

# UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS

## AMOUNT OF CHLORINE REQUIRED FOR DISINFECTION OF 100 FEET OF PIPE

I.D. OF PIPE	VOLUME OF WATER PER 100'	QUANTITY OF CALCIUM HYPOCHLORITE (65% AVAILABLE CHLORINE)	
		25 P.P.M.	50 P.P.M.
4"	65.3 GALS.	.34 OZ.	.69 OZ.
6"	146.5 GALS.	.77	1.54
8"	261.0 GALS.	1.37	2.75
10"	408.0 GALS.	2.15	4.29
12"	558.7 GALS.	2.94	5.88
14"	800.0 GALS.	4.21	8.42
16"	1047.0 GALS.	5.51	11.02
18"	1300.0 GALS.	6.84	13.68
20"	1635.7 GALS.	8.61	17.22
24"	2234.8 GALS.	11.76	23.52

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UDACS-10  
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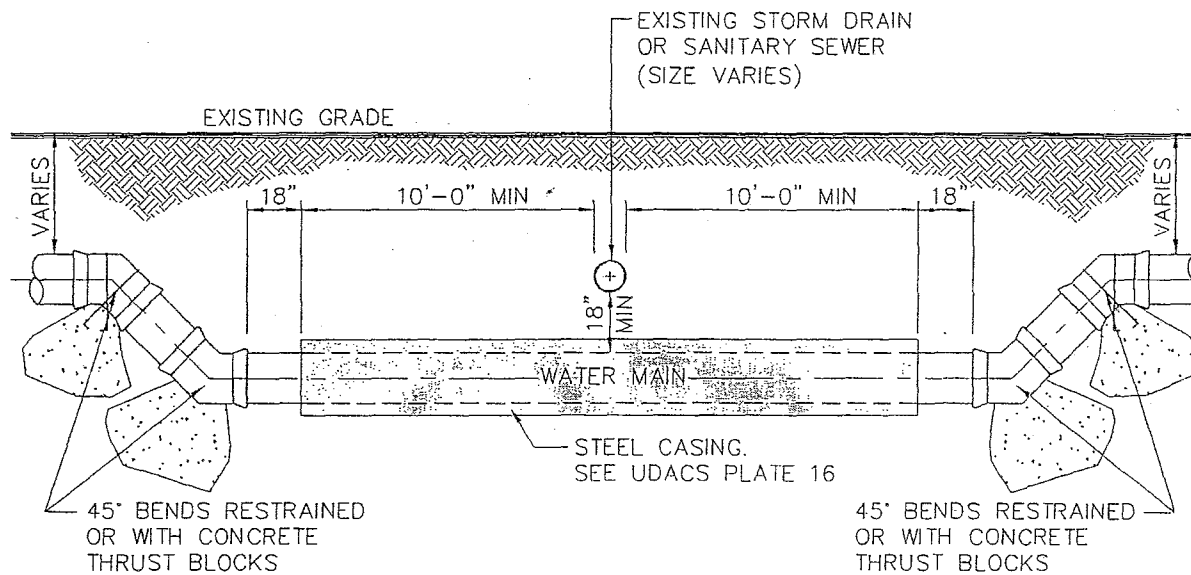
### CHLORINATION REQUIREMENTS

UDACS PLATE NO.

