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C210

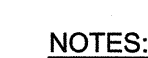
TYPICAL TRENCH DETAIL
NOT TO SCALE

- NOTES:**
1. WHERE EXISTING STREET IS PCC OVERLaid WITH HMA, THE PCC SECTION REMOVED BY TRENCHING SHALL NOT BE REPLACED.
 2. FINAL TRENCH PAVING IS REQUIRED TO BE EXPANDED TO A PAINTED LANE STRIPE, EXISTING PAVEMENT PATCH, THE LIP OF GUTTER OR EDGE OF PAVEMENT WHERE SUCH STRIPE FEATURE IS WITHIN 3 FEET OF THE FINAL SAWCUT.
 3. PERMANENT PAVING MUST BE COMPLETED WITHIN 30 DAYS. HMA OR CUTBACK (1" THICK) MAY BE PLACED AS A TEMPORARY SURFACE IN ROADWAY AREAS AND SHALL BE MAINTAINED UNTIL PERMANENT PAVING IS COMPLETED, WHERE WARRANTEED AND AT THE DISCRETION OF THE COTR. TRENCH PLATES MAY BE USED FOR UP TO 2 WEEKS. TRENCH PLATES SHALL HAVE A S/D RESISTANT SURFACE, SECURED WITH 24" WIDE COLLAR OF CURBACK AROUND ALL SIDES OF PLATE, AND TAPERED TO PROVIDE SMOOTH TRANSITIONS.
 4. A TACK COAT OF ASPHALTIC EMULSION OR PAVING GRADE ASPHALT SHALL BE APPLIED TO EXISTING HMA PAVEMENT AT ALL CONTACT SURFACES PRIOR TO PERMANENT HMA PAVING PER SECTION 22.7 OF STANDARD SPECIFICATIONS.
 5. UNLESS OTHERWISE SPECIFIED, PERMANENT PAVEMENT SHALL CONFORM IN QUALITY AND FINISH TO THE TYPE OF PAVEMENT REQUIRED, BUT IN NO CASE SHALL BE LESS THAN FOUR INCHES (4") OF HOT MIX ASPHALT ON TWELVE INCHES (12") OF AGGREGATE BASE CLASS 2.
 6. EXISTING PAVEMENT SHALL BE SAWCUT AND REMOVED IN SUCH A MANNER AS NOT TO TEAR, BULGE, OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL WHEN PRACTICAL. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE STREET CENTERLINE.
 7. R.C. - RELATIVE COMPACTION AS DETERMINED BY ASTM DESIGNATION D-1557.
 8. NO SOLID BLOCKING PERMISSIBLE BENEATH PIPE.
 9. JETTING BACKFILL IS NOT PERMITTED.
 10. ROCKS EXCEEDING 6" SHALL NOT BE PERMITTED WITHIN THE TRENCH SECTION.
 11. THE MINIMUM EQUIPMENT REQUIRED FOR COMPACTION OF NATIVE BACKFILL MATERIAL SHALL CONSIST OF A SHEEPSFOOT VIBRATORY ROLLER WITH A MINIMUM DUMP WIDTH OF 48". A MINIMUM GROSS WEIGHT OF 4600 LBS, OR MUST MEET APPROVAL OF THE COTR.
 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE COTR 48 HOURS PRIOR TO EXCAVATION.
 13. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING TESTING AND ON A FULL-TIME BASIS DURING ALL NATIVE BACKFILLING OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL NATIVE BACKFILL WORK, INCLUDING COMPACTION AND UNIFORM MOISTURE CONDITIONING, AND THAT MOISTURE CONTENT IS ABOVE OPTIMUM MOISTURE TO THE EXTENT APPROPRIATE FOR THE NATIVE MATERIAL BEING USED.
 14. ROADWAYS WHERE NATIVE TRENCH BACKFILL IS USED, TREATED (LIME, CEMENT, FLYASH, ETC.) SUBGRADE SHALL NOT BE USED AS PART OF THE STRUCTURAL SECTION.
 15. PIPE SHALL BE INSTALLED CENTERED IN TRENCH.

PIPE SIZE*	TRENCH WIDTH (MIN.)
15"	36"
18"	48"
24"	54"
30"	60"
36"	72"

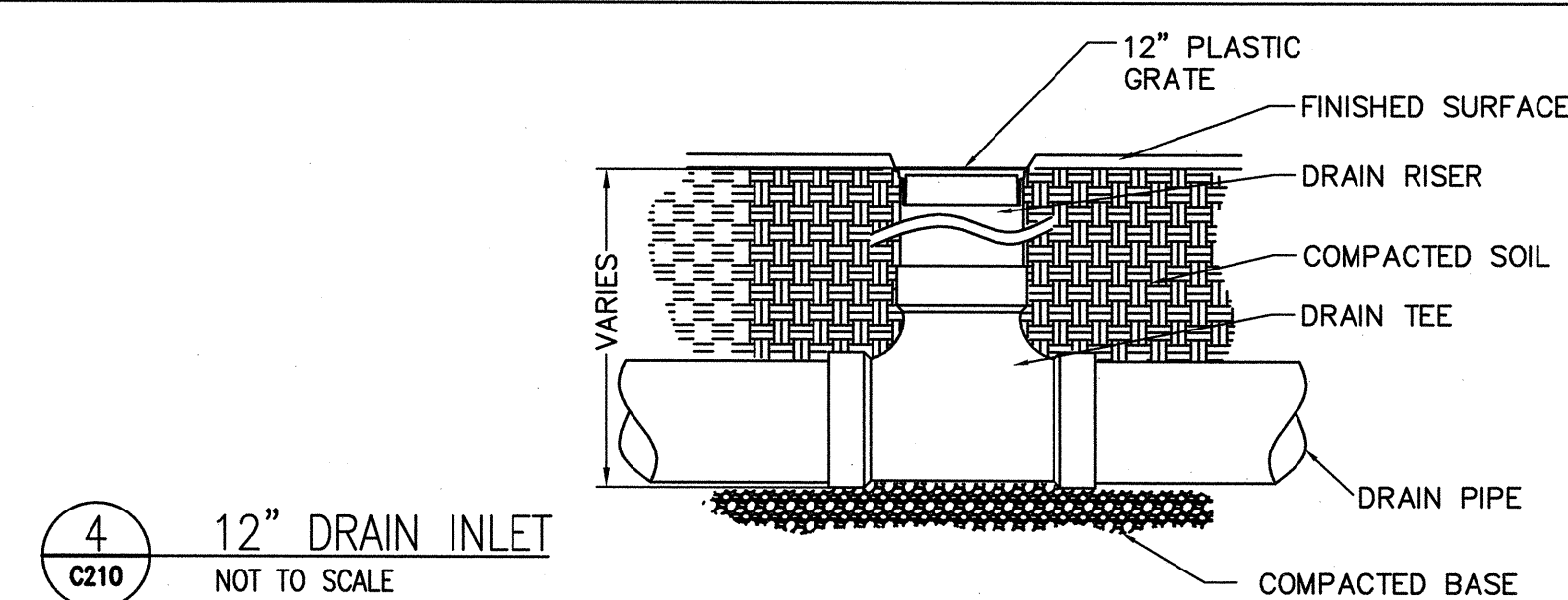
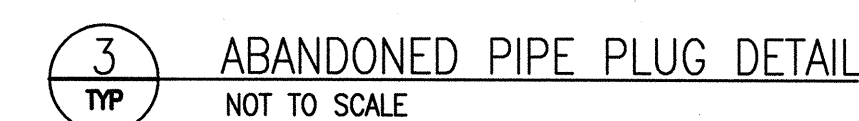
PIPE MUST BE CENTERED IN THE TRENCH.
*INSIDE DIAMETER

