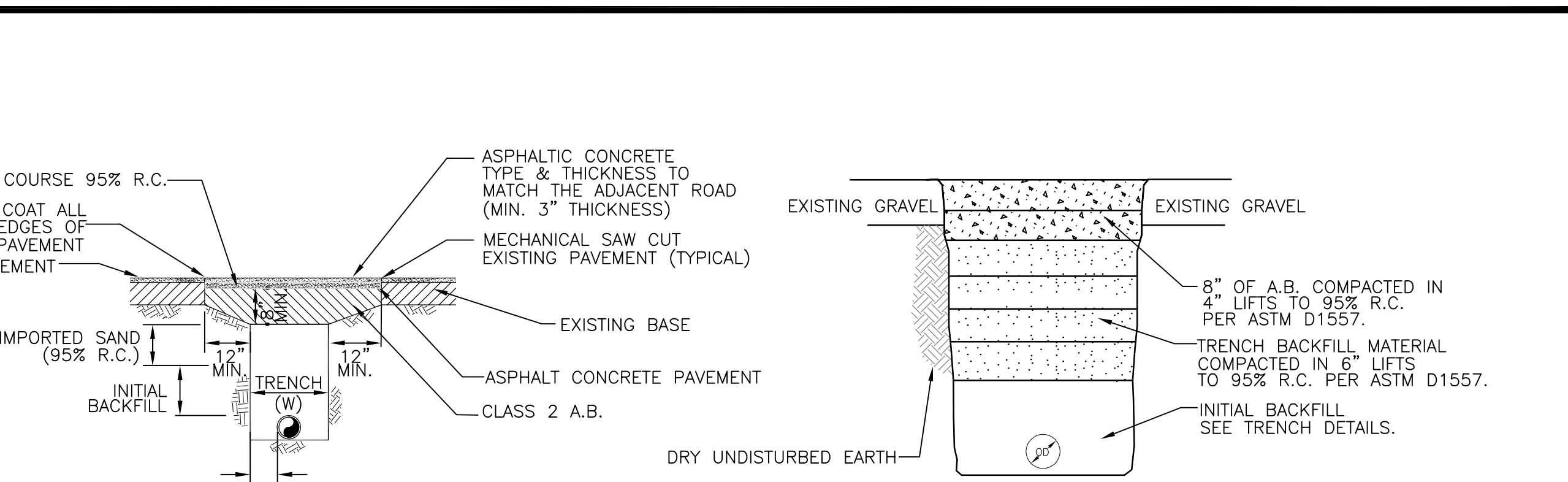


1 INSIDE DROP MANHOLE CONNECTION
SUITABLE FOR P.V.C. INSTALLATION

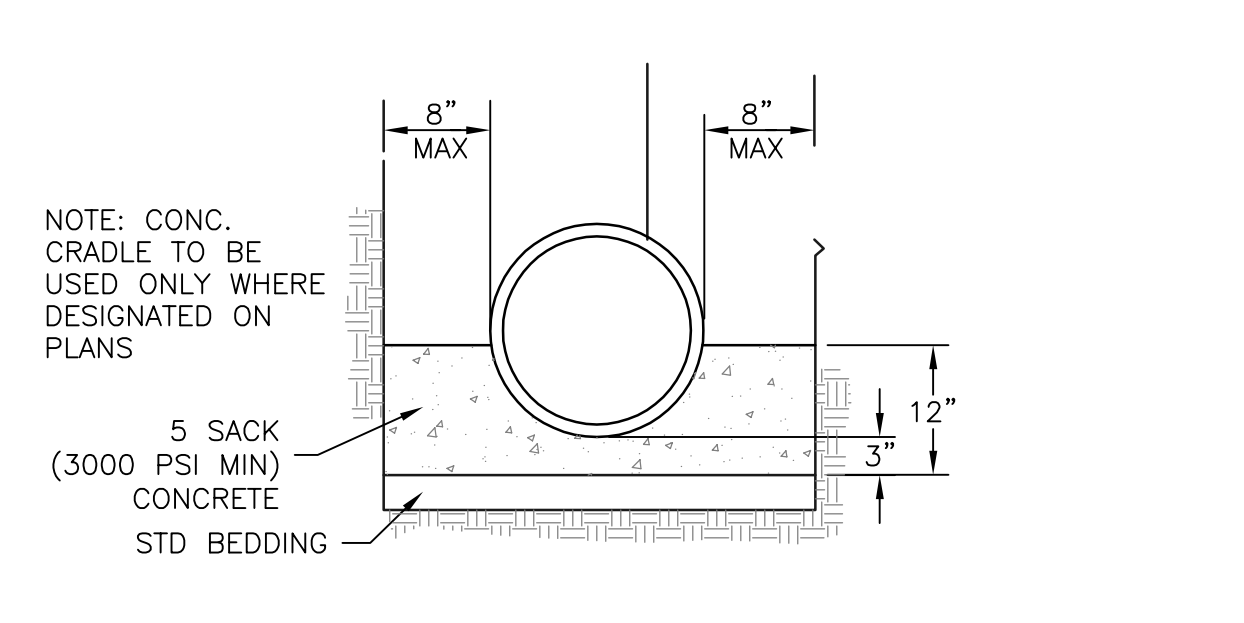
