic volume and design speed.~~

Amend Section 7-0204.2, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0204.2 Since this is a relatively new area of study and rapidly changing as new research data are compiled, the figure~~d~~s contained herein for traffic estimates may change as new data are made available.

Amend Section 7-0402.2B, where insertions are shown as underlines, to read as follows:

7-0402.2B Generally, a guardrail may be omitted when the side slopes are 6:1 or flatter for a minimum of 25' (7.6 m) from the edge of pavement unless there are hazardous obstacles within the clear zone limits.

Amend Section 7-0402.2F, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0402.2F Sidewalk~~s~~ ~~located~~location in relation to guardrail shall be in accordance with the current Appendix B of the VDOT Road Design Manual~~on a fill section requiring guardrail shall be located in front of the guardrail~~.

Add Section 7-0403.4, where insertions are shown as underlines, to read as follows:

7-0403.4 All two-way commercial entrances, including entrances to townhouse or multi-family dwelling developments and private streets, shall be a minimum of 30 feet wide at the back of the entrance return.

Amend Section 7-0404.6A, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0404.6A (34-91-PFM, 62-98-PFM, 89-05-PFM) Percent of grade. The minimum grade for curb and gutter shall be 1% except that the Director may allow a decrease to 1/2% based upon unusual topographic conditions. The maximum grade of street construction shall be ~~10% for subdivision streets with projected traffic volumes up to 4000 ADT~~ in accordance with the current VDOT Road Design Manual and Plate 6-7 of the PFM except as may be approved by the Director. The minimum grade for streets without curb and gutter shall be 1%.

Amend Section 7-0404.18, where insertions are shown as underlines, to read as follows:

7-0404.18 Street landings shall be provided on plans to ensure adequate sight distance.

Amend Section 7-0405, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0405 Sight Distance (89-05-PFM)

7-0405.1 All sight distance requirements on streets to be publicly maintained shall be in accordance with the current VDOT Road Design Manual. Sight distance shall be shown along the actual line of sight. Sight distance for the left turn position into an entrance or street shall be addressed. VDOT recognizes only 2 types of entrances onto the highway system; private entrances and commercial entrances.

7-0405.1A Subdivision street connections to the existing highway system are considered as commercial entrances until such time as these streets are accepted into the highway system.

7-0405.1B (89-05-PFM) Roads within subdivisions, including commercial entrances must meet the intersection sight distance requirements and stopping sight distance requirements. ~~Sight distance for the left turn position into an entrance or street shall be addressed.~~

7-0405.2~~1C~~ (89-05-PFM) Sight distances shall take into consideration any objects that will restrict sight distance, including vegetation, which may only be apparent in the spring and summer. 2' vertical clearance is desirable along the line of sight. 2' horizontal clearance is desirable from the line of sight. Additional sight distance may be required with heavy truck volume and/or steep grades in accordance with Appendix C of the current VDOT Road Design Manual.

7-0405.3~~1D~~ (34-91-PFM, 89-05-PFM) The ~~intersection and stopping~~ sight distance requirements of R-C cluster subdivision streets, which are to be privately maintained,~~each street~~ shall be determined as set forth in Plate~~s 1-7 (1M-7), 2-7 (2M-7), and~~ 6-7 (6M-7). ~~For streets with projected traffic volumes greater than 4000 ADT, sight distances shall be calculated using the VDOT Road Design Manual.~~

~~7-0405.1E (89-05-PFM) Stopping and intersection sight distances are based upon the projected traffic volume (ADT) and the design speed.~~

~~7-0405.2 Minimum Sight Distances at entrances and intersections.~~

7-0405.4 ~~7-0405.2A~~ Within new subdivision streets, for private residential entrance serving only 1 or 2 lots~~:~~.

~~7-405.2A(1) S~~sight distance requirements are based on providing stopping distance for a vehicle on the street with a height of eye ~~of 3'6" (1.08m)~~ and a height of object ~~of 2' (0.61m)~~in accordance with the current VDOT Road Design Manual.

