

ROAD CLOSURE GATE DETAIL

LOCATION: Interstate mainline gate post shall be located approximately 20 feet beyond the in-place gore exit sign. Interstate ramp gate post shall be located approximately 20 feet beyond the end of the outside ramp radius. Other roadway locations shall be as directed by the Engineer in the field.

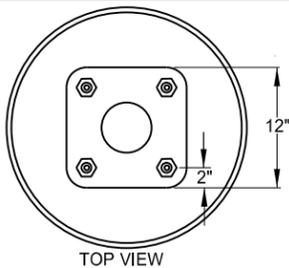
GATE: Gate shall be constructed of 2 inch square aluminum tubing conforming to ASTM B-308. The wall thickness shall be 0.125 inches.

GENERAL: All fittings and accessories shall be galvanized. Cable shall be 3/8 inch diameter and galvanized.

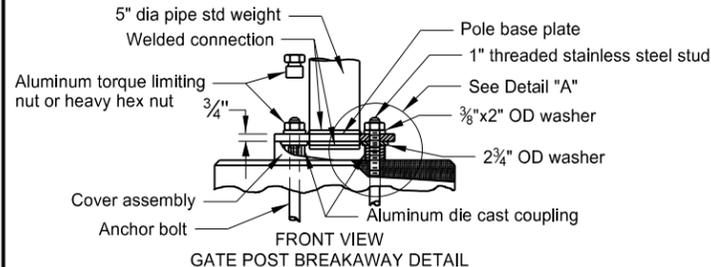
TUBING: Tubing shall be covered with red and white reflectorized tape in all areas which face traffic except the 4'-1" taper area.

SIGNS: Hinged W20-3-48 signs shall be installed on both sides of the roadway 1/2 mile in advance of the mainline closure gate. Sign supports shall have provisions for mounting type B high intensity flashing warning lights.

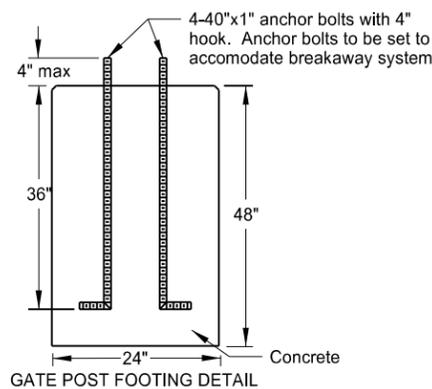
ANCHOR PLATE: Anchor plates shall be a minimum of 10 gauge material and galvanized same as post.



