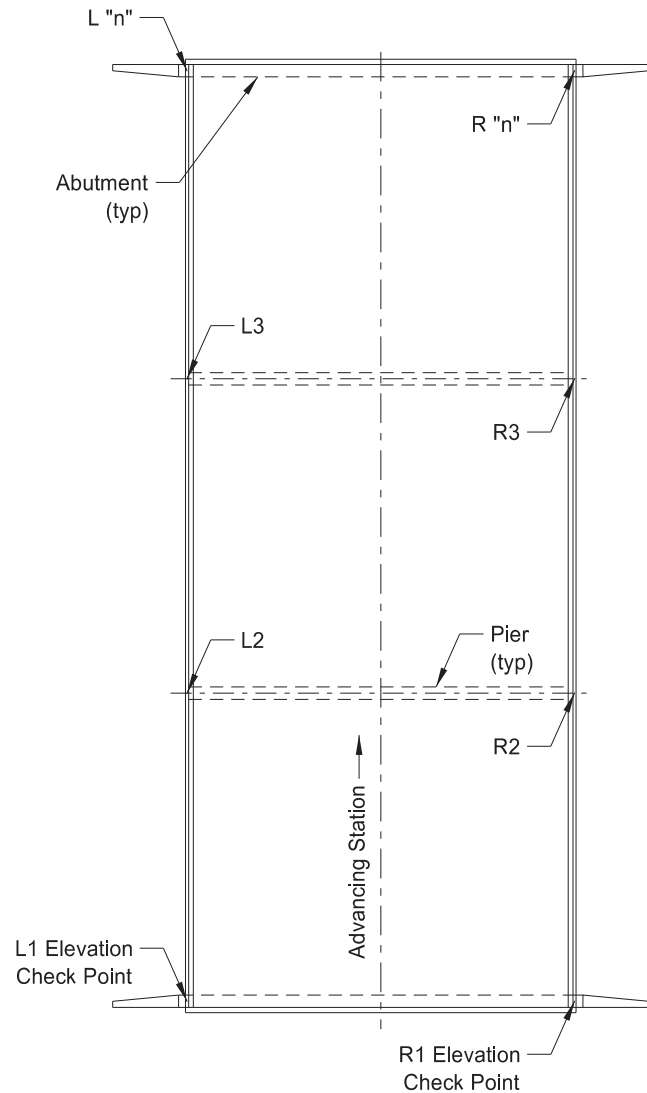
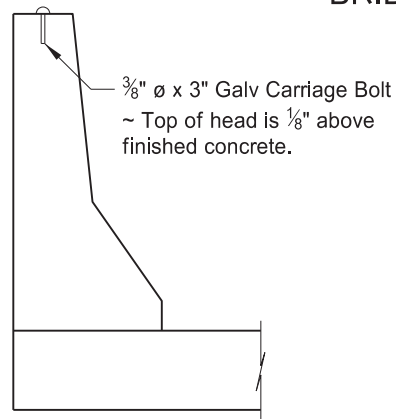


