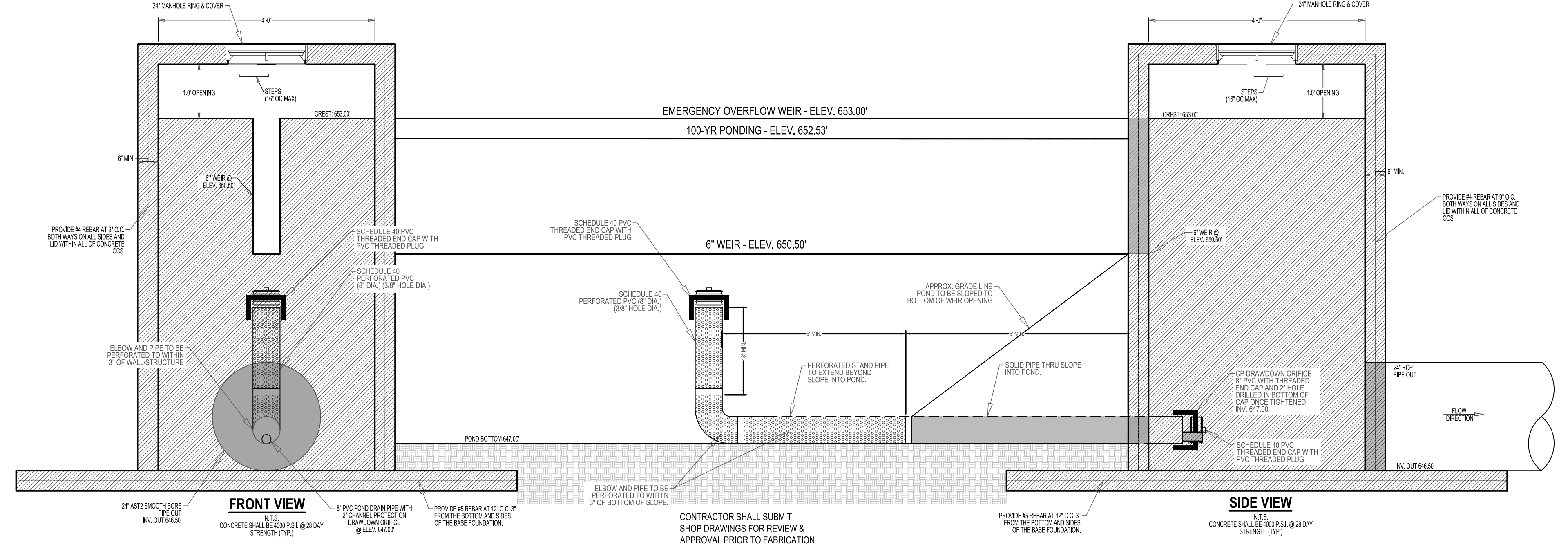


OCS DETAIL

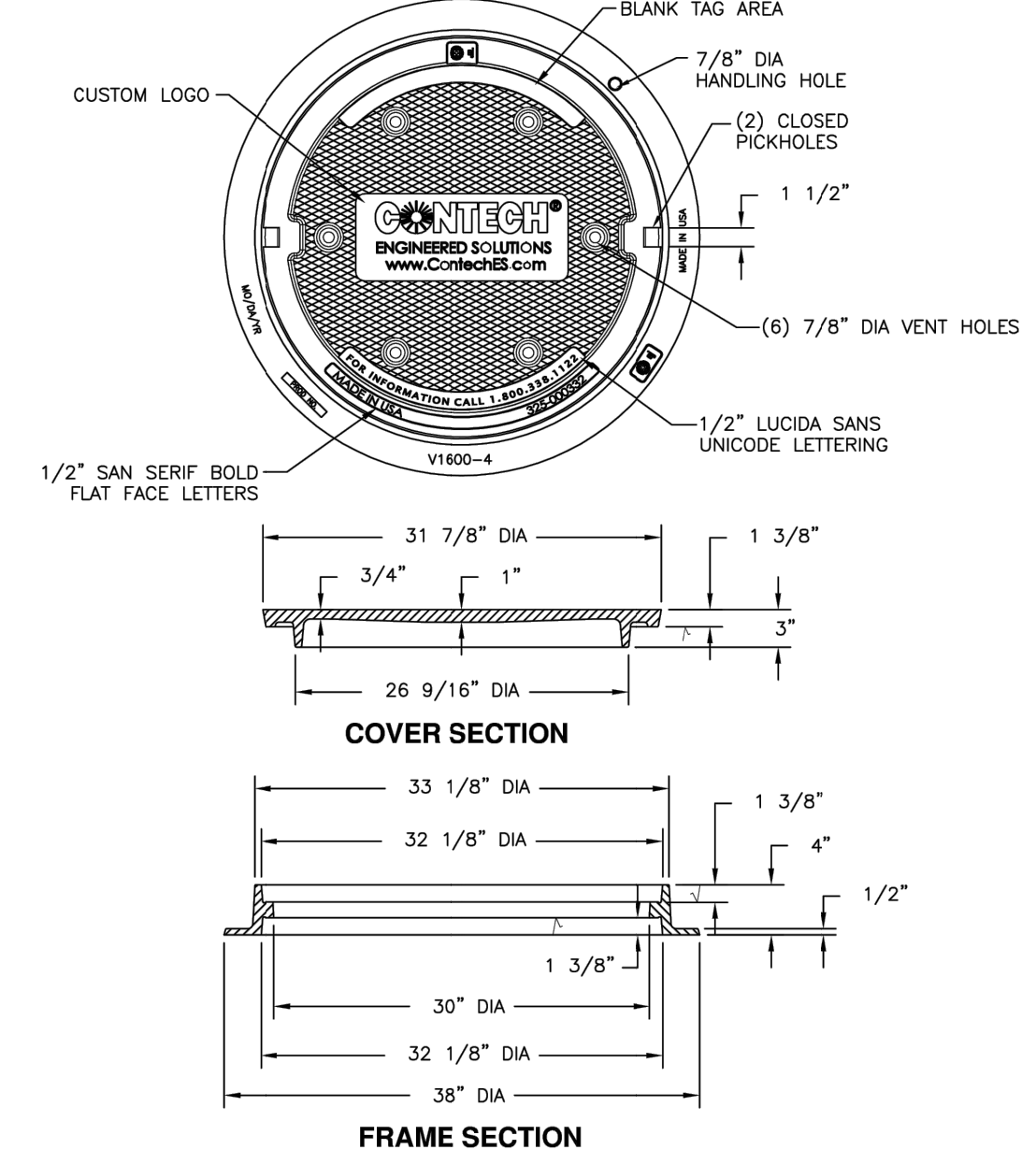


ROUND OUTLET CONTROL STRUCTURE

PRECAST OUTLET CONTROL STRUCTURE BOX SHALL EXTEND A MINIMUM OF 6" LOWER THAN THE LOWEST INVERT. PRECAST STRUCTURE SHALL BE OPEN IN THE BOTTOM WHEN DELIVERED TO SITE, AND SHALL BE SET INTO CONCRETE WHEN BASE FOUNDATION IS POURED IN PLACE. SIX INCHES BELOW THE LOWEST INVERT, #5 REBAR SHALL EXTEND THROUGH DRILLED HOLES, ONE FOOT ON CENTER, ON ALL FOUR SIDES. CONTINUOUS SECTIONS OF #5 REBAR SHALL EXTEND THROUGH THE HOLES FROM ONE SIDE OF THE STRUCTURE, ACROSS THE INSIDE OF THE STRUCTURE AND THROUGH THE MATCHING HOLE ON THE OTHER SIDE OF THE STRUCTURE. THE REBAR SHALL EXTEND A MINIMUM OF 10" BEYOND EACH OUTSIDE FACE OF THE STRUCTURE AND BE WIRED TO THE REBAR SET IN THE CONCRETE BASE FOUNDATION. CONCRETE SHALL BE POURED AND FINISHED UP TO THE ELEVATION OF THE LOWEST INVERT ON THE INSIDE AND OUTSIDE OF THE OUTLET CONTROL STRUCTURE.