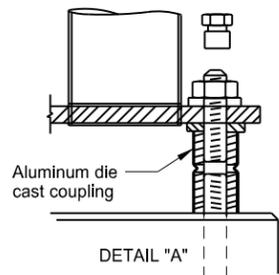
TOP VIEW



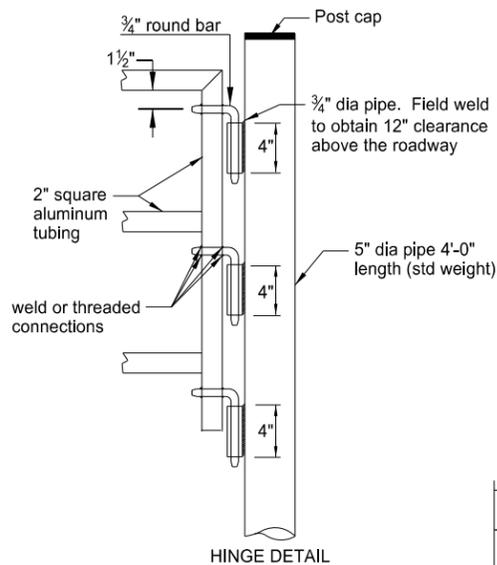
FRONT VIEW GATE POST BREAKAWAY DETAIL



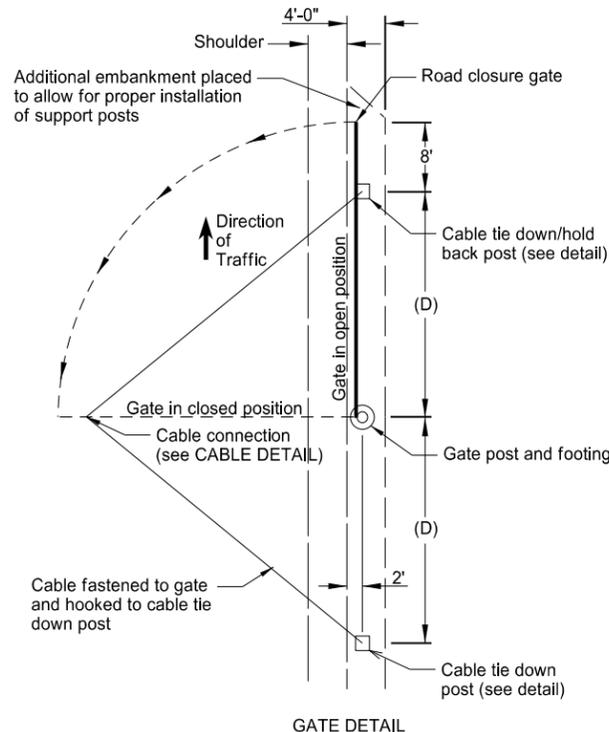
GATE POST FOOTING DETAIL



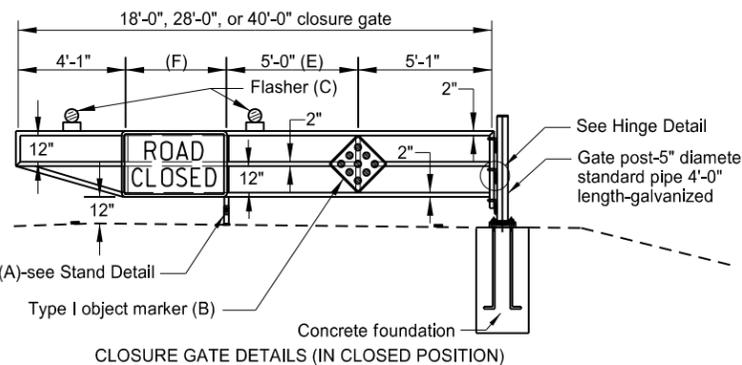
DETAIL "A"



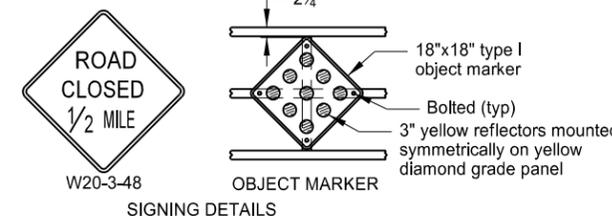
HINGE DETAIL



GATE DETAIL



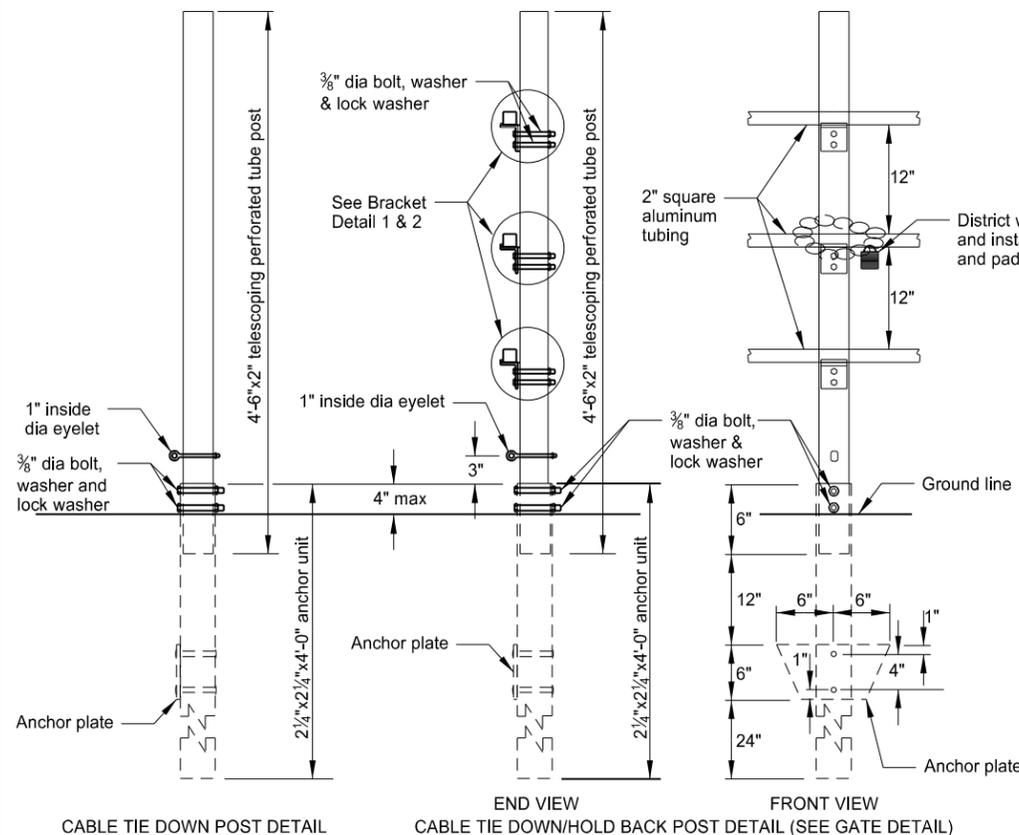
CLOSURE GATE DETAILS (IN CLOSED POSITION)



