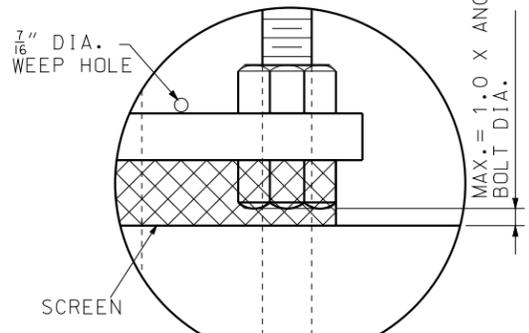
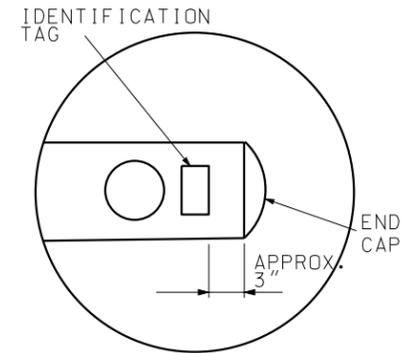


**IDENTIFICATION TAG**

ID TAG NOTE:

TAG SHALL BE ALUMINUM OR STAINLESS STEEL AND ATTACHED TO POLE OR MAST ARM USING TWO RIVETS OR STAINLESS STEEL DRIVE SCREWS. ID TAG HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.

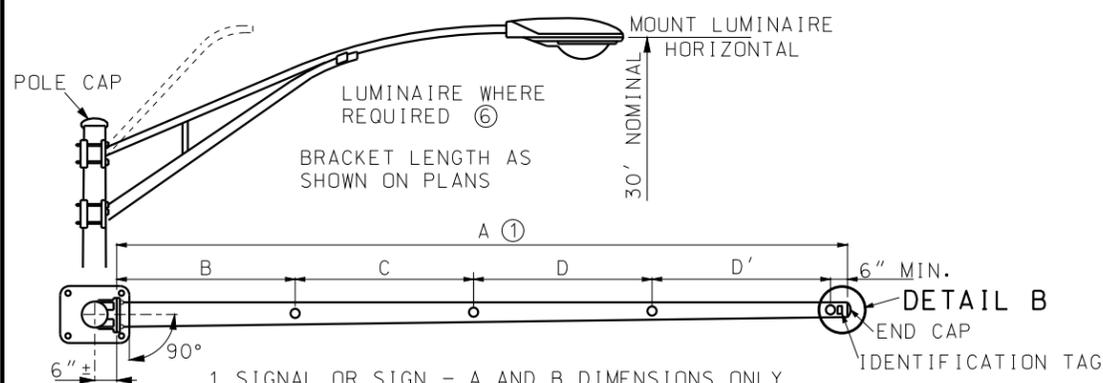
- ARM LENGTHS SHALL NOT EXCEED 55 FEET.
- HANDHOLES SHALL BE APPROXIMATELY 4" x 6 1/2". HANDHOLE FRAME SHALL BE REINFORCED SO THAT THE POLE STRENGTH IS NOT REDUCED.
- 0" TO 6" VARIATION IN BASE HEIGHT IS FOR OBTAINING 16'-0" CLEARANCE. 0.13 C.Y. CONCRETE AND 3 LBS. REINFORCING STEEL PER 6".
- POSTS SHALL BE FURNISHED WITH INDIVIDUAL NUT COVERS.
- NO SIGN IN EXCESS OF 15.0 SQUARE FEET SHALL BE INSTALLED ON POSTS OR MAST ARMS. SIGNS EXCEEDING 8.0 SQUARE FEET SHALL BE LOCATED SO THAT THE EDGE OF THE SIGN IS NO MORE THAN 12" FROM THE CENTERLINE OF THE POST. D3 SERIES SIGNS, AS WELL AS SIGNS INSTALLED ON THE POST, SHALL BE MOUNTED WITH A STRAP TYPE SIGN SUPPORT. R10 SERIES SIGNS INSTALLED ON THE MAST ARM SHALL BE MOUNTED WITH A SIGN BRACKET ASSEMBLY.
- SEE DRAWING 901.00 FOR TYPICAL BRACKET ARM MOUNTING FOR TYPE BL AND TYPE CL POSTS.
- A GALVANIZED SCREEN SHALL BE USED BETWEEN THE POST BASE PLATE AND CONCRETE BASE. SCREENS SHALL BE PRESS-FORMED OF 3 OR 4 MESH, 21 GAGE OR HEAVIER, STAINLESS STEEL OR HOT-DIPPED GALVANIZED WIRE SCREEN OR APPROVED EQUIVALENT, THAT WILL PROVIDE A FRICTION-TIGHT FIT WHEN INSTALLED.
- POST SHALL BE GROUNDED FROM GROUND LUG IN POST WITH # 6 AWG BARE COPPER WIRE TO CONDUIT SYSTEM. GROUND LUG SHALL BE 90° OR 180° FROM THE HANDHOLE.