Buoyancy Calculations For OCS:
HEIGHT OF OCS = 8 FT
TOP OF STRUCTURE (EMER. OVRFLW) = 653.00'
BOTTOM OF MANHOLE = 646.50'
100YR STAGE = 652.53'
DEPTH OF WATER TOP-BOTTOM = 6.03 FT
VOLUME WATER DISPLACED = (4)(3.14)(6.03) = 75.74 CF
Fb displaced water:
Fb dw = (62.4 lb/cf) * 75.74 cf = 4726.18 lbs
Concrete Volume of Manhole With 6" Walls =
(5)(3.14)(6.03) - (4)(3.14)(6.03) = 18.93 cf
Specific weight concrete = 150 lb/cf
Weight of Manhole = 18.93 * 150 lb/cf = 2,839.50 lbs
Required weight of concrete footing and manhole =
4726.18 lbs
Required Weight of Footing = 4,726.18 - 2,839.50 = 1,886.68 lbs
Volume Req = 1,886.68 / 150 = 12.58 cf
Dimensions of footings = 6' X 6' X 1.00' = 36 cf

1810B4 V1600-4 Assembly



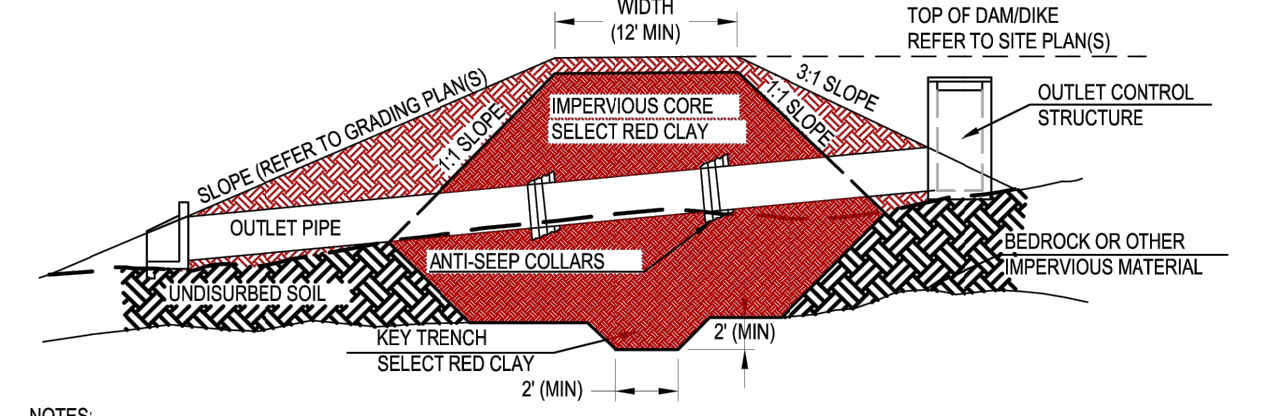
Product Number
41600483
Design Features
Materials: Cover: Gray Iron (CL35B), Frame: Gray Iron (CL35B)
-Design Load: Heavy Duty
-Open Area: 100%
-Coating: Unplated
-Disintegrates Machined Surface

Certification
-ASTM A48
-Country of Origin: USA

Major Components
00180783
41600410

Drawing Revision
05/09/2007 Designer: SMH
6/26/2017 Revised By: DAE

Disclaimer
Weights (the net dimensions (inches)) and drawings provided for your reference. We do not assume any responsibility for reliance on the actual location. This plan may not show and/or may incorrectly show utilities located on the site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any excavation (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

