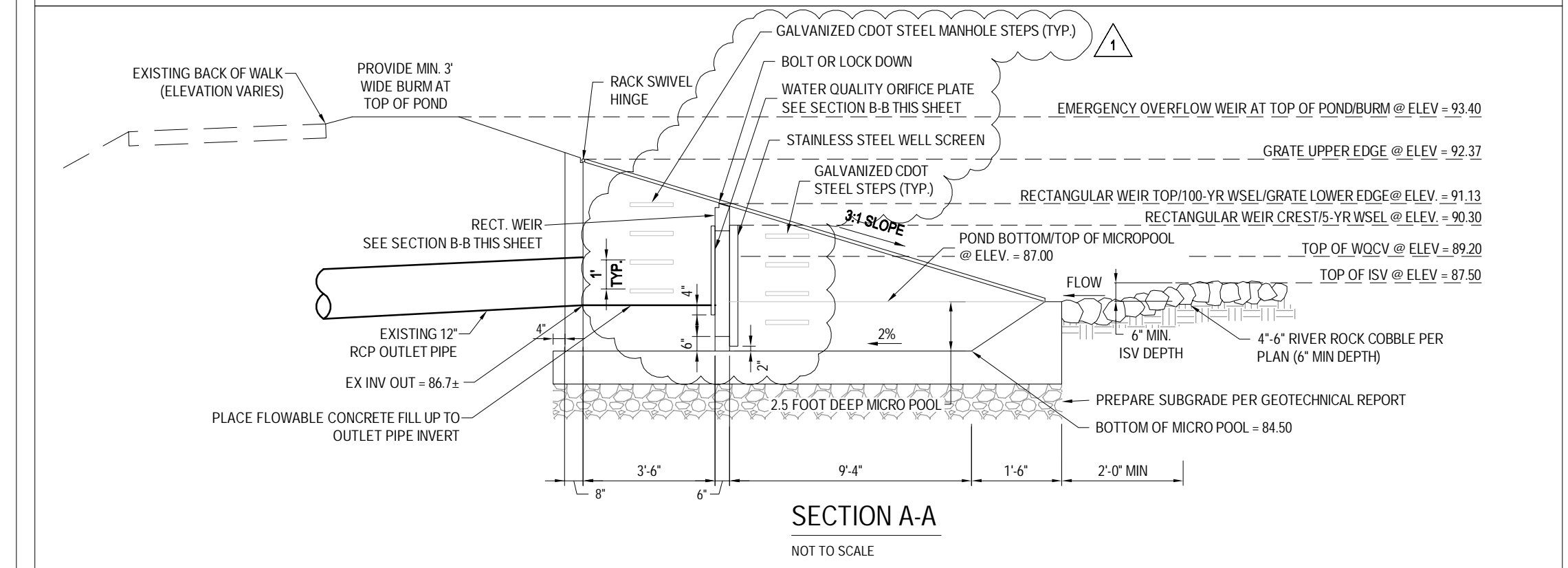
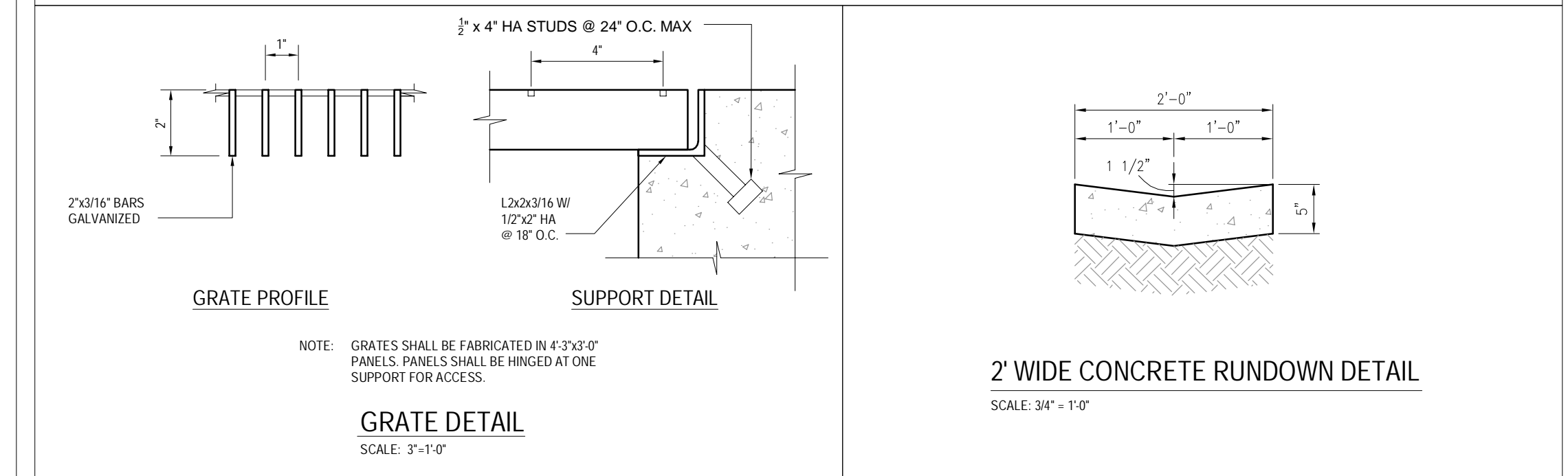