**GENERAL NOTES:**

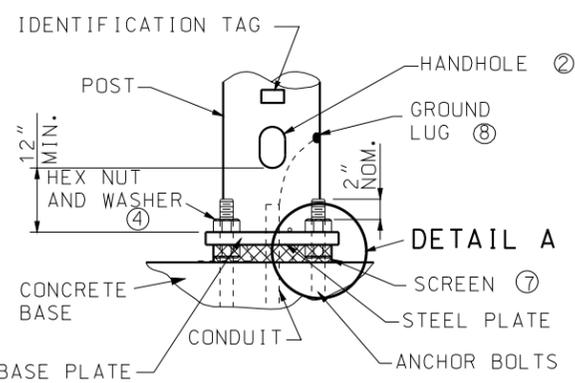
ARMS SHALL BE RAKED UP 0.25" PER FOOT MINIMUM. ARMS SHALL BE PROVIDED WITH A PERMANENT MARKING INDICATING PROPER ORIENTATION FOR INSTALLATION.

SIGNS AND SIGNALS SHALL BE VERTICAL. SIGNAL HEADS ON MAST ARMS SHALL BE TILTED FORWARD FROM THE TOP 3 TO 7 DEGREES FROM VERTICAL.

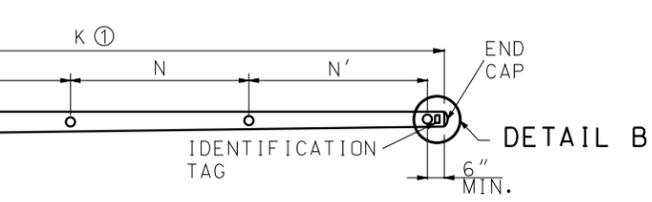


- SIGNAL OR SIGN - A AND B DIMENSIONS ONLY
  - SIGNALS OR SIGNS - A, B, AND C DIMENSIONS ONLY
  - SIGNALS OR SIGNS - A, B, C AND D DIMENSIONS ONLY
  - SIGNALS OR SIGNS - A, B, C, D AND D' DIMENSIONS
- SEE TRAFFIC SIGNAL PLANS FOR DIMENSIONS.

**TYPE C AND TYPE CL (WITH LUMINAIRE)**



**STEEL PLATE AND ANCHOR BASE**



- SIGNAL OR SIGN - E AND F DIMENSIONS ONLY
- SIGNALS OR SIGNS - E, F, AND G DIMENSIONS ONLY
- SIGNALS OR SIGNS - E, F, G, AND H DIMENSIONS ONLY
- SIGNALS OR SIGNS - E, F, G, H AND H' DIMENSIONS

