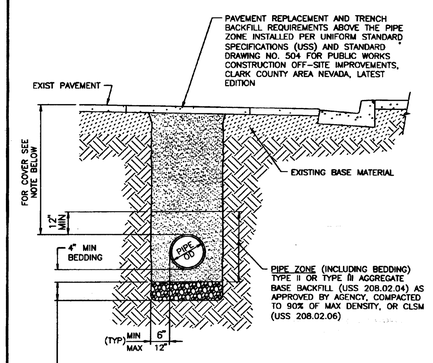
UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS

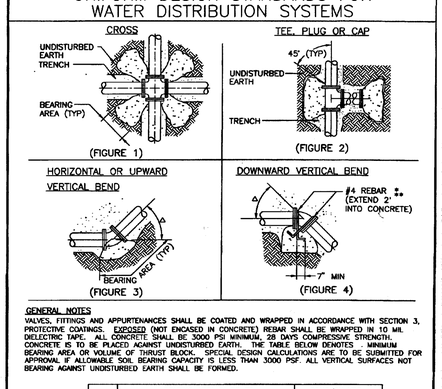


NOTES:
42" MIN COVER FOR PIPE 8" AND SMALLER
48" MIN COVER PIPE GREATER THAN 8", LESS THAN 24"
60" MIN COVER FOR PIPE 24" AND GREATER

FOR TRENCH SECTION NOTES SEE UDACS PLATE 6E

NOT TO SCALE	FILE NAME: UDACS-6C DRAWN BY: SDM CHECKED BY: SPM	TRENCH SECTION BACKFILL SPECIFICATION PAVED AND UNPAVED AREAS (STREET R/W GREATER THAN 60')	UDACS PLATE NO. 6C SHEET 1 OF 1

UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS



GENERAL NOTES
VALVES, FITTINGS AND APPURTENANCES SHALL BE COATED AND WRAPPED IN ACCORDANCE WITH SECTION 3, PROTECTIVE COATINGS. EXPOSED (NOT ENCASED IN CONCRETE) REBAR SHALL BE WRAPPED IN 10 MIL DIELECTRIC TAPE. ALL CONCRETE SHALL BE 3000 PSI MINIMUM, 28 DAYS COMPRESSIVE STRENGTH. CONCRETE IS TO BE PLACED AGAINST UNDISTURBED EARTH. THE TABLE BELOW DENOTES MINIMUM BEARING AREA OR VOLUME OF THRUST BLOCK. SPECIAL DESIGN CALCULATIONS ARE TO BE SUBMITTED FOR APPROVAL IF ALLOWABLE SOIL BEARING CAPACITY IS LESS THAN 3000 PSF. ALL VERTICAL SURFACES NOT BEARING AGAINST UNDISTURBED EARTH SHALL BE FORMED.

	BEARING AREA IN SQ FT						CONC/CU YDS		
PIPE ID	FIGURE 1	FIGURE 2	FIGURE 3, Δ				FIGURE 4, Δ		
			90°	45°	22½°	11¼°	45°	22½°	11¼°
4"	2	2	2	2	1	1	1.0	0.5	0.5
6"	2	3	4	2	1	1	1.5	1.0	0.5
8"	3	5	7	4	2	1	3.0	1.5	1.0
10"	4	8	11	6	3	2	4.0	2.5	1.5
12"	6	11	15	8	4	2	6.0	3.0	1.5
16"	10	20	28	15	8	4	10.5 *	6.0	3.0
18"	13	25	35	19	10	5	13.5 *	7.5	3.5
20"	16	31	44	24	12	6	16.0 *	9.0	4.5
24"	22	44	63	34	17	9	23.5 **	12.5 *	6.5

* #5 REBAR
** #6 REBAR

USE OF THRUST BLOCKS FOR PIPE DIAMETERS GREATER THAN 24" REQUIRES PRIOR AGENCY APPROVAL AND WILL BE EVALUATED ON A CASE BY CASE BASIS.