OUTFALL STRUCTURE FOR WATER QUALITY / DETENTION POND: PLAN
NOT TO SCALE

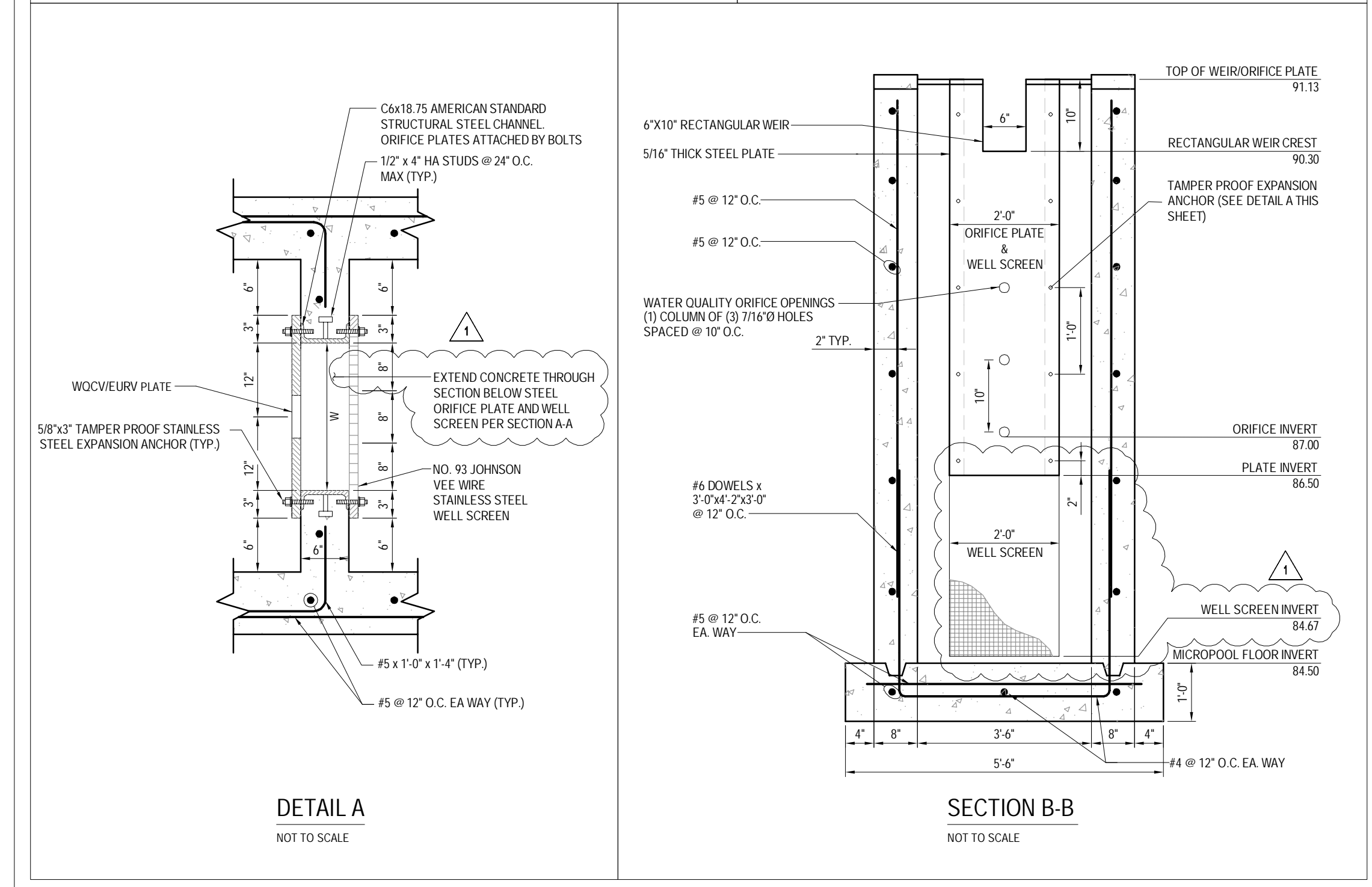


SECTION A-A
NOT TO SCALE



GRATE PROFILE
GRATE DETAIL
SCALE: 3/4"=1'-0"

2' WIDE CONCRETE RUNDOWN DETAIL
SCALE: 3/4"=1'-0"



DETAIL A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

OUTLET STRUCTURE - POND

GENERAL SANITARY SEWER NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE STANDARD WATER AND SEWER SPECIFICATIONS FOR CITY, COUNTY AND REGULATORY AGENCY UTILITY SPECIFICATIONS, CURRENT EDITION.
2. THE CONTRACTOR SHALL NOTIFY THE CITY, COUNTY AND REGULATORY AGENCY 48 WORKING HOURS PRIOR TO BEGINNING CONSTRUCTION.
3. THE CONTRACTOR SHALL HAVE ONE SIGNED COPY OF THE APPROVED PLANS, ONE COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED AT THE JOB SITE AT ALL TIMES.
4. THE CONTRACTOR SHALL VERIFY THE INVERT OF THE DOWNS-TREAM TIE IN POINT PRIOR TO BEGINNING ANY CONSTRUCTION. REPORT ANY DISCREPANCY TO THE ENGINEER.
5. ALL SANITARY SEWER LINES AT 4.5 FOOT DEPTH OR GREATER SHALL BE POLYVINYL CHLORIDE PIPE (PVC) ASTM D-3034 SDR35. SEWER LINE MATERIALS AND CONSTRUCTION SHALL CONFORM TO ASTM STANDARDS AND SPECIFICATIONS.