**TYPE B AND TYPE BL (WITH LUMINAIRE)**

- SIGNAL OR SIGN - K AND L DIMENSIONS ONLY
  - SIGNALS OR SIGNS - K, L, AND M DIMENSIONS ONLY
  - SIGNALS OR SIGNS - K, L, M, AND N DIMENSIONS ONLY
  - SIGNALS OR SIGNS - K, L, M, N AND N' DIMENSIONS
- SEE TRAFFIC SIGNAL PLANS FOR DIMENSIONS

**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**

105 WEST CAPITOL  
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STATE OF MISSOURI

KATHRYN PHILLIPS HARVEY  
NUMBER PE-23751  
PROFESSIONAL ENGINEER

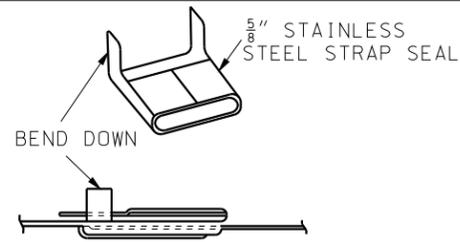
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**TRAFFIC SIGNALS**

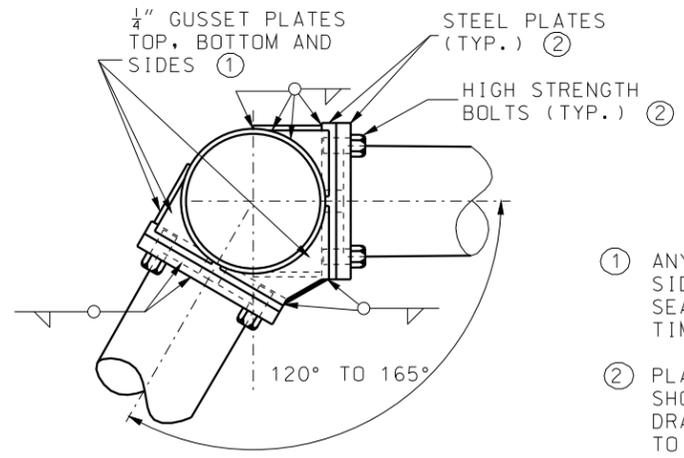
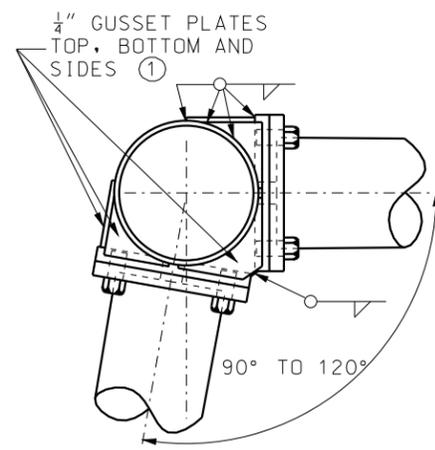
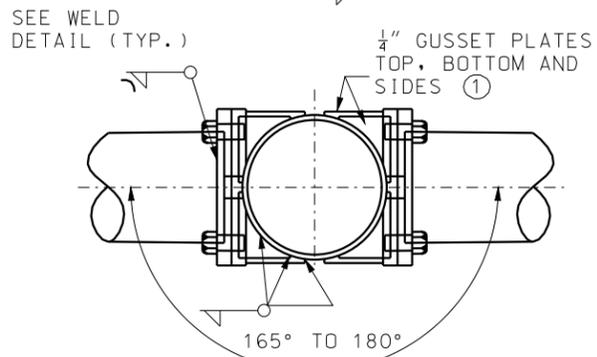
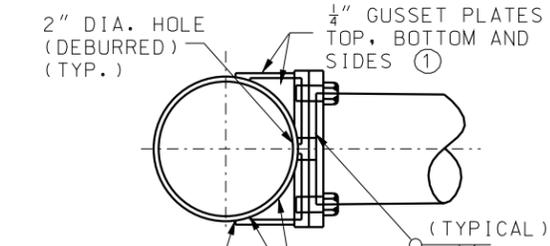
TUBULAR STEEL POSTS