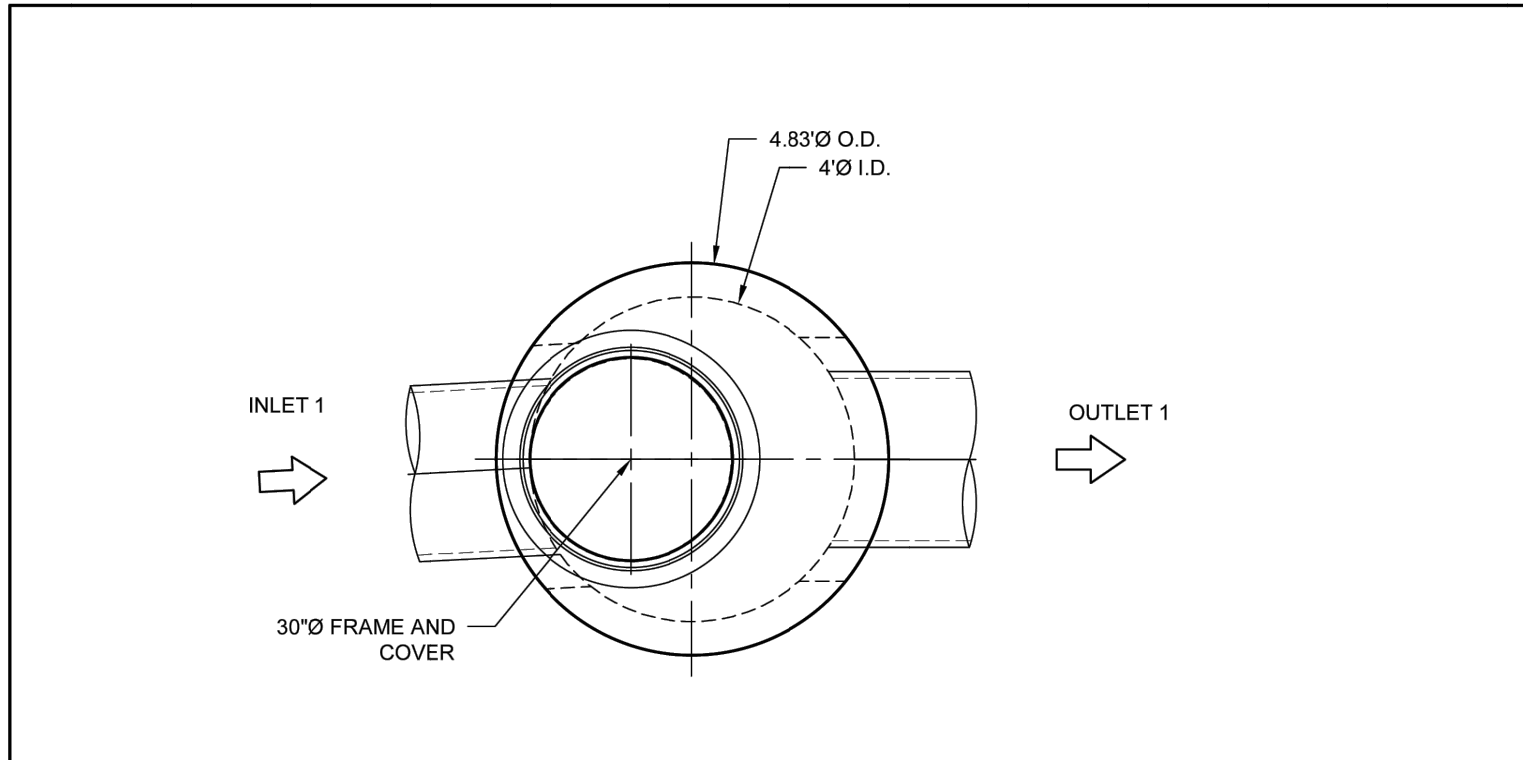


NOTES:
1. ALL FILL MATERIAL FOR DAM/DIKE SHALL BE COMPACTED TO 98% MAXIMUM DENSITY AS DETERMINED BY STANDARD PROCTOR TEST.
2. SELECT CORE MATERIAL SHALL BE OBTAINED FROM ON-SITE SOURCE AS IDENTIFIED AND DIRECTED BY GEOTECHNICAL ENGINEER.
3. ANTI-SEEP COLLARS/BROCK COLLAR WALLS SHALL BE INSTALLED AT ALL PIPE JOINTS WITHIN LIMITS OF DAM/DIKE.