10

SHEET 1 OF 1

# UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS

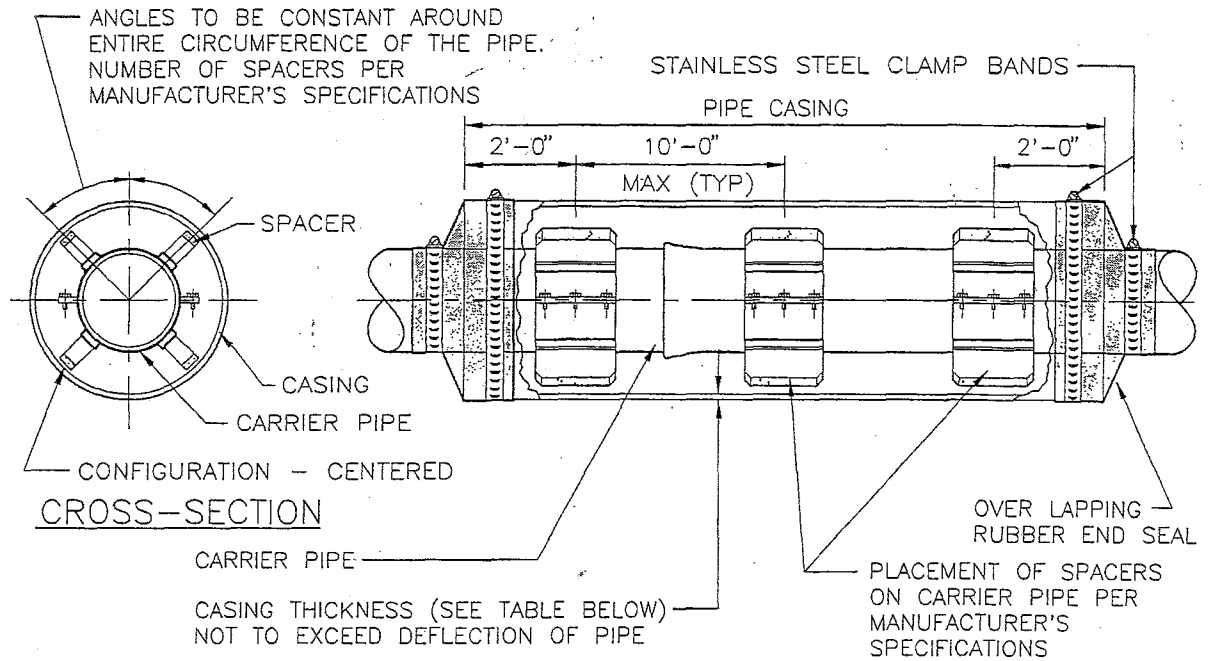


**NOTE:**  
SEE UDACS PLATES 6A, 6B, 6C, 6D, AND 6E FOR COVER REQUIREMENTS.

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<p style="font-size: 24pt; margin: 0;">NOT TO SCALE</p>	FILE NAME: UDACS-15	STORM DRAIN OR SANITARY SEWER WATER MAIN CROSSING	UDACS PLATE NO.  15
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# UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS



CARRIER PIPE		
PIPE SIZE	CASING OD	THICKNESS *
6"	16"	1/4"
8"	18"	1/4"
10"	20"	5/16"
12"	24"	5/16"
16"	30"	3/8"
18"	30"	3/8"
20"	36"	1/2"
24"	42"	1/2"

\* CASING INSTALLATIONS OVER 25 FEET BELOW FINISHED GRADE TO HAVE THICKNESS DETERMINED BY A NEVADA LICENSED PROFESSIONAL ENGINEER.

\* CASING INSTALLATIONS UNDER RAILROAD TRACKS TO HAVE THICKNESS DETERMINED BY A NEVADA LICENSED PROFESSIONAL ENGINEER AND APPROVED BY UNION PACIFIC RAILROAD.

### NOTES

1. STEEL PIPE CASING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A283, GRADE B, C, OR D. ALL JOINTS SHALL BE WELDED. INTERIOR JOINTS SHALL BE GROUND TO A SMOOTH FINISH. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C206, "AWWA STANDARD FOR FIELD WELDING OF STEEL WATER PIPE." COATINGS FOR STEEL CASING ARE NOT REQUIRED.
2. STEEL PIPE CASING SHALL BE INSTALLED SYMMETRICAL ABOUT WATER MAIN CENTERLINE (TYP). PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
3. AGENCY APPROVED CASING SPACERS AND END SEALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING: (PIPE OD, CASING ID, AND CASING LENGTH).
4. ALL PIPE JOINTS WITHIN THE CASING ARE TO BE RESTRAINED.
5. CASING TO BE FILLED WITH SAND OR GROUT AS APPROVED BY AGENCY.