DATE EFFECTIVE: 02/01/2008	902.400	SHEET NO. 1 OF 3
DATE PREPARED: 8/26/2009		

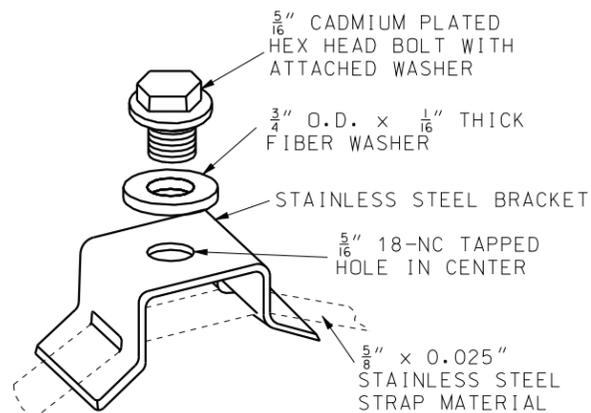
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



VIEW SHOWING  
ENDS OF STRAP  
CLAMPED IN SEAL

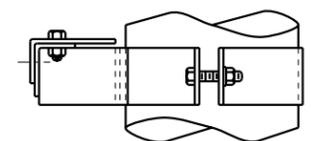


- ① ANY OPENINGS BETWEEN TOP AND SIDE GUSSET PLATES SHALL BE SEALED WITH LIFETIME CAULK AT TIME OF INSTALLATION.
- ② PLATE AND BOLT SIZES SHALL BE SHOWN ON FABRICATORS SHOP DRAWINGS AND SHALL BE SUBJECT TO APPROVAL.