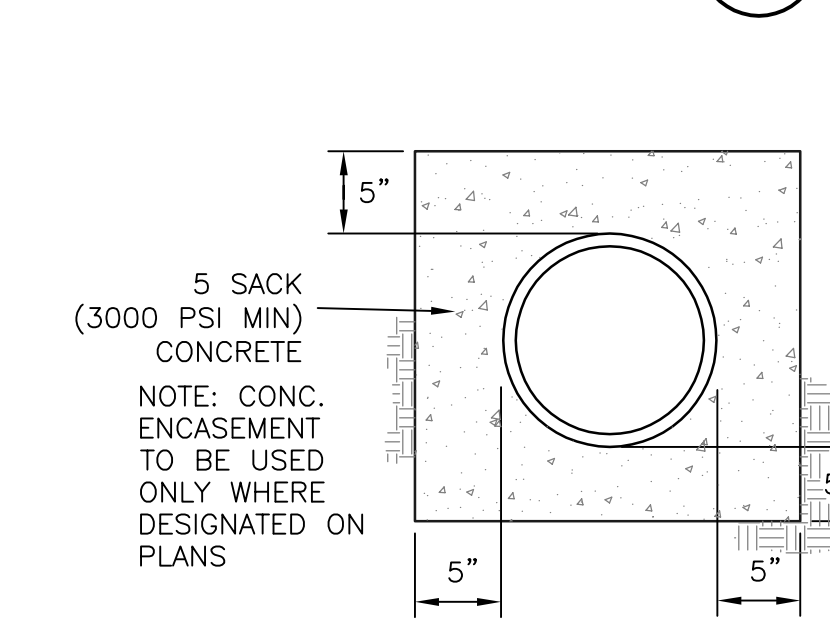
2 OUTSIDE DROP MANHOLE CONNECTION
SUITABLE FOR PIPES 10" OR GREATER.

