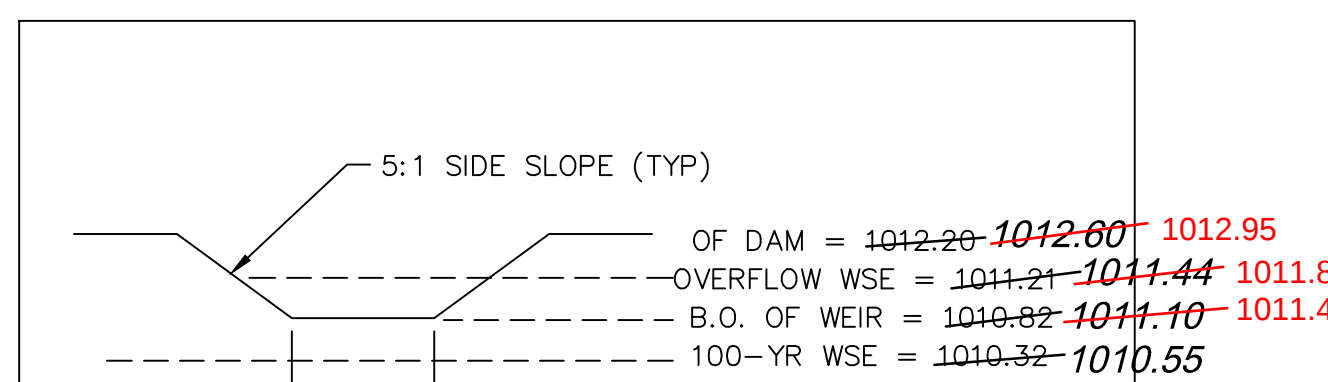
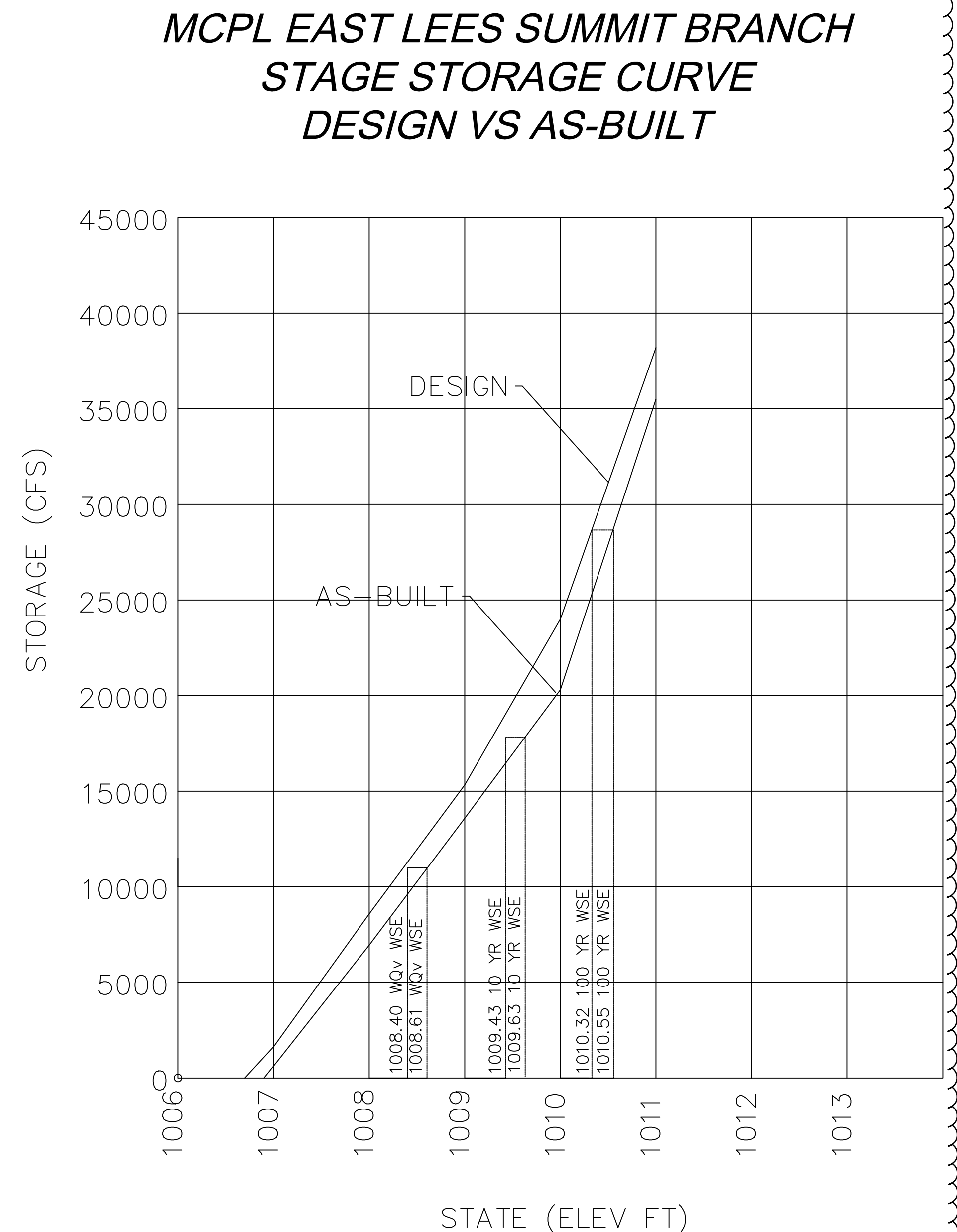