~~7-0405.2B For subdivision streets and commercial entrances:~~

~~7-0405.2B(1) The stopping sight distance requirements are based on a height of eye of 3'6" (1.08m) and a height of object of 2' (0.61m).~~

~~7-0405.2B(2) The intersection sight distance requirements are based on a height of eye of 3'6" (1.08m) and a height of object of 3'6" (1.08m).~~

~~7-0405.2B(3) Design Speed. Sight Distance Required:~~

~~TABLE 7.6 INTERSECTION SIGHT DISTANCE ALONG MAJOR ROAD AT INTERSECTION WITH MINOR ROADS AND COMMERCIAL ENTRANCES~~

~~Design Speed~~	~~2 Lane Major Rd~~	~~4 Lane Major Rd (Undivided)~~	~~4 Lane Major Rd (Divided 18' (5.4m) Median~~
~~MPH~~	~~ft~~	~~Ft~~	~~ft~~
			~~325~~
~~25~~	~~280~~	~~295~~	
~~30~~	~~335~~	~~355~~	~~390~~
~~35~~	~~390~~	~~415~~	~~455~~
~~40~~	~~445~~	~~475~~	~~520~~
~~45~~	~~500~~	~~530~~	~~580~~
~~50~~	~~555~~	~~590~~	~~645~~
~~55~~	~~610~~	~~650~~	~~710~~
~~(KPH)~~	~~(m)~~	~~(m)~~	~~(m)~~
	~~85~~		~~100~~
~~40~~		~~90~~	
~~50~~	~~105~~	~~115~~	~~125~~
~~60~~	~~130~~	~~135~~	~~150~~
~~70~~	~~150~~	~~160~~	~~175~~
~~80~~	~~170~~	~~180~~	~~195~~
~~90~~	~~190~~	~~205~~	~~220~~
~~100~~	~~210~~	~~225~~	~~245~~
~~110~~	~~230~~	~~245~~	~~270~~

7-0405.5~~2B(4)~~ If the design speed is unknown, it shall be assumed to be 5 MPH (10KPH) above the posted speed limit.

7-0405.6~~2B(5)~~ There shall be a minimum distance of 25' (7.6m) between entrances.

7-0405.7~~2C~~ Profiles of existing roads must be shown for a minimum of 350' (105m) or the applicable sight distance length, whichever is greater, beyond the limits of construction.

7-0405.8~~3~~ (34-91-PFM) Crossover Spacing and Sight Distance.

7-0405.8~~3~~A (34-91-PFM) ~~The following c~~Crossover spacing and sight distance requirements shall be in accordance with the current VDOT Road Design Manual and shown along the actual line of sight. ~~are to apply on all divided highways without full control of access:~~

~~**TABLE 7.7 CROSSOVER SPACING AND SIGHT DISTANCE**~~

~~Design Speed of Highway MPH (KPH)~~	~~Desirable Crossover Spacing ft (m)~~	~~Minimum Crossover Spacing ft (m)~~	~~Minimum Sight Distance ft (m)~~
~~(110)~~	~~(375)~~	~~(300)~~	~~(270)~~
~~(100)~~	~~(345)~~	~~(280)~~	~~(245)~~
~~55 (90)~~	~~1000 (310)~~	~~800 (250)~~	~~650 (220)~~
~~50 (80)~~	~~900 (275)~~	~~700 (210)~~	~~590 (195)~~
~~45 (70)~~	~~800 (235)~~	~~650 (195)~~	~~530 (175)~~
~~40 (60)~~	~~700 (200)~~	~~600 (170)~~	~~475 (150)~~
~~35 (50)~~	~~600 (160)~~	~~500 (130)~~	~~415 (125)~~

7-0405.8~~3~~A(1) Desirable crossover spacing should be the design standard for new construction.

7-0405.8~~3~~A(2) Crossover spacing less than that shown as a minimum will be considered when necessitated by intersecting public highways or streets having a current ADT of 100 or greater.

7-0405.8~~3~~A(3) All crossovers will only be allowed after an individual study and with the approval of VDOT.

~~7-0405.3A(4) The minimum sight distance requirement indicated above must be met at all crossover locations.~~

7-0405.8~~3~~B If traffic generating locations are not present, then crossovers are not to be shown on the plans.

~~7-0405.3C Crossover sight distance determinations apply to both horizontal and vertical alignment and are to be based on a height of driver's eye of 3'6" (1.08m) and a height of object of 3'6" (1.08m) measured each way.~~

Amend Section 7-0406.7B, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0406.7B Typical sections and geometric design criteria for streets shall conform to the current VDOT Road Design Manual and Plates 1-7 (1M-7) through 13-7 (13M-7).

