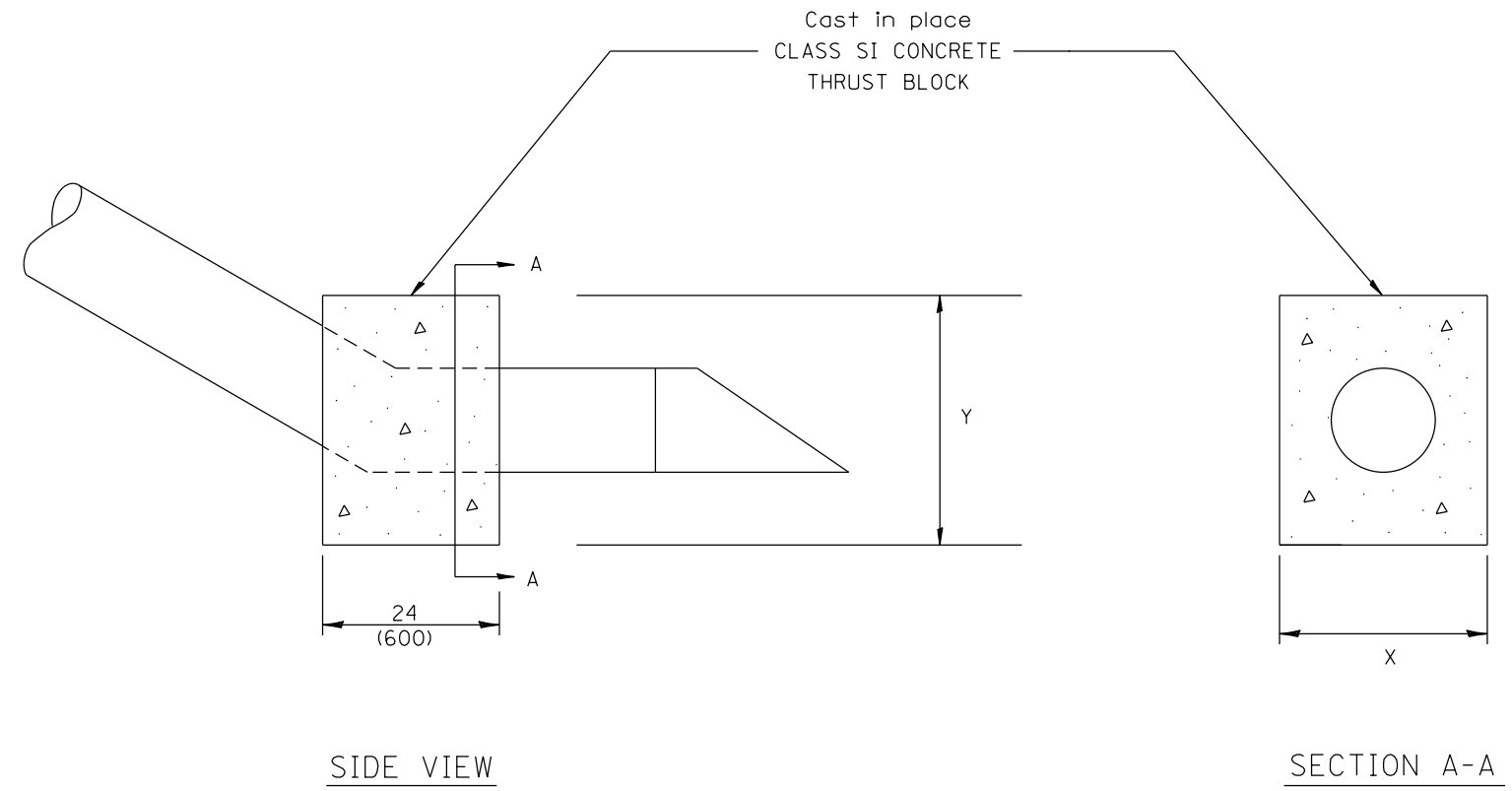


DESIGNER NOTES:
 1. A THRUST BLOCK SHALL BE INSTALLED WHEN THE DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM INVERT ELEVATIONS EXCEEDS 36(900) AND GRADE EXCEEDS 10%.
 2. USE WITH DISTRICT CADD STANDARDS: "DITCH CHECK, IF NEEDED. DO NOT USE WITH DISTRICT CADD STANDARDS: "SLOPE DRAIN DETAILS FOR BURIED PIPE" "SLOPE DRAIN DETAILS FOR EXPOSED PIPE".

CONCRETE THRUST BLOCK BILL OF MATERIALS

PIPE SIZE	X	Y	CLASS SI CONCRETE cu. yd. (m ³)
12(300)	24(600)	24(600)	0.2(0.2)
15(375)	27(675)	27(675)	0.3(0.2)
18(450)	30(750)	30(750)	0.3(0.2)
24(600)	36(900)	36(900)	0.4(0.3)
30(750)	3'-6" (1.07m)	3'-6" (1.07m)	0.8(0.6)



The contract unit price each for CONCRETE THRUST BLOCK shall include the cost of excavation, CLASS SI CONCRETE and compacted backfill.

QUANTITIES	
CALC. BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION	

All dimensions are in inches (millimeters) unless otherwise noted.