6. DISTANCES FOR SANITARY SEWER ARE THE HORIZONTAL DISTANCES FROM CENTER OF MANHOLE OR CLEANOUT TO CENTER OF SAME.
7. ALL SANITARY SEWER MAIN TESTING SHALL BE IN ACCORDANCE WITH THE CITY, COUNTY AND REGULATORY AGENCY UTILITY SPECIFICATIONS.
8. CONTRACTOR IS RESPONSIBLE FOR ALL SURFACE RESTORATION (I.E., LANDSCAPE, ASPHALT, CONCRETE, ETC.)
9. ALL TRENCH EXCAVATION SHALL BE PROPERLY SLOPED OR SUPPORTED IN A MANNER REQUIRED BY OSHA OR AS REQUIRED BY STATE OR LOCAL LAWS.
10. SANITARY SEWER PIPE SHALL BE BEDDED AND BACKFILLED PER CITY / DISTRICT STANDARDS.
11. NO CONNECTIONS TO THE EXISTING SYSTEM SHALL BE MADE UNTIL THE NEW LINES HAVE BEEN TESTED AND ACCEPTED BY THE CITY, COUNTY AND REGULATORY AGENCY.
12. CONTRACTOR SHALL OBTAIN ALL NECESSARY TEMPLATES FROM EQUIPMENT SUPPLIERS AND SUB LINES ACCORDINGLY.
13. CONTRACTOR TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES, WHETHER SHOWN OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY CONFLICTS TO THE ENGINEER.
14. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL TAP FEES REQUIRED. OWNER SHALL PAY FOR ALL SPECIAL ASSESSMENTS.
15. ALL DIMENSIONS ARE MEASURED HORIZONTALLY FROM CENTER OF MANHOLE OR INLETS.