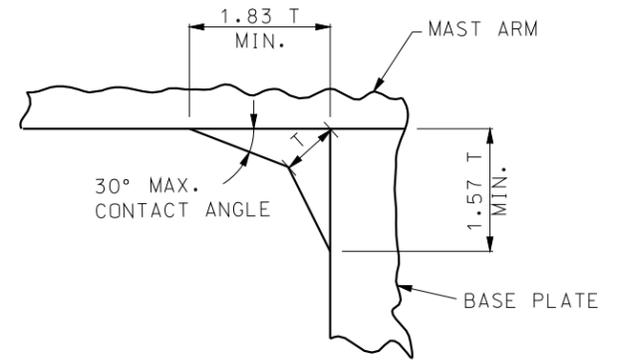


STRAP TYPE  
SIGN SUPPORT

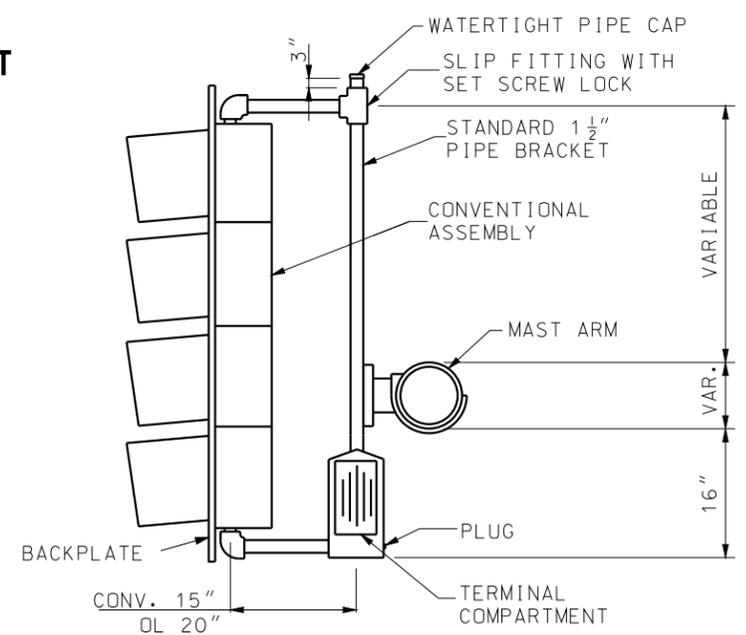
ARM ATTACHMENTS



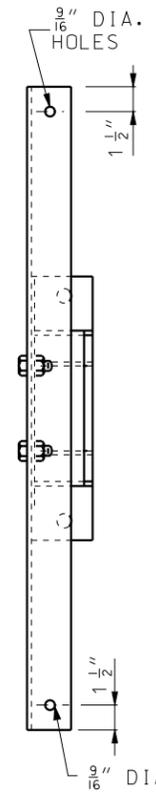
TOP VIEW



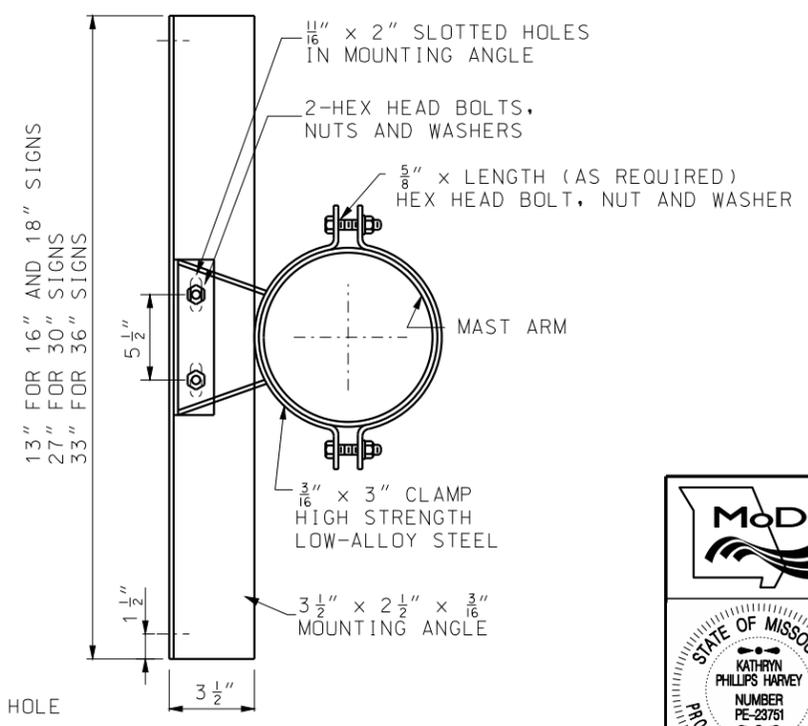
WELD DETAIL



MAST ARM MOUNTED  
SIGNAL HEAD  
(SEE STANDARD 902.00)



