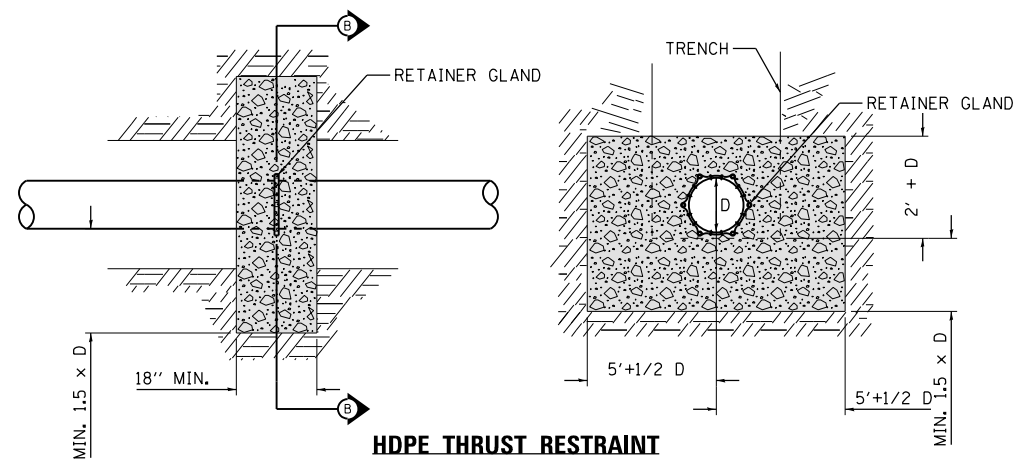
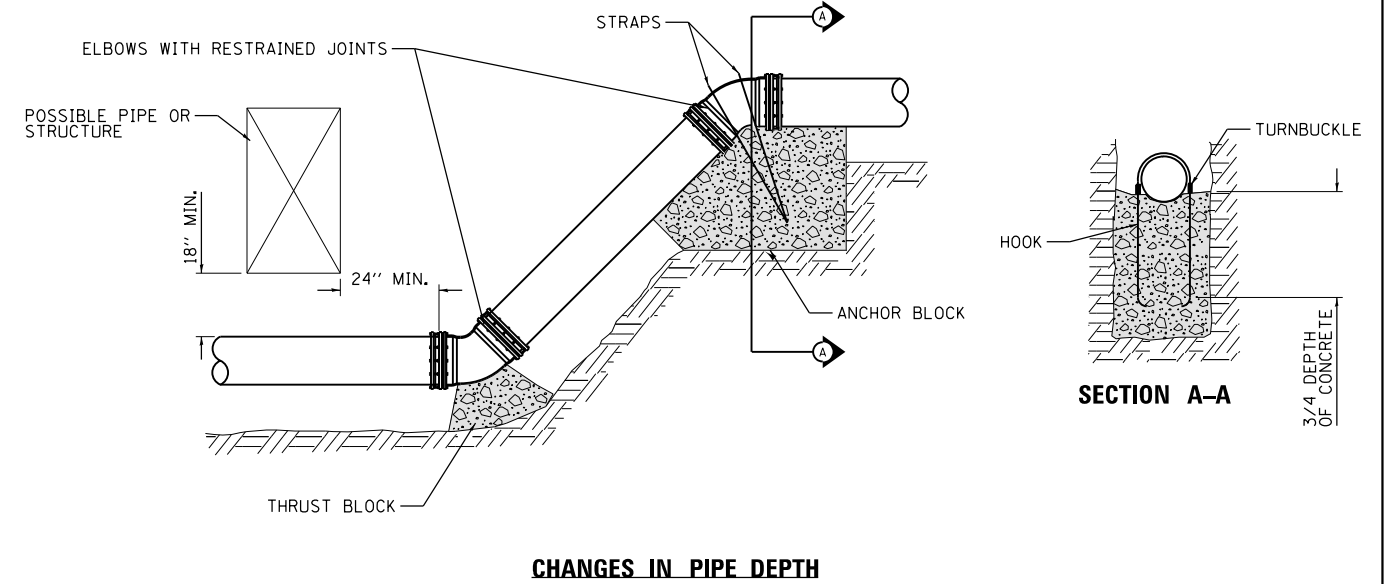
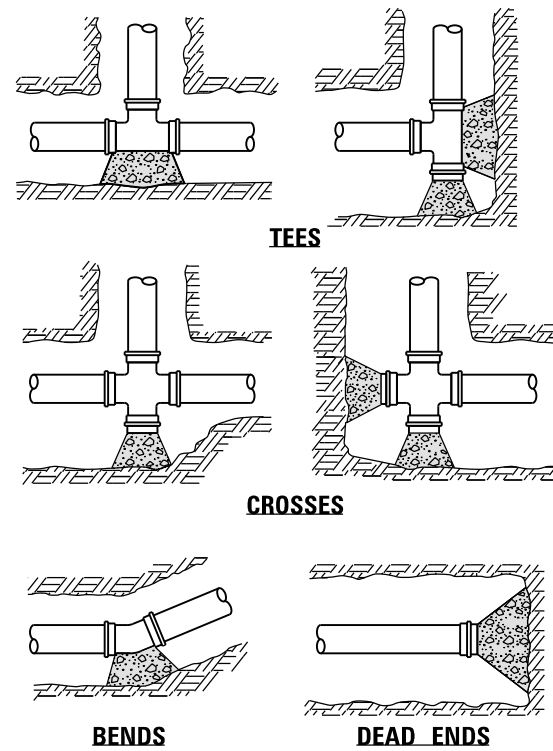
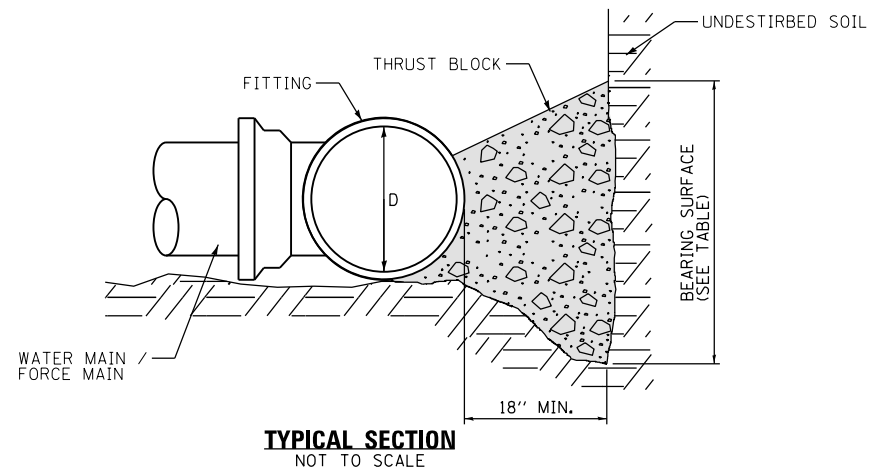


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THRUST RESTRAINTS REQUIRED AT THE FOLLOWING LOCATIONS:

- STA 12+48
- STA 13+25
- STA 15+10
- STA 15+30
- STA 16+80
- STA 17+00
- STA 45+08
- STA 59+18
- STA 60+77

THRUST BLOCKS
NOT TO SCALE

DIAMETER OF PIPE, "D" INCHES	MINIMUM BEARING SURFACE (sf)				
	BENDS				TEES AND DEAD ENDS
	11 1/4°	22 1/2°	45°	90°	
4	1	1	2	4	3
6	1	2	4	8	6
8	2	4	7	14	10
10	3	6	11	21	15
12	4	8	16	29	21
14	5	11	21	39	28
16	7	14	27	50	36
18	9	17	34	63	45
20	11	21	42	78	55
24	15	31	60	111	78
30	24	47	92	171	120
36	34	67	132	244	173

MINIMUM SURFACE AREA BASED ON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1,000 PSF.

EXTEND THRUST BLOCKS TO UNDESTIRBED SOIL.
EXCAVATION INTO TRENCH WALL MAY BE NECESSARY.

FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON BEARING SURFACE.

ENCASE ALL FITTINGS IN POLYETHYLENE WRAP.
DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS.