

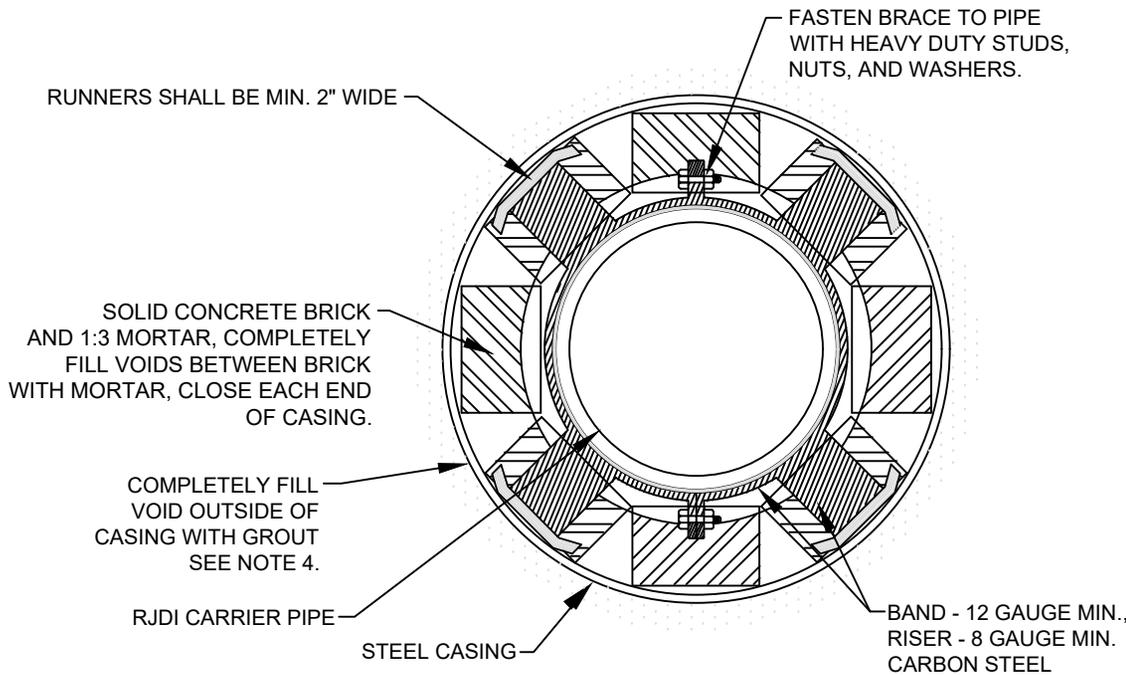
- NOTE:
1. SEE DRAWING M.6 SHEET 2 OF 2 FOR ADDITIONAL INFORMATION.
 2. CARRIER PIPE FOR PRESSURE APPLICATIONS (WATER MAINS AND FORCE MAINS) SHALL HAVE FACTORY RESTRAINED JOINTS. CARRIER PIPE FOR GRAVITY SEWER SHALL HAVE RESTRAINED JOINTS AND MAY USE RESTRAINING GASKETS SUCH AS FIELD LOC, SURE STOP 350 OR OTHER APPROVED GASKETS
 3. CARRIER PIPE SHALL BE CLASS 350 OR 250 FOR WATER, AND SHALL BE CLASS 50 FOR SEWER.

BORE UNDER ROADWAYS/RAILROADS N.T.S.			FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO. DATE REVISION		
						1	01/05	ADDED NOTES 2 AND 3
SHEET NO. 1 OF 2	DWG. NO.	M.6	WATER RESOURCES ENGINEERING DEPARTMENT			2	10/09	CLARIFIED RESTRAINT REQUIREMENTS
	DATE:	JAN. 01, 2025				DWG. BY:	FAYPWC	
			APPROVED BY:	K.A.H.				



BORE SIZING CHART*			
CARRIER PIPE SIZE	MIN. CASING SIZE	ROADWAYS MIN. WALL THICKNESS	RAILROADS MIN. WALL THICKNESS
4"	10"	0.188"	0.188"
6"	12"	0.25"	0.281"
8"	16"	0.25"	0.281"
12"	24"	0.25"	0.375"
16"	30"	0.312"	0.469"
18"	30"	0.312"	0.469"
24"	36"	0.375"	0.532"
30"	42"	0.500"	0.625"
36"	48"	0.500"	0.688"

*CONTRACTOR MAY SUBSTITUTE A LARGER SIZE CASING PIPE HAVING THE MINIMUM WALL THICKNESS SHOWN FOR SEWER MAINS. ALL ADDITIONAL COSTS SHALL BE INCLUDED IN THE NIT PRICE BID FOR BORING AND JACKING.



