

PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-3A
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISID:	Date: 12/8/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

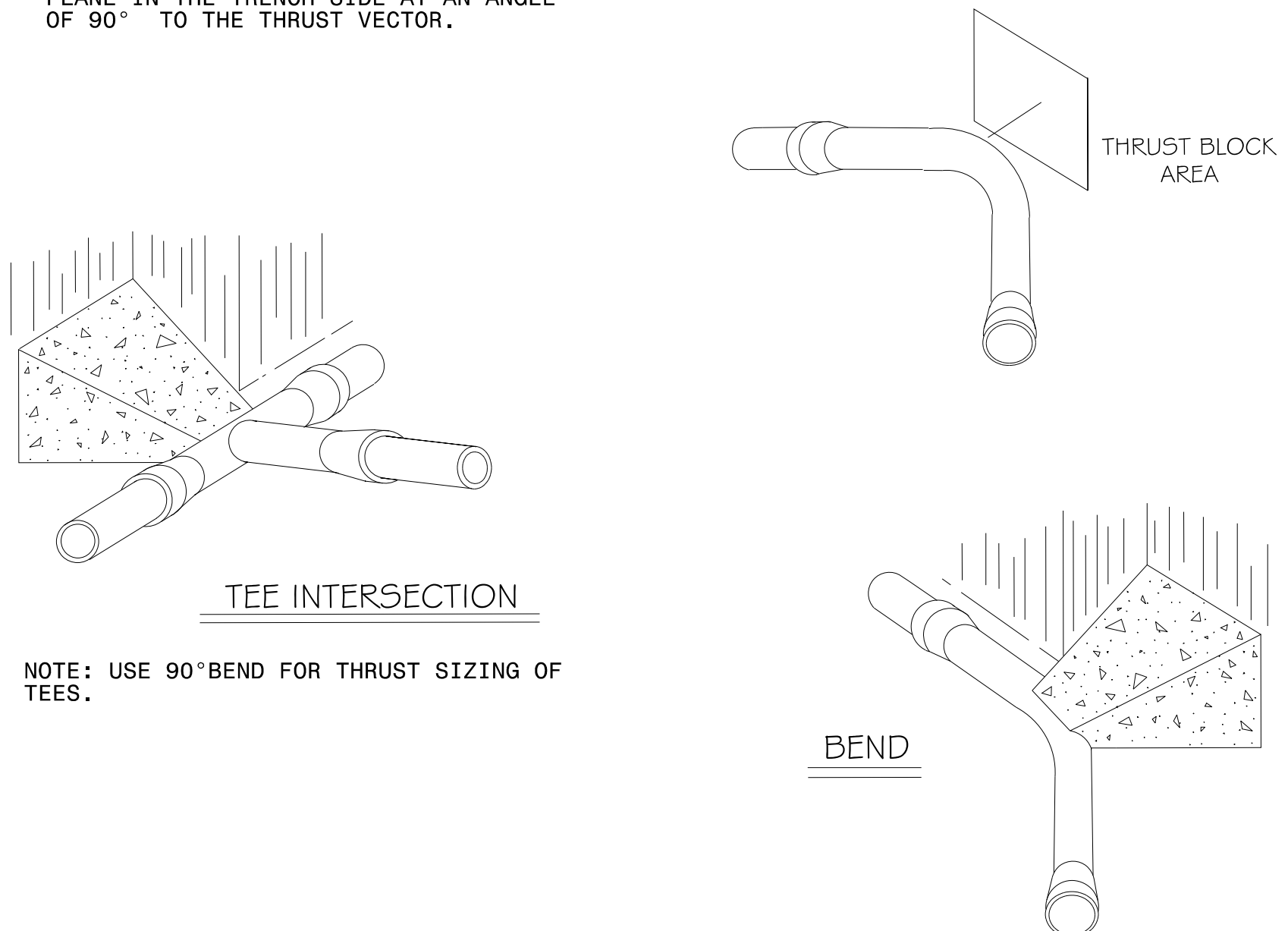
UTILITY CONSTRUCTION



REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.
ALL AREAS GIVEN IN SQUARE FEET.

