

POLE DATA							BASE PLATE				ANCHOR BOLTS	
CATALOG NUMBER	MAST ARM LENGTH	LENGTH "A"	THK	BASE OD	TOP OD	HH HT	"SQ"	"8C"	"T"	"ID"	DIA	LG
TYPE IIA-90-XX-WA15TR3724	20'-0" - 45'-0"	22'-0" (MAX)	.3125"	13 1/2"	10 1/2"	8"	18"	18"	2"	11"	1 1/2"	60"
TYPE IIB-90-XX-WA15TR3724	46'-0" - 55'-0"	22'-0" (MAX)	.3125"	16 1/4"	13 1/4"	8"	22"	22"	2"	13 3/4"	2"	60"
TYPE IIC-90-XX-WA15TR3724	56'-0" - 65'-0"	22'-0" (MAX)	.375"	16 1/4"	13 1/4"	8"	22"	22"	2"	13 3/4"	2"	60"
TYPE IIIA-90-XX-XXXXX-WA15TR3724	20'-0" - 45'-0"	22'-0" (MAX)	.3125"	13 1/2"	10 1/2"	8"	18"	18"	2"	11"	1 1/2"	60"
TYPE IIIB-90-XX-XXXXX-WA15TR3724	46'-0" - 55'-0"	22'-0" (MAX)	.3125"	16 1/4"	13 1/4"	8"	22"	22"	2"	13 3/4"	2"	60"
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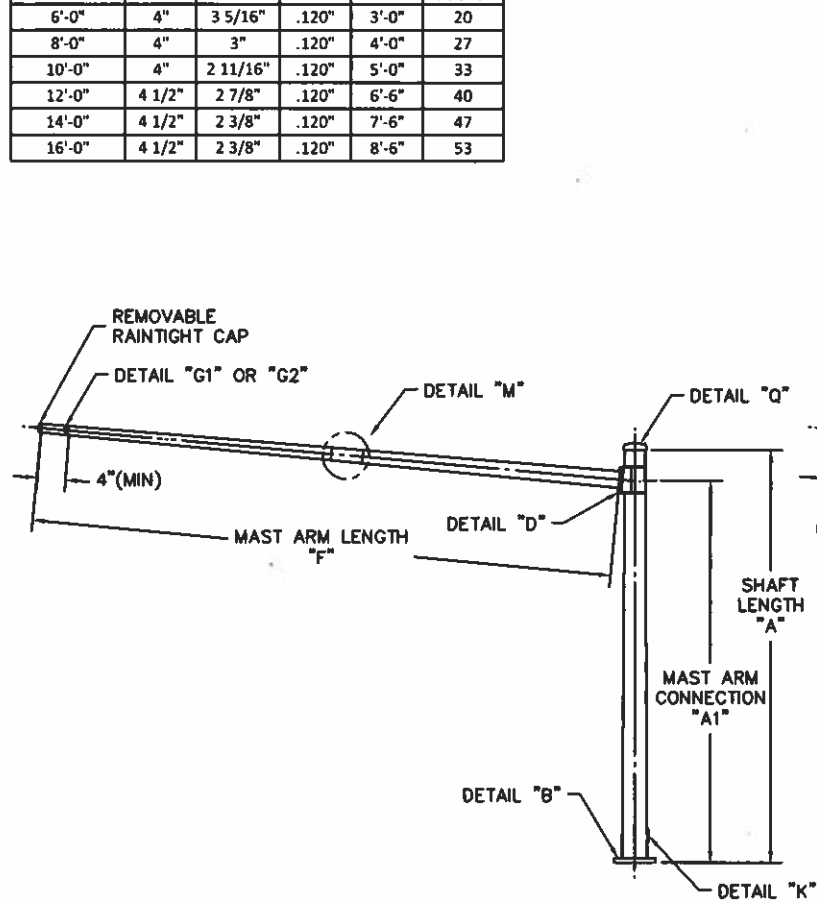
NOTE: FOR LENGTH "A" SEE NOTE 3