JURISDICTIONAL SANITARY SEWER SYSTEM NOTES:

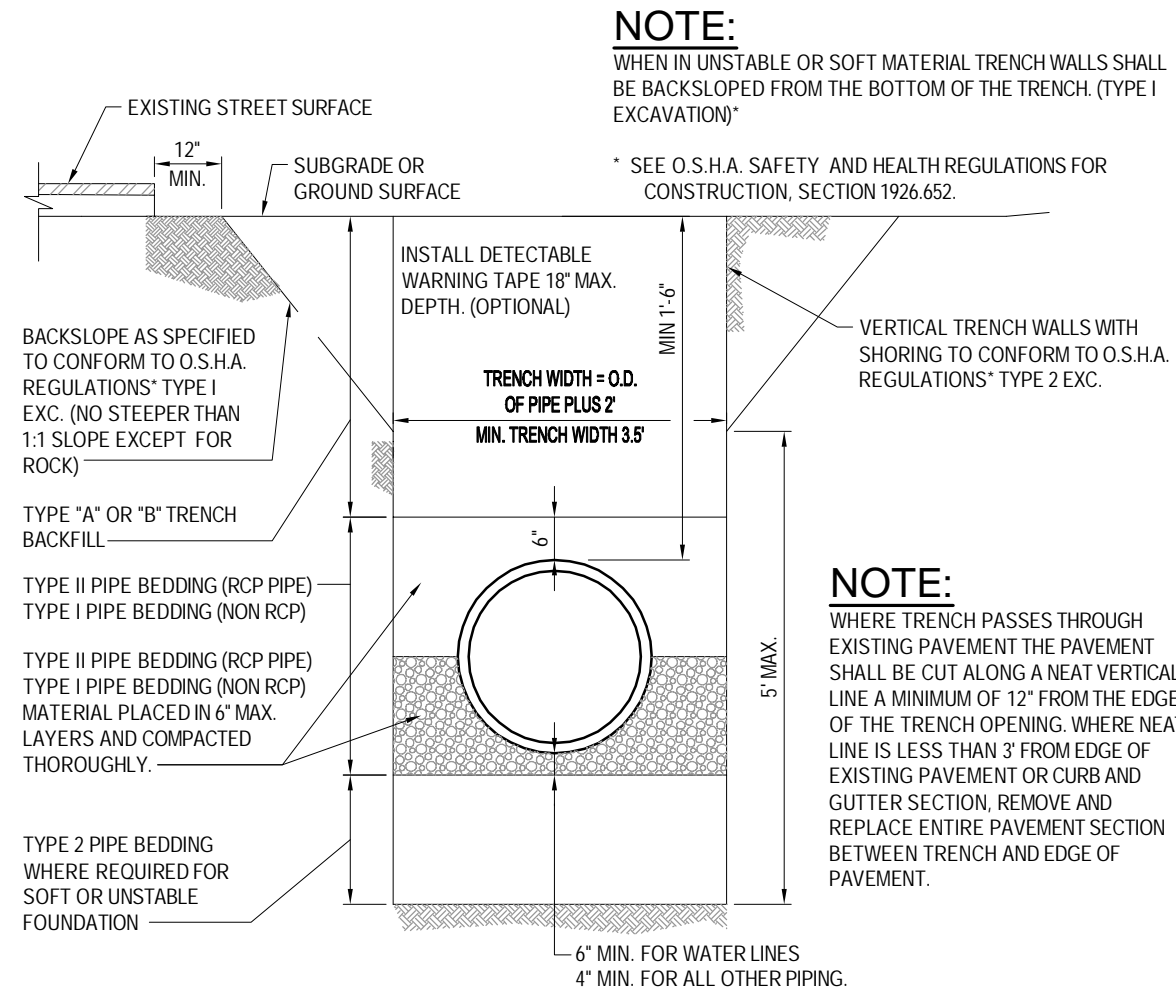
1. THERE SHALL BE A MINIMUM COVER OF 4.0 FEET OVER ALL SANITARY SEWER MAINS AND SERVICE LINES.
2. NO SERVICE LINES SHALL BE LAID UNDER DRIVEWAYS OR WITHIN GARAGES.
3. ALL SANITARY SEWER MAINS SHALL BE LAMPED AND LOW-PRESSURE AIR TESTED PER THE DISTRICT'S DESIGN AND CONSTRUCTION STANDARDS. ALL LAMPING AND TESTING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE DISTRICT. AT THE DISTRICT'S DISCRETION, SEWER MAINS SHALL ALSO BE CHECKED FOR DEFLECTION BY PULLING A STANDARD 9" MIN MANHOLE THROUGH THE PIPE.
4. ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED PER THE DISTRICT'S DESIGN AND CONSTRUCTION STANDARDS. ALL TESTING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE DISTRICT. THE EXACT LOCATION OF THE MARKER POST SHALL BE ADJACENT TO THE MANHOLE OVER THE SEWER MAIN ALIGNMENT UNLESS OTHERWISE DETERMINED IN THE FIELD BY THE DISTRICT.
5. ALL SANITARY SEWER MANHOLE COVERS SHALL BE FURNISHED WITH THE WORD "SEWER" CLEARLY CAST ON THE SURFACE OF THE COVER.
6. THE LOCATION OF ALL SANITARY SEWER MANHOLES NOT LOCATED IN PAVED ROAD SURFACES SHALL BE IDENTIFIED WITH A CARSONITE OR STEEL MARKER POST. AS DIRECTED BY THE DISTRICT, THE EXACT LOCATION OF THE MARKER POST SHALL BE ADJACENT TO THE MANHOLE OVER THE SEWER MAIN ALIGNMENT UNLESS OTHERWISE DETERMINED IN THE FIELD BY THE DISTRICT.
