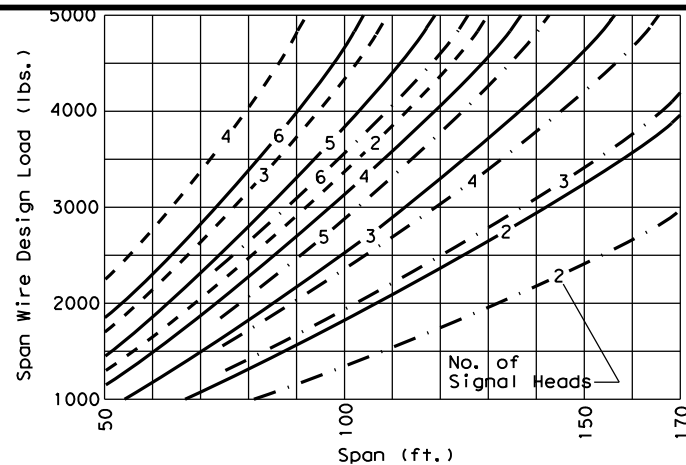
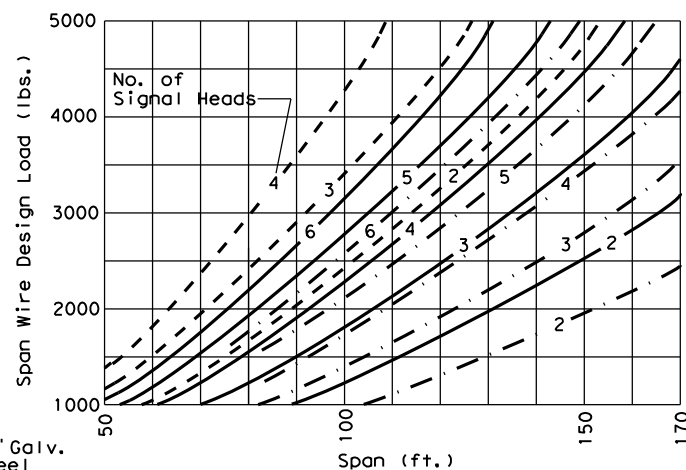


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STRAIN POLE DESCRIPTION	Pole Type	Foundation Type	Maximum Permissible Span Wire Load (lbs.)
26' Pole	A	36-A	5200
30' Pole	B	36-A	4600
30' Pole with Lum.	B	36-A	4400
30' Pole with 20' Mast Arm	C	36-B	5600
30' Pole with 24' Mast Arm	C	36-B	5500
30' Pole with 28' Mast Arm	C	36-B	5300
30' Pole with 32' Mast Arm	C	36-B	5100
30' Pole with 36' Mast Arm	C	36-B	4900
30' Pole with 20' Mast Arm & Lum.	C	36-B	5300
30' Pole with 24' Mast Arm & Lum.	C	36-B	5200
30' Pole with 28' Mast Arm & Lum.	C	36-B	5000
30' Pole with 32' Mast Arm & Lum.	C	36-B	4800
30' Pole with 36' Mast Arm & Lum.	C	36-B	4500
34' Pole	D	36-B	5600
34' Pole with Lum.	D	36-B	5400