MAST ARM DATA												FLANGE				CONNECTION			MAX DESIGN CUBICS
ARM LENGTH	BASE SEC BASE OD	BASE SEC END OD	BASE SEC THK	BASE SEC LG	SLIP	END SEC BASE OD	END SEC END OD	END SEC THK	END SEC LG	"L"	"J"	"D"	"FLID"	BOLT SIZE "K"	"M"	"A1"			
20'-0"	9 3/8"	6 5/8"	.1793"	20'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1100		
25'-0"	9 3/8"	5 15/16"	.1793"	25'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1100		
30'-0"	9 3/8"	5 1/4"	.1793"	30'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1100		
35'-0"	9 3/8"	4 9/16"	.1793"	35'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1100		
40'-0"	10 3/4"	5 1/4"	.1793"	40'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1450		
45'-0"	10 3/4"	4 13/16"	.2391"	45'-0"	-	-	-	-	-	20"	22 1/2"	2"	7"	1 1/2" X 6 1/2"	3/8"	20'-6"	1670		
50'-0"	12 1/8"	5 1/4"	.2391"	50'-0"	-	-	-	-	-	23"	27"	2"	6 1/2"	1 1/2" X 6 1/2"	3/8"	20'-6"	2450		
55'-0"	12 1/8"	8"	.2391"	* 30'-0"	18"	8 9/16"	5 1/16"	.1793"	26'-6"	23"	27"	2"	6 1/2"	1 1/2" X 6 1/2"	3/8"	20'-6"	2450		
60'-0"	14 7/8"	10 3/4"	.2391"	* 30'-0"	18"	11 7/16"	7 1/8"	.1793"	31'-6"	24"	28 1/2"	2"	6 3/4"	1 1/2" X 6 1/2"	3/8"	20'-0"	2655		
65'-0"	14 7/8"	10 3/4"	.2391"	* 30'-0"	18"	11 7/16"	6 7/16"	.1793"	36'-6"	24"	28 1/2"	2"	6 3/4"	1 1/2" X 6 1/2"	3/8"	20'-0"	2935		

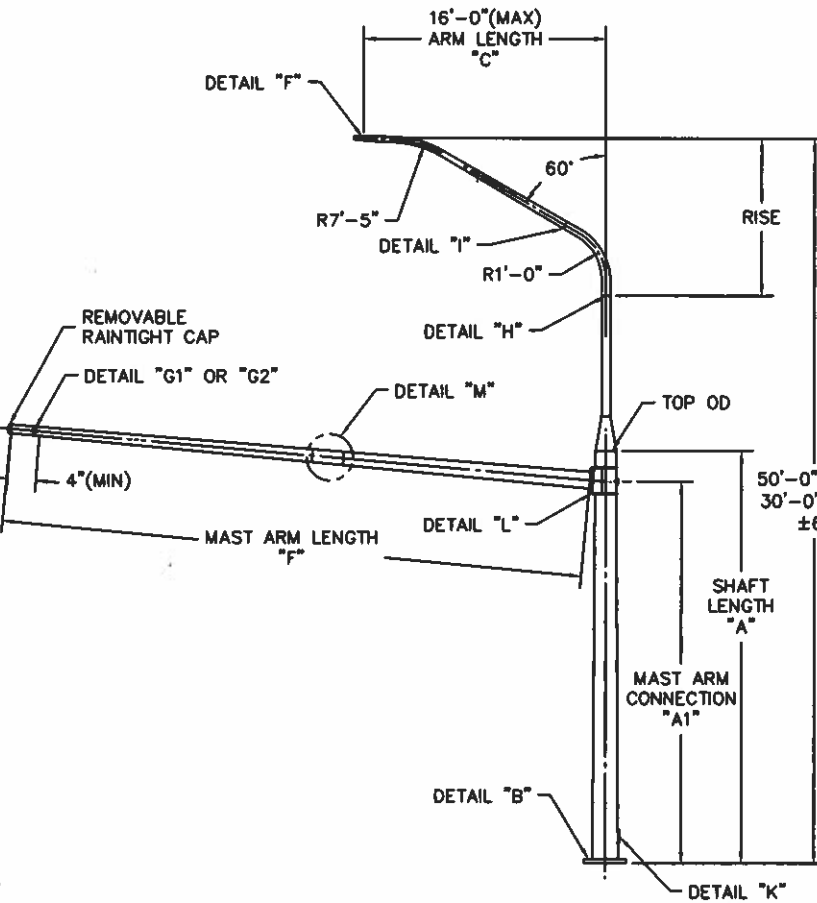
* SLIP JOINT LOCATIONS MAY VARY PER PROJECT BASED ON SIGNAL LOCATION.