DRAINAGE PLAN

EMERGENCY SPILLWAY & BERM DETAIL PER AS-BUILT CONDITIONS

[illegible][illegible]

EMERGENCY
SPILLWAY DETAIL



SPECIAL NOTICES

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The personal seal of the registered Architect or Engineer shall be the legal equivalent of his signature whenever & wherever used, and the owner of the seal shall authenticate this sheet and the specification sections pertaining to this sheet. Responsibility shall be disclaimed for all other plans, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural project.

Mid-Continent Public Library
CONSTRUCTION DOCUMENT PLANS FOR
EAST LEE'S SUMMIT BRANCH
2240 SE BLUE PARKWAY
LEE'S SUMMIT, MO 64063
JACKSON COUNTY

PACKAGE
04

Engineer of Record



The seal is circular with a rope-like border. The outer ring contains the text "STATE OF MISSOURI" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The center of the seal contains the signature "Terry M. Parsons" in blue ink. Below the signature, the text "TERRY M. PARSONS" is printed in black. Below that, "NUMBER" is printed, followed by "PE-2018010505" in black. At the bottom, the date "4/08/2022" is handwritten in blue ink.

Terry M Parsons, Engineer MO PE-2018010505

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Missouri State Certificate of Authority #00159

Revision No.	Description	Date
1	ASI#1	02/18/19

1	ASL#1	02.18.19
2	DETENTION	02.26.20
	MODIFICATIONS	

3	DETENTION ASBUILT	04.08.20
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Project No.	Date	Drawn
B18-0330	12.07.18	RLK

