

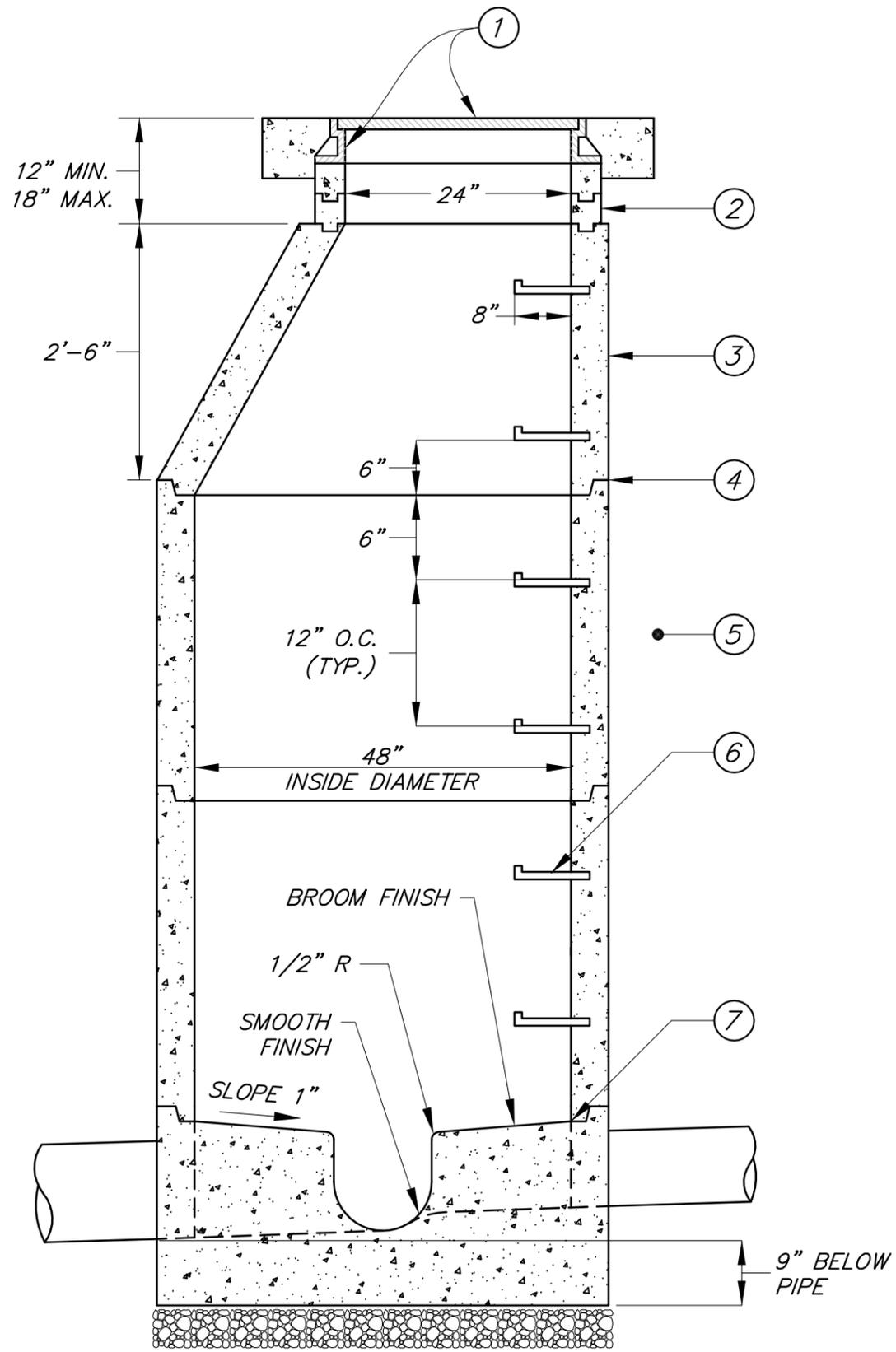
ABBREVIATIONS

ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CL	CENTERLINE
COMM	COMMERCIAL
COMP	COMPRESSION
CTS	COPPER TUBE SIZE
FIP	FEMALE IRON PIPE
FL	FLANGE
IPT	IRON PIPE THREAD
MIP	MALE IRON PIPE
MJ	MECHANICAL JOINT
NS	NATIONAL STANDARD
PROP.	PROPERTY
PSI	POUNDS PER SQUARE INCH
O.C., OC	ON CENTER
RES	RESIDENTIAL
SDR	STANDARD DIMENSION RATIO