NOT TO SCALE	FILE NAME: UDACS-5 DRAWN BY: SDM CHECKED BY: SPM	THRUST BLOCK INSTALLATION	UDACS PLATE NO. 5 SHEET 1 OF 1

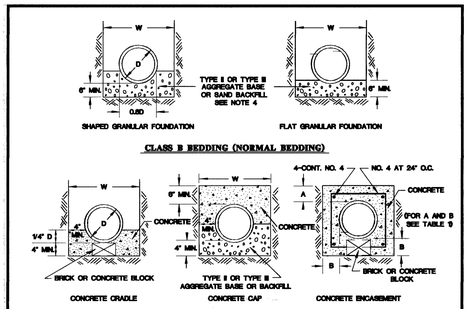


TABLE 1

PIPE SIZE	B	A	PIPE SIZE	B	A
6"	4"	4"	24"	6"	6"
8"	4"	4"	27"	7"	6"
10"	4"	4"	30"	8"	6"
12"	4"	4"	33"	8"	6"
15"	4"	4"	36"	9"	6"
18"	5"	5"	39"	9"	6"
21"	6"	6"	42"	10"	6"

D = OUTSIDE DIAMETER OF PIPE
W = OUTSIDE DIAMETER OF PIPE + 24" MAXIMUM

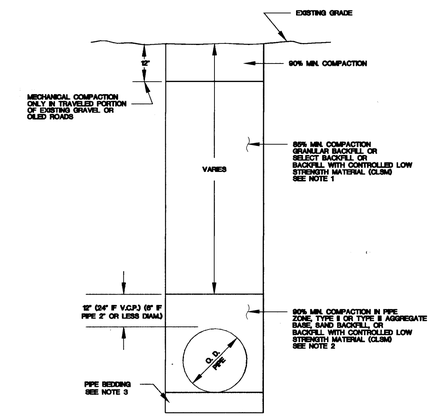
NOTES:
1. PIPE BEDDING TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY.
2. INDICATED THICKNESS OF BEDDING MATERIAL TO BE CONSTRUCTED UNDER THE BARREL. SUBGRADE TO BE EXCAVATED TO PROVIDE 2" CLEARANCE UNDER THE BELL.
3. OTHER BEDDING METHODS MAY BE SPECIFIED OR APPROVED.
4. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY.

SPECIFICATION REFERENCE	
208	TRENCH EXCAVATION & BACKFILL
302	AGGREGATE BASE COURSES
501	CONCRETE
505	REINFORCEMENT STEEL

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

PIPE TRENCH BEDDING METHODS

DATE 5-17-01 | DWG. NO. 505 | PAGE NO. 125



NOTES:
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

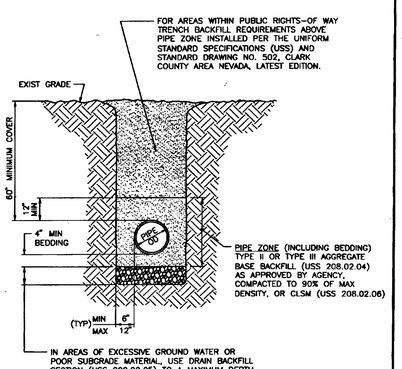
SPECIFICATION REFERENCE	
208	TRENCH EXCAVATION & BACKFILL
302	AGGREGATE BASE COURSES