NOMINAL PIPE SIZE	MINIMUM DIMENSIONS		
	A	B	C
≤12"	6"	3"	6"
>12"–18"	9"	6"	8"
>18"–24"	9"	6"	8"
>24"	12"	6"	12"

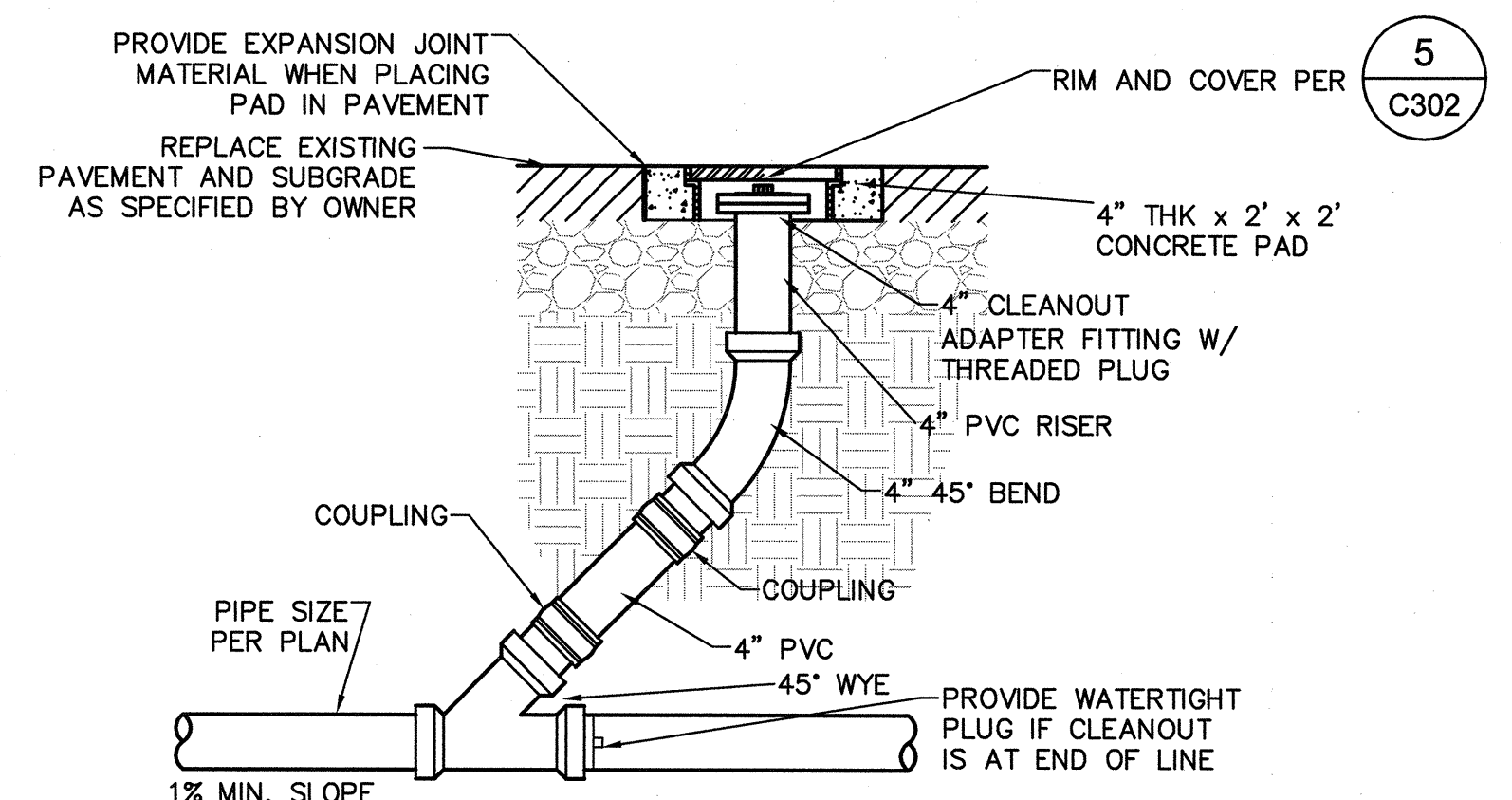


1. EXPANSION JOINTS SHALL BE LOCATED WHERE SIDEWALK ABUTS CONCRETE DRIVEWAYS, CURB OR OTHER ADJACENT STRUCTURES.
2. ONE-HALF INCH BITUMINOUS JOINT FILLER SHALL BE INSTALLED AT EXPANSION JOINT LOCATIONS AND SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. 1" DEEP CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF APPROXIMATELY 15' [4572mm] OR AT A SPACING THAT MATCHES THE ADJACENT CURB.
4. FORMED CONTRACTION JOINTS SHALL BE FINISHED WITH A TOOL HAVING A 1/4" [6mm] RADIUS.
5. SCORED JOINTS SHALL BE 1/4" [6mm] DEEP AND PLACED AT THE SPACING INDICATED FOR THE WIDTH OF SIDEWALK OR MATCH SCORED JOINTS OF ADJACENT CURB.
6. CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWELED AND BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.
7. 1/4" DEEP SCORED JOINTS (TYP) SPACED AT 8' [1829mm] OR EQUAL TO SIDEWALK WIDTH.