- NOTES:
- SEE DWG WA15TR3724-2 FOR DETAILS & NOTES
 - LUMINAIRE POLE EXTENSION VARIES DEPENDING ON LUMINAIRE MOUNTING HEIGHT
 - POLE SHAFT LENGTH VARIES BASED ON PROJECT REQUIREMENTS
 - CALCULATE CUBICS BASED UPON EXAMPLE BELOW AND COMPARE RESULTS WITH THOSE LISTED IN SIGNAL ARM DATA TABLE.
- EXAMPLE:
 8.7 SQ.FT. X 25' = 217.5 CUBICS
 6.0 SQ.FT. X 22' = 132.0 CUBICS
 8.7 SQ.FT. X 13' = 113.1 CUBICS
 TOTAL = 462.6 CUBICS

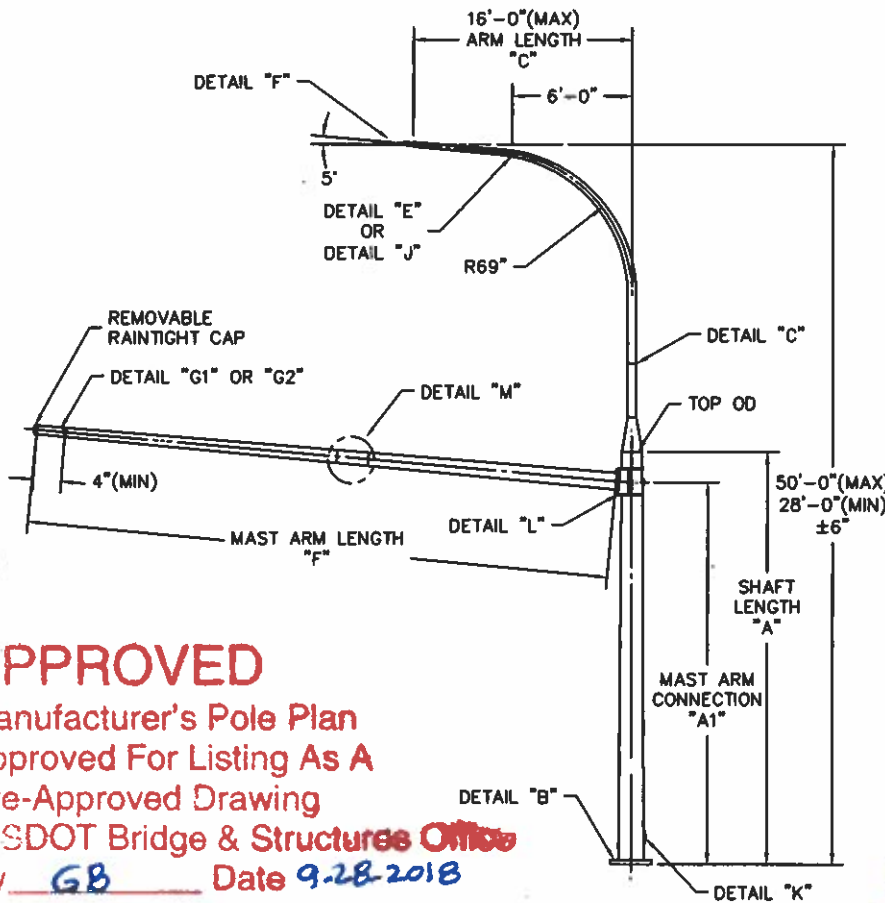
TYPE "T" LUMINAIRE DATA					
ARM LENGTH "C"	BASE OD	END OD	THK	RISE	MAX DESIGN CUBICS
6'-0"	4"	3 5/16"	.120"	3'-0"	20
8'-0"	4"	3"	.120"	4'-0"	27
10'-0"	4"	2 11/16"	.120"	5'-0"	33
12'-0"	4 1/2"	2 7/8"	.120"	6'-6"	40
14'-0"	4 1/2"	2 3/8"	.120"	7'-6"	47
16'-0"	4 1/2"	2 3/8"	.120"	8'-6"	53



TYPE II SERIES

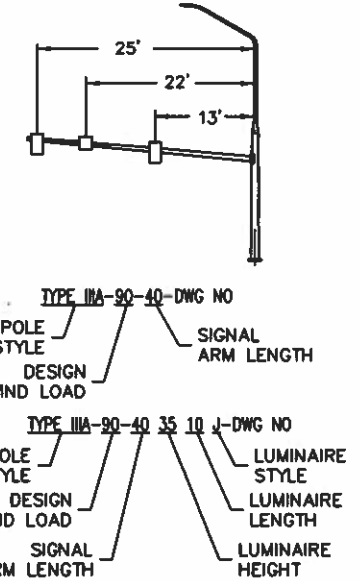


TYPE III SERIES "T"