GENERAL LAYOUT FOR SINGLE SPAN

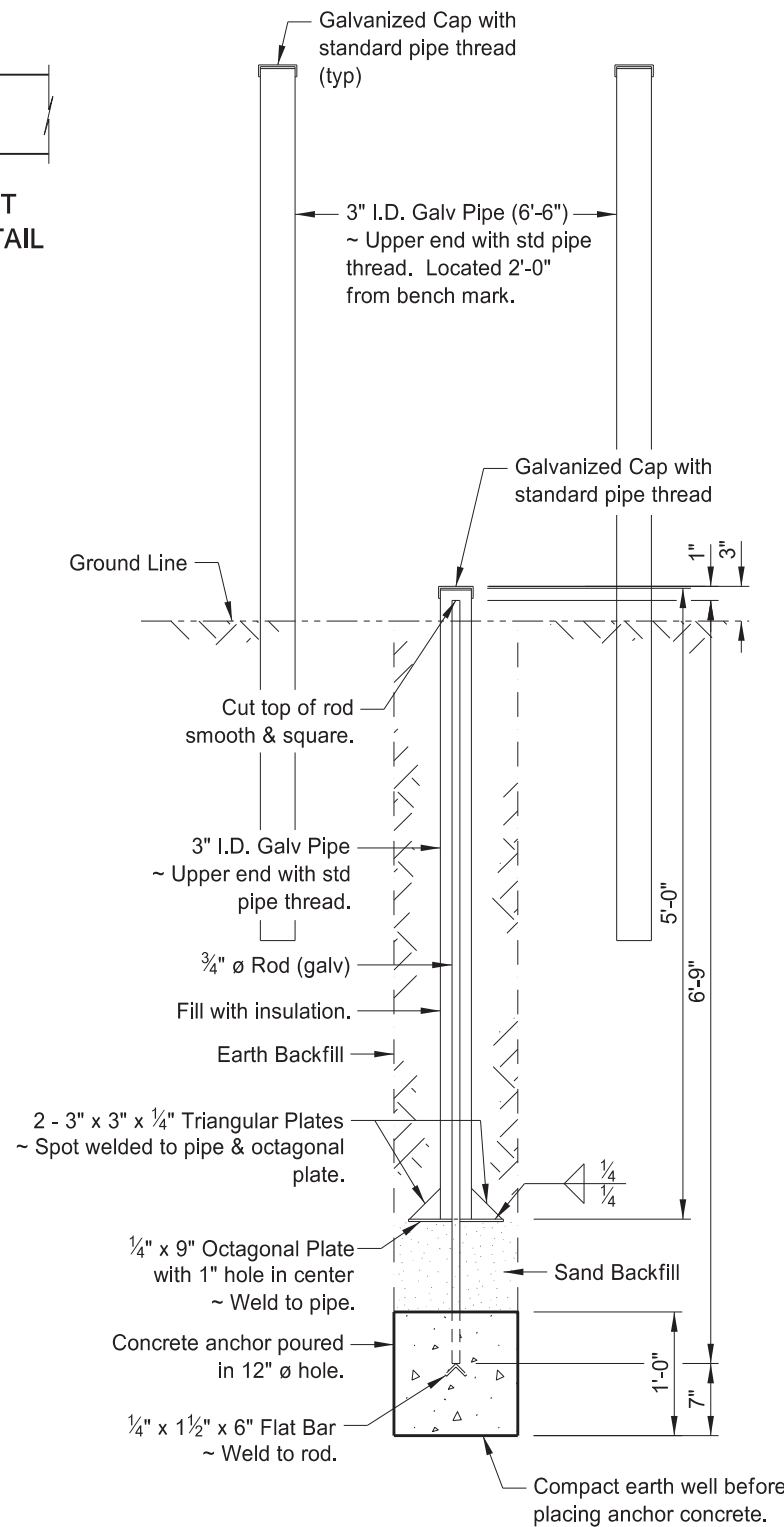


GENERAL LAYOUT FOR MULTIPLE SPAN

BRIDGE BENCH MARKS



CHECK POINT LOCATION DETAIL



BENCH MARK DETAIL

NOTES:

Install elevation check points in the top of the concrete barriers at the locations shown in the General Layout view. Install the checkpoints in the barriers over each substructure unit at each bridge location. Use 3/8" diameter x 3" long galvanized carriage bolts set with the top of the bolt head projected 1/8" above the top of the finished concrete.

Set two bench marks as shown in the Bench Mark Detail at each bridge location. Locate the bench marks diagonally from one another at opposite corners of each bridge. Set the bench marks near the Right of Way line at least 300 feet from the nearest point of the structure. Extend two of the galvanized steel pipes 4'-0" above ground and paint with white paint suitable for painting over galvanized steel surfaces.

The Project Engineer will run a set of levels to determine the elevation of the bridge bench marks and elevation check points immediately after completion of the bridge. List the elevation of Bench Mark #1 as elevation 1,000, or as the actual surveyed elevation. The Project Engineer will record the information of SFN 13420 and submit to the Bridge Engineer.

Galvanize all metal parts per Section 854 after fabrication.

At the time of installation, coat the threads with synthetic grease containing teflon. Screw the cap to a snug fit.

Include the cost of furnishing and installing two bridge bench marks and the number of elevation check points required for one structure in the price bid for each set of Bridge Bench Marks.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
09/14/11	
REVISIONS	
DATE	CHANGE
09/03/19	UPDATED SIGNATURE
02/23/24	Updated Signature Revised notes & updated to active voice