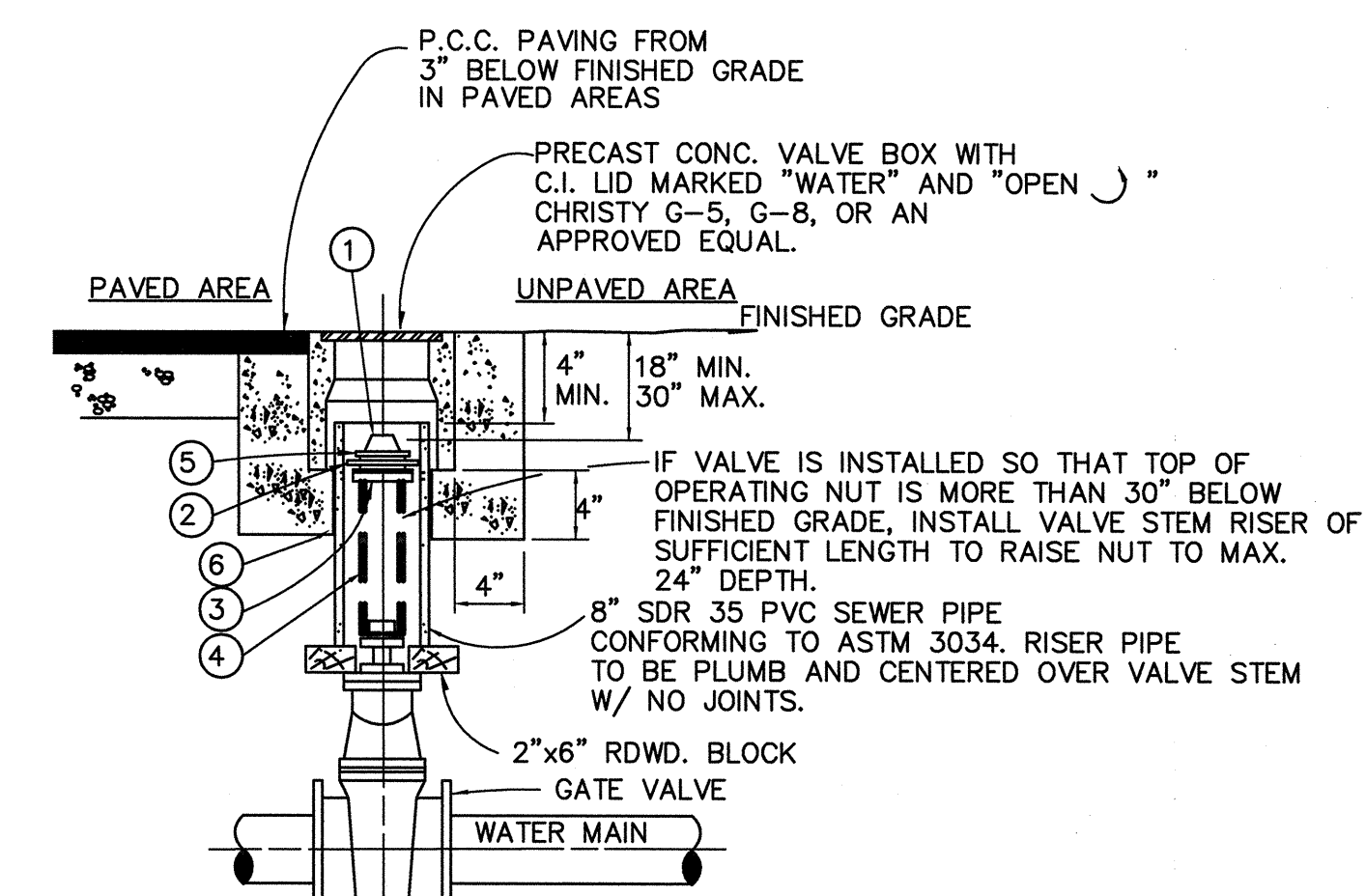
2 SIDEWALK EXPANSION JOINT
C200 NOT TO SCALE