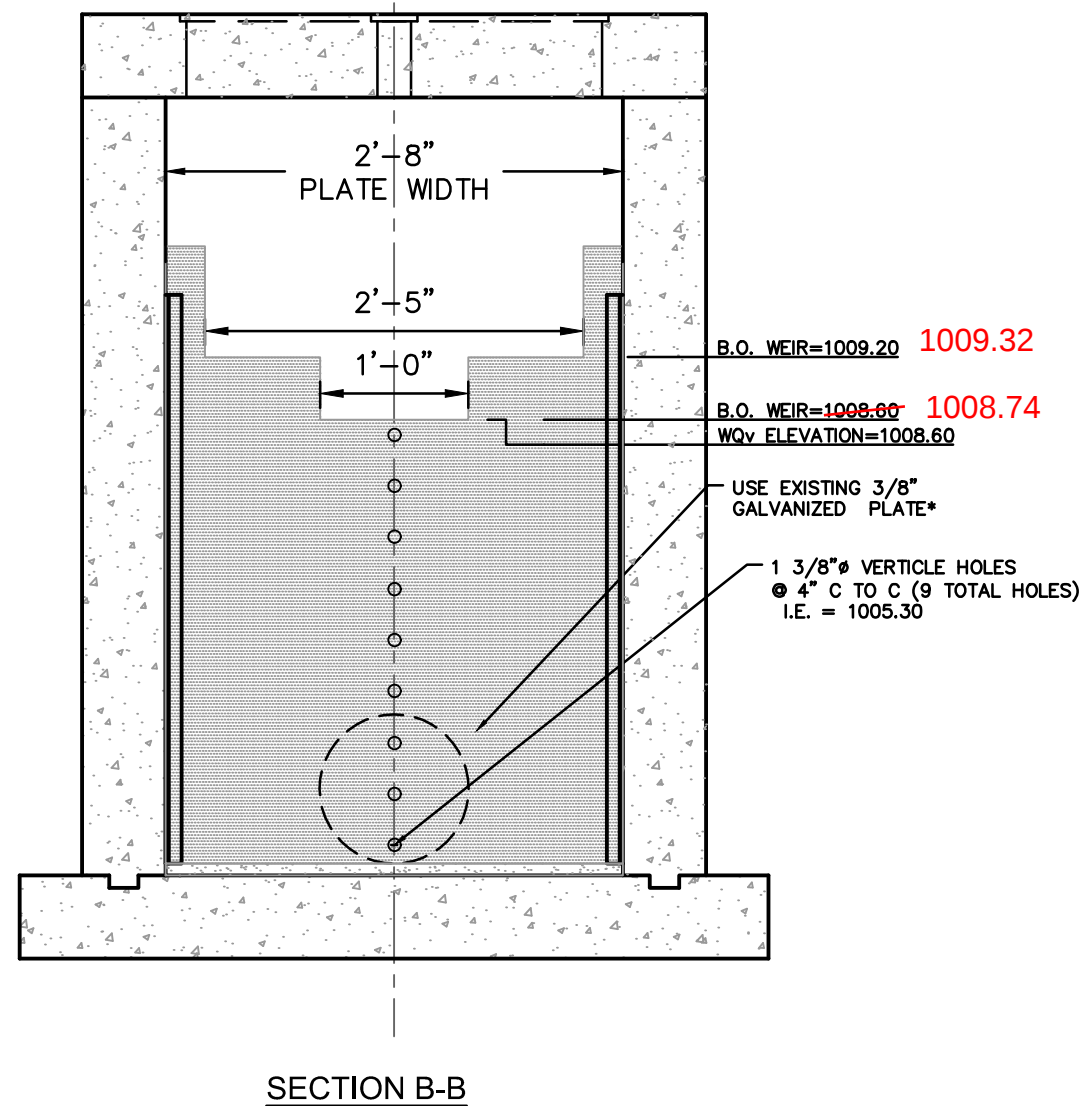
