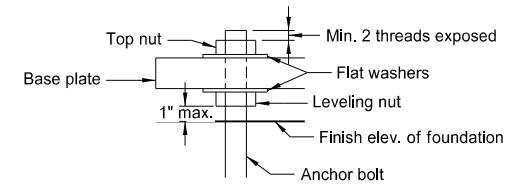
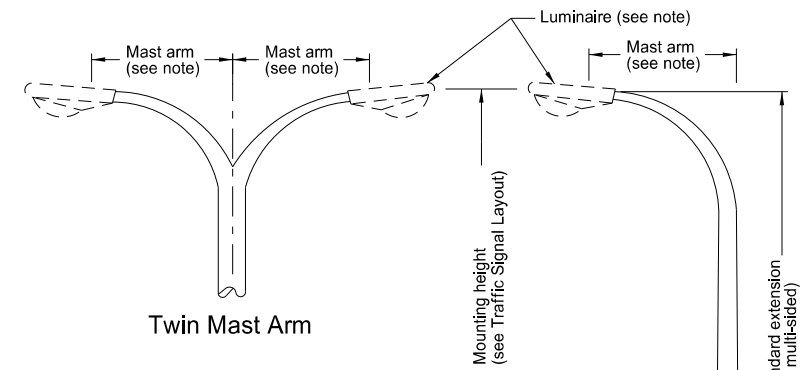


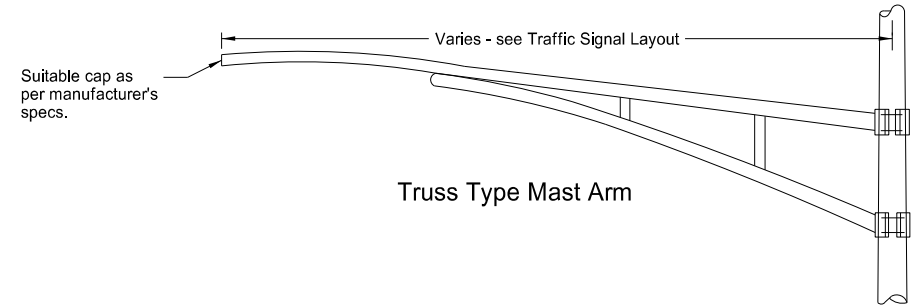
### TRAFFIC SIGNAL STANDARDS (MAST ARM TYPE)



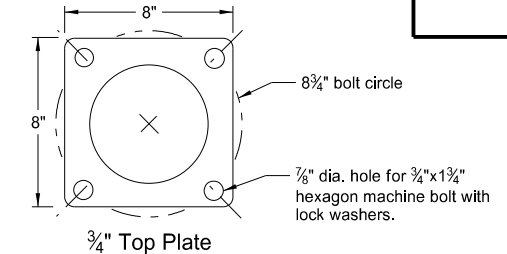
Anchor Bolt Detail



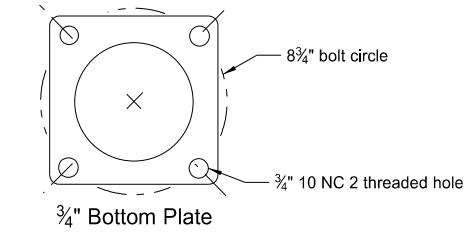
Twin Mast Arm



Truss Type Mast Arm



3/4" Top Plate



3/4" Bottom Plate

Detail A

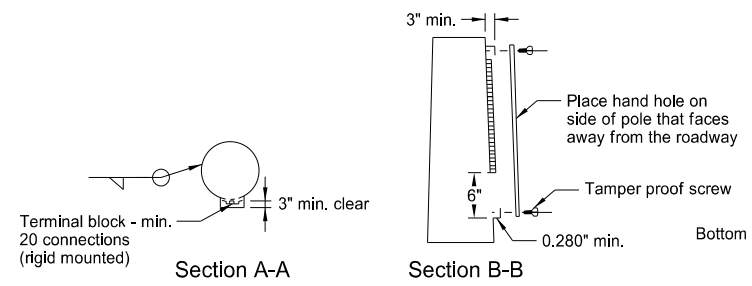
Note: In lieu of the plate type connection, use a telescoping clamp type extension.

Combination Signal and Light Standard			
Signal Standard Type	Luminaire Mounting height (ft)	Install Light Standard Extension and Luminaire	Luminaire Mast Arm
A	30	yes	single
B	30	(A)	single
C	40	yes	single
D	40	(A)	single
E	30	yes	twin
F	30	(A)	twin
G	40	yes	twin
H	40	(A)	twin
I	50	yes	single
J	50	yes	twin

(A) Install the light standard extension for these signal standards at a later date under a separate contract.