4 12" DRAIN INLET
C210 NOT TO SCALE



5 COMBINED SEWER CLEANOUT
C210 NOT TO SCALE



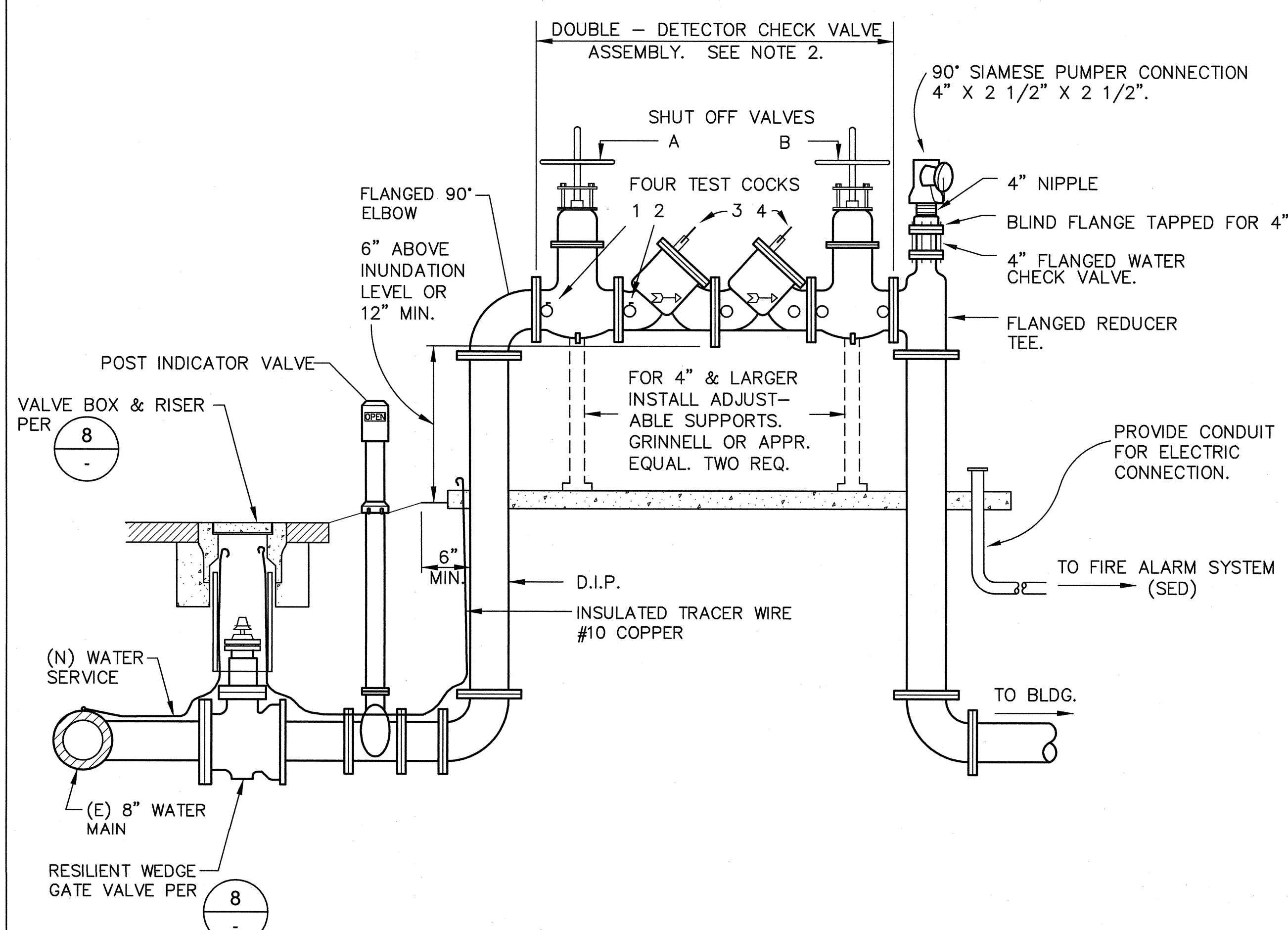
VALVE STEM RISER LEGEND

① VALVE OPERATING NUT OR

- NOTES:**
1. GATE VALVES SHALL CONFORM TO A.W.W.A. STD. C509 OF LATEST REVISION AND SHALL BE RESILIENT WEDGE TYPE W/ NON-RIISING STEM. OPENING COUNTERCLOCKWISE W/ O-RING STEM SEAL AND SUITABLE AND FOR CONNECTIONS TO TYPE OF PIPE OR FITTING USED.
 2. 6" & 8" VALVES SHALL BE GATE VALVES. 12" & LARGER SHALL BE BUTTERFLY VALVES.
 3. 3/16" THK. X7-1/2" Ø FREE SPINNING GATE PLATE W/ 1-1/2" Ø HOLE IN CENTER.
 4. 230 3/16" X 1-1/2" X 1-1/2" X 5" STEEL ANGLE WELDED TO TWO SIDES OF RISER SHAFT.
 5. 2" X 1/2" X 3/16" SQUARE STRUCTURAL STEEL TUBING TO GO OPERATING NUT. LENGTH AS REQUIRED.
 6. 3" X 3/16" X 1/4" STEEL TOP PLATE WELDED TO RISER SHAFT AFTER GATE PLATE IS IN PLACE.
 7. WRAP 8" RISER IN FELT.

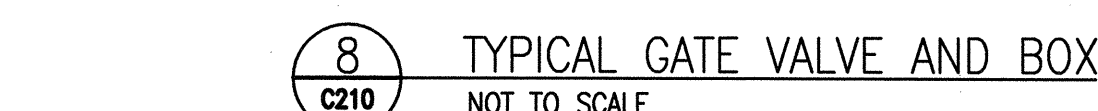
8 TYPICAL GATE VALVE AND BOX
C210 NOT TO SCALE

- NOTES:**
1. REDUCED PRESSURE TYPE BACKFLOW DEVICES SHALL BE REQUIRED FOR ANY USE WHERE TOXIC MATERIALS ARE USED OR STORED ON SITE OR WHERE POSITIVE PROTECTION FOR THE PUBLIC WATER SUPPLY IS REQUIRED. TYPICAL APPLICATIONS INCLUDE ALL IRRIGATION SERVICES & PARKS, HOSPITALS, MEDICAL & DENTAL LABORATORIES, MORTUARIES, INDUSTRIAL PLANTS, DRY CLEANERS, OR AS DETERMINED BY THE COTR.
 2. APPROVED REDUCED PRESSURE BACKFLOW DEVICE SHALL BE AS SHOWN ON "LIST OF APPROVED BACKFLOW PROTECTION DEVICES" (LATEST REVISION) BY THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL & HYDRAULIC RESEARCH.
 3. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AT THE LOCATION SHOWN ON THE DRAWINGS AND AS APPROVED BY THE COTR.
 4. A VALVE OF THE SAME SIZE AS THE BACKFLOW PREVENTER SHALL BE INSTALLED ON EACH SIDE OF THE BACKFLOW PREVENTION ASSEMBLY. VALVES 2" & LESS SHALL BE THREADED FORD BALL VALVES. VALVES 3" SHALL BE WATTS BALL VALVES, AND 4" & LARGER SHALL BE RESILIENT SEATED GATE VALVES.
 5. ANY COVER OR SCREENING FOR THE BACKFLOW PREVENTION ASSEMBLY MUST BE APPROVED BY THE COTR PRIOR TO INSTALLATION.
 6. IN LIMITED SPACE APPLICATIONS VALVES MAY BE INSTALLED ON RISERS, MIN. 4" ABOVE GRADE.
 7. THE ADDITION OF SPOOLS MUST BE APPROVED BY THE COTR PRIOR TO INSTALLATION.
 8. THE PIPING FROM THE REDUCED PRESSURE BACKFLOW PREVENTER & THE REDUCED PRESSURE BACKFLOW PREVENTER VALVE ASSEMBLY ITSELF MUST BE THE SAME SIZE AS THE SERVICE LINE UNLESS OTHERWISE APPROVED BY THE COTR.