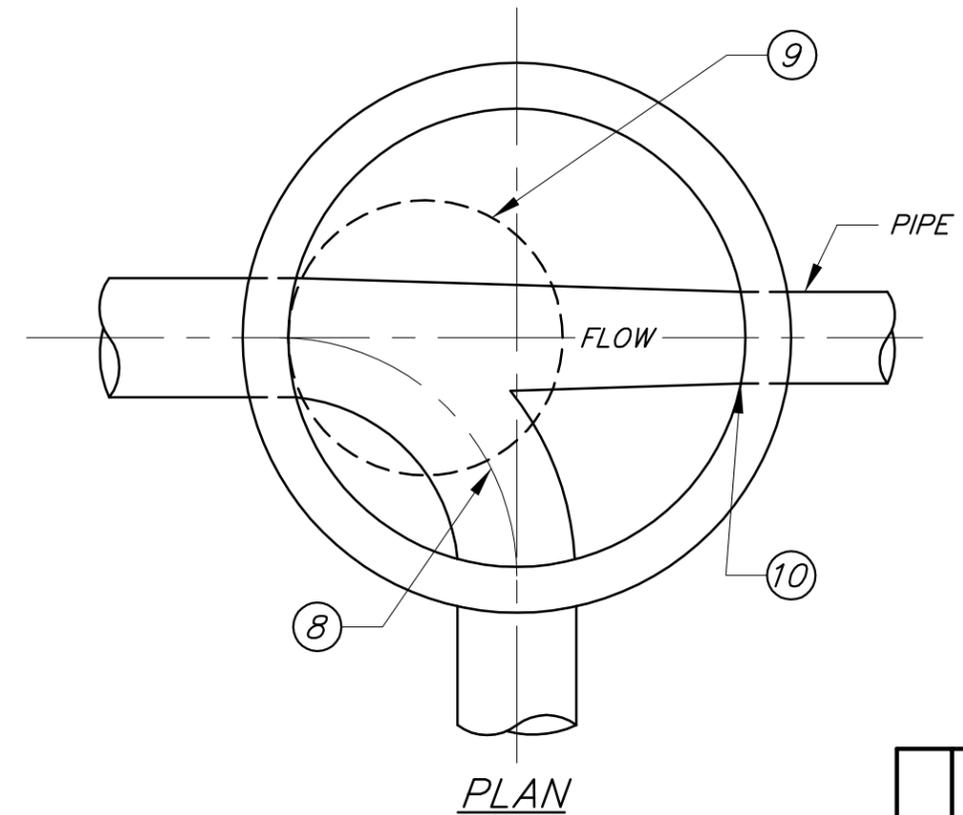
STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
ABBREVIATIONS

NOTE:
REFER TO CALTRANS STANDARD PLANS A10A AND A10B FOR ADDITIONAL ABBREVIATIONS.

	APPROVED BY PUBLIC WORKS DIRECTOR 	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	
		ABBREVIATIONS	
	DATE	REVISION	STANDARD DETAIL NO.
	20 APRIL 2012		G-1
DATE		SCALE:	
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ELEVATION



PLAN

NOTES:

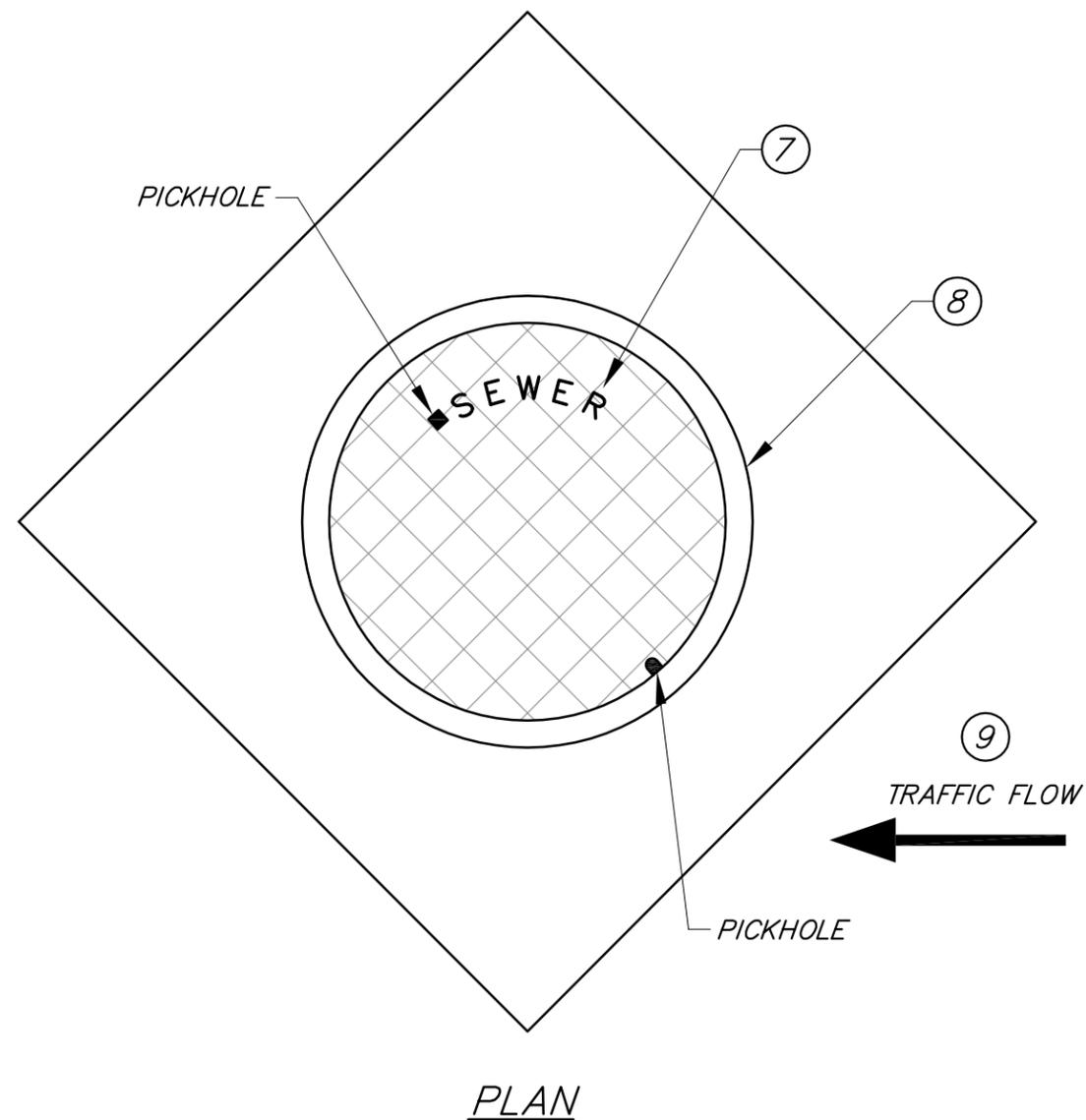
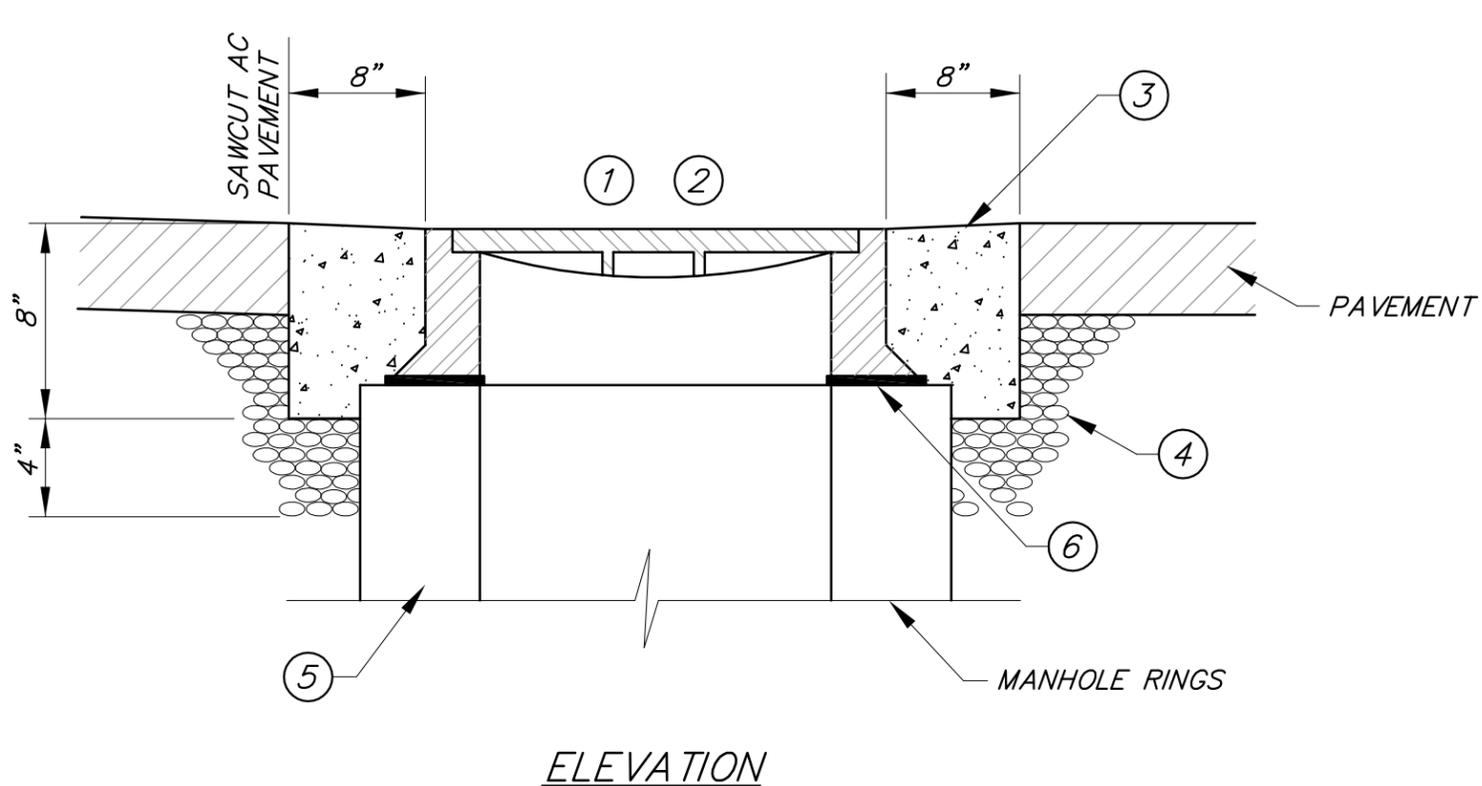
1. SEE DRAWING S-2 FOR MANHOLE FRAME AND COVER DETAILS.
2. 24" DIAMETER GRADE RING SECTION AS NEEDED. MAXIMUM HEIGHT 6" PER SECTION.
3. ECCENTRIC CONE SECTION.
4. MORTAR BETWEEN SECTIONS TO FORM WATER TIGHT JOINTS.
5. FOR BACKFILL AND BEDDING REQUIREMENTS SEE TRENCH BACKFILL DETAILS WS-1.
6. POLYPROPYLENE COVERED MANHOLE STEPS (TYPICAL).
7. MATCH PIPE CROWNS UNLESS OTHERWISE SHOWN.
8. RADIUS = 2 x DIAMETER OF INLET.
9. MANHOLE OPENING OVER OUTLET.
10. PIPE FLUSH WITH INSIDE MANHOLE WALL.
11. PRECAST MANHOLE RINGS, CONES AND SECTIONS SHALL BE APPROVED BY THE CITY AND TO CONFORM TO ASTM C478.
12. MORTAR SHALL BE 1 PART CEMENT TO 4 PARTS SAND.
13. MANHOLES WITH A DEPTH GREATER THAN 10 FEET SHALL BE 60" INSIDE DIAMETER AND ENGINEERED DETAILS SHALL BE PROVIDED ON DESIGN PLANS.
14. CAST IN PLACE PARTS MAY BE USED IF APPROVED BY CITY.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
STANDARD MANHOLE