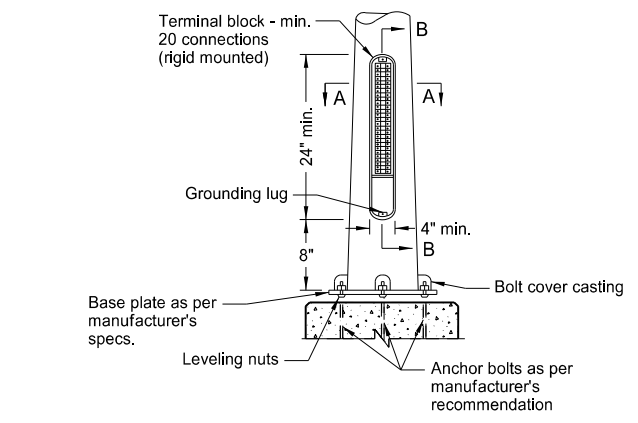
Notes:

- Light standard extension: Mast arm is 6 ft. unless otherwise noted on the plans. Use light standard extension galvanized in accordance with ASTM A 123.
- Luminaire: Use internal ballast - constant wattage 120 x 240 voltage luminaires. See layout sheets for type of luminaire, wattage, and I.E.S. distribution.
- Signal head: See Traffic Signal Layout for correct mounting position, number, size, and arrangement of lenses. Place mast arm mounted signal heads with a clearance between 17 ft. and 19 ft. from the  $\phi$  of the roadway to the bottom of signal heads.
- Multi-sided poles: Provide a means, other than friction, that will not allow the mast arm to be rotated by wind forces. Fabricate the pole so the mast arm is rotatable. This feature to be as approved by the Engineer.
- Transformer base: In lieu of the transformer base, use the alternate signal standard base.



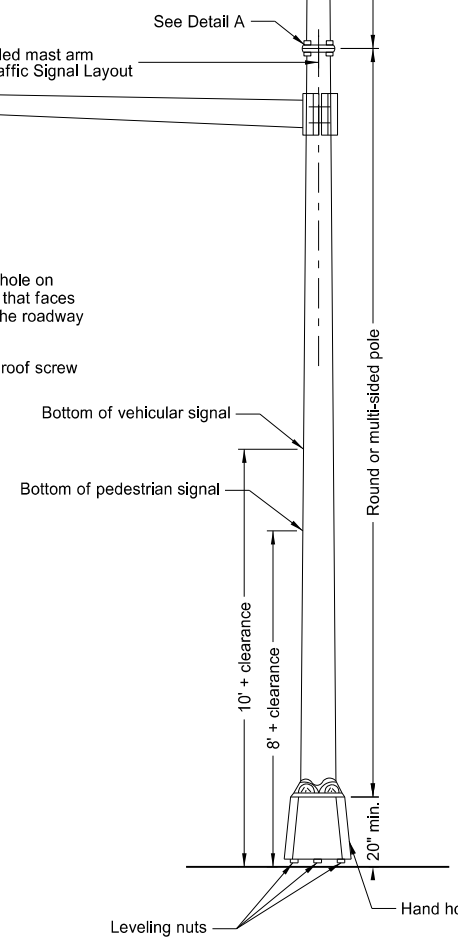
Section A-A

Section B-B

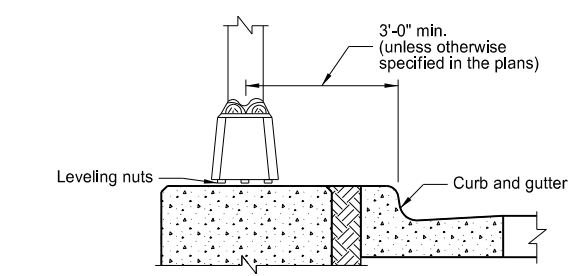


Alternate Signal Standard Base

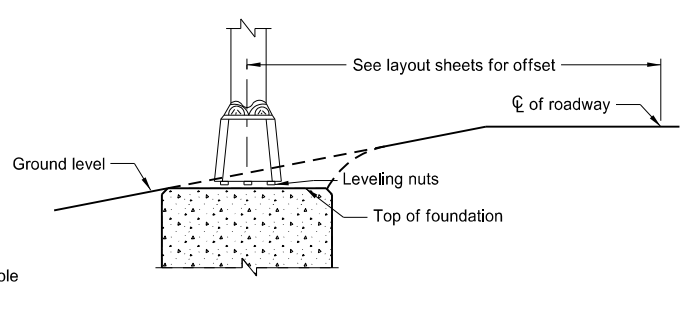
Note: For use with Type IV and combination signal standards only



Combination Signal and Light Standard



Signal Standard Minimum Clearance Detail



Type IV Signal Standard

(B) On combination signal and light standards Type B, D, F, and H, and on all Type IV signal standards install a suitable pole cap as per manufacturer's specifications.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-14-13	
REVISIONS	
DATE	CHANGE
10-17-17 08-28-19	Updated to active voice. New Design Engineer PE Stamp.

This document was originally issued and sealed by  
Kirk J Hoff,  
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PE- 4683,  
on 8/28/19 and the original document is stored at the North Dakota Department of Transportation