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

TRENCH BACKFILL - UNPAVED AREAS AND AREAS OUTSIDE EXISTING OR FUTURE PROPOSED STREET RIGHT-OF-WAY

DATE 5-17-01 | DWG. NO. 502 | PAGE 122

UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS

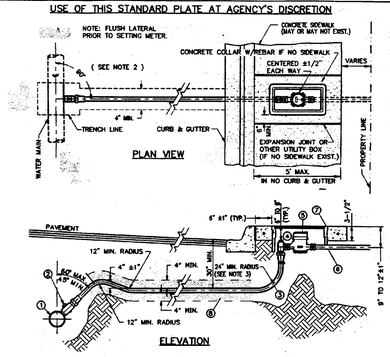


NOTE:
FOR TRENCH SECTION NOTES SEE UDACS PLATE 6E

NOT TO SCALE	FILE NAME: UDACS-6A DRAWN BY: SDM CHECKED BY: SPM	TRENCH SECTION BACKFILL SPECIFICATION UNPAVED AREAS	UDACS PLATE NO. 6A SHEET 1 OF 1

UNIFORM DESIGN STANDARDS FOR WATER DISTRIBUTION SYSTEMS

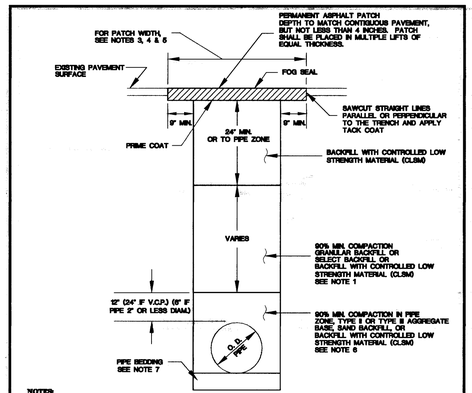
USE OF THIS STANDARD PLATE AT AGENCY'S DISCRETION



LEGEND
1. THREADED COLLAR (1" LATERALS ONLY) OR SERVICE SADDLE.
2. CORPORATION STOP.
3. SERVICE LATERAL SIZE TO MATCH METER (1" MINIMUM).
4. UPSTREAM BALL ANGLE METER STOP TO MATCH METER SIZE (1" x 1" MINIMUM) WITH LOCK WING AND WITHOUT LEVER HANDLE. FOR ALL 5/8" AND 3/4" METERS USE A 1" x 3/4" ADAPTER.
5. DISPLACEMENT TYPE WATER METER, AGENCY APPROVED AND SUPPLIED, CONTRACTOR INSTALLED.
6. TAIL PIECE (EXTENDS TO PROPERTY LINE).
7. METER BOX (1" TYPICAL, MINIMUM).
8. SAND BACKFILL FULL WIDTH OF TRENCH.

NOTES:
1. ONE COUPLING IS ALLOWED BETWEEN THE CORPORATION STOP AND THE ANGLE METER STOP, IF THE TOTAL LATERAL LENGTH IS GREATER THAN 40 FEET.
2. CUL-DE-SAC SERVICE LATERALS MUST FOLLOW THE MOST DIRECT ROUTE POSSIBLE BETWEEN SERVICE SADDLE AND ANGLE METER STOP. HORIZONTAL BENDING RADIUS ALLOWED FOR 1" TUBING IS 12" MIN. AND 24" MIN. FOR 1 1/2" AND 2" TUBING. MAXIMUM DEFLECTION ANGLE ALLOWED IS 90°.
3. IF A 24" MIN. RADIUS CAN NOT BE MAINTAINED AN APPROPRIATE SIZE 90° COMPRESSION OR FLARED CONNECTION SHOULD BE USED.
4. USE OF 5/8 METERS NOT APPROVED BY ALL AGENCIES.
5. FLUSH LATERAL PRIOR TO SETTING METER.