3 STANDARD MANHOLE CONNECTION

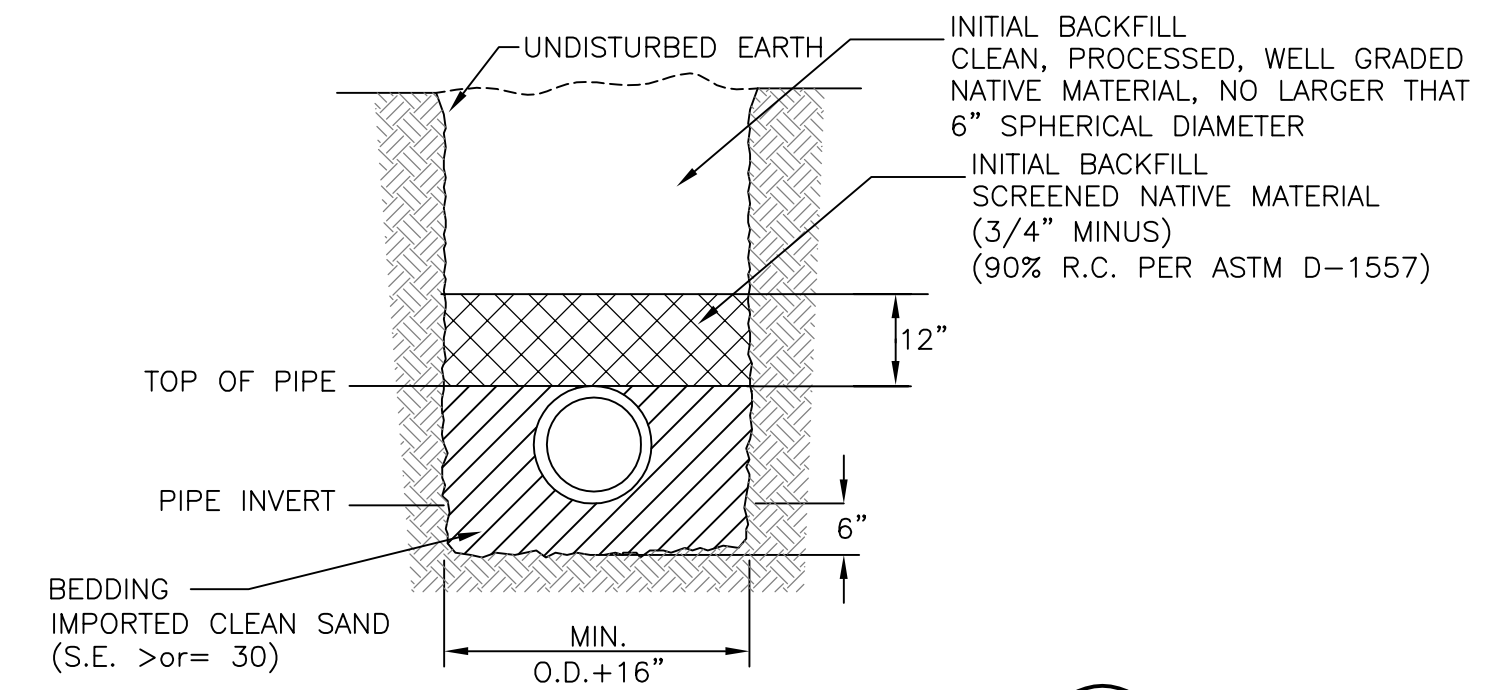


4 TYPICAL A.C. SURFACE RESTORATION

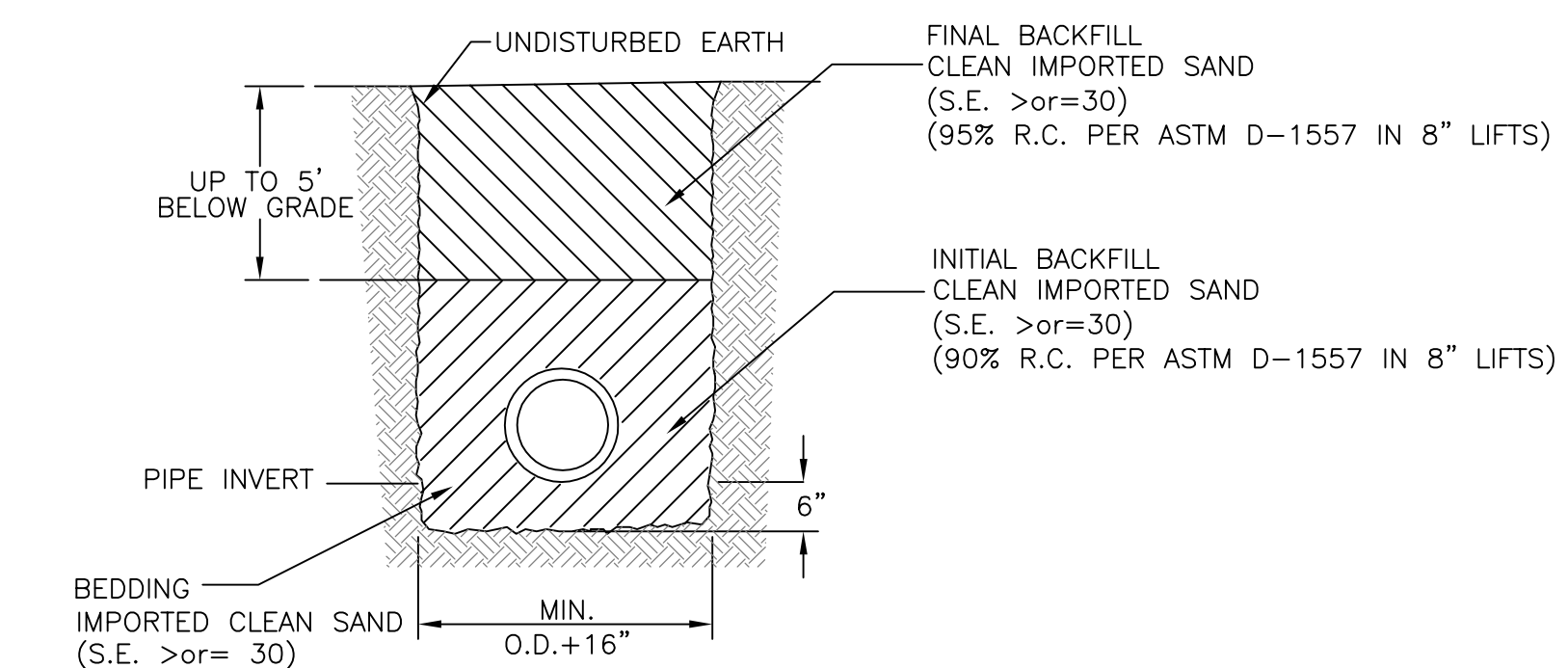
5 GRAVEL SURFACE RESTORATION



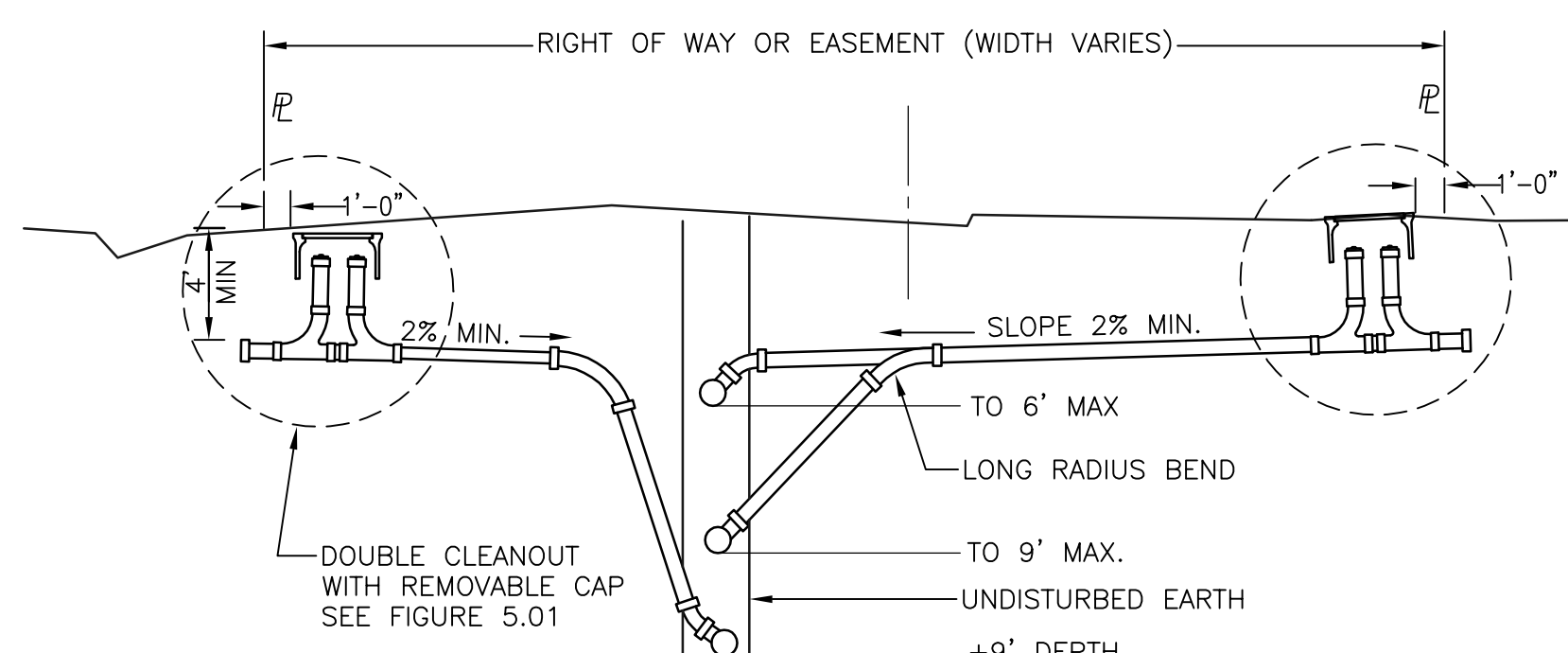
- GENERAL NOTES**
- PIPE ZONE BEDDING AND BACKFILL SHALL BE CLEAN SAND, OR IN CASE OF EXCESS WATER IN TRENCH, 1/2" PEA GRAVEL. COMPACT SAND BEDDING AT OPTIMUM MOISTURE TO 90% R.C. PER ASTM D-1557.
 - CONNECTIONS OF PIPE TO MANHOLES SHALL UTILIZE A-LOK PIPE OR APPROVED EQUAL. FOR PRECAST BASES, CONNECTION OF THE PIPE TO THE MANHOLE SHALL UTILIZE A RESILIENT CONNECTOR CONFORMING TO ASTM C923 SUCH AS A-LOK, KOR-N-SEAL, OR EQUAL.
 - TEMPORARY CLEAN OUT SHALL BE IDENTICAL TO STANDARD CLEAN OUT ASSEMBLY. TEMPORARY CLEAN OUTS ARE REQUIRED ON ALL SEWERS WHICH HAVE SERVICE LATERALS AND ARE PLANNED FOR EXTENSION IN THE FUTURE. TEMPORARY CLEANOUT ASSEMBLYS SHALL INCLUDE LOCATOR WIRE SUFFICIENT FOR DETECTION.