**SIGNALS WITH 12-INCH LENS**

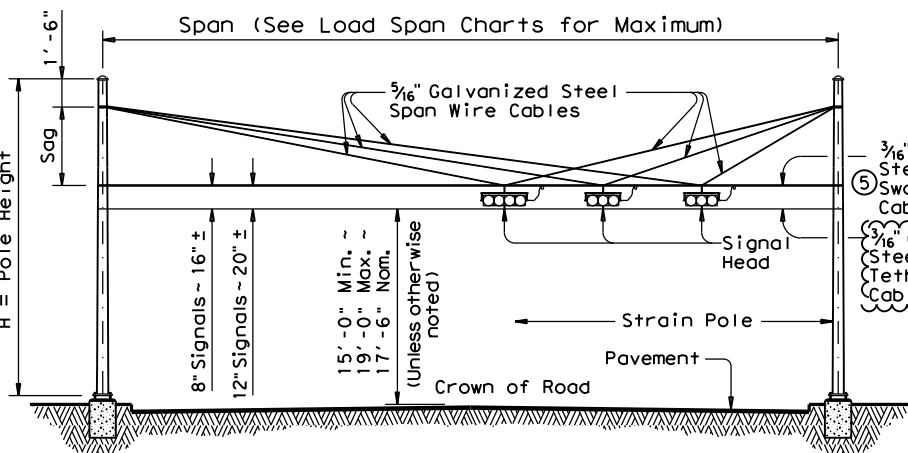


**SIGNALS WITH 8-INCH LENS**

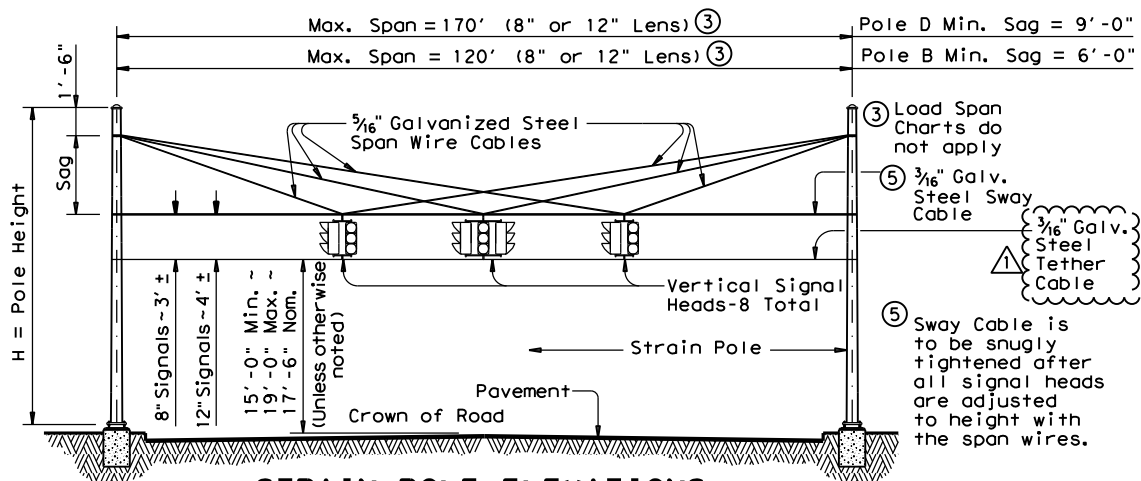
Signal Head Type	Wt. Per Head	Wind Area
5-Section, 12" Lens	125 lbs	9.6 sq. ft.
5-Section, 8" Lens	70 lbs	4.8 sq. ft.
3-Section, 12" Lens	75 lbs	5.64 sq. ft.
3-Section, 8" Lens	45 lbs	3.0 sq. ft.

Effective projected design wind area (actual area times drag coefficient)

- Sag = 4'-6" (26' or 30' Pole)
- Sag = 8'-0" (30' or 34' Pole)
- - - Sag = 11'-6" (34' Pole)



**STRAIN POLE ELEVATIONS HORIZONTAL SIGNALS**



**STRAIN POLE ELEVATIONS VERTICAL SIGNALS**

(Mast arms are not used with vertical signals)

Sway Cable is to be snugly tightened after all signal heads are adjusted to height with the span wires.

Pole Type	ROUND POLES				POLYGONAL POLES			
	D <sub>B</sub>	D <sub>T</sub>	(4)thk	H	D <sub>B</sub>	D <sub>T</sub>	(4)thk	H
A	12.5	8.9	.239	26	13.0	9.0	.239	26
B	13.5	9.3	.239	30	14.0	9.0	.239	30
C	15.5	11.3	.239	30	16.0	11.0	.239	30
D	15.5	10.7	.239	34	16.0	11.0	.239	34

D<sub>B</sub> = Pole Base O.D. D<sub>T</sub> = Pole Top O.D. H = Pole Height

**MODIFICATIONS:**

- ▲ ADDED BOTTOM STEEL TETHER CABLE. (2/12)

**SHIPPING PARTS LIST**

Poles (Without Traffic Signal Arm)						
Pole Type	Strain poles with Luminaire			Strain poles without Luminaire		
	Description	Designation	Quantity	Description	Designation	Quantity
A	Ship each pole with the following hardware attached: handhole at base, pole cap, 2 clamp-on simplex and 1 pipe plug.			Ship each pole with the following hardware attached: handhole at base, pole cap and 1 pipe plug.		
B	30' Strain Pole	SPL 30 B-80		30' Strain Pole	SP 30 B-80	
D	34' Strain Pole	SPL 34 D-80		34' Strain Pole	SP 34 D-80	