NOT TO SCALE	FILE NAME: UDS01D DRAWN BY: B.V. CHECKED BY: C.M.M.	NEW SERVICE INSTALLATION WITH SINGLE ANGLE METER STOPS COMMERCIAL OR RESIDENTIAL GREATER TO 1/4 ACRE GROSS 5/8", 3/4", 1", 1-1/2" AND 2" METER SIZES	UDS PLATE NO. 1D SHEET 1 OF 1



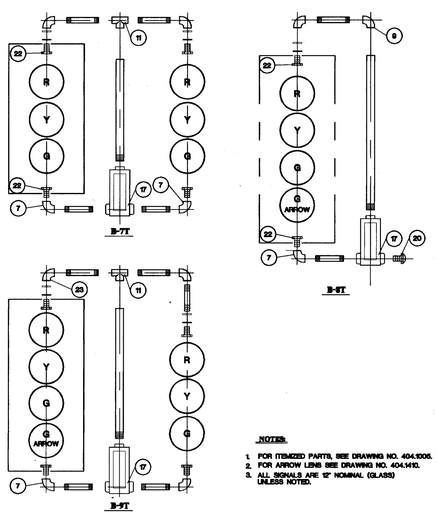
NOTES:
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. IF SAWCUT IS WITHIN THREE FEET OF EDGE OF EXISTING ASPHALT CONCRETE SURFACE OR OTHER PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
3. TRANSVERSE PATCHES SHALL BE WIDTH (4 FEET MINIMUM) SUFFICIENT TO ACCOMMODATE MECHANICAL PLACEMENT, ROLLING AND COMPACTION PER UNIFORM STANDARD SPECIFICATION SECTION 401.03.11.
4. LONGITUDINAL PATCHES SHALL BE ONE TRAVEL LANE IN WIDTH; SAWCUTS ARE TO BE MADE AT THE EDGE OF THE TRAVEL LANE.
5. FOR CONDUIT TRENCHES 6 INCHES WIDE OR LESS WITHIN 2 FEET OF THE CURB, PATCHES SHALL EXTEND A MINIMUM OF 4 FEET FROM LIP OF GUTTER AND PAVEMENT SHALL BE REMOVED TO CURB AND GUTTER; WIDTH SHALL BE SUFFICIENT TO ACCOMMODATE MECHANICAL PLACEMENT USING AGENCY APPROVED SPREADER BOX OR PAVING MACHINE, ROLLING AND COMPACTION PER UNIFORM STANDARD SPECIFICATION SECTION 401.03.11. SAWCUT SHALL NOT BE PLACED IN WHEEL PATH AREA.
6. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.
7. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
8. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

SPECIFICATION REFERENCE	
207	BACKFILL
208	TRENCH EXCAVATION & BACKFILL
302	AGGREGATE BASE COURSES
401	BITUMINOUS PAVEMENT
406	PRIME COAT
407	FOG SEAL

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

TRENCH BACKFILL WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) PAVED AREAS (STREETS GREATER THAN 60' R/W)

DATE 5-17-01 | DWG. NO. 504 | PAGE 124



NOTES:
1. FOR ITEMIZED PARTS, SEE DRAWING NO. 404.1006.
2. FOR ARROW LENS SEE DRAWING NO. 404.1410.
3. ALL SIGNALS ARE 12" NOMINAL (GLASS) UNLESS NOTED.

SPECIFICATION REFERENCE	

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

SIGNAL ASSEMBLIES B-7T, B-8T, B-9T

DATE | DWG. NO. 404.1026 | SHEET 1 OF 1

REV	DESCRIPTION	BY	DATE	AGEN. APP.	DATE

PROJ NO: AZ03157
DESIGN: LG/RAS
DATE: 05/28/04
SCALE: AS SHOWN
CADFILE: FS08_19

PROFESSIONAL ENGINEER - STATE OF NEVADA
RANDOLPH A. SKORPINSKI
CIVIL
No. 14985

STAMP DATE: 5/27/04
EXP. DATE: 06/30/06

AZTEC
3320 N. Buffalo Drive
Suite 106
Las Vegas, NV 89129-7410
Tel: 702-396-3426
Fax: 702-396-3758
Web: aztec.us

CITY OF LAS VEGAS
FIRE STATION NO. 8
CONSTRUCTION DETAILS IX

SHEET
C-19
19 OF 24 SHEETS

CLV PRJ. # 630-101

7/27/04

630-101