 - A TRENCH PLUG OR DAM OF CLAYEY MATERIAL MAY BE REQUIRED TO SERVE AS A WATERSTOP PREVENTING MOVEMENT OF WATER IN THE TRENCH. LENGTH AND SPECIFIC TYPE OF MATERIAL TO BE SPECIFIED BY L.O.A.P.U.D. ENGINEER. CONCRETE EROSION PROTECTION COLLARS MAY BE REQUIRED ON STEEP SLOPES.
 - PIPE SHALL STOP AT INSIDE FACE OF MANHOLE OR SHALL BE CONTINUOUS THROUGH MANHOLE. IF PIPE LAID CONTINUOUS, TOP HALF SHALL BE REMOVED AFTER BASE IS POURED.
 - USE OF ECCENTRIC CONES OR SHALLOW (FLAT TOP) MANHOLES SUBJECT TO APPROVAL BY L.O.A.P.U.D. ENGINEER.
 - USE OF PRECAST MANHOLE BASES SUBJECT TO APPROVAL BY L.O.A.P.U.D. ENGINEER. NO FIBERGLASS MANHOLES WILL BE PERMITTED.
 - MANHOLE LIDS SHALL EXTEND 12" ABOVE HIGHWATER LINE WHERE SEWER FOLLOWS DRAINAGE COURSE.
 - COUPLINGS MAY BE FERNCO STRONGBACK RC SERIES OR APPROVED EQUAL. PIPE MAY BE LAID THRU AND CUT BY SAW OR CHAIN TYPE BREAKER AFTER POUR, IN ORDER TO FACILITATE MAINTENANCE OF GRADE DURING POURING OF MANHOLE BASE.
 - MORTAR SHALL BE PLACED OUTSIDE AROUND THE JOINT BETWEEN CASTING AND THE TOP GRADE RING TO FORM ADDITIONAL SUPPORT AGAINST JOINT FRACTURE DO TO VIBRATION.