FRONT VIEW



SIDE VIEW

SIGN BRACKET ASSEMBLY  
ALTERNATE DESIGN MAY BE PROVIDED  
AS APPROVED BY ENGINEER

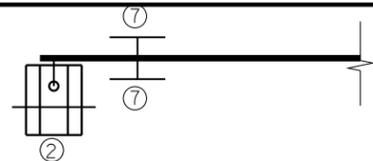
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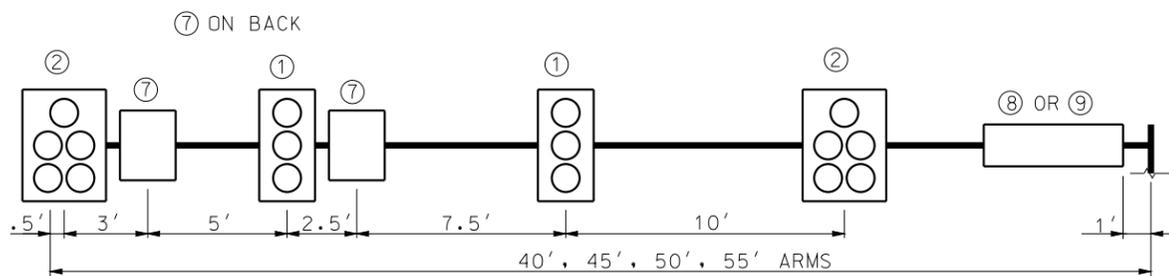
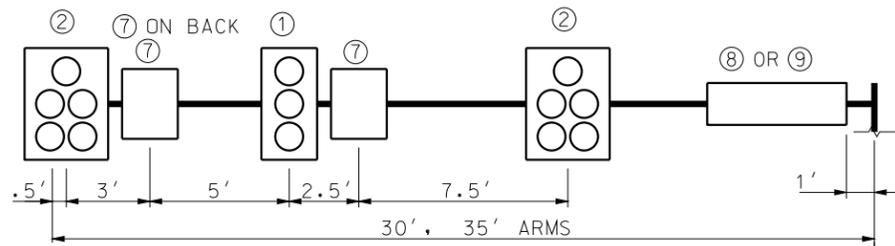
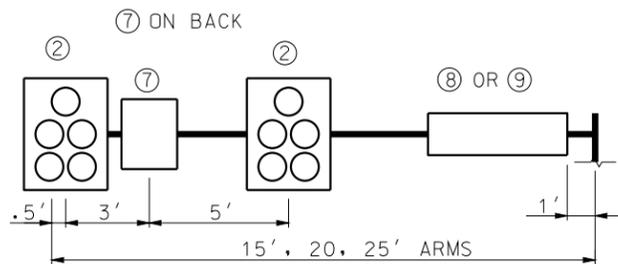
TRAFFIC SIGNALS  
TUBULAR STEEL POSTS

DATE EFFECTIVE: 02/01/2008	902.400	SHEET NO. 2 OF 3
DATE PREPARED: 8/26/2009		

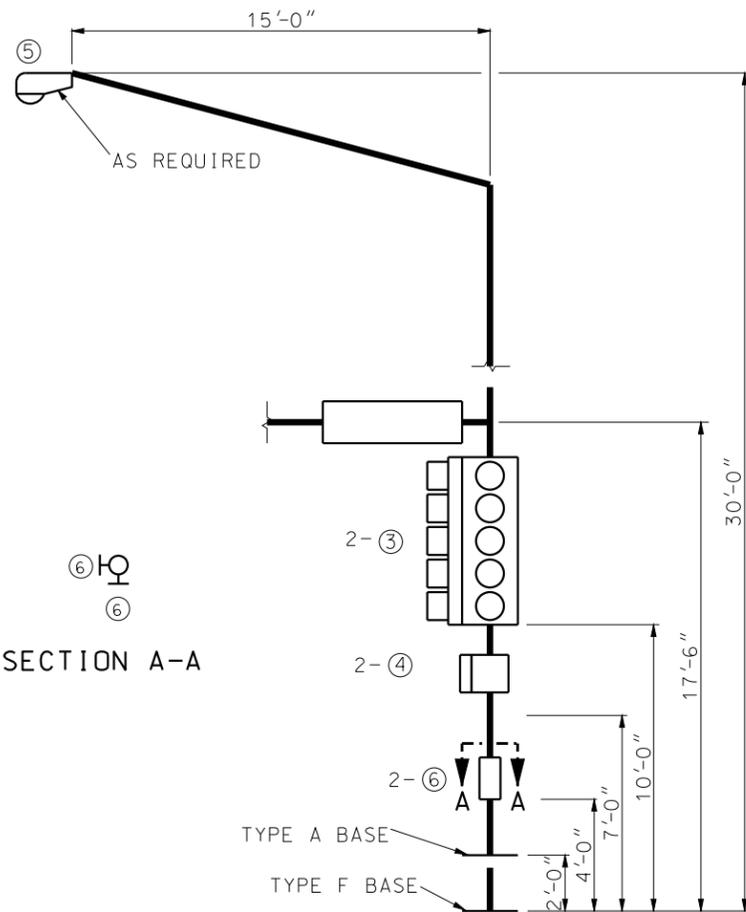
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TYPICAL TOP VIEW