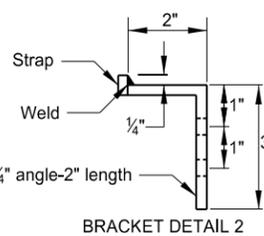
OBJECT MARKER SIGNING DETAILS



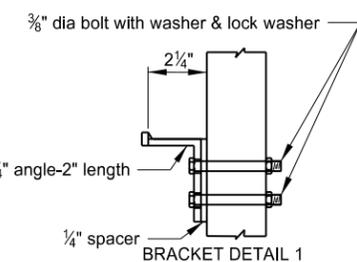
R11-2-48



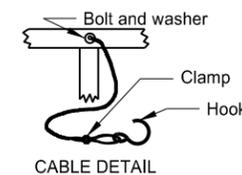
END VIEW CABLE TIE DOWN/ HOLD BACK POST DETAIL (SEE GATE DETAIL)



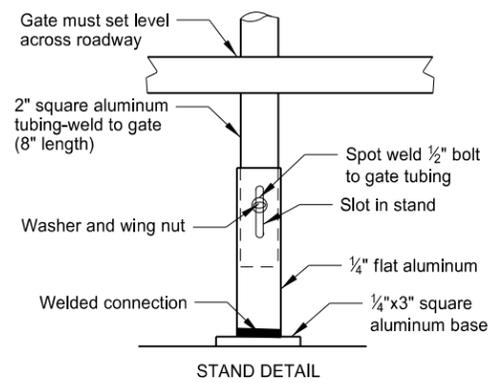
BRACKET DETAIL 2



BRACKET DETAIL 1



CABLE DETAIL



STAND DETAIL

Telescoping Perforated Tubes						
Tube Size (Inch)	Wall Thickness (Inch)	US Standard Gauge	Weight Per Foot (Lbs)	Moment of Inertia (Inch)	Gross Section Area (Inch)	Section Modulus (Inch)
2 X 2	0.105	12	2.416	0.372	0.590	0.372
2 1/4 X 2 1/4	0.105	12	2.773	0.561	0.695	0.499

CLOSURE GATE DETAIL TABLE						
Closure Gate Width	A No. of Stands Required	B No. of Type I Object Markers	C No. of Type "B" High Intensity Flashing Warning Lights	D Distance To Tie-Downs	E Additional Vertical Supports @ 5'-0" Centers	F Vertical Support Spacing
18'-0"	1	1	2	10'	0	3'-10"
28'-0"	2	3	2	20'	2	3'-10"
40'-0"	3	5	3	30'	4	5'-10"

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-20-11	
REVISIONS	
DATE	CHANGE

This document was originally issued and sealed by Roger Weigel, Registration Number PE-2930, on 9/20/11 and the original document is stored at the North Dakota Department of Transportation