 - TEST WYES AT PROPERTY LINE ON SERVICE LATERALS SHALL HAVE SUFFICIENT METAL ATTACHED TO CAPS TO PROVIDE FOR DETECTION.
 - ALL CONSTRUCTION TO CONFORM TO L.O.A.P.U.D. STANDARDS.
 - SIX (6) INCHES OF 3/4" CRUSHED GRAVEL BEDDING IS REQUIRED UNDER ALL MANHOLE BASES.
 - STRUCTURAL SECTION ELEMENTS MAY BE INCREASED WHERE REQUIRED BY THE AGENCY HAVING JURISDICTION, DUE TO SOIL CONDITIONS AND TRAFFIC CONSIDERATIONS. THE REPLACEMENT STRUCTURAL SECTION SHALL EQUAL THE EXISTING STRUCTURAL SECTION AS A MINIMUM REQUIREMENT. THE SECTION SHOWN IS AN ABSOLUTE MINIMUM.
 - THE RELATIVE DENSITY REQUIREMENTS FOR ASPHALT RESURFACING ARE AS FOLLOWS: FOR THE TOP 5': 95% UNDER ROADWAY, 95% OUTSIDE OF THE TRAVELED WAY (SUCH AS INTERSECTIONS, CROSSOVERS, TURNOUTS, ETC.), 95% SHOULDER PAVEMENT. FOR 5' BELOW GRADE TO TRENCH BOTTOM: 90% RELATIVE COMPACTION. ALL COMPACTION TESTING IS IN ACCORDANCE WITH ASTM TEST METHOD D-1557.