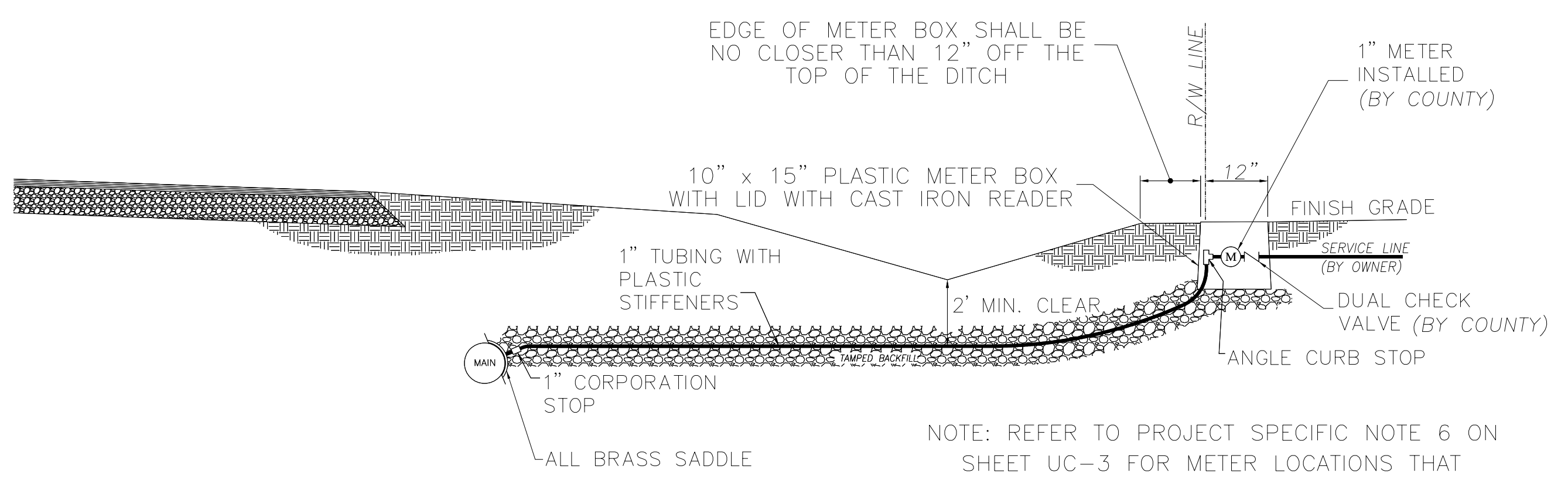
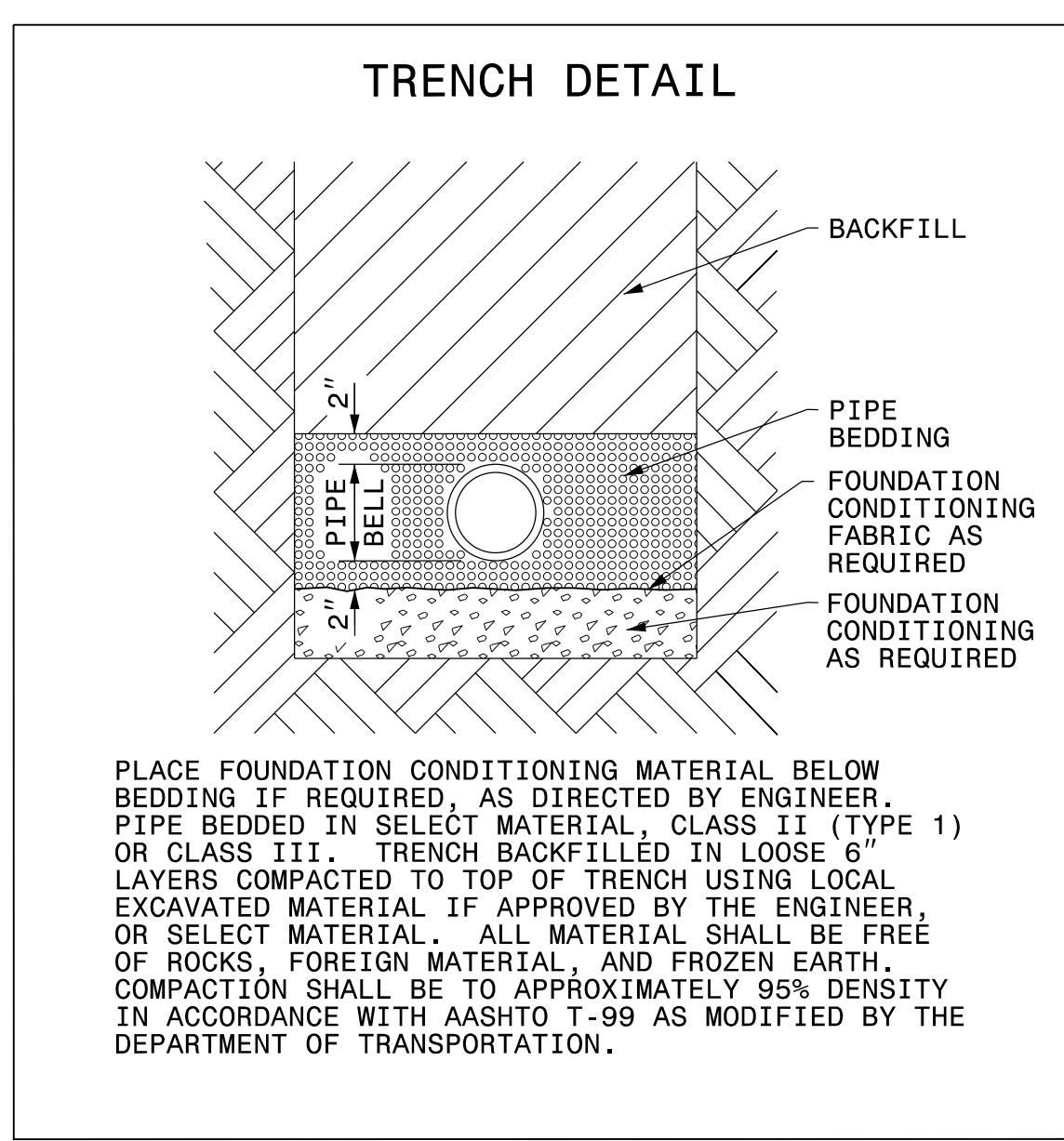
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY 4000 LBS/FT ²	SOFT CLAY 2000 LBS/FT ²	1800 LBS/FT ² GRAVEL / COARSE SAND	8000 LBS/FT ² CLAY - ALWAYS DRY	SAND - COMPACT FIRM 8000 LBS/FT ²	SAND - CLEAN DRY 4000 LBS/FT ²	SOIL 1000 LBS/FT ² QUICKSAND - VERY POOR	ROCK TO 1000 LBS/FT ²
4" & 6"									
11 1/4°	1,108	1	1	1	1	1	2	1	
22 1/2°	2,207	1	2	2	1	1	3	1	
45°	4,328	2	3	3	1	1	5	1	
90°/TEE	7,996	2	4	5	1	1	8	1	
PLUG	5,655	2	3	4	1	1	6	1	
8"									
11 1/4°	1,970	1	1	2	1	1	2	1	
22 1/2°	3,922	1	2	3	1	1	4	1	
45°	7,634	2	4	5	1	1	8	1	
90°/TEE	14,215	4	8	9	2	2	15	2	
PLUG	10,053	3	5	6	2	2	10	1	

NOTE: REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.



NOTE: USE 90° BEND FOR THRUST SIZING OF TEES.

STANDARD REACTION BLOCKING
NO SCALE



STANDARD 1" WATER SERVICE LINE AND METER BOX INSTALLATION
NO SCALE