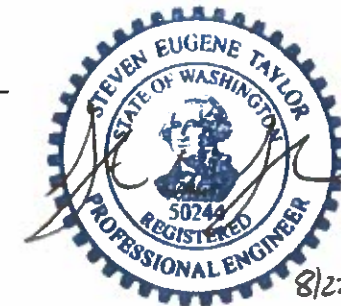


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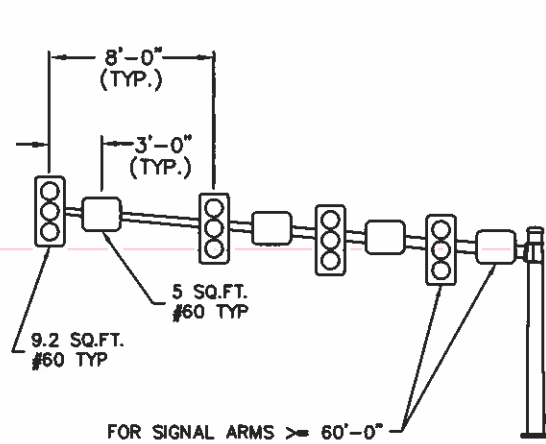
APPROVED
 Manufacturer's Pole Plan
 Approved For Listing As A
 Pre-Approved Drawing
 WSDOT Bridge & Structures Office
 By GB Date 9.28.2018



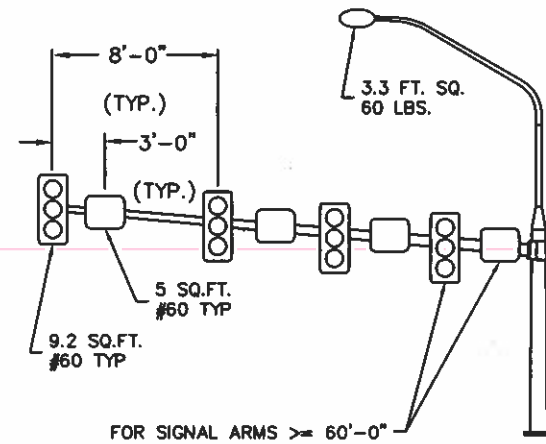
- LOADS PER AASHTO LRFD 2015
- LOCATION: WASHINGTON STATE
 - BASIC WIND SPEED: 115 MPH
 - DESIGN LIFE: MEAN RECURRENCE INTERVAL = 1700
 - FATIGUE CATEGORY III
 - GALLOPING LOADS: YES ($I_f = 0.30$)
 - TRUCK LOADS: YES ($I_f = 0.70$)
 - NATURAL WIND GUSTS: YES ($I_f = 0.55$)
 - MAINTAIN HANDHOLE HEIGHT 8" ABOVE BASE PLATE USING 4" X 6" RECTANGULAR HANDHOLE FRAME



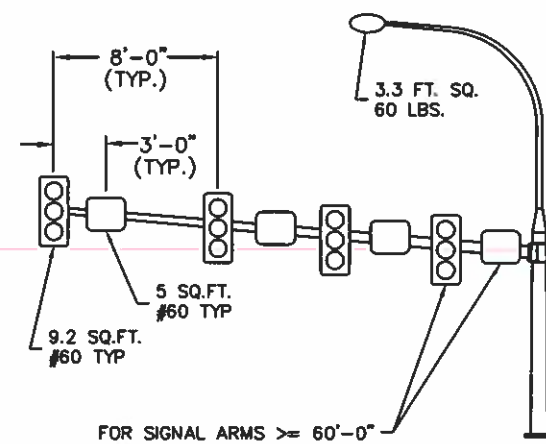
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TYPE II SERIES



TYPE III SERIES "T"

