

NOTE:

SEE SHEET 2 OF 2 FOR END TREATMENTS

* 1-1/2" NOMINAL STEEL PIPE RAILS W/POST @ 5' O.C.

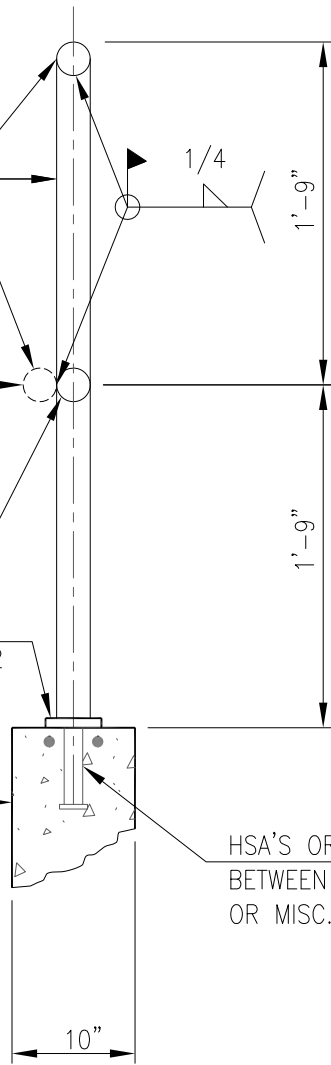
ALTERNATE LOWER RAIL LOCATION (SEE NOTE #4)

STANDARD LOWER RAIL LOCATION

ANCHOR PLATE SEE SHEET 2 OF 2 FOR OPTIONS

HEADWALL, CONC. WALL, ETC.

HSA'S OR THREADED RODS TO BE PLACED BETWEEN REINFORCING STEEL OF WINGWALL OR MISC. STRUCTURE.



ANCHOR PLATE OPTION

*** NOTE:**

SEE SHEET 2 OF 2 FOR END TREATMENTS

* 1-1/2" NOMINAL STEEL PIPE RAILS W/POST @ 5' O.C.

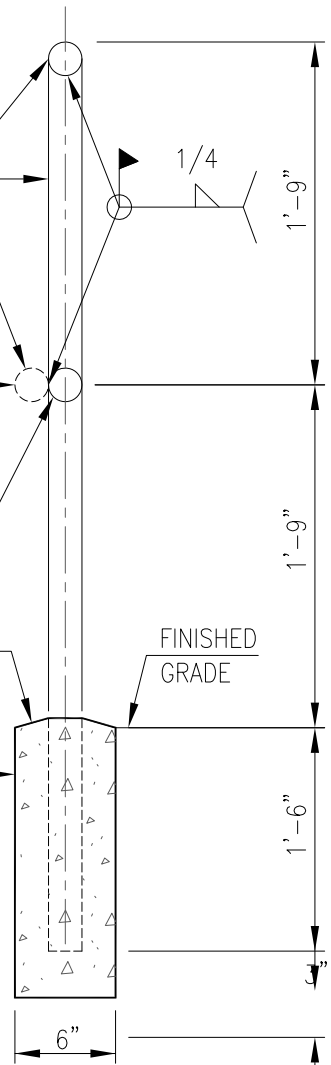
ALTERNATE LOWER RAIL LOCATION (SEE NOTE #4)

STANDARD LOWER RAIL LOCATION

SLOPE AWAY FROM POST

FINISHED GRADE

UTILITY CONC. PER STD. SPEC. 922



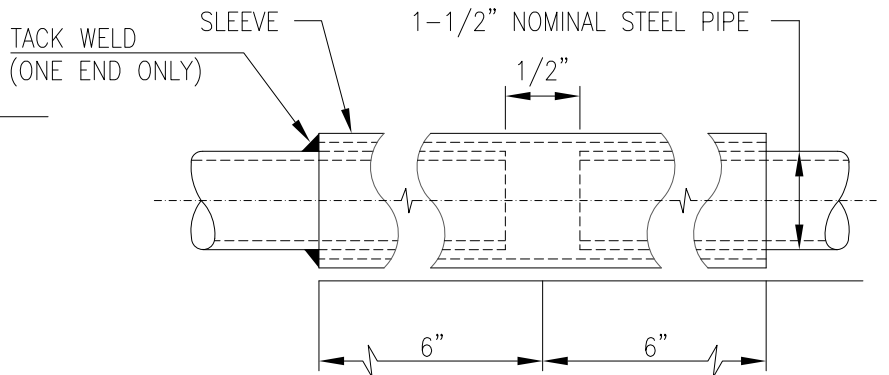
GROUND INSTALLATION OPTION

SECTION

- * - 1-1/2" NOMINAL STEEL PIPE = 1-1/2" I.D. STD. STEEL PIPE (SCHEDULE 40).
- 1-1/2" NOMINAL STEEL PIPE = 2" O.D. (SCHEDULE 40).