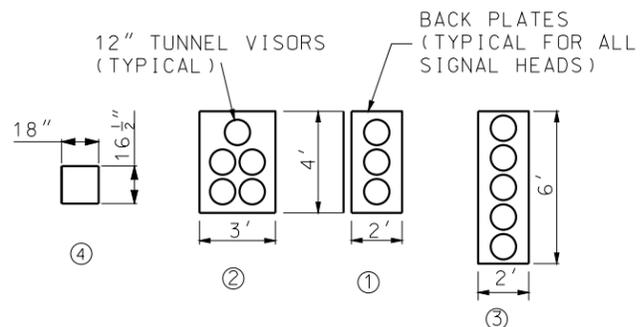


MAST ARM LOADING



SECTION A-A

TYPICAL POST LOADING



MINIMUM DESIGN LOADING FOR POST AND MAST ARM ATTACHMENTS

ITEM NO.	DESCRIPTION	WEIGHT (LBS.)*	PROJ. AREA (SQ.FT.)	SURFACE AREA (SQ.FT.)
①	3-SECTION OL HEAD	95.0	8.0	32.5
②	5-SECTION OL HEAD	173.0	12.0	47.5
③	VERT. 5-SECT. OL HEAD	100.0	12.0	50.5
④	1-SECTION PED HEAD	15.0	2.0	XX.X
⑤	150 WATT LUMINAIRE	30.0	1.0	3.5
⑥	9" X 12" SIGN	2.0	0.8	N/A
⑦	30" X 36" SIGN	13.0	7.5	N/A
⑧	120" X 18" SIGN	25.0	15.0	N/A
⑨	96" X 16" SIGN	18.0	10.7	N/A

OL- OPTICALLY LIMITED  
\* MOUNTING HARDWARE INCLUDED

STRUCTURAL DESIGN REQUIREMENTS:

STRUCTURAL SUPPORTS SHALL BE DESIGNED AND FABRICATED TO WITHSTAND THEIR OWN LOADING AND THE ATTACHMENT LOADING SHOWN ON THIS DRAWING OR ON THE PLANS, WHICHEVER IS GREATER. STRUCTURAL MEMBERS INCLUDE POSTS, MAST ARMS AND LUMINAIRE BRACKET ARMS, AS REQUIRED.

DESIGN OF STRUCTURAL SUPPORTS SHALL BE BASED ON AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 1994 OR LATEST REVISION, WITH THESE EXCEPTIONS:

MINIMUM DESIGN WIND SPEED OF 90 MPH AT 30 FEET ABOVE GROUND.

GROUP LOADING: LOADS	PERCENT OF ALLOWABLE STRESS (ALL MATERIALS)
GROUP I - DL	100
GROUP II - DL + W	133
GROUP III - DL + ICE + 0.5(W**)	133

\* NO LOAD REDUCTION FACTORS SHALL BE APPLIED IN CONJUNCTION WITH THESE INCREASED ALLOWABLE STRESSES.  
\*\* W TO BE COMPUTED ON THE BASIS OF THE WIND PRESSURE FORMULA, 25 PSF (1197 Pa) MINIMUM FOR W FOR GROUP III.

FOR TYPE B AND BL POSTS, ICE AND DEAD LOADING SHALL BE BASED ON THE COMBINED EFFECT OF DESIGN LOADING ON EACH ARM. WIND LOADING IS APPLIED AS DESCRIBED IN SECTION 1.2.5(5)(b) OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS, 1994 REVISION.

GENERAL NOTES:

ATTACHMENT LOCATIONS ARE FOR STRUCTURAL DESIGN PURPOSES ONLY. ACTUAL LOCATIONS ARE SHOWN ON THE PLANS.

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**TRAFFIC SIGNALS**  
TUBULAR STEEL POSTS  
DESIGN LOADING REQUIREMENTS

DATE EFFECTIVE: 02/01/2008	<b>902.400</b>	SHEET NO.
DATE PREPARED: 8/26/2009		3 OF 3

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