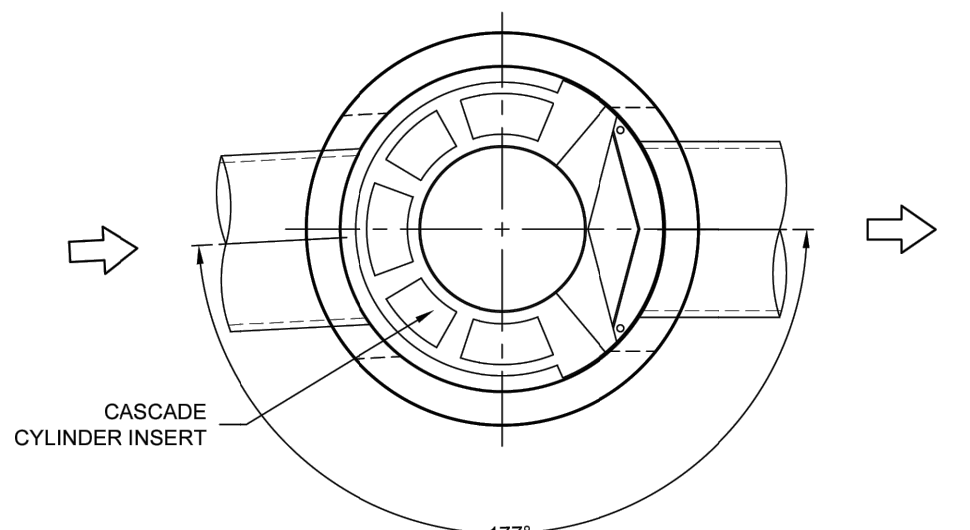
DETENTION BASIN DAM/DIKE
NOT TO SCALE

ALL SHALL BE CONSTRUCTED IN COMPACTED SANDFILL. THE TOP FORM DIMENSIONS SHALL BE CONFORM TO THE STANDARD PROCTOR BELOW.
COMPACTION SHALL BE APPROVED BY OWNER/GEOTECHNICAL ENGINEER.
ALLOW 30' MIN. FROM THE CENTER OF THE STRUCTURE TO THE CENTER OF THE FOUNDATION.
CONCRETE SHALL BE 4000 P.S.I. @ 28 DAY STRENGTH (TYP.)

NOTES:
1. STONE FILTER SHALL BE IN STONE.
2. ALL CONCRETE TO BE 4" MIN. THICKNESS.
3. OCS INVERT SHALL BE SHOWN TO PROVIDE DIRECT ACCESS TO STRUCTURE ACCESS STEPS.
4. THE OCS #5 REBAR SHALL BE PLACED IN THE STRUCTURE WALL.



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
1	CS-4 CYLINDER INSERT, STD.	CONTECH
4	CS-4 ALUMINUM INSTALLATION BRACKETS	CONTECH
1	CS-4 HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30"Ø X 4" FRAME AND COVER, EJ #41600483, OR EQUIV.	CONTRACTOR

SITE DESIGN DATA

WATER QUALITY FLOW RATE	0.22 CFS
PEAK FLOW RATE	5.93 CFS
RETURN PERIOD OF PEAK FLOW	100 YRS

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.contech-es.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0'-2" AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M308 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 7000 LBS.
OF 3 PIECES
MAXIMUM FOOTPRINT = 4.83Ø

