

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

(August 3, 2015)

Traffic Signal Standards

Traffic signal standards shall be furnished and installed in accordance with the methods and materials noted in the applicable Standard Plans, pre-approved plans, or special design plans.

All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Welding inspection shall comply with Section 6-03.3(25)A Welding Inspection.

Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers. All signal arm ASTM A 325 connecting bolts tightening shall comply with Section 6-03-3(33).

Traffic signal standard types and applicable characteristics are as follows:

Type PPB Pedestrian push button posts shall conform to Standard Plan J-20.10 or to one of the following pre-approved plans:

<u>Fabricator</u>	<u>Drawing No.</u>
Northwest Signal Supply Inc.	NWS 3565
Valmont Ind. Inc.	DB00655 Rev. L Sheets 1, 2 and 3 of 3
Ameron Pole Div.	WA10TR-1 Rev. F and Prod. WAPPBPBA Rev. B
Union Metal Corp.	TA-10035 Rev. R8 Sht. 1
West Coast Engineering Group	WSDOT-PP-01 Rev. 1
KW Industries	10-200-PED-1 Rev. 9, Sheets 1, 2 and 3

Type PS Pedestrian signal standards shall conform to Standard Plan J-20.16 or to one of the following pre-approved plans:

<u>Fabricator</u>	<u>Drawing No.</u>
Northwest Signal Supply Inc.	NWS 3540 Rev. 4 and NWS 3540B Rev. 4
Valmont Ind. Inc.	DB00655 Rev. L Sheets 1 2 and 3 of 3
Ameron Pole Div.	WA10TR-1 Rev. F and Prod. WA10TR-2 Rev. C
Union Metal Corp.	TA-10025, Rev. R18

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

Sht. 1 & 2

West Coast
Engineering Group

WSDOT-PP-02 Rev. 1

American Pole
Structures, Inc.

WS-PP-03 Rev. 1D

KW Industries

10-200-PED-1
Rev. 9, Sheets 1, 2 and 3

Type I

Type I vehicle signal standards shall conform to Standard Plan J-21.15 or to one of the following pre-approved plans:

Fabricator
Northwest Signal
Supply Inc.

Drawing No.
NWS 3540 Rev. 4 and
NWS 3540B Rev. 4

Valmont Ind. Inc.

DB00655 Rev. L
Sheets 1 2 and 3 of 3

Ameron Pole
Div.

WA10TR-1 Rev. F and Prod.
WA10TR-2 Rev. C

Union Metal Corp.

TA-10025 Rev. R18
Sht. 1 & 2

West Coast
Engineering Group

WSDOT-PP-02 Rev. 1

American Pole
Structures, Inc.

WS-PP-03 Rev. 1D

KW Industries

10-200-PED-1
Rev. 9, Sheets 1, 2 and 3

Type FB

Type FB flashing beacon standard shall conform to Standard Plan J-21.16 or the following pre-approved plan:

Fabricator
Valmont Ind. Inc.

Drawing No.
DB00655 Rev. L
Sheets 1 2 and 3 of 3

Union Metal Corp.

50200-B58 Rev. R7
Sheets 1 & 2

Ameron Pole
Div.

WA10TR-1 Rev. F and Prod.
WA10TR-2 Rev. C

Northwest Signal
Supply Inc.

NWS 3540 Rev. 4 and
NWS 3540B Rev. 4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

	KW Industries	10-200-PED-1 Rev. 9, Sheets 1, 2 and 3
Type RM	Type RM ramp meter standard shall conform to Standard Plan J-22.15 or the following pre-approved plan:	
	<u>Fabricator</u>	<u>Drawing No.</u>
	Valmont Ind. Inc.	DB00655 Rev. L Sheets 1 2 and 3 of 3
	Union Metal Corp.	50200-B58 Rev. R7 Sht. 1 & 2
	Ameron Pole Div.	WA10TR-1 Rev. F and Prod. WA10TR-2 Rev. C
	Northwest Signal Supply Inc.	NWS 3540 Rev. 4 and NWS 3540B Rev. 4
	KW Industries	10-200-PED-1 Rev. 9, Sheets 1, 2 and 3
Type CCTV	Type CCTV camera pole standards shall conform to one of the following pre-approved Plans:	
	<u>Fabricator</u>	<u>Drawing No.</u>
	Valmont Industries, Inc.	DB 00759 Rev. T Sheet 1, 2 and 3 of 3
	Ameron Pole Product Div.	W6CCTV1 Rev. G & W6CCTV2 Rev C
	West Coast Engineering Group	AP-WSDOT-CP-01 Rev. 3
	American Pole Structures, LLC	WS-CP-01 Rev. 1C Sht. 1 & 2
	Union Metal Corporation	Drawing No. P33-B318, R11.2 Sheets 1, 2 of 2
	Union Metal Corporation	Drawing No. P33-B323, Rev. 3 Sheets 1, 2 of 2
	KW Industries	Drawing No. 10-200-CAM-1 Rev. 9, Sheets 1 and 2
	Northwest Signal Supply, Inc.	Drawing No. NWS 3545 (For Type CCTV) Rev. 3
Type II	Characteristics:	
	Luminaire mounting height	N.A.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

Luminaire arms N.A.
 Luminaire arm length N.A.
 Signal arms One Only

Type II standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.