NOTES:

1. EXPANSION JOINTS FOR UPPER AND LOWER RAILS SHALL OCCUR AT THE SAME LOCATION.
2. EXPANSION JOINTS SHALL BE LOCATED AT A MAXIMUM OF 30 FOOT INTERVALS.
3. WHEN APPROVED BY THE ENGINEER, AN INTERNAL SLEEVE MAY BE USED AT THE EXPANSION JOINTS.
4. ALTERNATE LOWER RAIL LOCATION ON NON-ROADWAY SIDE WHEN APPROVED BY THE JURISDICTION'S TRANSPORTATION ENGINEER.



EXPANSION JOINT DETAIL



DETAIL NO.

105

SHEET 1 of 2

STANDARD DETAIL

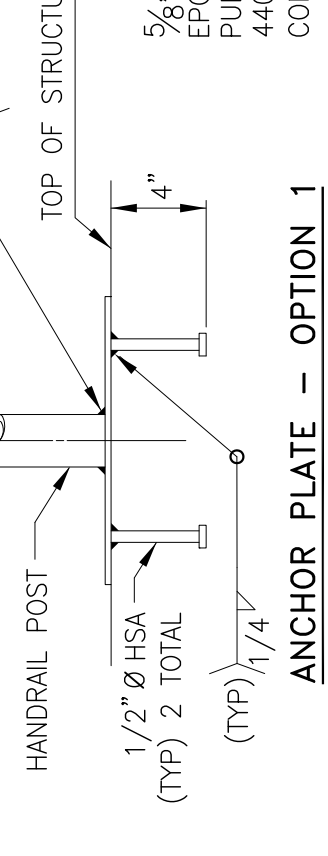
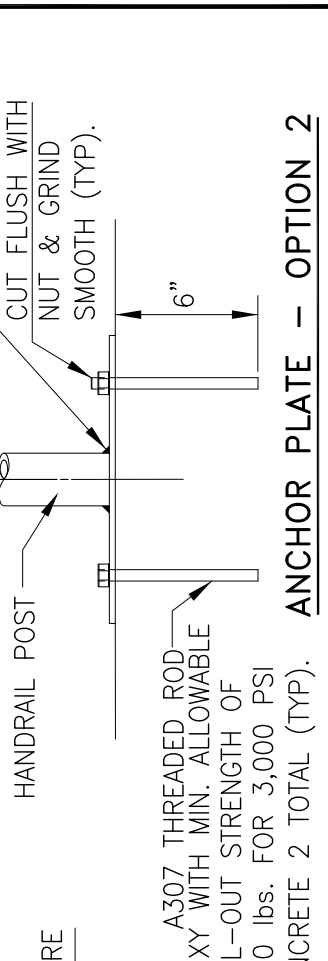
