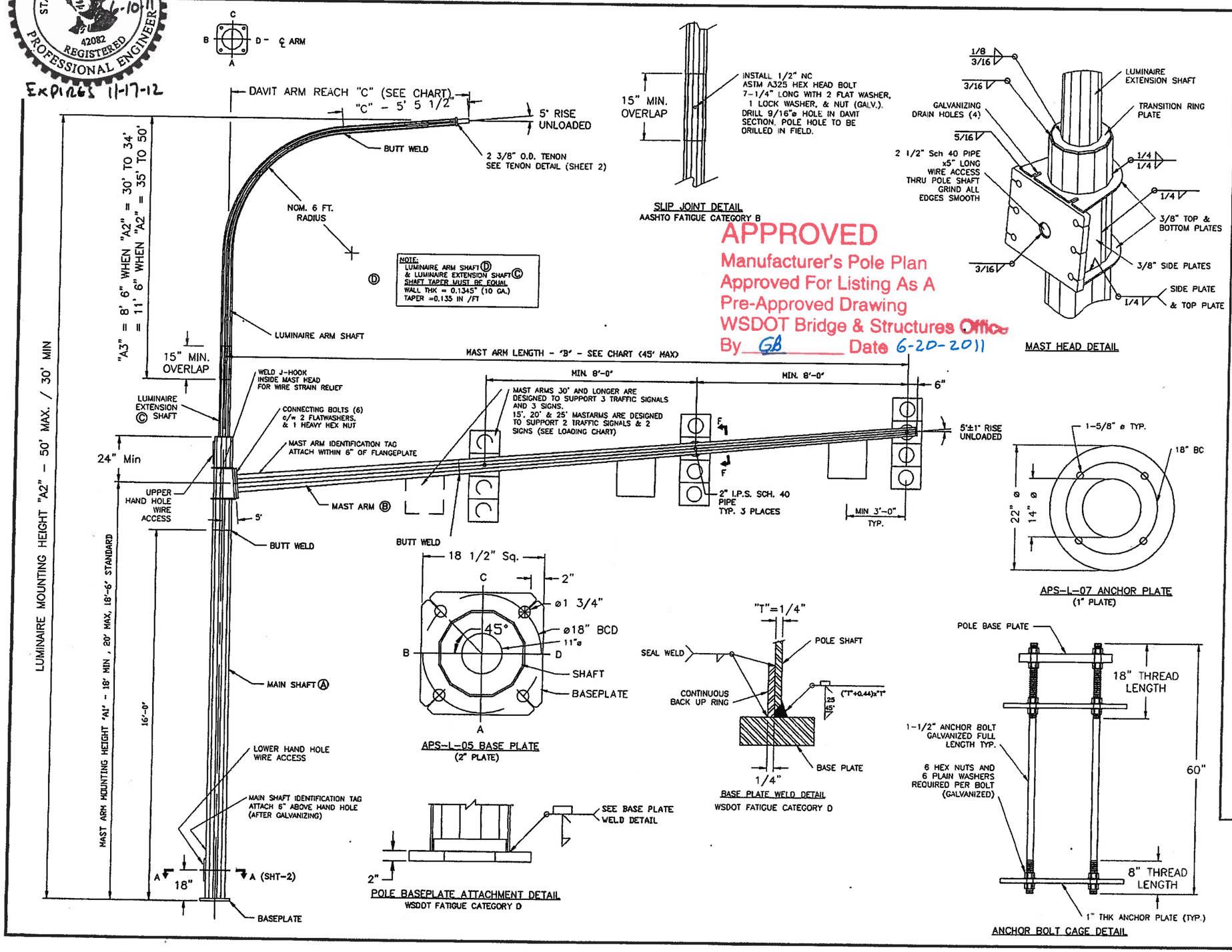
THOMAS S. LACH
STATE OF WASHINGTON
42082
REGISTERED PROFESSIONAL ENGINEER
1-10-11
EXPIRES 11-17-12



SLIP JOINT DETAIL
AASHTO FATIGUE CATEGORY B

MAST HEAD DETAIL

APPROVED
Manufacturer's Pole Plan
Approved For Listing As A
Pre-Approved Drawing
WSDOT Bridge & Structures Office
By GB Date 6-20-2011

APS-L-07 ANCHOR PLATE
(1" PLATE)

APS-L-05 BASE PLATE
(2" PLATE)

BASE PLATE WELD DETAIL
WSDOT FATIGUE CATEGORY D

POLE BASEPLATE ATTACHMENT DETAIL
WSDOT FATIGUE CATEGORY D

ANCHOR BOLT CAGE DETAIL

Ⓐ MAIN SHAFT (1)			
AFB(3)	AFT(4)	THK	LENGTH
13"	12"	1/4"	22' 0" MAX

Ⓑ MAST ARM SHAFT (1)				CONNECTING BOLTS (6 SETS)		SIGN & SIGNAL MAX. (2) LOADING XYZ
MAST ARM LENGTH "B"	AFB(3)	AFT(4)	THICKNESS IN.	DIA.	LENGTH	
15'	7 1/2	5"	0.1345"	1 1/4	5"	321.0
20'	8-1/4	5"	0.1345"	1 1/4	5"	463.0
25'	9"	5"	0.1345"	1 1/4	5"	605.0
30'	9-3/4"	5"	3/16	1 1/4	5"	923.7
35'	10 1/2"	5"	3/16	1 1/4	5"	1136.7
40'	11-1/4"	5"	3/16	1 1/4	5"	1349.7
45'	12"	5"	3/16	1 1/4	5"	1562.7