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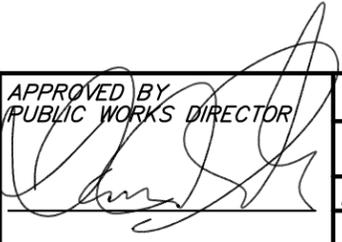
STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION		
STANDARD MANHOLE		
DATE	REVISION	STANDARD DETAIL NO.
		S-1
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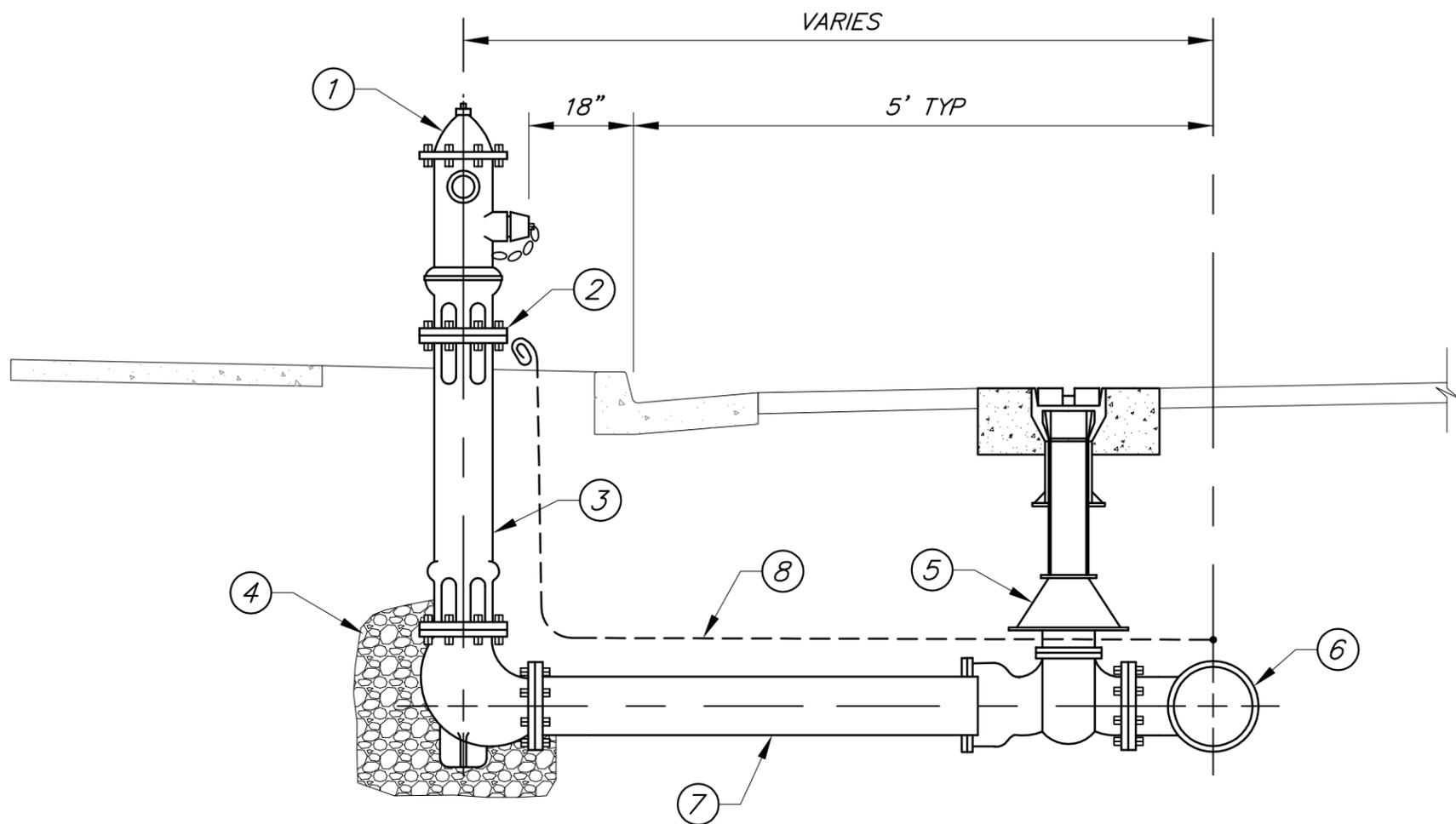


NOTES:

1. GRADE OF FRAME AND COVER TO MATCH PAVEMENT GRADE.
2. DEPRESS FRAME AND COVER 1/4" BELOW PAVEMENT.
3. CLASS 1 CONCRETE COLLAR.
4. AGGREGATE BASE.
5. FOR MANHOLE DETAILS SEE DRAWING S-1.
6. 1/2" THICK CEMENT MORTAR. MORTAR SHALL BE 1 PART CEMENT TO 4 PARTS SAND.
7. LETTERING FOR MANHOLE SHALL BE 2" HIGH.
8. FRAME AND COVER SHALL BE D&L FOUNDRY A-1024 OR APPROVED EQUAL.
9. PLACE CONCRETE SUCH THAT NO EDGES ARE PERPENDICULAR TO THE DIRECTION OF THE TRAFFIC FLOW.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
MANHOLE FRAME AND COVER

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	DATE 20 APRIL 2012	MANHOLE FRAME AND COVER	
		DATE	REVISION
			STANDARD DETAIL NO. S-2
			SCALE: NOT TO SCALE



NOTES:

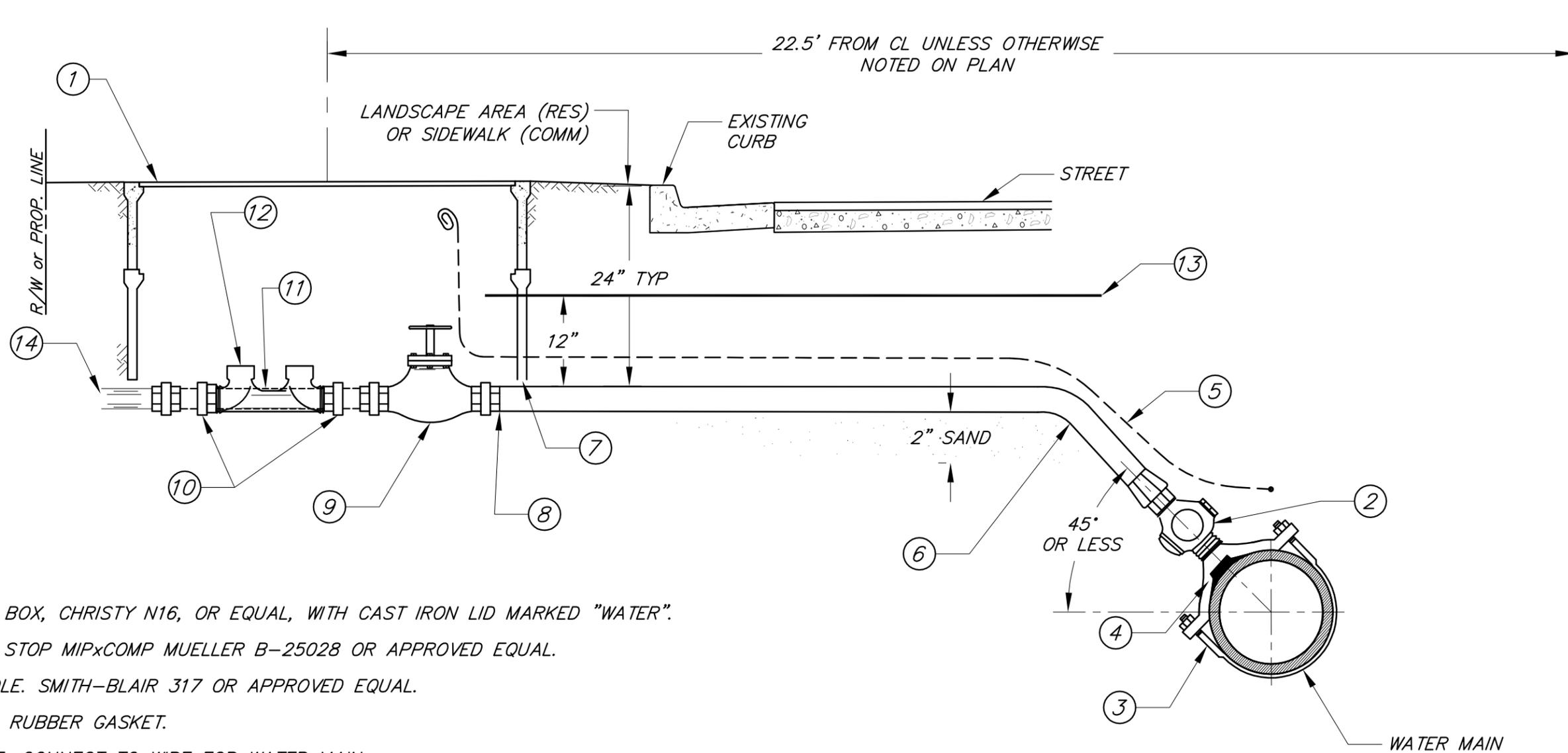
1. FIRE HYDRANT TO CONFORM WITH AWWA SPECIFICATION C-502, MUELLER, CENTURION, MJ, 5 1/4" MAIN VALVE OPENING, A-423 (DRY BARREL) WITH TWO 2 1/2" AND ONE 4" NS THREADED NOZZLES. ABOVE GROUND PORTION TO BE PAINTED SAFETY YELLOW.
2. SAFETY FLANGE, 3" TO 5" ABOVE SIDEWALK OR GROUND. PROVIDE BOLLARDS IN AREAS WITHOUT CURB.
3. BURIED PORTION OF HYDRANT TO BE COATED WITH COAL TAR ENAMEL OR COAL TAR EPOXY.
4. MINIMUM 7 CUBIC FEET OF CRUSHED ROCK AROUND DRAIN VALVES..
5. 6" FL x MJ GATE VALVE. SEE W-4 FOR VALVE BOX AND RISER.
6. WATER MAIN LINE.
7. 6" C900 WITH RESTRAINED JOINTS.
8. LOCATOR WIRE. CONNECT TO LOCATOR WIRE FOR WATER MAIN.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
FIRE HYDRANT ASSEMBLY