7. A MINIMUM CENTERLINE-TO-CENTERLINE HORIZONTAL SEPARATION DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND SANITARY SEWER MAINS. A MINIMUM CENTERLINE-TO-CENTERLINE HORIZONTAL SEPARATION DISTANCE OF 5 FEET SHALL BE MAINTAINED BETWEEN IRRIGATION WATER MAINS AND SANITARY SEWER MAINS.
8. LOCATION AND ELEVATION OF EXISTING SANITARY SEWER MAINS AT PROPOSED POINTS OF CONNECTION SHALL BE FIELD VERIFIED PRIOR TO THE INSTALLATION OF ANY NEW SANITARY SEWER MAINS.
9. MANHOLE RIMS SHALL BE SET TO AN ELEVATION 1/4-INCH BELOW THE FINAL PAVEMENT ELEVATION. CONCRETE ADJUSTMENT COLLARS SHALL BE USED TO ADJUST RIM ELEVATIONS TO ROUGH FINAL GRADE. NO MORE THAN ONE CAST IRON TRAFFIC ADJUSTMENT RING (RISER) MAY BE USED TO ADJUST THE MANHOLE RIM TO ITS FINAL ELEVATION.
10. THE MINIMUM PIPE DIAMETER OF SANITARY SEWER SERVICE LINES SHALL BE 4-INCH.
11. THE MINIMUM PIPE DIAMETER OF SANITARY SEWER MAINS SHALL BE 8-INCH.
12. ALL SANITARY SEWER MAINS SHALL BE INSTALLED IN A STRAIGHT ALIGNMENT BETWEEN MANHOLES. CHANGES IN PIPELINE DIRECTION SHALL OCCUR ONLY AT MANHOLES.
13. THE CONTRACTOR SHALL MEASURE AND RECORD ON THE AS-BUILT DRAWINGS, ALL SANITARY SEWER SERVICE LINE CONNECTION LOCATIONS BY REFERENCING THE DISTANCES TO UPSTREAM AND DOWNSTREAM SANITARY SEWER MANHOLES ON THE MAIN.