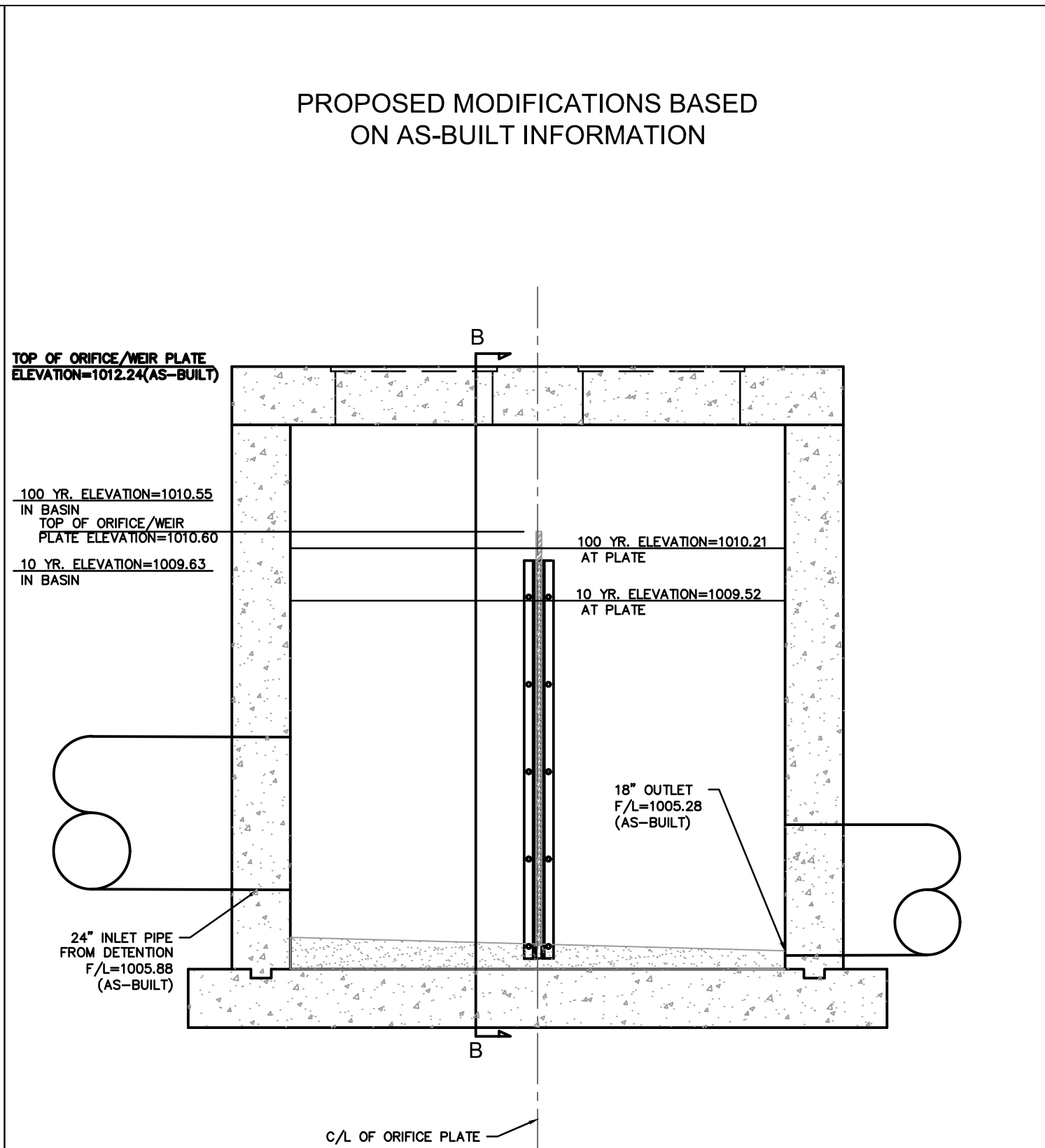