7 8" FIRE SERVICE DOUBLE DETECTOR CHECK ASSEMBLY
C210 NOT TO SCALE

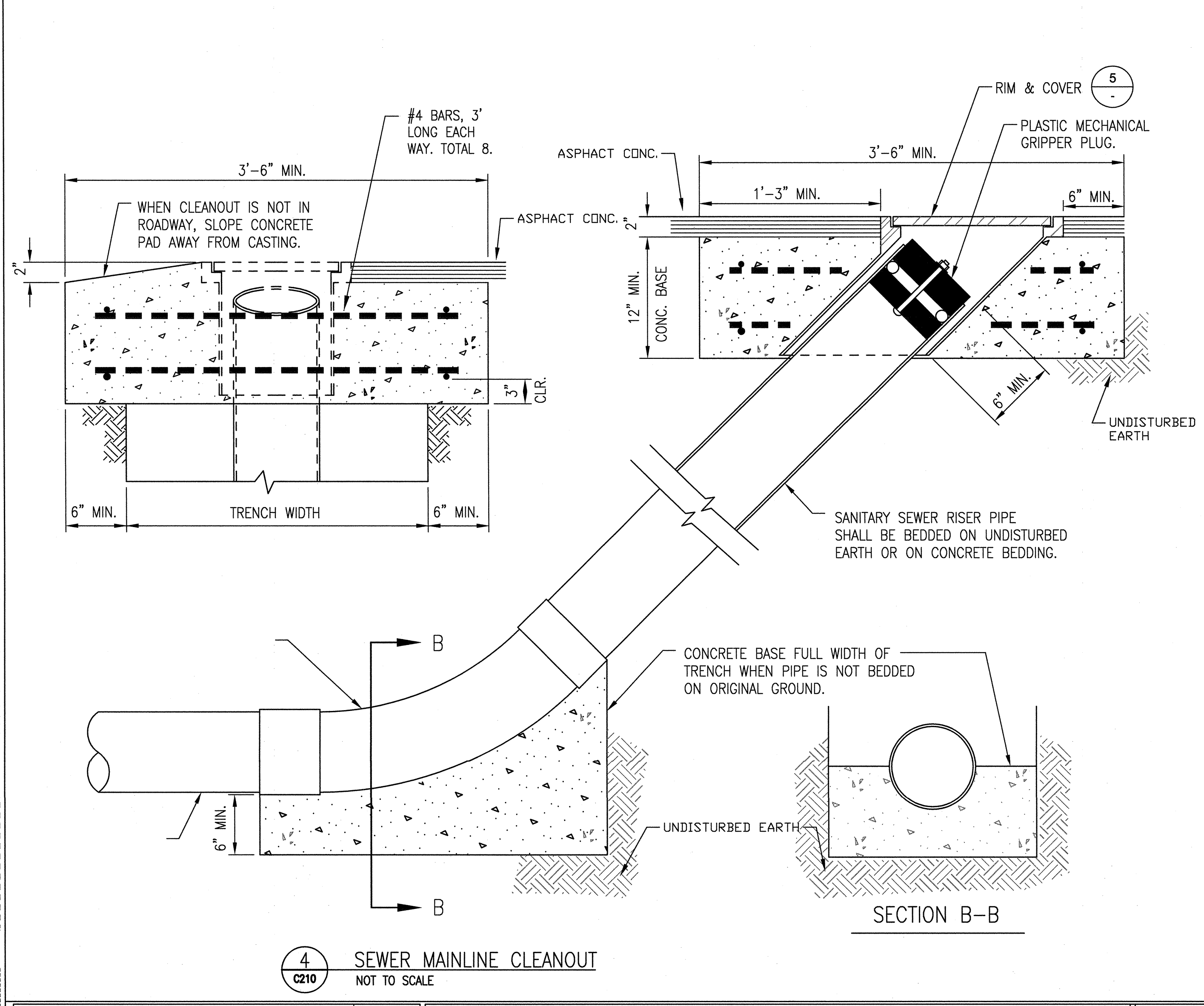
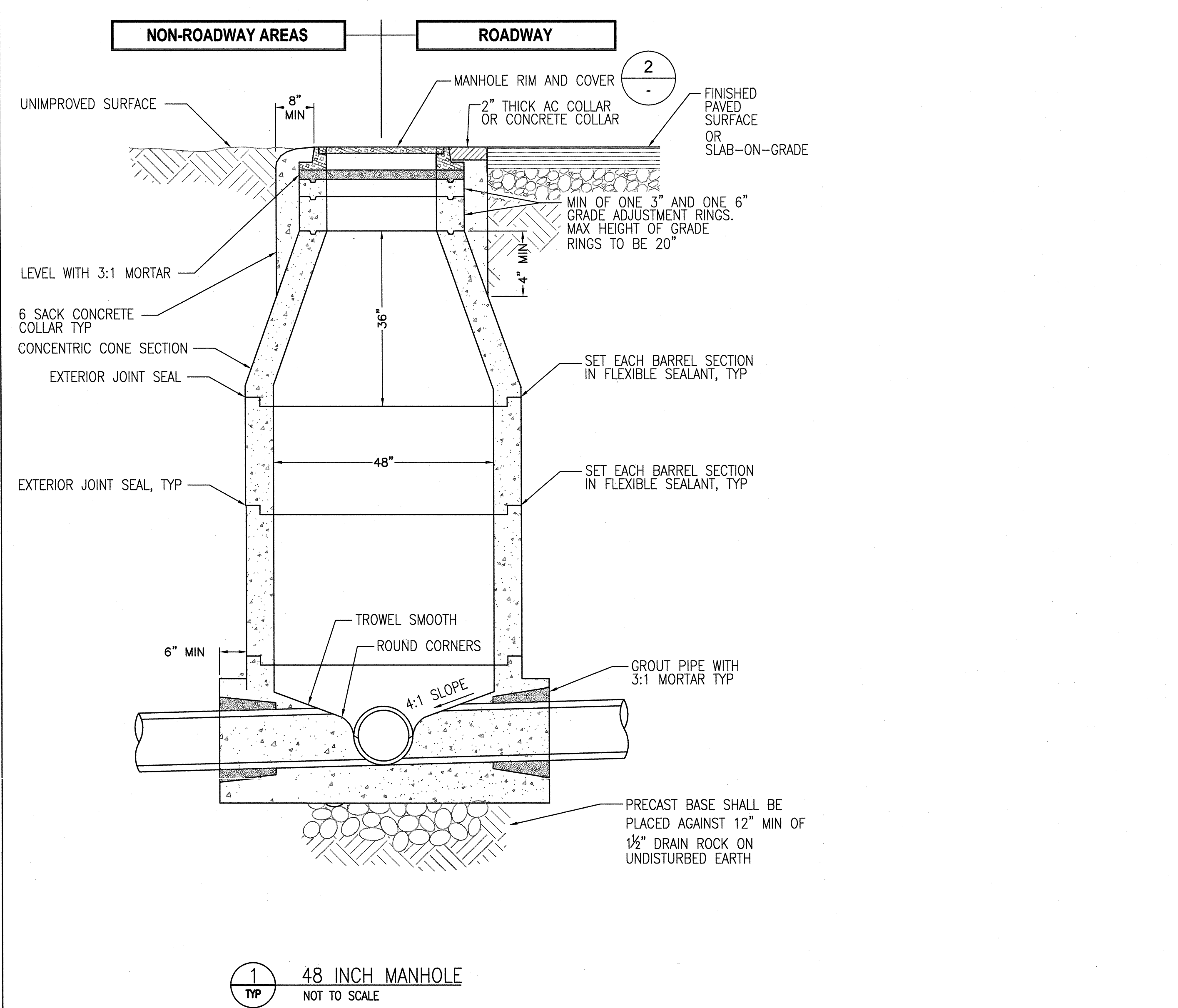
- NOTES:**
1. DOUBLE - DETECTOR CHECK VALVE BACKFLOW ASSEMBLY SHALL BE REQUIRED ON ALL PROPERTIES WITH FIRE SPRINKLER SYSTEMS, AUXILIARY WATER SUPPLY ON SITE OR WHERE THE COTR DETERMINES HAZARD.
 2. DOUBLE - DETECTOR CHECK BACKFLOW ASSEMBLY SHALL BE AS SHOWN ON "LIST OF APPROVED BACKFLOW DEVICES" (LATEST EDITION) BY UNIVERSITY OF SO. CAL. FOUNDATION FOR CROSS CONNECTION CONTROL. HIC AND RESIDENTIAL AND SHALL BE LISTED FOR USE IN FIRE SERVICES.
 3. DOUBLE DETECTOR CHECK BACKFLOW ASSEMBLY SHALL BE SAME SIZE AS FIRE LINE.
 4. ALL JOINTS AND FITTINGS SHALL BE MECHANICALLY RESTRAINED.
 5. ALL RESILIENT VALVES MUST BE CHAINED AND PADLOCKED TO THE POSITIVE POSITION.
 6. ALL TEST VALVES SHALL BE FITTED WITH 1/4" FEMALE TEST COUPLER.
 7. BYPASS METER WITH DBL. CHECK VALVE SHALL READ IN GALLON, BADGER RECORDALL.
 8. DOUBLE DETECTOR CHECK ASSEMBLY SHALL BE LOCATED AS SHOWN ON DRAWINGS.
 9. DETECTOR OR METER USING FOR THIS ASSEMBLY MUST HAVE COTR APPROVAL PRIOR TO INSTALLATION.
 10. SHUT-OFF VALVES TO BE RESILIENT WEDGE TYPE O.S. & S.
 11. MUST ALSO MEET THE REQUIREMENTS OF THE FIRE DEPARTMENT.
 12. APPROVED ONLY ON SPECIFIC APPROVAL OF THE FIRE DEPARTMENT.
 13. FREEZE PROTECTION BLANKET REQUIRED.