WATER LINE CONSTRUCTION NOTES

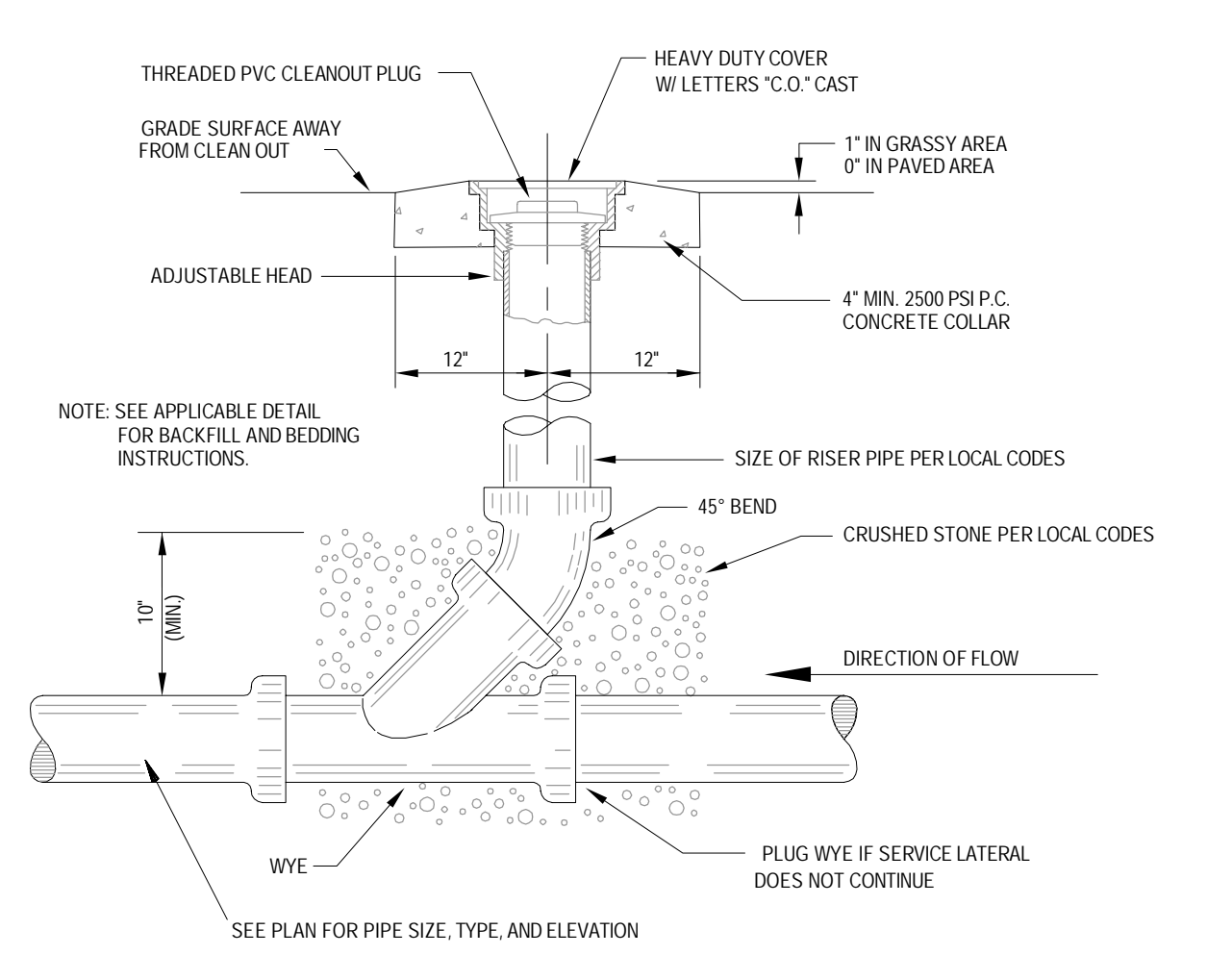
1. ALL WATER LINE CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE WATER LINE CONSTRUCTION NOTES LISTED HERE. IF A CONFLICT ARISES BETWEEN THESE NOTES AND DETAILS AND DISTRICT STANDARDS, THE DISTRICT STANDARDS SHALL SUPERSEDE THESE NOTES AND DETAILS. CONTRACTOR TO KEEP A COPY OF DISTRICT STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES. OBTAIN LATEST EDITION OF DISTRICT STANDARDS FROM THE DISTRICT CONTACT LISTED ON THE COVER SHEET.
2. ALL DIP AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TUBING TO PREVENT CORROSION. POLYETHYLENE TUBING, TAPE AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA C105.
3. GATE VALVES SHALL CONFORM TO AWWA C509 AND SHALL BE DOUBLE-RISE, PARALLEL SEAT, IRON BODY, BRONZE MOUNTED, NON-RISING STEM, EQUIPPED WITH "O" RING STEM SEALS, AND SHALL CLOSE BY TURNING CLOCKWISE. VALVE ENDS SHALL BE MECHANICAL JOINT, UNLESS SPECIFIED OTHERWISE IN THE PLANS.
4. ALL FIRE HYDRANTS SHALL BE 48" BURY, 6" BARREL, 4 1/2" PUMPER AND (2) - 2 1/2" HOSE NOZZLE HYDRANTS (WATERLOUS, US METROPOLITAN, OR MUELLER). REFER TO FIRE HYDRANT DETAILS.
5. ALL WATER LINES SHALL BE BURIED AN ABSOLUTE MINIMUM OF 4.5' FROM FINISHED GRADE. THE MAXIMUM BURY SHALL BE 6', UNLESS ADDITIONAL DEPTH IS REQUIRED FOR UTILITY CROSSINGS OR OTHER CONFLICTS. WHEREVER SUCH CROSSINGS OR CONFLICTS OCCUR, THE UTILITY CROSSING DETAIL SHALL BE USED.
6. ALL WATER LINES SHALL BE BEDDED IN ACCORDANCE WITH WATER MAIN BEDDING REQUIREMENTS DETAIL.