Poles (With Traffic Signal Arm)						
Pole Type	Strain poles with Luminaire			Strain poles without Luminaire		
	Description	Designation	Quantity	Description	Designation	Quantity
	Ship each pole with the following hardware attached: handhole at base, pole cap, clamp-on simplex and 3 pipe plugs.			Ship each pole with the following hardware attached: handhole at base, pole cap and 3 pipe plugs.		
C	30' SPw/TS Arm	SPL 30 C-80		30' SPw/TS Arm	SP 30 C-80	

Traffic Signal Arms (For Type C poles)						
Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	Description	Quantity	Description	Quantity	Description	Quantity
ft.	Ship each Type I Arm with the following hardware attached: 2 CGB Connectors, 1 clamp with bolts and washers		Ship each Type II Arm with the following hardware attached: 1 Bracket Assembly, 3 CGB Connectors and 1 clamp with bolts and washers		Ship each Type III Arm with the following hardware attached: 2 Bracket Assemblies, 4 CGB Connectors and 1 clamp with bolts and washers	
20	20I-80					
24	24I-80		24 II -80			
28	28I-80		28 II -80			
32			32 II -80		32 III -80	
36			36 II -80		36 III -80	

**Anchor Bolt Assemblies (1 per pole)**

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 3/4"	3'-10"	
2"	4'-3"	

**Luminaire Arms**

Nominal Arm Length	Quantity
8' Arm	

Each Anchor Bolt Assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

① See Sheet "DMA-80"

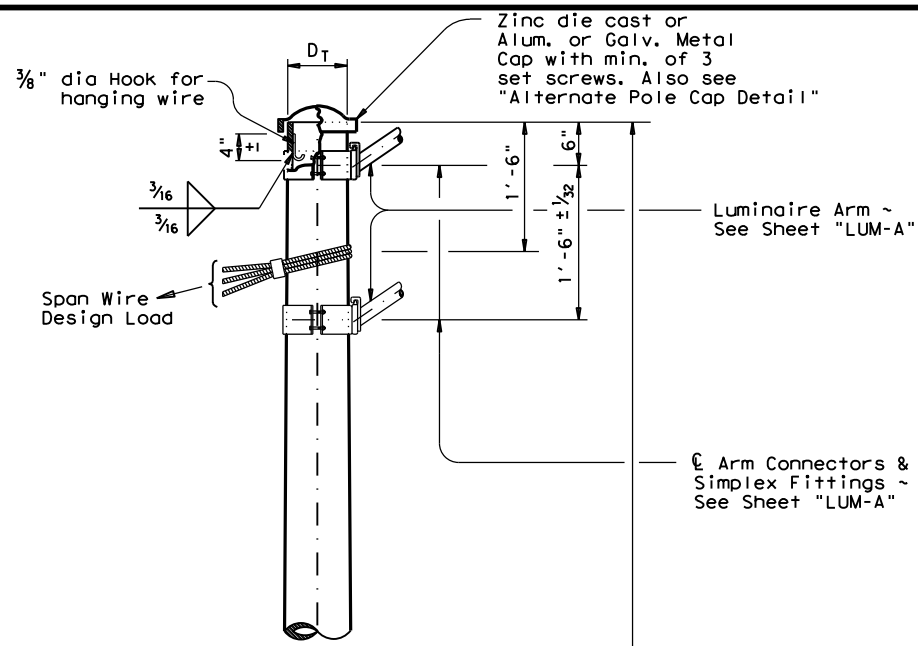
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**TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES (80 MPH WIND ZONE) SP-80(1)-12(DAL)**

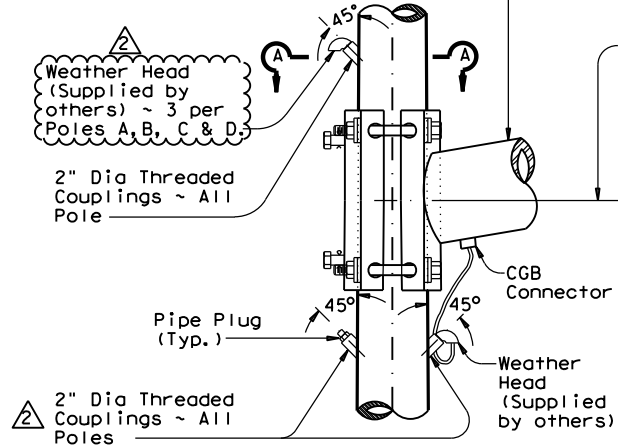
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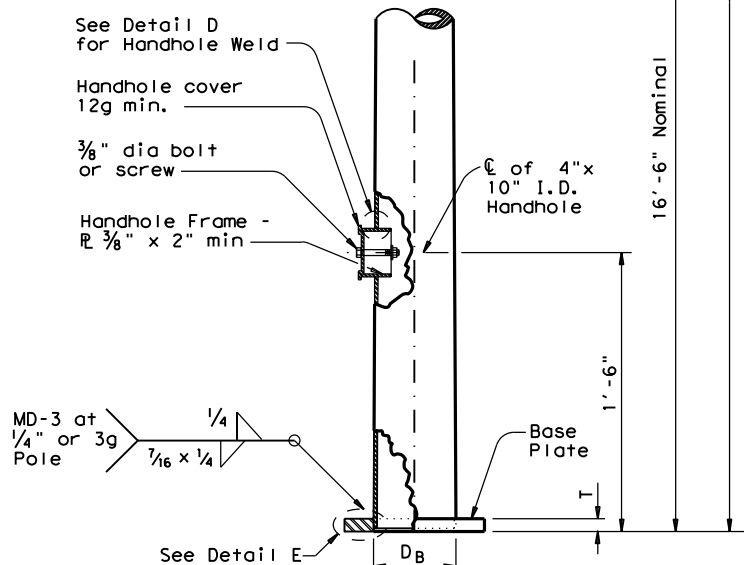
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**DETAIL A**