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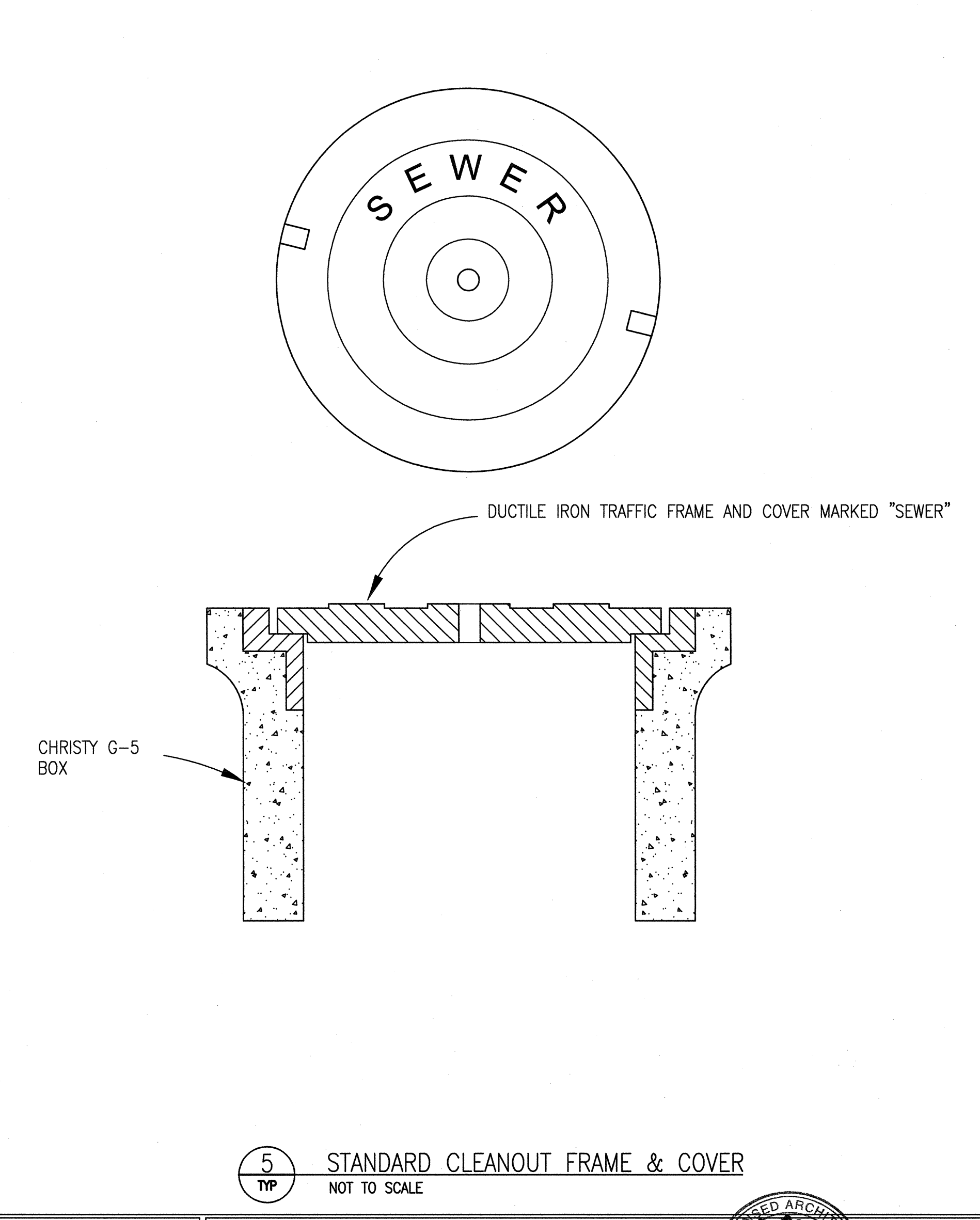
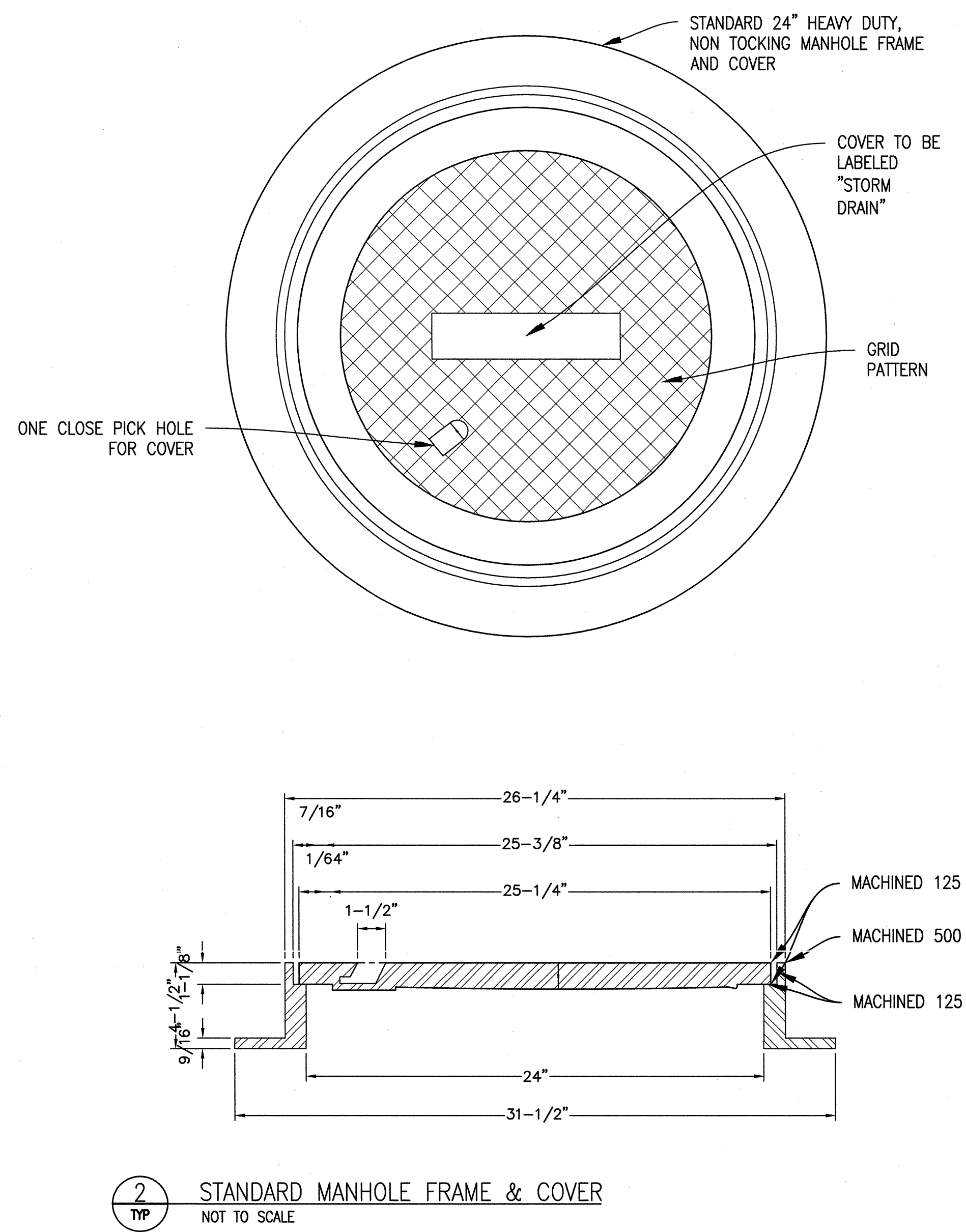
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Drawing Title CONSTRUCTION DETAILS		Project Title VA Medical Center Seismic Replacement And Retrofit		Project Number 2941-001-00		Office of Facilities Management  Department of Veterans Affairs
Scale: NONE		Location San Francisco, CA		Building Number		
Approved: Project Director		Date 01/22/2013		Drawn CFB		
				Drawing Number C301		