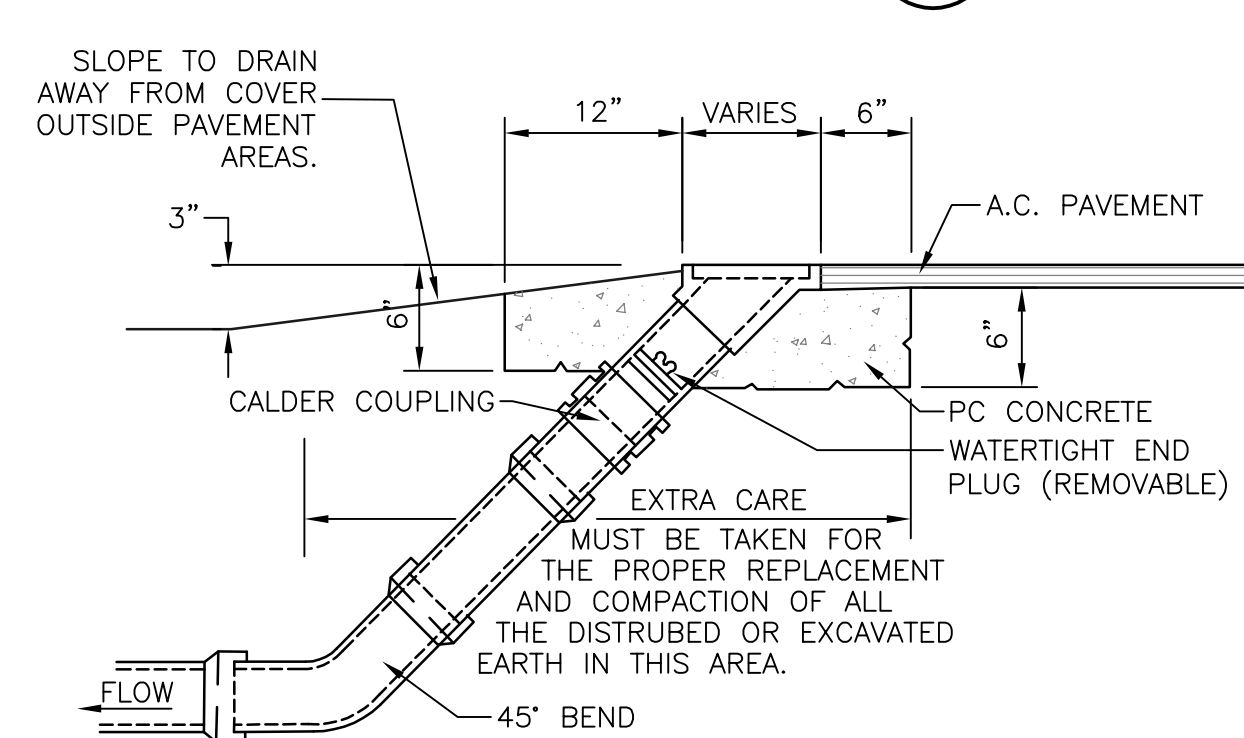
8 TYPICAL SEWER PIPE TRENCH (OUTSIDE 5' OF CO. ROADWAY)