SECTION "A-A" CARBON STEEL CARRIER PIPE BRACE

NOTES:

- INSTALLATION SHALL BE DRY BORE AND JACKING OF SMOOTH WALL STEEL PIPE. JETTING OR WET BORING WITH WATER SHALL NOT BE ALLOWED.
- SEE BORE SIZING CHART FOR CARRIER PIPE SIZE AND STEEL CASING SIZE, MINIMUM DIAMETER, AND WALL THICKNESS.
- CASING PIPE SHALL BE IN ACCORDANCE WITH ASTM A-53, GRADE B WITH A MINIMUM YIELD STRENGTH OF 35,000PSI.
- EACH END OF ENCASEMENT TO BE PLUGGED WITH BRICK. ALL VOIDS OUTSIDE THE CASING PIPE SHALL BE COMPLETELY FILLED WITH 1:3 PORTLAND CEMENT GROUT AT SUFFICIENT PRESSURE TO INSURE NO SETTLEMENT OF ROADWAY/RAILROAD. METHOD OF GROUTING SHALL BE AS APPROVED BY THE PERMITTING AGENCY.
- IT IS RECOMMENDED THAT THE BORE BE ACCOMPLISHED BEFORE PIPE CONSTRUCTION BEGINS.
- THE BORING SHALL BE PERFORMED FROM "UPSTREAM" TO "DOWNSTREAM" DIRECTION MAINTAINING THE CRITICAL DOWNSTREAM INVERT ELEVATION. SHOULD THE BORE NOT BE ON GRADE, A REVISED PLAN SHALL BE SUBMITTED TO FAYPWC FOR APPROVAL.
- THE BORING OPERATION SHALL BE CONDUCTED IN A MANNER THAT THE FLOW OF TRAFFIC IS NOT IMPEDED OR IN SUCH A MANNER SO AS NOT TO CREATE A HAZARD.
- IF AN OBSTRUCTION IS ENCOUNTERED DURING THE BORING OPERATION, THE AUGER SHALL BE WITHDRAWN, THE EXCESS CASING PIPE CUT-OFF, CAPPED AND THE INTERIOR AND EXTERIOR VOIDS SHALL BE COMPLETELY FILLED WITH 1:3 PORTLAND CEMENT GROUT UNDER PRESSURE. NO SEPARATE PAYMENT FOR UNSUCCESSFUL BORES.
- CONTRACTOR SHALL FIELD ADJUST AND INSTALL PROPER PIPE BRACES TO ACCOMPLISH GRADE AND INVERTS AS SHOWN ON THE DRAWINGS.
- A MANUAL CONTROL STEERING HEAD OR OTHER GUIDANCE SYSTEM IS RECOMMENDED FOR BORES 30" DIAMETER AND/OR LARGER AND FOR BORES EXCEEDING 100' IN LENGTH OR AS SPECIFIED.
- SUBCONTRACTORS SHALL ADHERE TO ALL PERMIT REQUIREMENTS AND SHALL PROVIDE APPROVED INSURANCE CERTIFICATES AS REQUIRED.
- CONTRACTOR SHALL EXECUTE AND PERFORM ALL REQUIREMENTS AND CONDITIONS STIPULATED BY THE PERMITTING AGENCY.
- SEE DRAWING M.6 SHEET 1 OF 2 FOR ADDITIONAL INFORMATION.
- CARRIER PIPE FOR PRESSURE APPLICATIONS (WATER MAINS AND FORCE MAINS) SHALL HAVE FACTORY RESTRAINED JOINTS. CARRIER PIPE FOR GRAVITY SEWER SHALL HAVE RESTRAINED JOINTS AND MAY USE RESTRAINING GASKETS SUCH AS FIELD LOK, SURE STOP 350 OR OTHER APPROVED GASKETS.

BORE UNDER ROADWAYS/RAILROADS N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO.	DATE	REVISION
					1	02/11/04	ADDED 6" CARRIER PIPE TO BORE SIZING CHART
SHEET NO. 2 OF 2	DWG. NO.	M.6	DWG. BY: FAYPWC		2	07/10	REVISED NOTES, SIZING CHART
	DATE: JAN. 01, 2025	APPROVED BY: K.A.H.	WATER RESOURCES ENGINEERING DEPARTMENT				