THK.=3/16" Ⓒ LUMIN. EXT SHAFT (1)			
LUMIN. MOUNT HT. "A2"	AFB(3)	AFT(4)	SHAFT LENGTH
30'	5 5/16"	5 1/2"	1' 5"
35'	5 15/16"	5 1/2"	3' 3"
40'	6 5/8"	5 1/2"	8' 3"
45'	7 5/16"	5 1/2"	13' 3"
50'	8"	5 1/2"	18' 3"

(1) DODECAGON SECTION (12 SIDED)
(2) X-SECTION AREA OF SIGNAL OR SIGN x DISTANCE FROM CENTERLINE OF SIGNAL OR SIGN TO CENTERLINE OF MAIN SHAFT
(3) AFB – "ACROSS THE FLATS" AT THE BASE OF THE SHAFT
(4) AFT – "ACROSS THE FLATS" AT THE TOP OF THE SHAFT

THK.=3/16" Ⓓ LUMIN. ARM SHAFT (1) "A2" = 35' to 50'			
LUM. ARM REACH "C"	AFB(3)	AFT(4)	SHAFT LENGTH
6'	8-1/4"	4 1/16"	14' 2"
8'	6-1/4"	3 13/16"	16' 0"
10'	6-1/4"	3 9/16"	17' 10"
12'	6-1/4"	3 5/16"	19' 8"
14'	6-1/4"	3 1/4"	21' 6"
16'	6-1/4"	3 1/4"	23' 10"

DESIGN: ALL STANDARDS ARE DESIGNED TO THE 2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
DESIGN WIND SPEED – 90 MPH (3 SECOND GUST WIND SPEED)
DESIGN LIFE / RECURRENCE INTERVAL – 50 YEARS
FATIGUE CATEGORY – III (GALLOPING, NATURAL & TRUCK GUSTS)
MAXIMUM TRUCK GUST WIND SPEED – 65 MPH
EACH STRUCTURE HAS A LOAD CAPACITY AS SHOWN IN THE ABOVE CHART. DESIGN AREAS OF SIGNS AS SIGNALS AS FOLLOWS:

TRAFFIC SIGNAL
FACE AREA = 9.2 FT.^{2}
WIND DRAG COEFFICIENT = 1.2
WEIGHT = 60 LB.
ICE AREA = 23 FT.^{2}

TRAFFIC SIGN
FACE AREA = 5.0 FT.^{2}
WIND DRAG COEFFICIENT = 1.12
WEIGHT = 60 LB.
ICE AREA = 5.0 FT.^{2}

WELDING: WELDING OF STRUCTURES SHALL BE IN ACCORDANCE WITH THE CURRENT AASHTO SPECIFICATIONS FOR STRUCTURAL SUPPORTS OF HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS.
LONGITUDINAL SEAM WELD IS 60% MINIMUM PENETRATION EXCEPT – 6 INCHES FROM END OF SECTIONS IT IS 100% PENETRATION.
– ON THE FEMALE SECTION OF TELESCOPIC FIELD SPLICES IT IS 100% PENETRATION FOR MINIMUM SPLICE LENGTH PLUS 6 INCHES.

FINISH: ALL COMPONENTS TO BE HOT DIP GALVANIZED AS PER ASTM A123 / A153

MATERIAL DATA (UNLESS OTHERWISE NOTED)	
COMPONENT	GRADE
ALL TAPERED TUBES	ASTM A572 GR. 50 OR A1011 GR.50
BASE PLATE	ASTM A36
FLANGE PLATES	ASTM A36
PIPE TENONS	ASTM A53 GR. B
CONNECTING BOLTS	ASTM A325 – Type 1
NUTS	ASTM A563-DH
FLAT WASHERS	ASTM F436
ANCHOR PLATE	ASTM A36
ANCHOR BOLTS	ASTM F1554 GR.105

REV. No.	CHANGE	BY	APP.	DATE
11	CHANGED WELD TEXT NOTES & REMOVED A WELD SEAM / MAST ARM	ECH		06-11
10	UPDATES PER G. BEZI 04-15-10	CHC		04-10
9	UPDATES PER G. BEZI 08-05-08	DRK		08-08
8	UPDATES PER G. BEZI 08-11-08	DRK		08-08
7	UPDATES PER T. LACH 08-08-08	DRK		08-08
6	UPDATES PER T. LACH 08-07-08	DRK		08-08

No. REV'D.	VEL No.	FILE No.	DATE	P.O. No.	CUSTOMER	LOCATION

APS L.L.C.
American Pole Structures L.L.C.

TITLE: WSDOT TYPE III TRAFFIC STRUCTURE 45' MAX. MAST ARM LENGTH "J" STYLE LUMINAIRE ARM

DRAWN BY	S.B.	APP. BY		DWG No.	REV. No.	SHT. 1 of 2 SHTS.
DATE	10-AUG-02	SCALE	N.T.S.	WS-T3J-L	11	