Delete Section 7-0406.14D and renumber and revise subsequent sections, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

~~7-0406.14D (72-01-PFM) Absolute minimum stopping sight distance for alignment design shall be based on height of eye 3'6" (1.08m) and height of object 2' (0.61m). Intersection sight distance shall be based on the design speed, a 3'6" (1.08m) height of eye and a 3'6" (1.08m) height of object.~~

7-0406.14D~~E~~ (72-01-PFM, 62-98-PFM) A sidewalk must be provided as required by § 101-2-2 of the Subdivision Ordinance and Zoning Ordinance, § 17-201. Further, sidewalks shall be constructed in accordance with the PFM. VDOT will accept maintenance in accordance with their current Subdivision Street Requirements. Proposed sidewalks must be constructed in accordance with UD-3 standards.

7-0406.14E~~F~~ (72-01-PFM) When a trail is shown on the adopted comprehensive plan ~~and where a trail is required on 1 side of the road~~, the right-of-way width shall be wide enough to accommodate the trail as a feature to be maintained by VDOT and constructed to VDOT standards (minimum 10 foot trail width). Right-of-way width shall be determined in accordance with the current VDOT Road Design Manual.~~add 10' (3.1m) to the right-of-way width. Where a trail is required on both sides of the road, add 20' (6.1m) to the right-of-way width. This additional right-of-way will accommodate the preferred 10' (3.1m) asphalt trail section replacing the standard 5' sidewalk (see~~

~~8-0101.4 and 8-0202.2A).~~ If the trail is adjacent to slopes greater than 3:1, additional right-of-way may be needed to accommodate wider trail shoulders and safety features such as handrail.

7-0406.14F~~G~~ (72-01-PFM) Water curb stops or meters will not be accepted in the gutter line or wings of driveways aprons. Water curb stops or meters are to be located in grass strip between the back of the curb and the front edge of the sidewalk.

7-0406.14G~~H~~ (72-01-PFM, 65-99-PFM) Required clearance for safe access by rear-loading refuse packers collecting trash or recyclables set out in roll-out carts, trash and recycling storage collection areas are 14' (4m) overhead and 10' (3m) width of clear opening.

7-0406.14H~~I~~ (72-01-PFM, 65-99-PFM) Required clearances for safe access by front-end loading packers collecting trash or recyclables stored in dumpsters are 24' (7.1m) overhead and 10' (3m) width of clear opening.

7-0406.14I~~J~~ (72-01-PFM, 65-99-PFM) Required clearances for safe access by roll-off trucks used to pull stationary compactor units and roll-off boxes at loading docks are 18' (5.3m) overhead for entry of the truck only, 24' (7.3m) when the truck hoist is raised with a rectangular box container and 11' (3.3m) width of clear opening.

7-0406.14J~~K~~ (72-01-PFM, 65-99-PFM) Recommended engineering practices to ensure adequate accessibility for collection vehicles and the construction of compactor pads can be obtained from DPWES, Division of Solid Waste Collection and Recycling.

Revise Section 7-0502.3, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0502.3 For single family residential (including condominium) subdivisions in which the average lot size or equivalent is 18,000 ft^2 (1672 m^2) or more and when the street serves more than 5 units:

7-0502.3A ~~For~~The geometric design shall be in accordance with the current VDOT Road Design Manual for shoulder and ditch section streets and, ~~see~~ Plate 1-7 (1M-7).

7-0502.3B ~~For~~The pavement design shall be in accordance with the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.~~, see Plate 1-7 (1M-7)~~

Revise Section 7-0502.4, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-0502.4 For single family residential (including condominium) subdivisions in which the average lot size or equivalent is less than 18,000 ft^2 (1672 m^2) and when the street serves more than 5 units:

7-0502.4A ~~For~~The geometric design shall be in accordance with the current VDOT Road Design Manual for curb and gutter section streets and~~, see~~ Plate 2-7 (2M-7).

