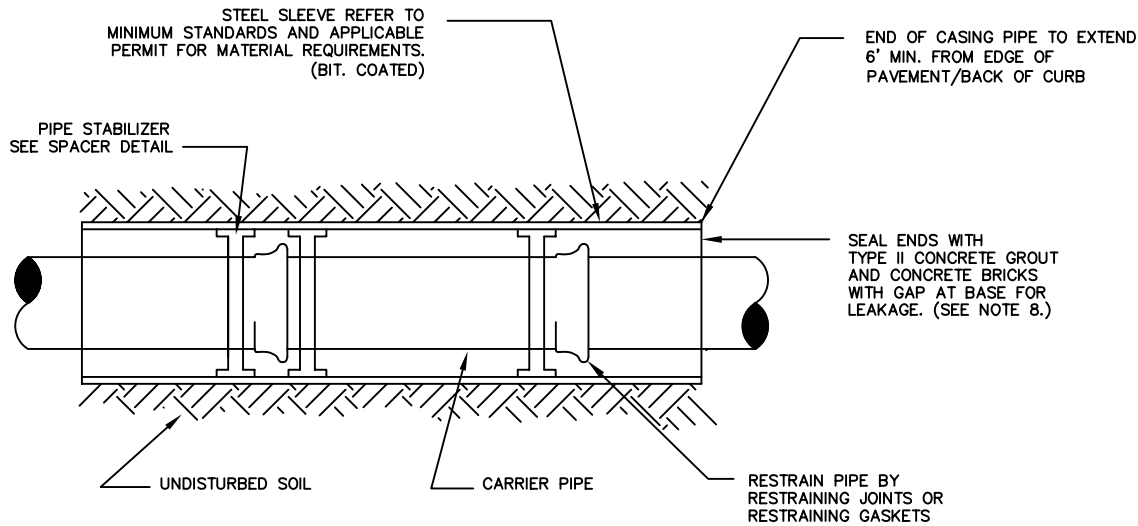


**NOTES:**

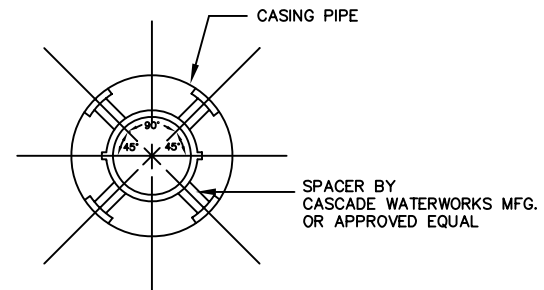
1. REFER TO APPLICABLE PERMIT FOR MINIMUM REQUIREMENTS GOVERNING HIGHWAY OR RAILROAD UNDERCROSSINGS.
2. THE DIAMETER AND THICKNESS OF THE CASING PIPE SHALL BE AS LISTED IN THE TABLE SHOWN IN THIS DETAIL.
3. SEE MINIMUM STANDARDS AND AGENCY PERMIT FOR LENGTH AND DEPTH REQUIREMENTS.
4. USE CASING SPACERS (SEE DETAIL) TO MOVE CARRIER PIPE INTO CASING PIPE. SPACING OF SPACERS WILL BE DICTATED BY THE LENGTH OF CASING PIPE AND NUMBER OF JOINTS OF CARRIER PIPE.
5. USE A MINIMUM OF 2 SPACERS PER JOINT OF PIPE.
6. THERE SHALL BE NO WELDING OF CASING UNDER PAVEMENT.
7. IN CASE OF A CONFLICT BETWEEN THIS DETAIL, THE CWS MINIMUM STANDARDS, AND A PERMIT, THE STRICTEST REQUIREMENT SHALL GOVERN.
8. SEAL CASING ENDS WITH TYPE II CONCRETE GROUT AND CONCRETE BRICKS, SO AS TO PREVENT THE ENTRANCE OF SOIL. LEAVE A GAP TO ALLOW LEAKAGE TO PASS IN CASE OF A MAIN BREAK.
9. FOR FURTHER REQUIREMENTS AND CLARIFICATIONS, SEE THE MINIMUM STANDARDS.

RESTRAINED JOINT DIP CARRIER PIPE SIZE (INCHES)	MINIMUM CASING SIZE (INCHES)	MINIMUM CASING THICKNESS (INCHES)
4	14	0.250
6	16	0.281
8	18	0.312
10	20	0.375
12	24	0.375
14	26	0.438
16	30	0.469
18	32	0.500
20	36	0.532
24	42	0.625
30	48	0.688
36	54	0.781
42	56	0.812
48	62	0.875
54	72	1.000



JACK AND BORE PROFILE

JACK AND BORE



SPACER DETAIL

CHARLESTON WATER SYSTEM

JACK AND BORE

APPROVED BY: CWS	DATE: MAR 2000	DRAWING NO.  18
SCALE: NTS	REVISED: FEB 2010	