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STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION		STANDARD DETAIL NO. W-1
FIRE HYDRANT ASSEMBLY		
DATE	REVISION	SCALE: NOT TO SCALE



NOTES:

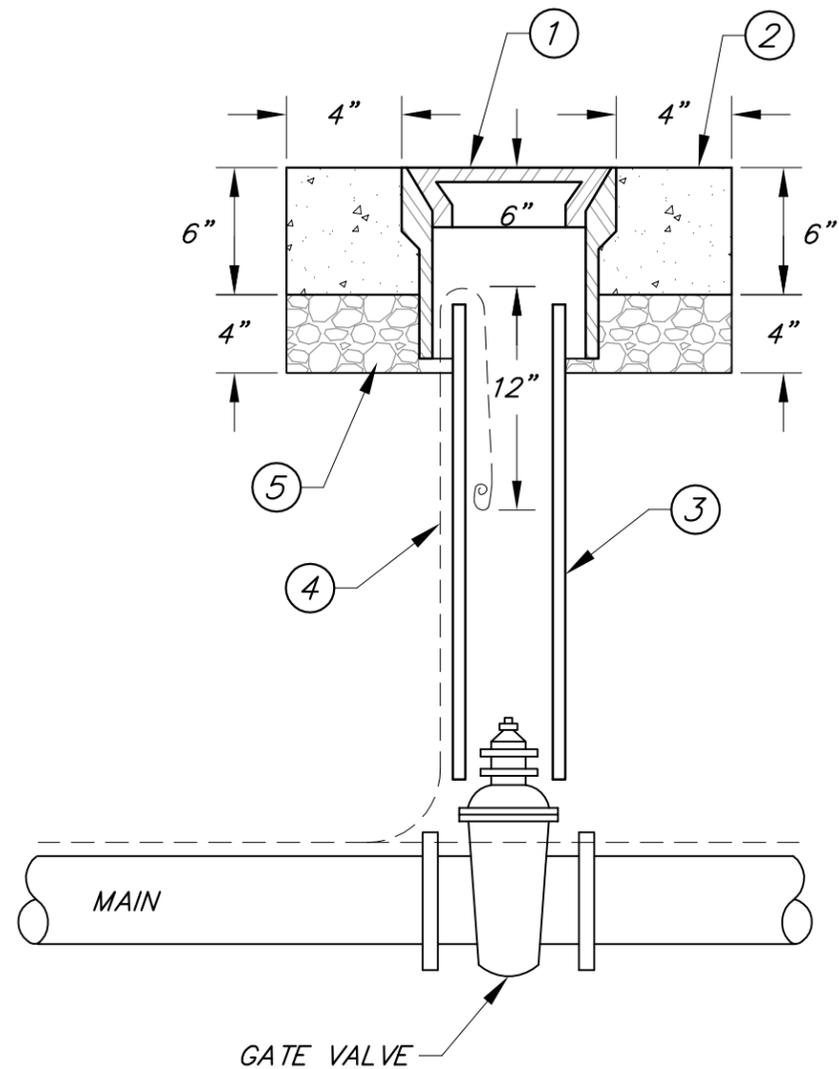
1. WATER METER BOX, CHRISTY N16, OR EQUAL, WITH CAST IRON LID MARKED "WATER".
2. CORPORATION STOP MIPxCOMP MUELLER B-25028 OR APPROVED EQUAL.
3. SERVICE SADDLE. SMITH-BLAIR 317 OR APPROVED EQUAL.
4. NEOPRENE OR RUBBER GASKET.
5. LOCATOR WIRE. CONNECT TO WIRE FOR WATER MAIN.
6. 1" CTS POLY PIPE 200 PSI WESFLEX GOLD LABEL OR APPROVED EQUAL.
7. EXTENSION BOX. NOTCHED FOR SERVICE ASSEMBLY.
8. CTSxMIP ADAPTER. MUELLER 15428 OR APPROVED EQUAL.
9. FORD METER BOX COMPANY 1" FIPxMIP CURB STOP WITH PADLOCK WING MODEL B11-444W-NL OR APPROVED EQUAL.
10. MUELLER TAIL PIECE H10890 OR EQUIVALENT.
11. 1 1/4" x 10 3/4" METER IDLER.
12. FUTURE 1" METER INSTALLED BY OTHERS.
13. BLUE WARNING TAPE.
14. CONNECT TO EXISTING SERVICE. CAP END IF NO EXISTING SERVICE.
15. FUTURE METER SPACE SHALL BE SUFFICIENT TO ACCOMMODATE A 1" SENSUS WATER METER MODEL 6750896031054 AND YOKE.
16. ALL POLY PIPE REQUIRES STIFFENERS.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
1" WATER SERVICE



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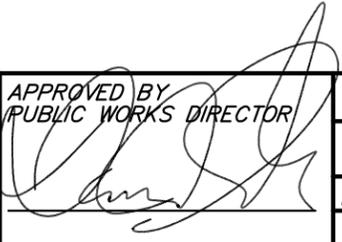
STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION		STANDARD DETAIL NO. W-2
1" WATER SERVICE		
DATE	REVISION	SCALE: NOT TO SCALE