7-0502.4B ~~For~~The pavement design shall be in accordance with the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia.~~, see Plate 2-7 (2M-7).~~

Revise Section 7-1004.1B, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-1004.1B (80-03-PFM) Local Roadways (ADT 0-2000~~Categories I, II, III and IV~~) in Residential classification areas, the preferred luminaire is the Colonial (RF-3). This fixture is limited to curb-and-gutter roadways with less than 3,000 VPD and for underground electrical wiring. As an alternative, the RF-1 and RF-2 can also be utilized.

7-1004.1B(1) (80-03-PFM) Local Roadways (ADT 2001-5500~~Categories V and VI~~) in Residential classification areas, the luminaires to be used are the RF-1 and RF-2.

7-1004.1B(2) (80-03-PFM) Collector and Arterial roadways ~~(all categories)~~ in Commercial and Residential classification areas, luminaires to be used are the RF-1 or RF-2.

7-1004.1B(3) (80-03-PFM) Collector and Arterial roadways ~~(all categories)~~ in Commercial and Residential classification areas, where the clear zone for fixed object is greater than 20', the luminaires to be used are the IT-1 and IT-2.

Amend Section 7-1004.7B, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-1004.7B Lighting Levels for Proposed Curb and Gutter Streets Standard Roadway Fixture (Plate 31-7 (31M-7)) Luminaire Size and Maximum Spacing:

TABLE 7.13 LIGHTING LEVELS FOR PROPOSED CURB & GUTTER STREETS
Standard Roadway Fixture (RF-2)
(High Pressure Sodium Vapor) (80-03-PFM)

Area Class	Roadway Class	~~Roadway Category VPD~~ ADT	Lamp Size (Lumens)	Maximum Spacing Ft (m)	Mounting Height Ft (m)	Notes
		~~I~~/0-250	8,000	180 (55)	30 (9.1)	1,3,4
		~~II~~/251-400	8,000	180 (55)	30 (9.1)	1,3,4
		~~III~~/401-1000	8,000	160 (49)	30 (9.1)	1,3,4
Residential	Local	~~IV~~/1001-2000	8,000	160 (49)	25 (7.6)	1,3,4
		~~V~~/2001-4000	8,000	160 (48)	30 (9.1)	1,4
		~~VI~~/4001-5500	8,000	155 (47)	30 (9.1)	1,4
	Collector	~~VI~~/4001-5500	14,000	160 (49)	30 (9.1)	2,4
		~~I~~/0-250	14,000	170 (51)	30 (9.1)	1,4
		~~II~~/251-400	14,000	175 (53)	30 (9.1)	1,4
Industrial /		~~III~~/401-1000	14,000	160 (49)	30 (9.1)	1,4
Commercial	Local	~~IV~~/1001-2000	23,000	210 (64)	35 (10.5)	1,4
		~~V~~/2001-4000	23,000	215 (65.5)	35 (10.5)	1,4
		~~VI~~/4001-5500	23,000	210 (64)	35 (10.5)	1,4
	Collector	~~VI~~/4001-5500	23,000	220 (67)	35 (10.5)	2,4

NOTES: [1/] Luminaires are to be set on one side of the roadway.

[2/] Luminaires are to be set symmetrically on both side of the roadway.

[3/] The standard colonial style roadway lighting fixture may be used at these locations. See Table 7.14 for additional details.

[4/] Luminaires bracket lengths are to be sized as to provide a 2' roadway overhang. The maximum bracket length for standard concrete poles is 12'. Longer brackets, up to 20' (in 2' increments), are available for wood poles (down guiding is required) and for special concrete poles. Pole locations are to be determined based on current VDOT Road Design Manual, Section A-2-Clear Zone Guidelines.

TABLE 7.13A LIGHTING LEVELS FOR PROPOSED CURB & GUTTER STREETS
Standard Roadway Fixture (RF-2)
(MV) (80-03-PFM)