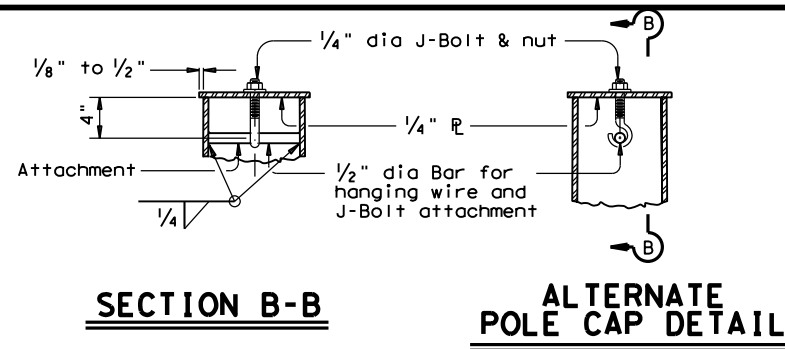


**DETAIL B**



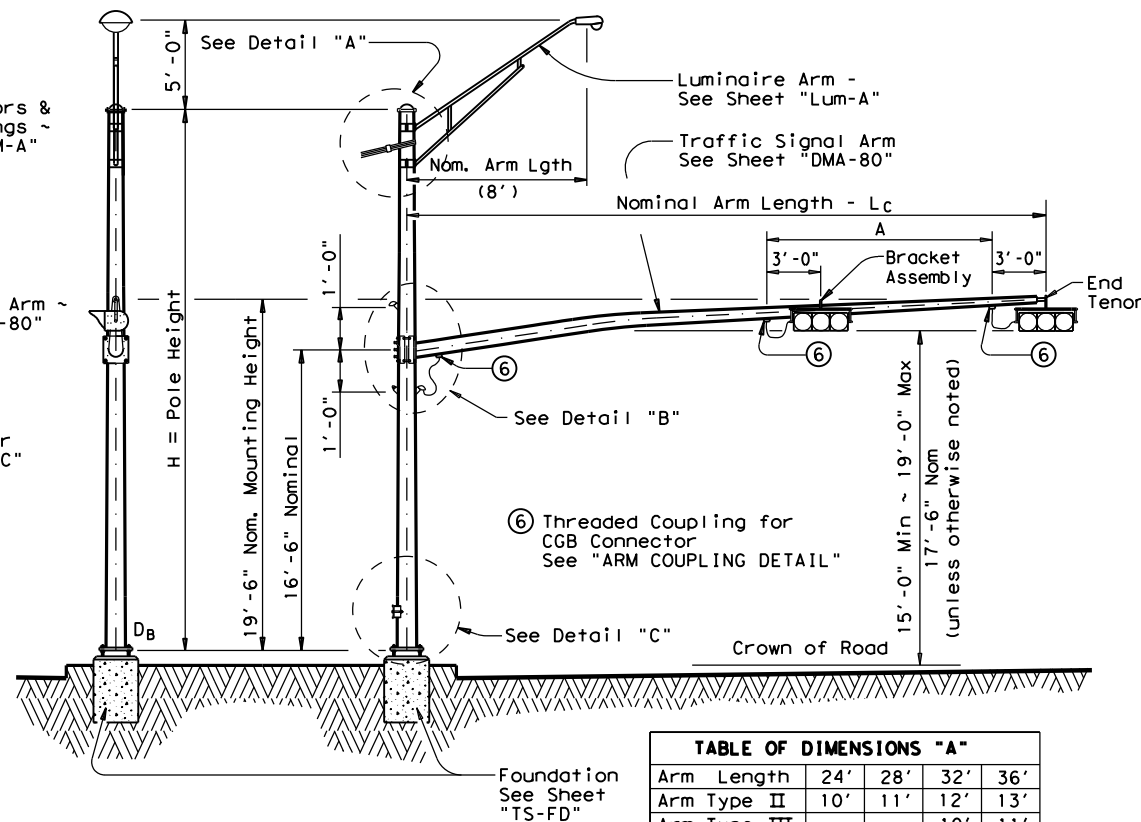
**DETAIL C**

**POLE ELEVATION**



**SECTION B-B**

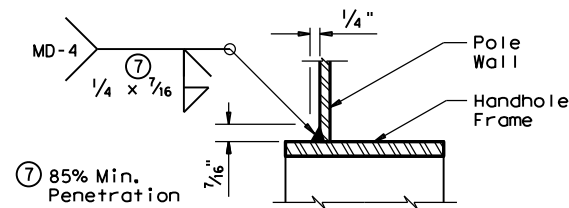
**ALTERNATE POLE CAP DETAIL**



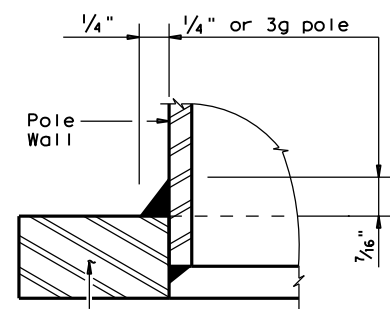
**STRUCTURE ASSEMBLY**

**TABLE OF DIMENSIONS "A"**

Arm Length	24'	28'	32'	36'
Arm Type II	10'	11'	12'	13'
Arm Type III			10'	11'



**DETAIL D**

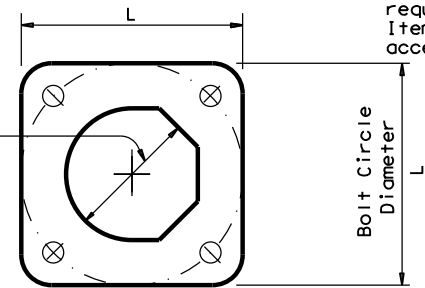


**DETAIL E**

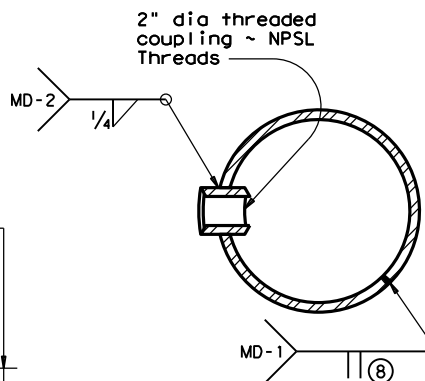
**SECTION A-A**

(Pole Coupling and Seam Weld Details)

⑧ 60% Min. penetration, except 100% penetration within 6" of circumferential base welds.



**BASE PLATE PLAN**



**ARM COUPLING DETAIL**

② CHANGED TO 3 WEATHERHEAD ACCESS POINTS FOR POLES A, B, C AND D(3/12).

MATERIALS	
Round Shafts or Polygonal Shafts⑨	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 ⑩
Plates ⑨	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325 except where noted
Pin Bolts	ASTM A325
Pipe⑨	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Steel Cable	ASTM A475, 7 Wire Utilities Grade
Misc. Hardware	Galvanized steel or stainless steel or as noted

⑨ ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

⑩ ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

**GENERAL NOTES**

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 80 mph plus a 1.3 gust factor. The maximum permissible span wire design loads tabulated are calculated at a stress load of 1.4 times the basic allowable stress. A simultaneous wind on the pole, mast arm, and luminaire is also included.

See standard sheet "DMA-80" for details of clamp-on traffic signal arms, sheet "MA-C" for traffic signal arm connection details, sheet "LUM-A" for luminaire arm and connection details, and sheet "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Foundation Type	Anchor Bolt Diameter	Bolt Hole Diameter	Bolt Circle Diameter	Base Pl. Dim. L x T
36-A	1 3/4"	2"	19"	19" x 1 3/4"
36-B	2"	2 1/4"	21"	21" x 2"

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**TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES (80 MPH WIND ZONE) SP-80(2)-12(DAL)**

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