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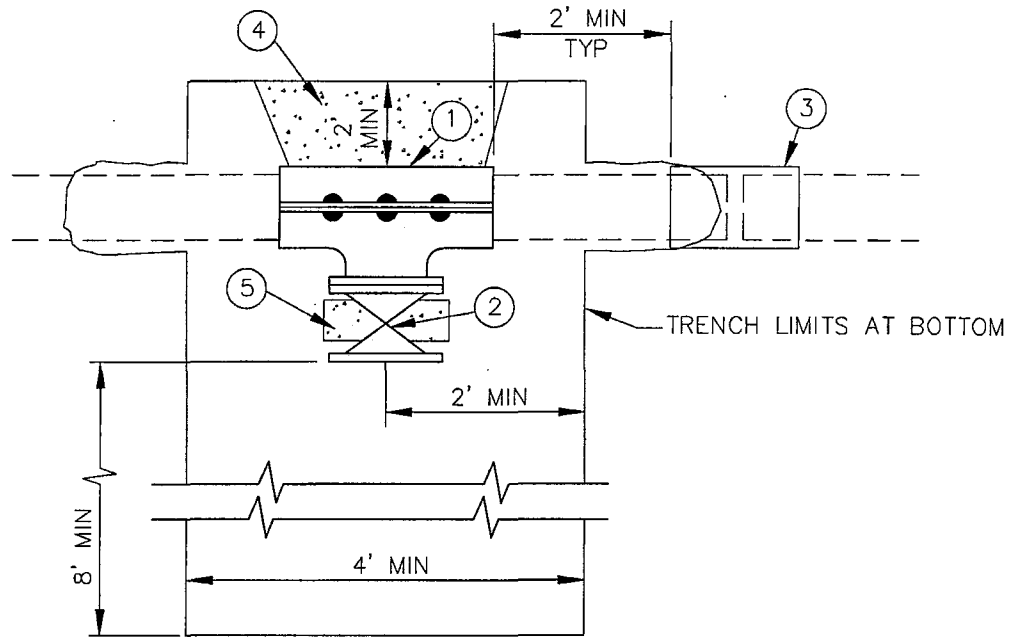
CASING INSTALLATION

UDACS PLATE NO.

16

SHEET 1 OF 1

# UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS



ITEM	DESCRIPTION
①	TAPPING SLEEVE
②	GATE VALVE
③	COUPLING, COLLAR, OR SERVICE SADDLE
④	CONCRETE THRUST BLOCK. SEE UDACS PLATE 5
⑤	SUPPORT VALVE AS REQUIRED

### NOTES

1. CLEARANCE FROM A COLLAR OR PIPE JOINT SHALL BE A MINIMUM OF 2 FEET FROM THE EDGE OF TAPPING SLEEVE TO COLLAR OR PIPE JOINT. THE EXISTING PIPE SHALL BE EXPOSED SUFFICIENTLY TO ENSURE THAT SUCH MINIMUM CLEARANCE IS PROVIDED.
2. TRENCH SHALL MEET ALL OSHA REQUIREMENTS.
3. VALVE TO BE SUPPORTED DURING THE WET TAP PROCESS.
4. USE A MECHANICAL JOINT OR AGENCY APPROVED TAPPING SLEEVE FOR ALL TAPS GREATER THAN 75% DIAMETER OF THE PIPE BEING TAPPED.