Area Class	Roadway Class	~~Roadway Category VPD~~ ADT	Lamp Size (Lumens)	Maximum Spacing Ft (m)	Mounting Height Ft (m)	Notes
		~~I~~/0-250	7,000	155 (47)	30 (9.1)	1,3,4
		~~II~~/251-400	7,000	155 (47)	30 (9.1)	1,3,4
		~~III~~/401-1000	7,000	145 (44)	30 (9.1)	1,3,4
Residential	Local	~~IV~~/1001-2000	7,000	145 (44)	30 (9.1)	1,3,4
		~~V~~/2001-4000	7,000	140 (48)	30 (9.1)	1,4
		~~VI~~/4001-5500	11,000	158 (48)	30 (9.1)	1,4
	Collector	~~VI~~/4001-5500	11,000	123 (47)	30 (9.1)	1,4
		~~I~~/0-250	20,000	220 (67)	35 (10.6)	1,4
		~~II~~/251-400	20,000	220 (67)	35 (10.5)	1,4
Industrial /		~~III~~/401-1000	20,000	205 (62)	35 (10.5)	1,4
Commercial	Local	~~IV~~/1001-2000	20,000	205 (62)	35 (10.5)	1,4
		~~V~~/2001-4000	20,000	200 (61)	35 (10.5)	1,4
		~~VI~~/4001-5500	20,000	150 (45)	35 (10.5)	1,4
	Collector	~~VI~~/4001-5500	20,000	230 (70)	35 (10.5)	2,4

NOTES: [1/] Luminaires are to be set on one side of the roadway.

[2/] Luminaires are to be set symmetrically on both side of the roadway.

[3/] The standard colonial style roadway lighting fixture may be used at these locations. See Table 7.14 for additional details.

[4/] Luminaires bracket lengths are to be sized as to provide a 2' roadway overhang. The maximum bracket length for standard concrete poles is 12'. Longer brackets, up to 20' (in 2' increments), are available for wood poles (down guiding is required) and for special concrete poles. Pole locations are to be determined based on current VDOT Road Design Manual, Section A-2-Clear Zone Guidelines.

Amend Section 7-1004.7C, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-1004.7C Lighting levels for proposed curb and gutter streets alternate security lighting fixture (RF-3) luminaire size and maximum spacing.

TABLE 7.14 LIGHTING LEVELS FOR PROPOSED CURB & GUTTER STREETS
Alternate Security Fixtures (RF-3)
(High Pressure Sodium Vapor) (80-03-PFM)

Area Class	Roadway Class	~~Roadway Category VPD~~ADT	Lamp Size (Lumens)	Maximum Spacing Ft (m)	Mounting Height Ft (m)	Notes
		~~I/~~0-250	5,000	160 (48)	14 (4.3)	1,3,4
		~~II/~~251-400	5,000	160 (48)	14 (4.3)	1,3,4
Residential	Local	~~III/~~401-1000	8,000	160 (48	14 (4.3)	1,3,4
		~~IV/~~1001-2000	8,000	160 (48)	14 (4.3)	1,3,4

NOTE: [1/] Measured from face of pole to face of curb.

[2/] Poles to be placed on one side of the roadway.

Area Class	Roadway Class	~~Roadway Category VPD~~ADT	Lamp Size (Lumens)	Maximum Spacing Ft (m)	Mounting Height Ft (m)	Notes
		~~I/~~0-250	7,000	150 (45)	14 (4.3)	1,3,4
		~~II/~~251-400	7,000	150 (45)	14 (4.3)	1,3,4
Residential	Local	~~III/~~401-1000	7,000	120 (36)	14 (4.3)	1,3,4
		~~IV/~~1001-2000	7,000	120 (36)	14 (4.3)	1,3,4

NOTES: [1/] Measured from face of pole to face of curb.

[2/] Poles to be placed on one side of the roadway.

[3/] Maximum spacing is based on the use of the "traditionaire" luminaires.

TABLE 7.15 Quick Streetlight Requirement Selection (80-03-PFM)

Plan Classification		3 Streetlights at All Entrances	Streetlights along all Interior Roadways	Streetlights Along All Abutting Roadways	Streetlights Required at Private Roadways
Site Plan		N/A	N/A	YES	NO
	Above 18,000ft^2 (1642m^2)	YES	YES	N/A	NO
Subdivision Plans	Below 18,000ft^2 (1642m^2)	YES	NO	N/A	NO
	Industrial or				
	Commercial	YES	YES	N/A	NO
Public Improvements		N/A	YES	YES	NO
Plans					

Revise Section 7-1006, where insertions are shown as underlines and deletions are shown as strikeouts, to read as follows:

7-1006 Design Examples

7-1006.1 Typical Lighting Layout Plate 25-7. This is a proposed hypothetical residential subdivision containing lots averaging less than 18,000 ft^2 in area.