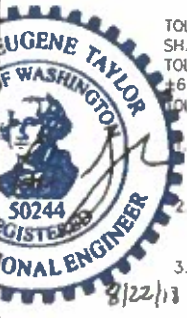
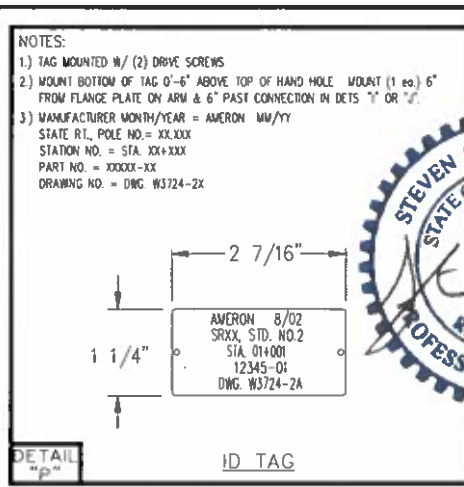
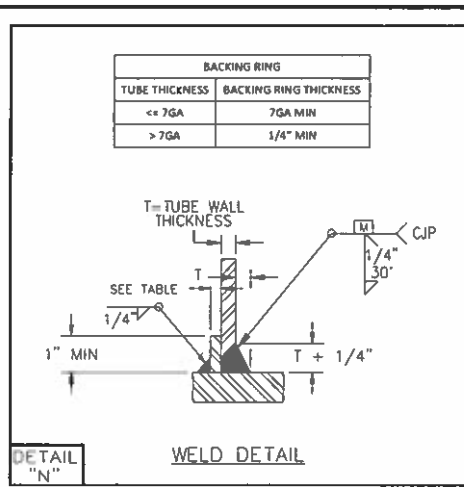
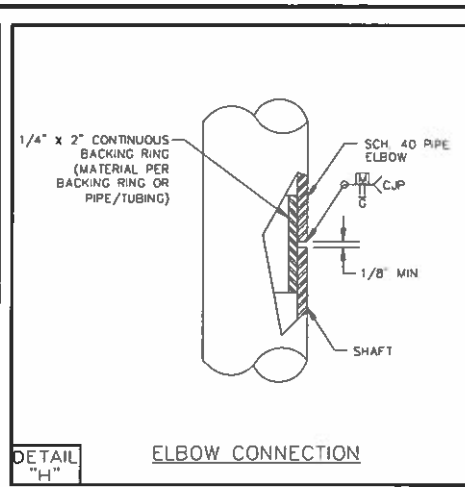
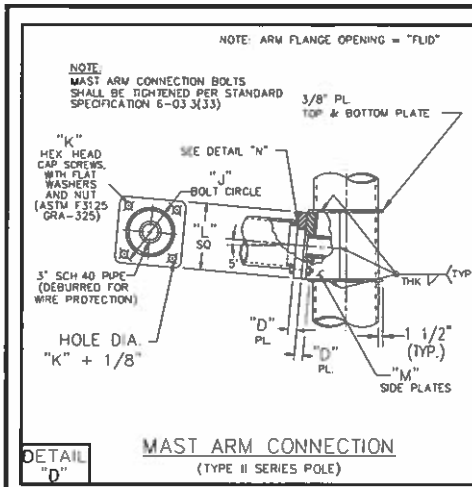


TYPE III SERIES "J"

REV	DATE	DESCRIPTION	BY	APPR
C	8/21/17	REVISED PER WSDOT REVIEW	ST	GM
B	8/25/17	REVISED PER WSDOT REVIEW	ST	GM
A	6/19/17	REVISED SIZING FOR LRFD	ST	GM

Ameron POLE PRODUCTS DIVISION
 STATE OF WASHINGTON
 TYPE II AND III SERIES

DRAWN: AMG DATE: 11/16 SCALE: N.T.S. DWG. NO. WA15TR3724-1
 APPR: ST DATE: 11/16 SHT 1 OF 2

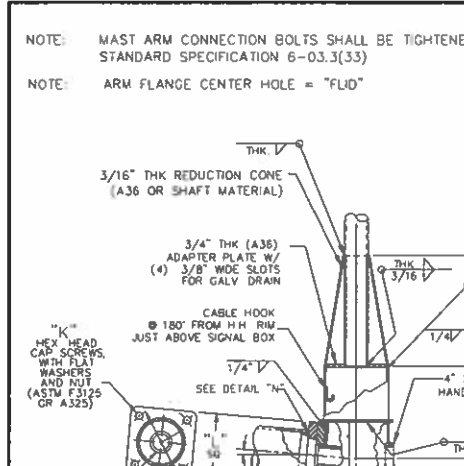
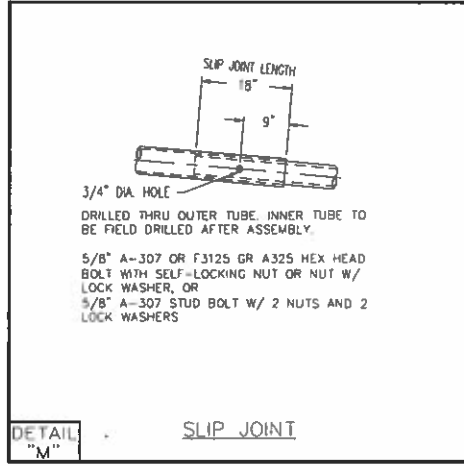
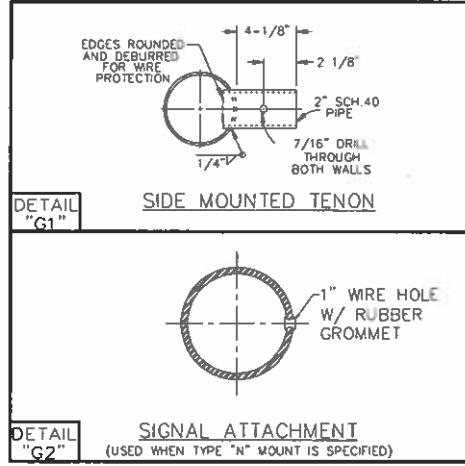
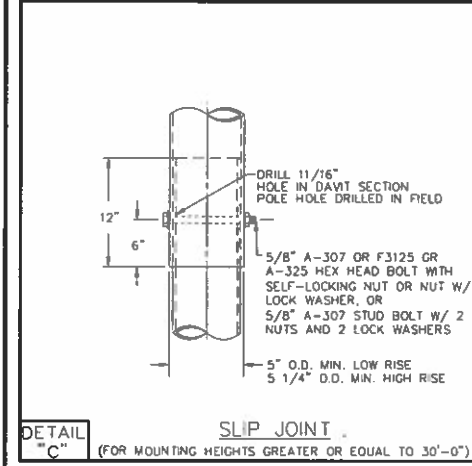