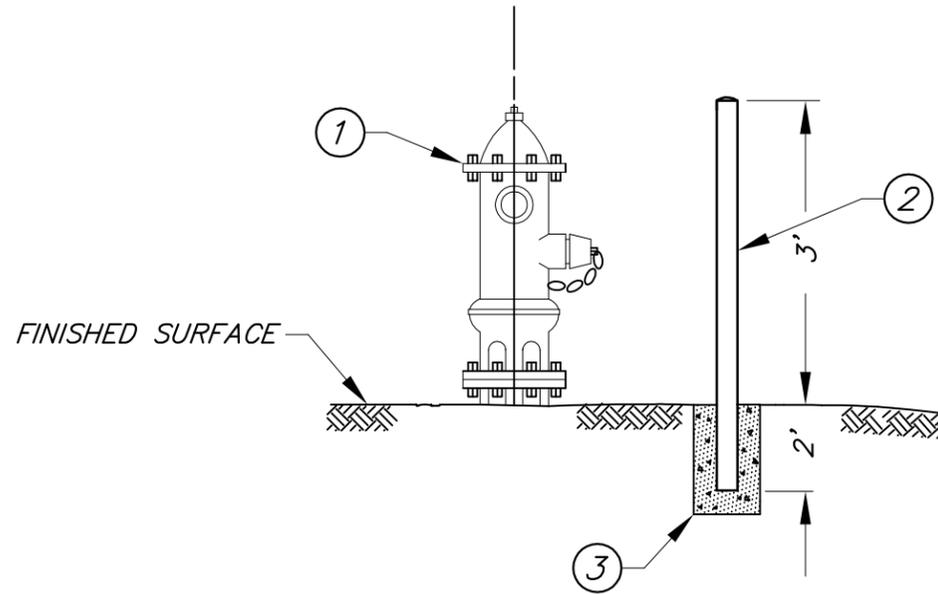


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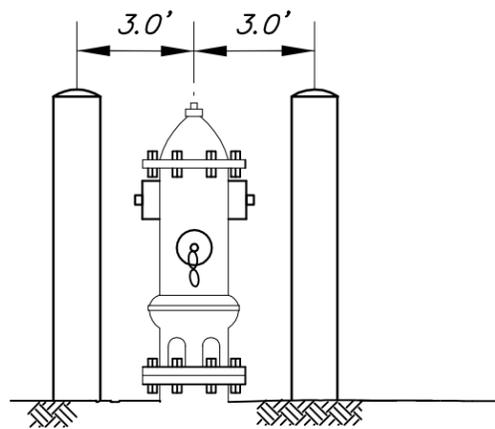
1. CHRISTY G-5 VALVE BOX.
2. CLASS 1 CONCRETE COLLAR.
3. 8" PVC SDR 35 RISER.
4. LOCATOR WIRE.
5. AGGREGATE BASE

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
VALVE BOX & RISER

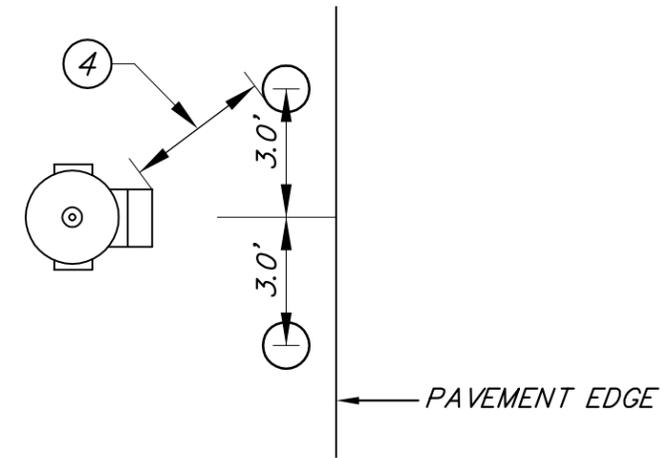
	APPROVED BY PUBLIC WORKS DIRECTOR 	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION		
		VALVE BOX & RISER		
	DATE	REVISION	STANDARD DETAIL NO.	
	20 APRIL 2012		W-4	
DATE		SCALE: NOT TO SCALE		



SIDE VIEW DETAIL
N.T.S.



FRONT VIEW DETAIL
N.T.S.



TOP VIEW DETAIL
N.T.S.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
FIRE HYDRANT BOLLARD DETAIL

NOTES:

1. FIRE HYDRANT PER STANDARD DETAIL W-1
2. 2 - 4" DIAMETER CONCRETE FILLED STEEL BOLLARDS 3' O.C. (PAINT YELLOW).
3. CONCRETE 6" MINIMUM FROM EDGE OF PIPE.
4. 3' MINIMUM CLEAR FROM PORT TO BOLLARD.



