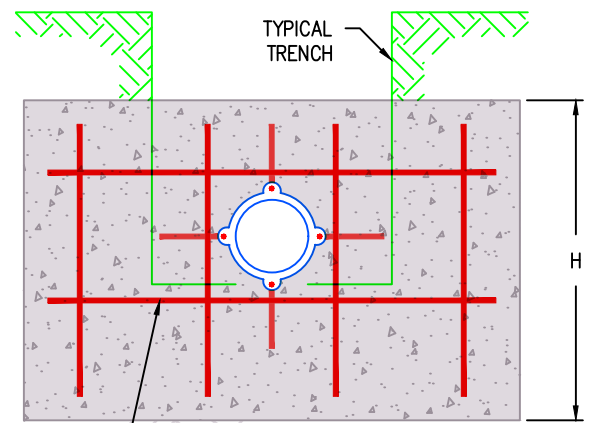
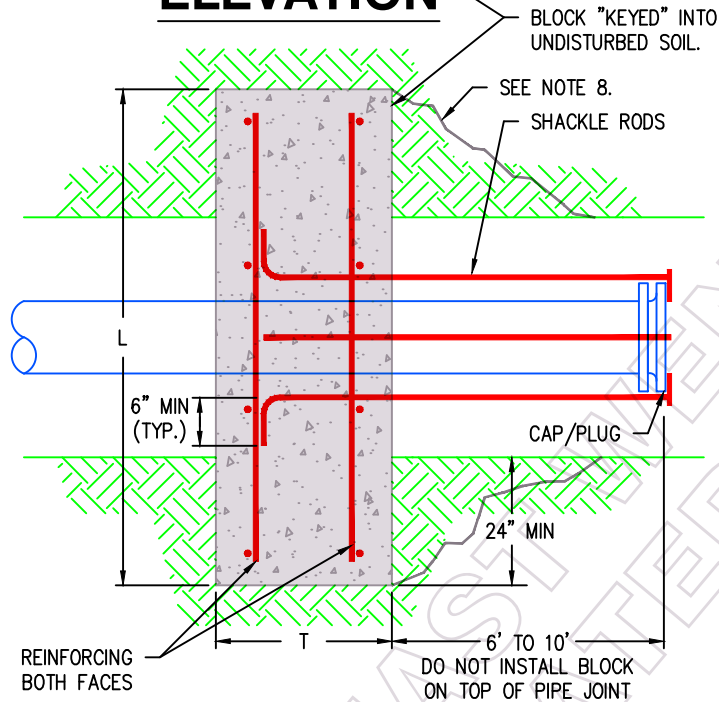


ELEVATION



#4 BAR REINFORCING (TYP)

END VIEW



PLAN VIEW

BLOCK "KEYED" INTO UNDISTURBED SOIL.

SEE NOTE 8.

SHACKLE RODS

CAP/PLUG

24" MIN

6' TO 10'

DO NOT INSTALL BLOCK ON TOP OF PIPE JOINT

REINFORCING BOTH FACES

NOTES

1. DETAIL W-16 IS THE PREFERRED METHOD FOR RESTRAINING A DEAD END PIPE. THIS DETAIL MAY BE USED ONLY WITH APPROVAL FROM THE DISTRICT.
2. CONCRETE BLOCK SHALL BE PER APWA SPECIFICATION 7-11.3(13), CURRENT EDITION.
3. MAINTAIN 18" MINIMUM COVER OVER THE TOP OF BLOCK.
4. BOTTOM OF BLOCK IS TO BE ON UNDISTURBED SOIL.
5. TRENCH TO BE BACKFILLED WITH CRUSHED ROCK COMPACTED TO 95% DENSITY ON ALL SIDES OF BLOCK AND A DISTANCE OF 4' MIN. IN FRONT OF BLOCK TO FULL DEPTH OF BLOCK.
6. UPON EXTENSION OF WATER MAIN, SHACKLE RODS ARE TO BE CUT, REMOVE PLUG. CONCRETE BLOCK TO REMAIN IN PLACE.
7. FOR SOIL CONDITIONS NOT SHOWN, BLOCK IS TO BE DESIGNED BY ENGINEER.
8. IF BLOCK CANNOT BE KEYED INTO UNDISTURBED SOIL TO THE SATISFACTION OF THE WATER DISTRICT OR ENGINEER, a) THE BLOCK LENGTH SHALL BE EXTENDED TO PROVIDE AN ADEQUATE KEY OR b) CDF SHALL BE USED TO FILL BACK TO NATIVE SOIL OR c) THE TRENCH SHALL BE BACKFILLED AND COMPACTED TO 95% DENSITY A MINIMUM DISTANCE OF 15 FEET IN FRONT OF THE BLOCK TO THE SATISFACTION OF THE WATER DISTRICT OR ENGINEER.
9. SEE STANDARD DETAIL W-07 FOR ADDITIONAL SHACKLE ROD INFORMATION.

SIZING TABLE

PIPE DIA	T (min)	H (min)	SHACKLE RODS	REINFORCING
6"	18"	36"	(4) #5 (5/8" dia)	#4 @ 10" OC EW
8"	18"	42"	(4) 3/4" dia	#4 @ 12" OC EW
10"	24"	52"	(6) 3/4" dia	#4 @ 12" OC EW
12"	24"	54"	(6) 7/8" or (8) 3/4" dia	#4 @ 8" OC EW
14"	24"	56"	(8) 7/8" or (10) 3/4" dia	#4 @ 6" OC EW
16"	30"	58"	(10) 7/8" dia	#4 @ 5" OC EW

MIN. BLOCK LENGTH (L)

PIPE DIA	SOIL CONDITION					
	SOFT CLAY	SILT	SANDY SILT	SAND	SANDY CLAY	HARD CLAY
6"	84"	72"	72"	72"	72"	72"
8"	108"	84"	75"	75"	75"	75"
10"	132"	104"	77"	77"	77"	77"
12"	180"	138"	82"	80"	80"	80"
14"	228"	174"	102"	82"	82"	82"
16"	288"	216"	126"	100"	84"	84"

BLOCK SIZES GOOD TO MAXIMUM 300psi TEST PRESSURE

**East Wenatchee
Water District**



WATER SYSTEM STANDARD DETAIL

DEADMAN THRUST BLOCKING