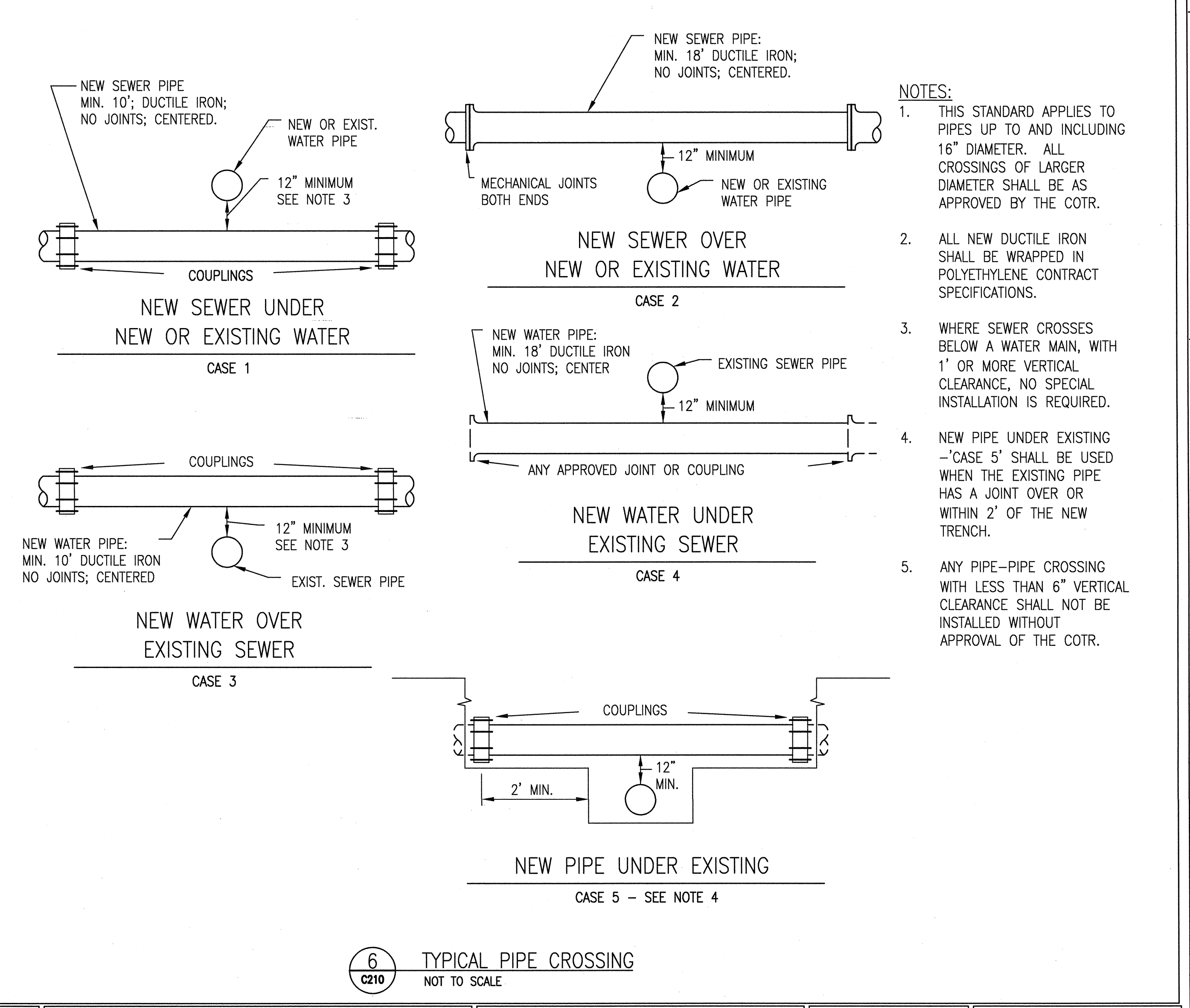
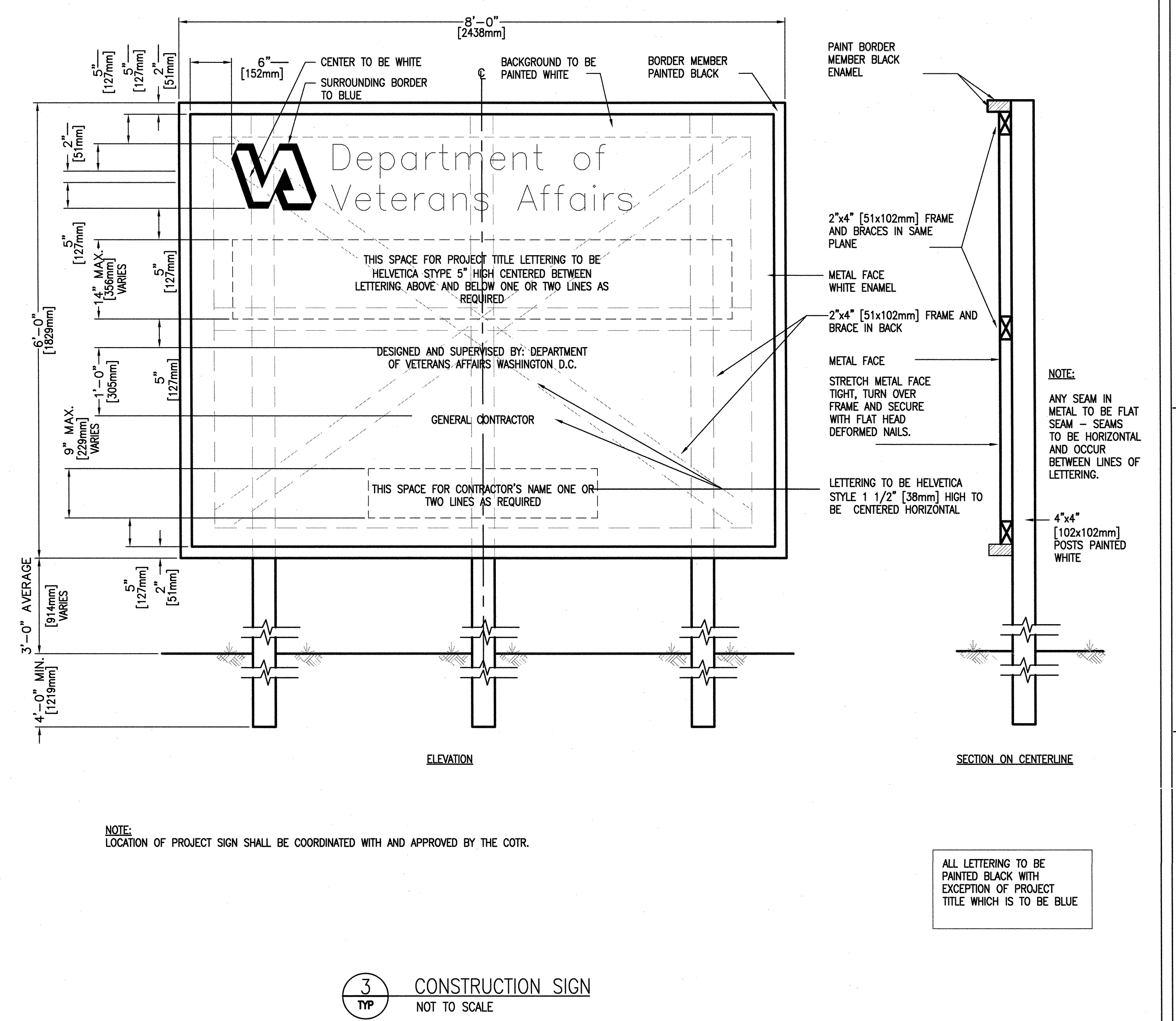


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Revisions:	Date



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Scale: NONE		VA Medical Center Seismic Replacement and Retrofit		2941-001-00	
Approved: Project Director		Location		Building Number	
		San Francisco, CA			
Date: 01/22/2013		Checked: MGK	Drawn: CFB	Drawing Number	
				C302	
				Office of Facilities Management	