7. CONTRACTOR SHALL MAINTAIN A MINIMUM 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE, BETWEEN ALL WATER LINES AND SANITARY SEWER LINES, STORM LINES, AND IRRIGATION LINES.
8. ALL BENDS, TEES, FIRE HYDRANTS, AND PLUGS AT DEADEND MAINS, SHALL BE RESTRAINED FROM THRUST BY USING CONCRETE THRUST BLOCKS PER THE BEARING AREA AND THRUST BLOCK DETAILS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL FIRE HYDRANTS AND VALVE BOXES TO FINISH GRADE, IN ACCORDANCE WITH DISTRICT STANDARDS OR DETAILS ON THIS SHEET.
10. ALL WATER LINES SHALL BE TESTED IN ACCORDANCE WITH DISTRICT REGULATIONS. CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL PROCEDURES FOR TESTING, FLUSHING, AND DISINFECTING THE INSTALLED WATER LINES. TESTING SHALL BE DONE IN THE PRESENCE OF THE DISTRICT INSPECTOR.
11. DISTANCES FOR WATER LINES ARE THE HORIZONTAL DISTANCE FROM THE CENTER OF THE FITTING TO CENTER OF THE FITTING, THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.
12. ALL DOMESTIC SERVICE WATER LINES SHALL BE CLASS 200 COPPER TUBE SIZE POLYETHYLENE FROM THE MAIN TO THE METER, AND SHALL BE INSTALLED BY THE CONTRACTOR. THE WATER METER SHALL BE SUPPLIED BY THE CITY OF LAKEWOOD. METER INSTALLATION TO BE COORDINATED WITH THE DISTRICT.
13. WATER LINE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES, IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. FOR ALL EXCAVATION OPERATIONS, SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.

