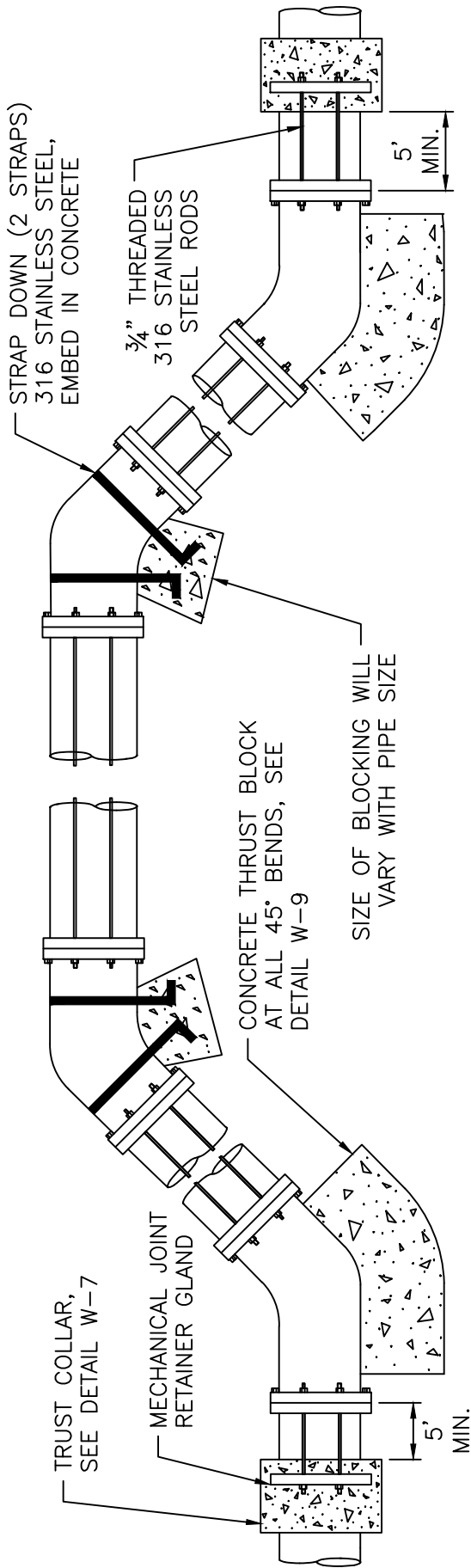


TOP OF GROUND



ROD REQUIREMENTS			STRAP REQUIREMENTS	
SIZE OF 45° BEND	STATIC TRUST IN POUNDS	NO. OF RODS REQUIRED	STRAP WIDTH	STRAP THICKNESS
6"	4,328	2	1"	3/16"
8"	7,694	4	1.5"	3/16"
12"	17,312	4	2"	1/4"
16"	30,779	8	2"	1/2"
24"	69,252	8	4"	1/2"

RESTRAINT REQUIREMENTS				
PIPE DIA	RODDING	RJ GLANDS	THRUST COLLAR	THRUST BLOCKING
<12"	X	X	X	
≥12"	X	X	X	X

"X" DENOTES REQUIRED RESTRAINT.

NOTES:

1. STEEL RODS AND BOLTS SHALL BE 3/4" 316 STAINLESS STEEL.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.
5. 3' MINIMUM COVER MUST BE MAINTAINED.
6. EXTERNAL RESTRAINT REQUIRED. INTEGRAL BELL RESTRAINT REQUIRES DIRECTOR'S APPROVAL.

STANDARD VERTICAL BEND