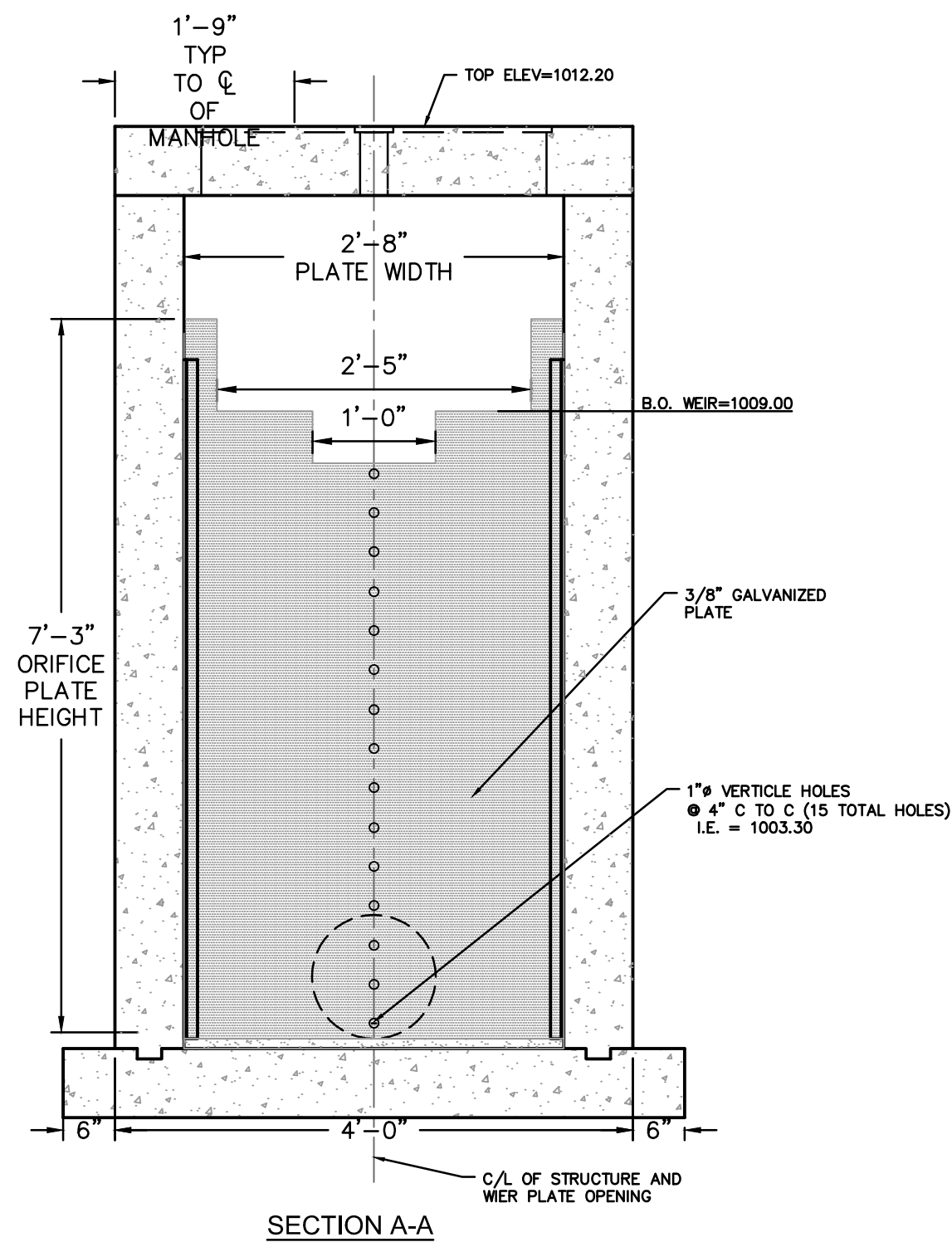