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STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

FIRE HYDRANT BOLLARD DETAIL

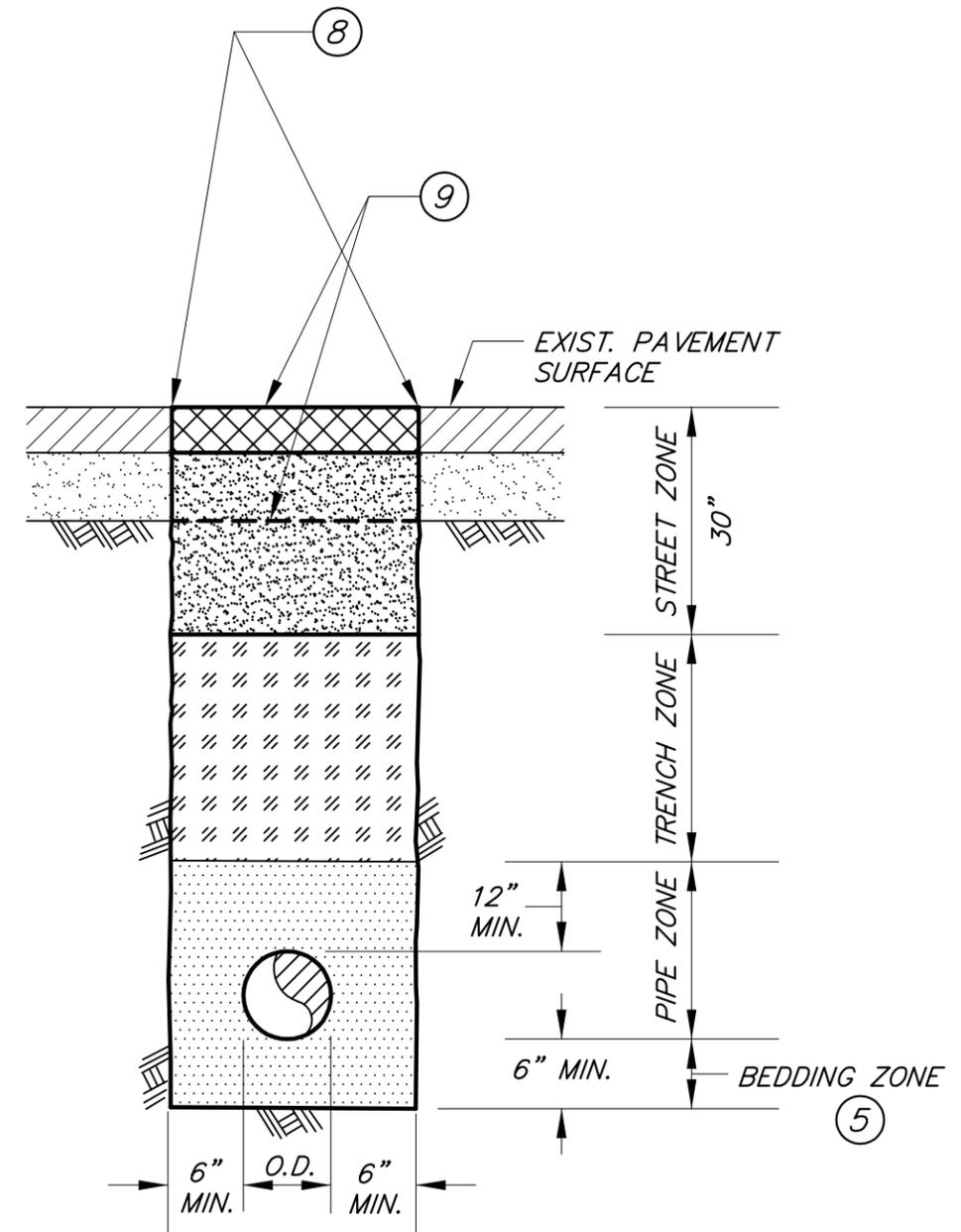
DATE	REVISION	STANDARD DETAIL NO.
		W-5
		SCALE: NOT TO SCALE

NOTES:

1. THE FOLLOWING APPLIES FOR WORK ACCOMPLISHED THROUGH EXCAVATION AND BACKFILL.
2. EXCEPT AS SHOWN, WORK SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS.
3. BACKFILL SHALL BE AS FOLLOWS:

ZONE	MINIMUM COMPACTION	MINIMUM CALTRANS R VALUE	MATERIAL
STREET	95%	60	AS SHOWN AND NOTE 7
TRENCH	90%	60	NOTE 7
PIPE AND BEDDING	90%		NOTE 4

4. MATERIAL IN THE PIPE AND BEDDING ZONES SHALL BE SAND OR CRUSHED ROCK EXCEPT THAT CRUSHED ROCK SHALL NOT BE USED WITHIN 6 INCHES OF WATER LINES, UNLESS DIRECTED BY THE ENGINEER.
5. IN UNSUITABLE AREAS AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, MINIMUM THICKNESS OF BEDDING SHALL BE 18 INCHES.
6. INSTALLATION OF MANHOLES AND OTHER IN-GROUND STRUCTURES IS SIMILAR.
7. SLURRY CEMENT BACKFILL MAY BE USED IN PLACE OF COMPACTED MATERIAL AND IN PLACE OF AGGREGATE BASE IN THE TRENCH ZONE AND THE STREET ZONE. NOT LESS THAN 70 POUNDS AND NOT MORE THAN 75 POUNDS OF CEMENT SHALL BE USED FOR EACH CUBIC YARD OF SLURRY CEMENT BACKFILL.
8. SAWCUT EXISTING ASPHALT TO A CLEAN STRAIGHT VERTICAL EDGE.
9. REPAVE TRENCH WITH 4" MIN. A.C. OVER 6" MIN. A.B. IN PAVED AREAS.



STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
PIPE BEDDING AND BACKFILL



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STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION		STANDARD DETAIL NO. WS-1
PIPE BEDDING AND BACKFILL		
DATE	REVISION	