TOLERANCES SHALL BE IN ACCORDANCE WITH SECTION 14.4.6 OF THE "SPECIFICATION FOR STRUCTURAL SUPPORTS OF HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 2015 LRFD.

TOLERANCE FOR STRAIGHTNESS OF TAPERED SHAFTS SHALL BE .025"/FT.
TOLERANCE FOR SHAFT & ARM LENGTHS SHALL BE ±6".
TOLERANCE FOR MOUNTING HEIGHTS SHALL BE ±6".

- 3" SCH. 40 PIPE FOR LUM. ARMS <= 10'.
- 3 1/2" SCH. 40 PIPE FOR LUM. ARMS > 10'.
- 3 1/2" SCH. 40 PIPE FOR LUM. ARMS <= 10'.
- 4" SCH. 40 PIPE FOR LUM. ARMS > 10'.
- 3/4" PL TO BE WELDED TO POLE TOP, SKIPPING SLOTTED AREA, THEN CONE IS WELDED IN PLACE.
- AMERON RESERVES THE RIGHT TO INSTALL TOOLING LUGS OR HOLES TO FACILITATE IN THE GALVANIZING PROCESS. THESE LUGS/HOLES WILL NOT IMPEDE WITH THE FIT, FORM, OR FUNCTION OF THE FINISHED PRODUCT AND ARE TO BE USED SOLELY BY THE MANUFACTURER.
- 10GAGE (0.1345") TUBE MAY BE SUBSTITUTED FOR 11 GAGE (0.1196") BASED ON MATERIAL AVAILABILITY.

MATERIAL SPECIFICATION	
*STEEL TO HAVE SILICON CONTENT OF 0.0 - 0.04 OR 0.15 - 0.25	
*SHAFT	(50 KSI MIN YIELD AFTER FABRICATION) ASTM A-572 ASTM A-595 Gr A OR Gr B ASTM A-709 ASTM A-1008 ASTM A-1011 ASTM A-1018
*PLATE	(36 KSI YIELD MIN) ASTM A-36, A709 GR36 OR MATERIAL LISTED FOR SHAFT
*BACKING RING	ASTM A529 ASTM A-36 ASTM A709 GR36 OR MATERIAL LISTED FOR SHAFT
*PIPE/TUBING	ASTM A-53 GR B ASTM A-500 GR B ASTM A-513 GR 1015 (35 KSI YIELD MIN) ASTM A-513 GR 1026 (45 KSI YIELD MIN)
MAST ARM CONNECTION BOLTS	ASTM F-3125, A325 TYPE 1
ANCHOR BOLTS	ASTM F-1554 GR 105
ANCHOR NUTS	ASTM A-563 GR DH
ANCHOR WASHER	ASTM F-436
POLE FINISH	HOT DIP GALVANIZED PER ASTM A-123
HARDWARE FINISH	HOT DIP GALVANIZED PER ASTM F2329



2015 AASHTO LRFD DEVIATION NOTES

THE FOLLOWING DEVIATIONS TO 2015 AASHTO LRFD REQUIREMENTS ARE AS FOLLOWS.