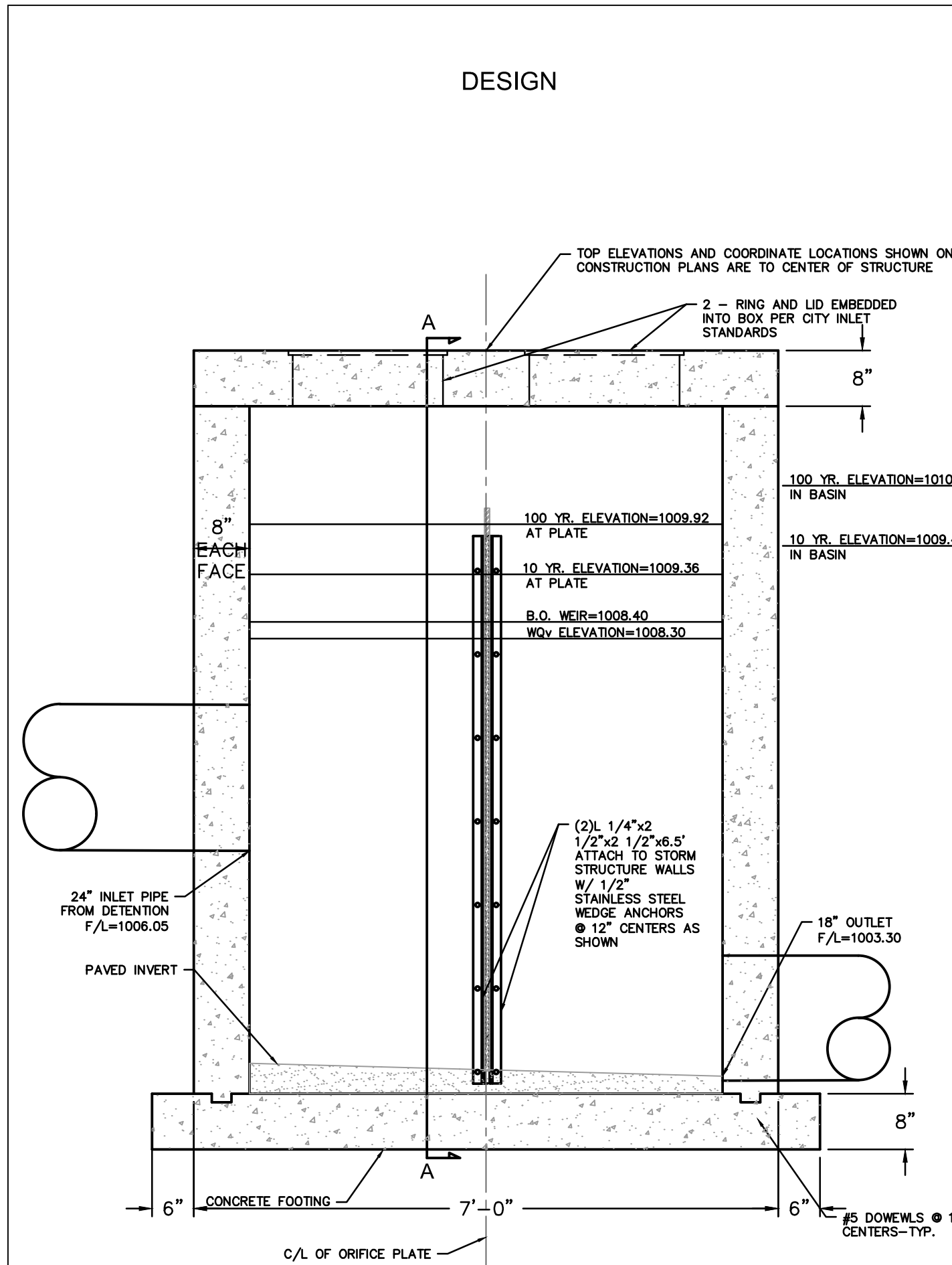
Drawing No. **C80**