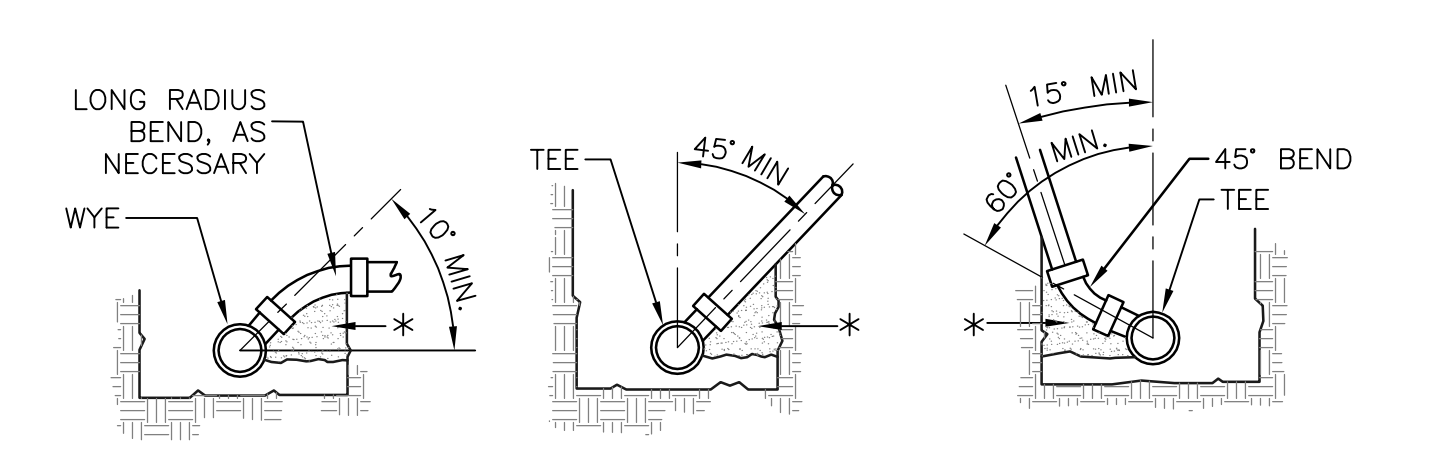
11 TYPICAL SEWER PIPE TRENCH (WITHIN 5' OF CO. ROADWAY)