<u>Signal Arm Length (max)</u>	<u>Fabricator-(x) (y) (z)</u>	<u>Drawing No.</u>
65 ft.	Valmont Ind. Inc.-(2894)	DB00625-Rev.U Sheets 1, 2, 3 & 4
65 ft.	Union Metal Corp. (2900)	71026-B86 Rev. R11 Sheets 1, 2 & 3 of 3
65 ft.	Ameron Pole-(2900)	W3724-1 Rev.K & W3724-2 Rev. H
65 ft.	Northwest Signal-(2802) Supply Inc.	NWS 3505 Rev. 4 or NWS 3505B Rev. 4
45 ft.	American Pole (1875) Structures, Inc.	WS-T2-L Rev.8 Sheet 1 & 2 of 2
65 ft.	American Pole (2913) Structures, Inc.	WS-T2-H Rev. 8 Sheet 1 & 2 of 2
65 ft.	KW Industries	10-200-TSP-4 Rev. 5, Sheets 1, 2, and 3
65 ft.	West Coast Engineering Group	WSDOT-TS-01 Rev. 3 Sheets 1, 2, and 3
65 ft.	Maico Industries (2894)	WSDOTMA Rev. 3 Sheets 1, 2 and 3

Type III Characteristics:

Luminaire mounting height	30 ft., 35 ft., 40 ft., or 50 ft.
Luminaire arms	One Only
Luminaire arm type	Type 2
Luminaire arm length (max.)	16 ft.
Signal arms	One Only

Type III standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

<u>Signal Arm Length (max)</u>	<u>Fabricator-(x) (y) (z)</u>	<u>Drawing No.</u>
45 ft.	American Pole (1875) Structures, Inc.	WS-T3J-L, Rev. 11 Sheets 1 & 2 of 2
65 ft.	Valmont Ind. Inc.-(2947)	DB00625-Rev. U, Sheets 1, 2, 3 & 4 and "T" luminaire arm
65 ft.	Northwest Signal-(2802) Supply Inc.	NWS 3505 Rev. 4 or NWS 3505B Rev. 4
65 ft.	Ameron Pole-(2900) Prod. Div.	W3724-1 Rev. K & W3724-2 Rev. H and "T" luminaire arm
65 ft	West Coast Engineering Group	WSDOT-TS-01 Rev. 3 Sheets 1, 2.& 3
65 ft.	Maico Industries (2947)	WSDOTMA Rev. 3 Sheets 1, 2 and 3 and "T" luminaire arm
65 ft.	KW Industries	10-200-TSP-3 Rev. 5, Sheets 1, 2, and 3
65ft	Union Metal Corp.	71026-B87 R13 Sheets 1, 2, and 3
65 ft.	American Pole (2913) Structures, Inc.	WS-T3J-H, Rev. 10 Sheets 1 & 2 of 2
Type IV	Type IV strain pole standards shall be consistent with details in the Plans and Standard Plan J-27.15 or one of the following pre-approved plans:	
	<u>Fabricator</u>	<u>Drawing No.</u>
	Northwest Signal Supply Inc.	NWS 3525 Rev. 2 or NWS 3525B Rev. 2
	Valmont Industries, Inc.	DB006885, Rev. A Sheets 1 and 2
	Ameron Pole Prod. Div.	M3650 Rev. G
	Union Metal Corp.	EA-10224, Rev. R13 Sheet 1 of 1

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

American Pole Structures, Inc. 9000-12-037 Rev. A

Maico Industries WA-SP-4 Rev. 2, Sheets 1 and 2 of 2

Type V Type V combination strain pole and lighting standards shall be consistent with details in the Plans and Standard Plan J-27.15 or one of the following pre-approved plans:

<u>Fabricator</u>	<u>Drawing No.</u>
Ameron Pole Prod. Div.	M3650 Rev.G

Northwest Signal Supply Inc.	NWS 3525 Rev. 2 or NWS 3525B Rev. 2
------------------------------	-------------------------------------

Maico Industries	WA-SP-5 Rev. 2, Sheets 1, 2 & 3 and "T" luminaire arm
------------------	---

Valmont Industries, Inc.	DB006885, Rev. A Sheets 1 and 2
--------------------------	---------------------------------

The luminaire arm shall be Type 2, 16 foot maximum and the luminaire mounting height shall be 40 feet or 50 feet as noted in the Plans.

Type SD Type SD standards require special design. All special design shall be based on the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and pre-approved plans and as follows:

1. A 90 mph wind loading shall be used.
2. The Design Life and Recurrence Interval shall be 50 years for luminaire support structures.
3. Fatigue design shall conform to AASHTO Section 11, Table 11-1 using fatigue category III.

Complete calculations for structural design, including anchor bolt details, shall be prepared by a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural Engineering or by an individual holding valid registration in another state as a civil or structural Engineer.

All shop drawings and the cover page of all calculation submittals shall carry the Professional Engineer's original signature, date of signature, original seal, registration number, and date of expiration. The cover page shall include the contract number,

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

contract title, and sequential index to calculation page numbers.
Two copies of the associated design calculations shall be
submitted for approval along with shop drawings.

Details for handholes and luminaire arm connections are
available from the Bridges and Structures Office.

Foundations for various types of standards shall be as follows:

Type PPB	As noted on Standard Plan J-20.10
Type PS	As noted on Standard Plan J-21.10
Type I	As noted on Standard Plan J-21.10
Type FB	As noted on Standard Plan J-21.10
Type RM	As noted on Standard Plan J-21.10
Type CCTV	As noted on Standard Plan J-29.15
Type II	As noted in the Plans.
Type III	As noted in the Plans.
Type IV	As noted in the Plans and Standard Plan J-27.10
Type V	As noted in the Plans and Standard Plan J-27.10
Type SD	As noted in the Plans.