Co.0

DRAINAGE PLAN

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DWG: F:\2018\0001-0500\018-0330-B\40-Design\AutoCAD\Final Plans\Sheets\GNCV\WORK PACKAGE 4\LEES SUMMIT\1.C_DTL_80330.dwg USER: tparrsons
DATE: Feb 27, 2020 9:06am
L_PBASE_81023 C_PBASE_80330 T_E DETAIL C_PBASE_80330



AS BUILT STRUCTURE INFORMATION

1. THE BOTTOM OF THE STRUCTURE WAS BUILT AT AN ELEVATION APPROXIMATELY 2 FEET HIGHER THAN DESIGN. THE STRUCTURE IS APPROXIMATELY 2 FEET SHORTER THAN THE DESIGN, SO THE TOP OF THE STRUCTURE IS ONLY 0.05 FEET HIGHER THAN DESIGNED.

WEIR PLATE MODIFICATION NOTE:

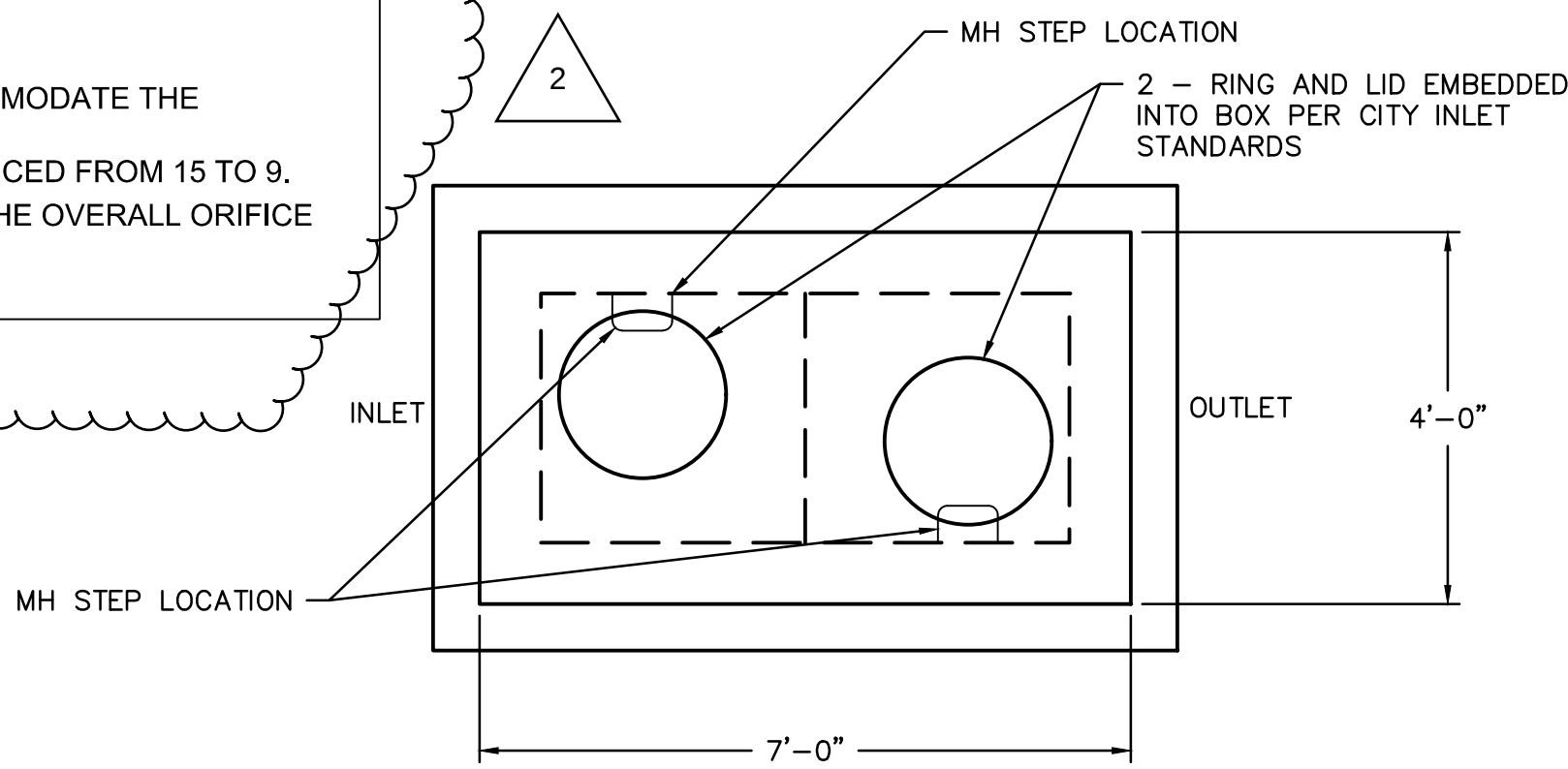
1. THE PLATE WILL BE 1.8 FEET SHORTER THAN THE DESIGN
2. THE BOTTOM OF THE WEIRS WILL BE RAISED 0.2 FEET TO ACCOMODATE THE AS-BUILT ADJUSTED VOLUME IN THE DAM.
3. THE NUMBER OF HOLES IN THE VERTICAL HOLES WILL BE REDUCED FROM 15 TO 9. THE HOLE SIZE WILL INCREASE FROM 1" TO 1 3/8" TO MAINTAIN THE OVERALL ORIFICE AREA