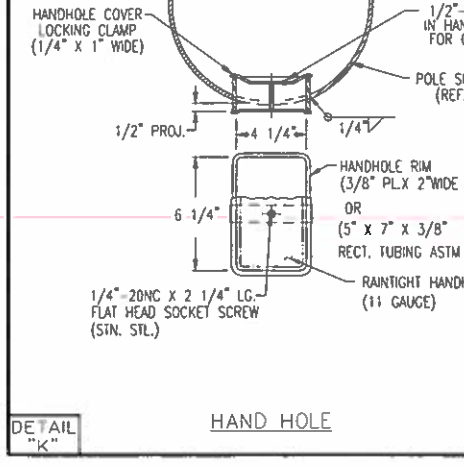
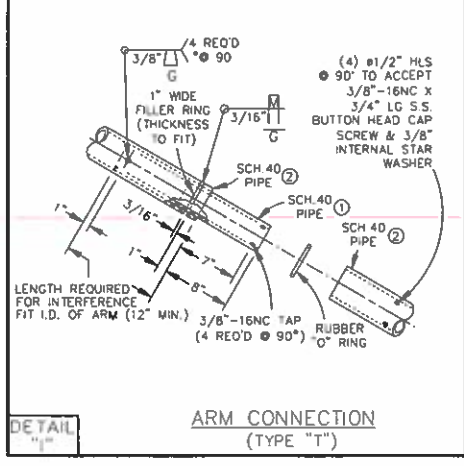
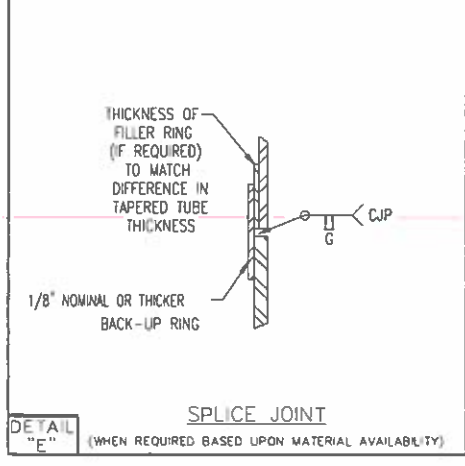
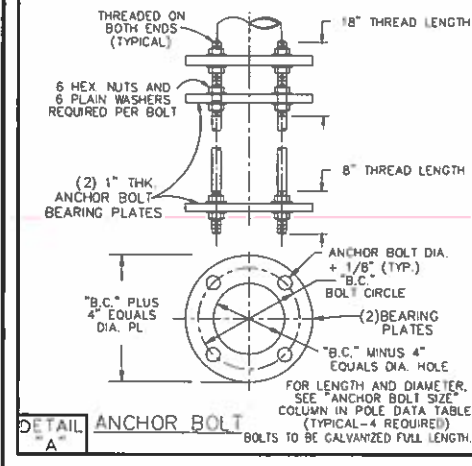
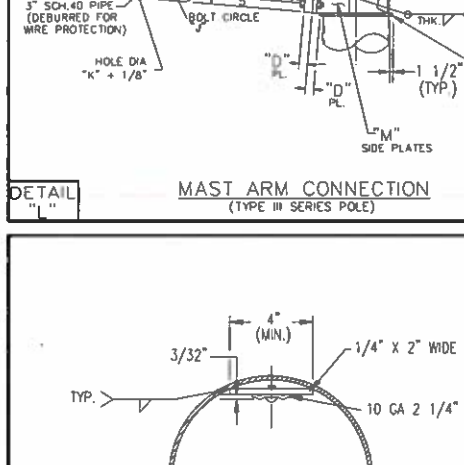
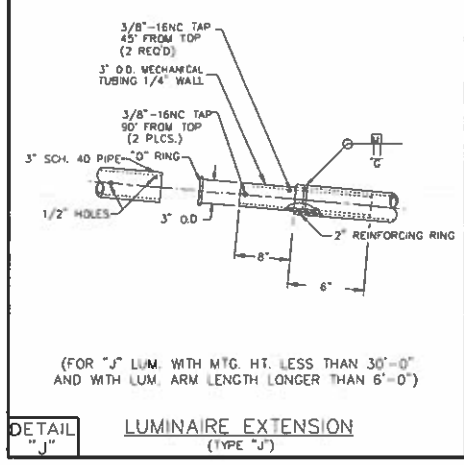
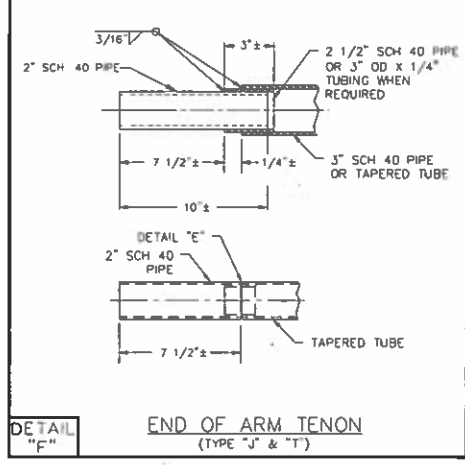
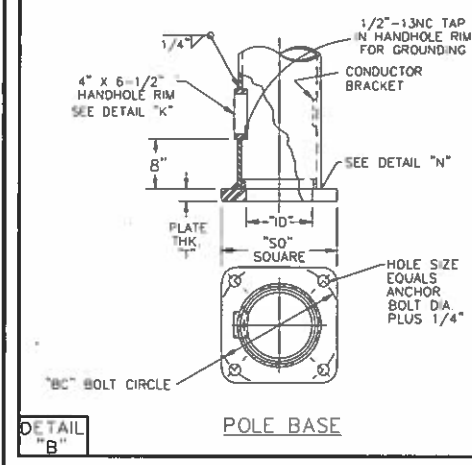
- ANCHOR BOLT BENDING STRESS REQUIREMENT WILL BE REFERRED TO SECTION C5.17.4.3 OF THE 2013 AASHTO CODE WHICH STATES THAT "BENDING STRESSES IN INDIVIDUAL BOLTS CAN BE IGNORED IF THE STANDOFF DISTANCE BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT IS LESS THAN ONE BOLT DIAMETER" SINCE THIS STATEMENT WAS REMOVED IN THE 2015 LRFD AASHTO CODE.
- SECTION 5.6.6 FOR HANDHOLE CLEAR DISTANCE AND 40% OF POLE WIDTH REQUIREMENT. STRESSES ARE REVIEWED AT EACH HANDHOLE FOR STRUCTURAL ADEQUACY.