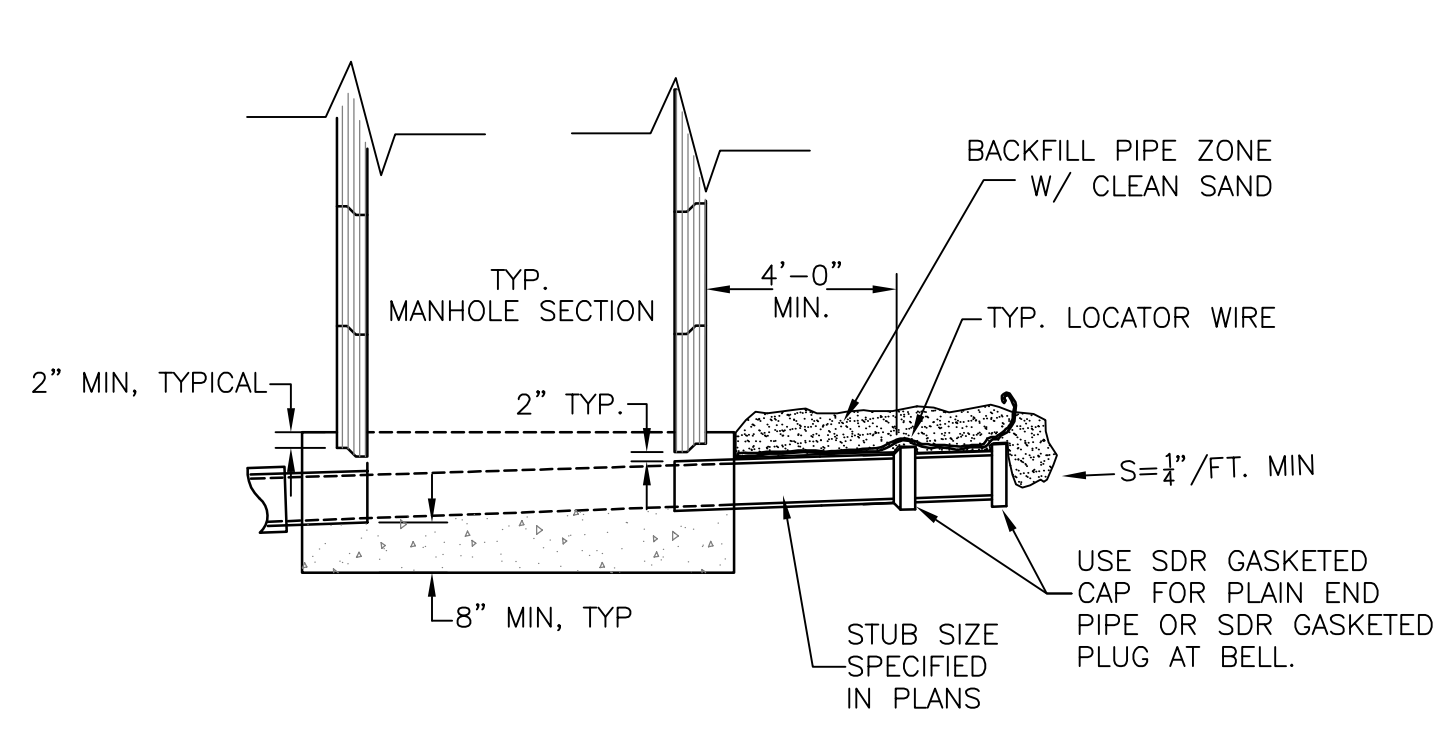
9 SEWER SERVICE GEOMETRY



12 STANDARD CLEANOUT ASSEMBLY
SEE NOTE 3



10 CONNECTION DETAILS FOR SEWER SERVICE LATERALS



13 TYP. SEWER STUB

DESIGNED BY EDJ					
DRAFTED BY DDM					
CHECKED BY 00-001-01					
PROJECT NO. DECEMBER 2011					
DATE	NO.	BY	DATE	APP'D	REVISIONS

BENCHMARK:	ELEV.	
DESCRIPTION:	DATUM	

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440 Lower Grass Valley Road, Suite A, Nevada City, CA 95959
Telephone (530) 265-8021

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1" 2"
HORIZ. SCALE:
VERT. SCALE:
(E) CONTOUR
INTERVAL

LAKE OROVILLE PUBLIC UTILITY DISTRICT
1960 ELGIN STREET
OROVILLE, CA 95966
TEL. (530) 533-2000

LOAPUD STANDARD DETAILS
DRAWING SD1
SHEET 1 OF 1