STORM DRAINAGE CONSTRUCTION NOTES

1. ALL STORM DRAINAGE CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS, AS WELL AS THE STORM DRAINAGE CONSTRUCTION NOTES LISTED HERE.
2. ALL STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) PER ASTM C76, CL III OR CL IV, AND JOINTING SHALL CONFORM TO ASTM C148. P.V.C. (SDR-35) SHALL BE IN ACCORDANCE WITH ASTM D-3034. ANY STORM DRAINAGE PIPE UNDER A PROPOSED OR FUTURE TRAFFIC AREA SHALL BE RCP CL III AS A MINIMUM. RCP TO BE JACKED SHALL BE CL-V AS A MINIMUM.
3. ALL STORM DRAINAGE PIPE SHALL HAVE A MINIMUM COVER OF 24", UNLESS OTHERWISE NOTED. UNDER NO CIRCUMSTANCES WILL ANY PIPE HAVE LESS THAN 18" COVER FROM THE FINISH SURFACE TO THE OUTSIDE WALL OF THE PIPE.
4. ALL STORM DRAINAGE PIPE SHALL BE BEDDED IN ACCORDANCE WITH STANDARD DETAILS INCLUDED AFTER THE STORM SEWER PLAN AND PROFILES OF THE PLAN SET. STORM SEWER PIPE SHALL BE BEDDING CLASS "B" UNLESS THE GEOTECHNICAL ENGINEER OR CITY ENGINEER DEEM NECESSARY A CHANGE IN BEDDING CLASS DUE TO SOIL CONDITION.
5. ALL STORM DRAINAGE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY, FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES, AND IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. ALL EXCAVATION OPERATION SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL MANHOLE RIM ELEVATIONS GIVEN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL SET THE FINAL RIM ELEVATION BASED ON THE COMPLETED FINISH SURFACE.
7. ALL STORM DRAINAGE PIPES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10' FROM ALL WATER LINES. WHERE LINES CROSS, THERE SHALL BE A MINIMUM OF 18" CLEAR VERTICAL SEPARATION. ANY STORM SEWER LINE ABOVE A WATER LINE SHALL HAVE JOINTS ENCASED IN CONCRETE PER DETAIL ON THIS SHEET IF WITHIN 18" VERTICAL SEPARATION. IF STORM SEWER IS ABOVE WATER LINE AND VERTICAL SEPARATION IS LESS THAN 15" THE STORM SEWER SHALL BE FULLY ENCASED IN CONCRETE PER THE APPROPRIATE ENCASEMENT DETAIL.
8. LENGTHS OF STORM SEWER PIPES ARE THE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. THEREFORE, LENGTHS SHOWN ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND STRUCTURE WIDTHS.
9. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF ROOF AND CANOPY DOWNSPOUTS.
10. ASPHALT / ROAD BASE, ETC. (FOR PAVEMENT CONSTRUCTION) TO BE INSTALLED ABOVE STORM PIPE BACKFILL SHALL BE ACCORDING TO GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT.



TYPICAL TRENCH DETAIL
NOT TO SCALE



SEWER CLEAN-OUT DETAIL
NOT TO SCALE

CALCULATIONS TO TOP OF PIPE (TOP) FOR REINFORCED CONCRETE PIPE (RCP) ASSUMES WALL THICKNESS AS SHOWN BELOW:

PIPE I.D. (INCHES)	WALL THICKNESS (INCHES)	PIPE O.D. (INCHES)
12	2.90	15.90
15	2.25	17.50
18	2.50	23.00
21	2.75	26.50
24	3.00	30.00
27	3.25	33.50
30	3.50	37.00
33	3.75	40.50
36	4.00	44.00
42	4.50	51.00
48	5.00	58.00
54	5.50	65.00
60	6.00	73.50
66	6.50	80.50

Galloway
Planning, Architecture, Engineering,
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com
©2016, Galloway & Company, Inc. All Rights Reserved

Dutch Bros Coffee
Dutch Bros, Coffee
P.O. Box 1529
Grants Pass, OR 97528
541.955.4700 O
www.DutchBros.com

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

**CONSTRUCTION PLANS
LOT 10, JCRS COMMERCIAL PLAZA,
FILING NO. 4
DUTCH BROS. COFFEE
6671 W COLFAX AVENUE
LAKEWOOD, COLORADO**

#	Date	Issue / Description	Int.
1	09/08/2017	BID ADDENDUM #1	JDP

Project No: DBC000010.01
Drawn By: JAR
Checked By: MAS
Date: JULY 2017

UTILITY NOTES & DETAILS

C4.1
SHEET 12 of 15