- WELDING INSPECTION:
- WELDING INSPECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF WASHINGTON STATE DEPARTMENT STANDARD SPECIFICATION SECTION 6-03.3(25) AND 2015 AASHTO, INCLUDING LATEST INTERIMS, WELD INSPECTION SECTION 14.5.3
 - ALL LONGITUDINAL PARTIAL PENETRATION SEAM WELDS SHALL BE INSPECTED BY MAGNETIC PARTICLE METHOD ON THE OD FOR 30% OF LENGTH.
 - COMPLETE JOINT PENETRATION (CJP) SEAM WELD WITH A SHAFT THICKNESS 0.3125 AND GREATER SHALL BE 100% ULTRASONICALLY INSPECTED.
 - CJP WELD WITH A SHAFT THICKNESS OF LESS THAN 0.3125 SHALL BE MAGNETIC PARTICLE INSPECTED ON BOTH SIDES OF THE WELD WHEN BACKING IS NOT USED. THE CJP WELD SHALL BE INSPECTED THE ENTIRE LENGTH ON THE OD AND ID OF ALL SHAFTS. FOR SHAFTS WITH A NOMINAL OD LESS THAN 10.5 INCHES, WHERE ACCESS TO THE ID IS RESTRICTED, THE ID SHALL BE INSPECTED FOR A MINIMUM LENGTH OF 2 INCHES. SHAFTS WITH OD LESS THAN OR EQUAL TO 6 INCHES REQUIRE VISUAL INSPECTION ONLY AND SHALL BE PERFORMED PRIOR TO GALVANIZING.

WELDING:

WELDING OF STRUCTURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS STRUCTURAL WELDING CODE D1.1-STEEL. 60% MINIMUM PENETRATION IS REQUIRED FOR ALL LONGITUDINAL SEAM WELDS OF POLE AND ARM SECTIONS EXCEPT FOR THE FOLLOWING LOCATIONS WHICH REQUIRE 100% PENETRATION:

- 6 INCHES ADJACENT TO COMPLETE JOINT PENETRATION WELDS OF SHAFT TUBE TO BASEPLATE, FLANGE PLATE AND BUTT WELDED SPLICES WITH A NOMINAL OD OF 5" OR GREATER.
- 1.5 TIMES THE DIAMETER PLUS 6" ON ALL SLIP JOINTS OF THE FEMALE SECTION OF SHAFTS WITH A NOMINAL OD OF 10" OR GREATER.
- ONE DIAMETER ON ALL SLIP JOINTS OF FEMALE SECTION OF SHAFTS WITH A NOMINAL OD LESS THAN 10"



REMOVABLE CAP SECURED WITH (3) 5/16" SCREWS

APPROVED

Manufacturer's Pole Plan

Approved For Listing As A

Pre-Approved Drawing

WSDOT Bridge & Structures Office

By **GB** Date **9-28-2018**

DETAIL "O" SHAFT TOP DETAIL

REV	DATE	DESCRIPTION	BY	APPR
D	9/5/17	REVISED NOTES PER WSDOT REVIEW	ST	GM
C	8/31/17	REVISED NOTES PER WSDOT REVIEW	ST	GM
B	8/25/17	REVISED PER WSDOT REVIEW	ST	GM

AMERON POLE PRODUCTS DIVISION	
STATE OF WASHINGTON	
TYPE II AND III SERIES	
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SCALE: N.T.S.	DWG. NO. WA15R3724-2
SHT 2 OF 2	REV D