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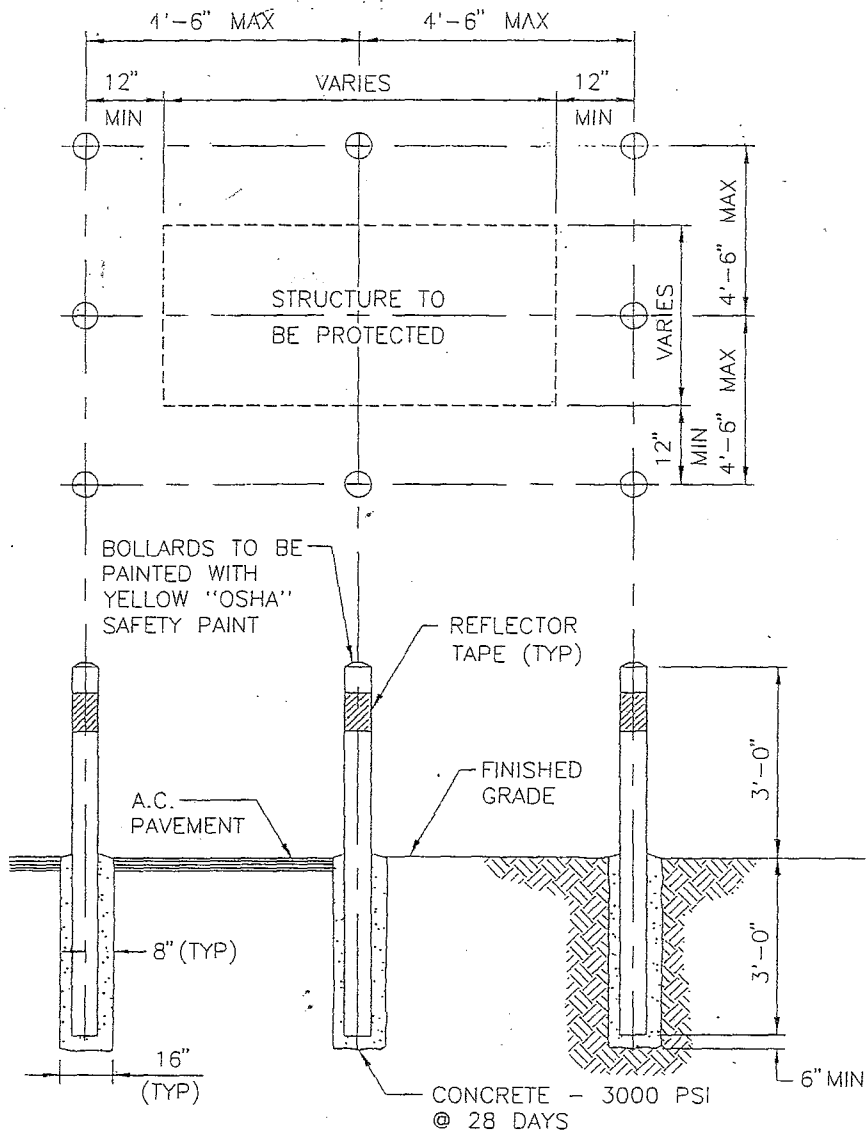
EXCAVATION FOR WET TAPS

UDACS PLATE NO.

22

SHEET 1 OF 1

# UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS



**NOTES**

1. BOLLARD TO BE 4" SCH. 40 STEEL PIPE, 6'-0" LONG AND FILLED WITH CONCRETE.
2. BOLLARDS ON SIDE NOT ACCESSIBLE TO VEHICLES MAY BE OMITTED BY THE APPROVING AGENCY.
3. PLACE 6" WIDE, YELLOW CLASS 4 REFLECTIVE TAPE (PER STANDARD SPECIFICATIONS, SECTION 716), 4" DOWN FROM TOP, FOR FULL DIAMETER ON ALL BOLLARDS.
4. CONTRACTOR TO ASSURE THAT BOLLARDS ARE PLACED TO ALLOW FULL ACCESS TO THE PROTECTED FACILITY.

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VEHICULAR PROTECTION BOLLARD

UDACS PLATE NO.

23

SHEET 1 OF 1