7-1006.1A (80-03-PFM, 62-98-PFM) According to § 7-1002.1A, street lighting is required at all entrances to the subdivision along all roads to be included in the State roadway system. A minimum of 3 lights are required at the entrances to the subdivision. This existing State roadway is a curb-and-gutter roadway with a 44' (13.4m) pavement width. Therefore, the standard RF-2 must be utilized in accordance with § 7-1004.1 According to Table 7.12, 14,000 lumen street lights at a maximum spacing of 160' (49m) are required with a mounting height of 30' (9.1m).

7-1006.1B (80-03-PFM) Since ~~the Category I~~ roads with ADTs between 0 and 250 meet~~s~~ all requirements for use of the standard colonial style roadway lighting fixture, (§ 7-1004.I~~C~~) the developer may use the standard RF-3. According to Table 7.14, for a local residential ~~Category I~~ road with ADTs between 0 and 250, a luminaire size of 5,000 lumens is required at a spacing of 160' (49m). The poles shall be placed 2' (0.6m) behind the curb as specified on Plate 32-7 and along the property line between the lots.

7-1006.1C (80-03-PFM) ~~The Category IV r~~Roads with ADTs between 1001 and 2000 also meet all requirements for use of the RF-3 fixture. According to Table 7.14, a luminaire size of 8,000 lumens is required at a maximum spacing of 160' (49m). As stated above, pole placement shall be 2' (0.6m) behind the face-of-curb and along the property line between the lots.

7-1006.2 (80-03-PFM, 62-98-PFM) Typical Lighting Layout Plate 26-7. This is a proposed hypothetical residential subdivision containing lots averaging 18,000 ft^2 and greater. According to § 7-1002.1B(2), a minimum of 3 street lights are required at the proposed subdivision entrance along the existing State road. This existing State

road is a 24' (7.3m) wide ditch section road. According to Table 7.12, 8,000 lumens RF-1 lights must be utilized at a spacing of 165' (50m) with a mounting height of 25' (7.6m).

7-1006.3 (80-03-PFM, 62-98-PFM) Typical Lighting Layout Plate 27-7. This is a proposed hypothetical ~~Category V~~ industrial subdivision with roads with ADTs between 2001 and 4000. According to § 7-1002.2, 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' wide curb and gutter section road. According to § 7-1004.1, the standard RF-2 fixture must be utilized. As shown in Table 7.12, 23,000 lumen street lights are required at a spacing of 225' (68m) at a mounting height of 35' (10.5m). According to § 7-1004.3B(1), a standard roadway fixture must be utilized to light the interior road of this subdivision. Since this proposed road will be a curb and gutter section road and located in an industrial area, the standard RF-2 fixture must be used (Plate 31-7). The proposed road is a local ~~Category V~~ industrial road with an ADT between 2001 and 4000 and therefore, according to Table 7.13, requires a 23,000 lumen street light at a spacing of 215' (65.5m) with poles placed 9' (2.7m) behind the face of curb and a 12' bracket length and mounting height of 35' (10.5m).

7-1006.4 (80-03-PFM, 62-98-PFM) Typical Lighting Layout Plate 28-7. This is a proposed hypothetical commercial development: According to § 7-1002.3, street lights shall be installed along all existing State roads providing frontage to the site. The existing State roads are curb-and-gutter section roads 36' wide. Therefore, according to Table 7.12, a 23,000 lumen street light at a spacing of 220’ (67m) with a mounting height of 35' (10.5m) is required.

7-1006.5 (80-03-PFM, 62-98-PFM) Typical Lighting Layout Plate 29-7. This is a proposed hypothetical planned development: Street lights shall be provided according to § 7-1002.4. The proposed collector street is a ~~Category VI~~ road with an ADT between 4001 and 5500. According to § 7-1004.1A, the standard roadway fixture must be utilized. As shown on Table 7.13 for a residential collector road, 14,000 lumens streetlights are required with poles placed 9.5' from the face of the curb and 12' (3.6m) bracket length, at a spacing of 160' (49m) along the road at a mounting height of 30' (9.1).

7-1006.5A (62-98-PFM) The other State roads proposed under this development shall be lighted in accordance with these requirements and the referenced examples.