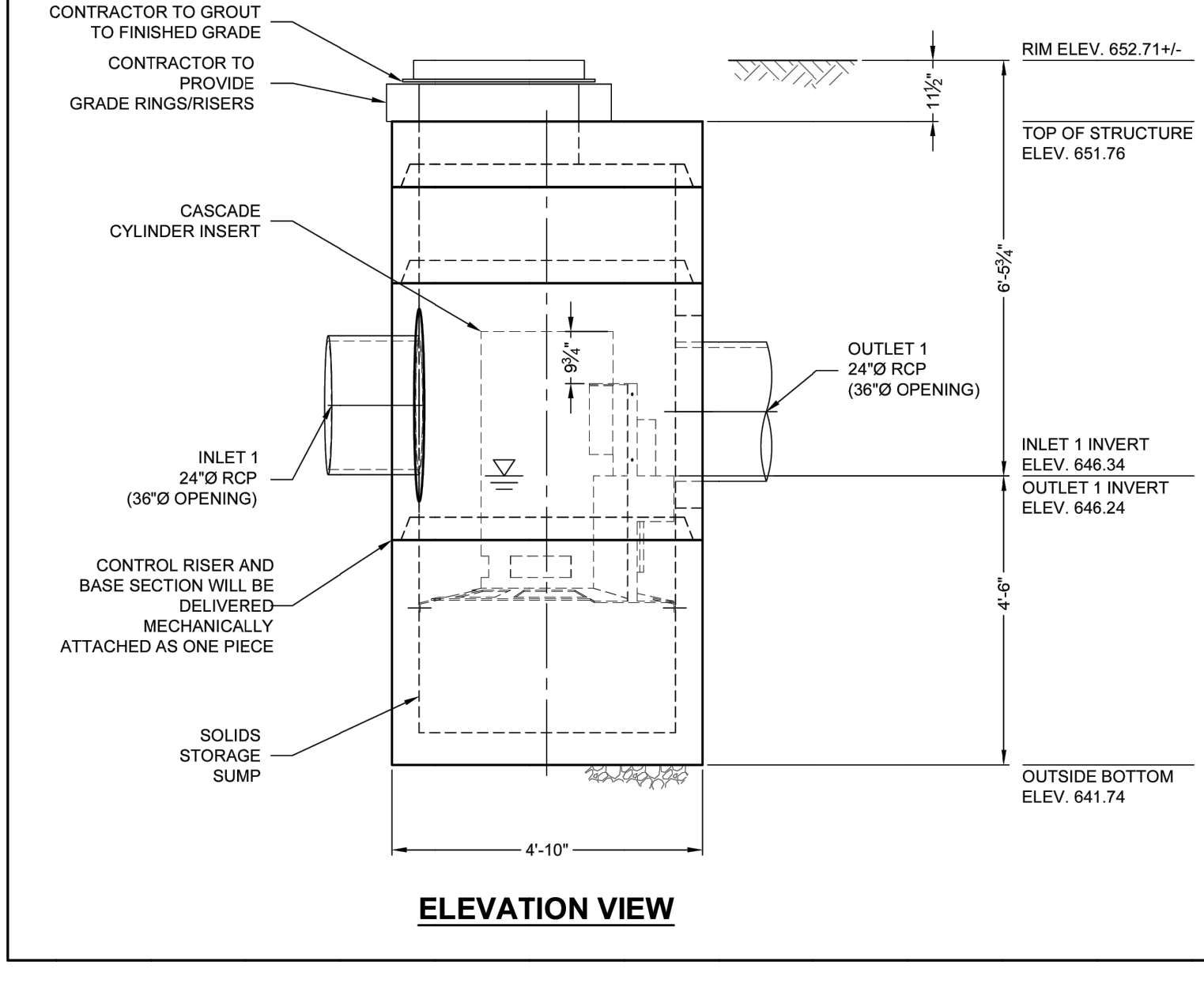


CONTECH ENGINEERED SOLUTIONS LLC
CONTECH SEPARATOR
CONTECH MANHOLE STRUCTURES

CS-4 - 885372-010
COVINGTON FIRE STATION #23
COVINGTON, GA
SITE DESIGNATION: OF1

NO.	REVISION/DESCRIPTION	DATE	BY

DATE: 2/11/26
DESIGNED: JRS
CHECKED: JRS
PROJECT NO: 885372
SEQUENCE NO: 010
PLHM LAYOUT 1A
SHEET 1 OF 1



ELEVATION VIEW