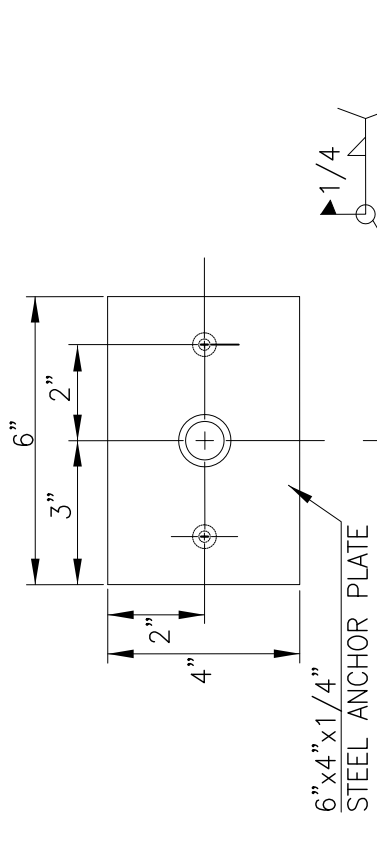
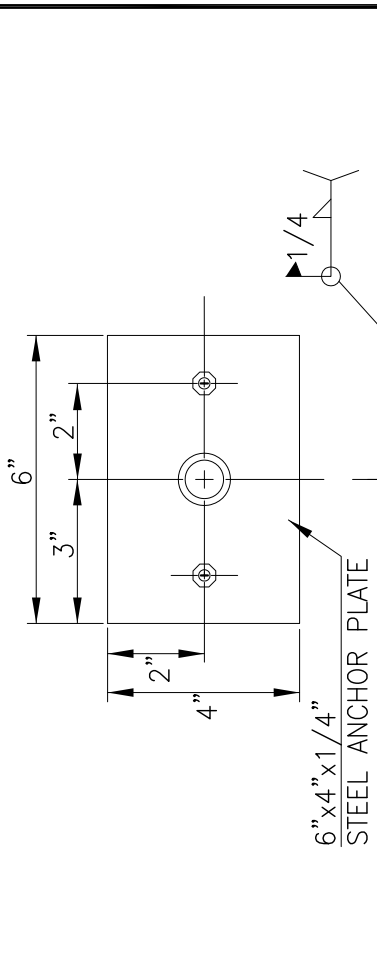
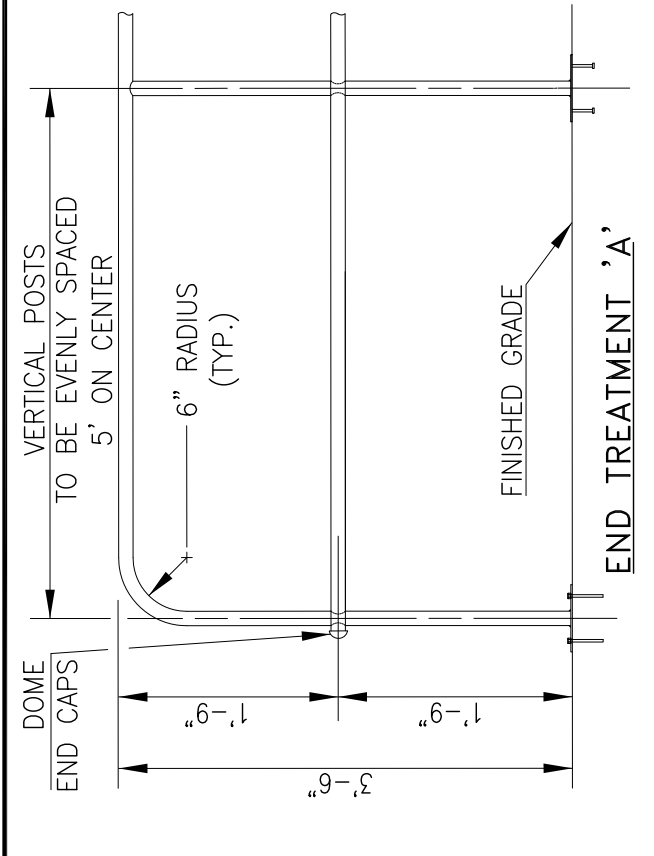
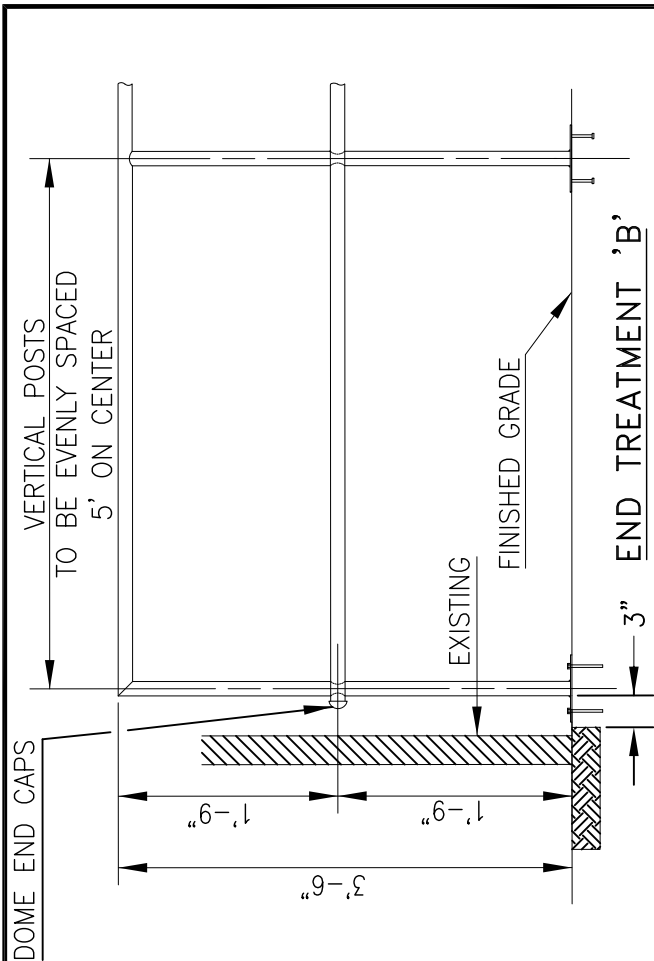
HANDRAIL

ISSUED:

10/88

REVISED:


09/15



5/8" A307 THREADED ROD
EPOXY WITH MIN. ALLOWABLE
PULL-OUT STRENGTH OF
4400 lbs. FOR 3,000 PSI
CONCRETE 2 TOTAL (TYP).

ANCHOR PLATE -- OPTION 2

ANCHOR PLATE -- OPTION 1

 Pima Association of Governments	DETAIL NO.	STANDARD DETAIL	ISSUED:
	105		6/91
	SHEET 2 of 2		REVISIED:
		HANDRAIL	9/15