CONTROL STRUCTURE DETAILS

NOT TO SCALE

NOTES

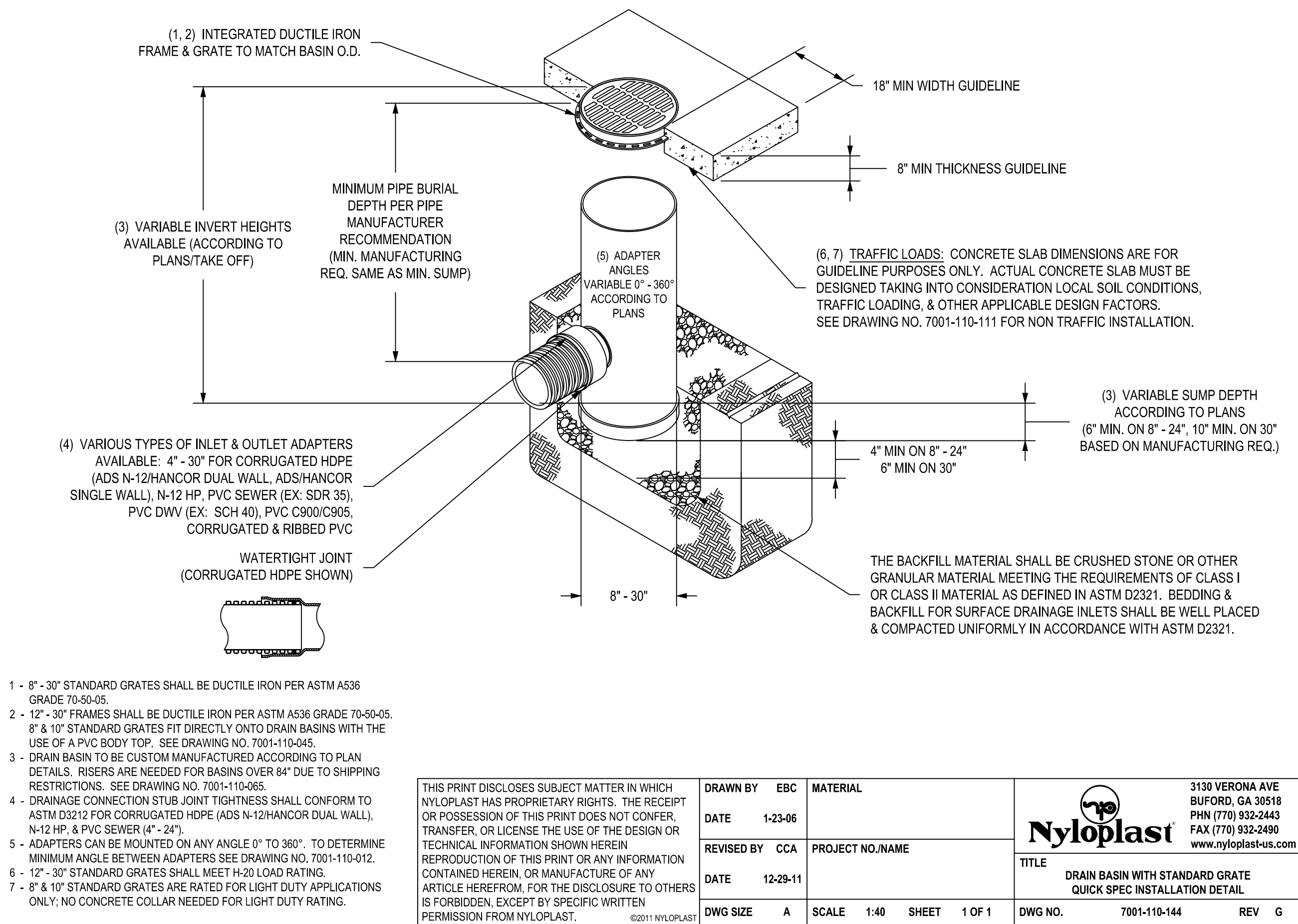
1. 5,000 PSI KCMMB CONCRETE SHALL BE USED FOR STRUCTURES WITH ORIFICE PLATE
2. STRUCTURES MAY BE PRE-CAST OR CAST IN PLACE AT THE CONTRACTOR'S OPTION. FOR PRE-CAST CONSTRUCTION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE DESIGN ENGINEER, AND PROVIDE A COPY OF THE APPROVED SHOP DRAWINGS TO THE CITY.



CONTROL STRUCTURE PLAN VIEW

NOT TO SCALE

NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



Section 2721

Engineered Surface Drainage Products

GENERAL

PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron frames for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

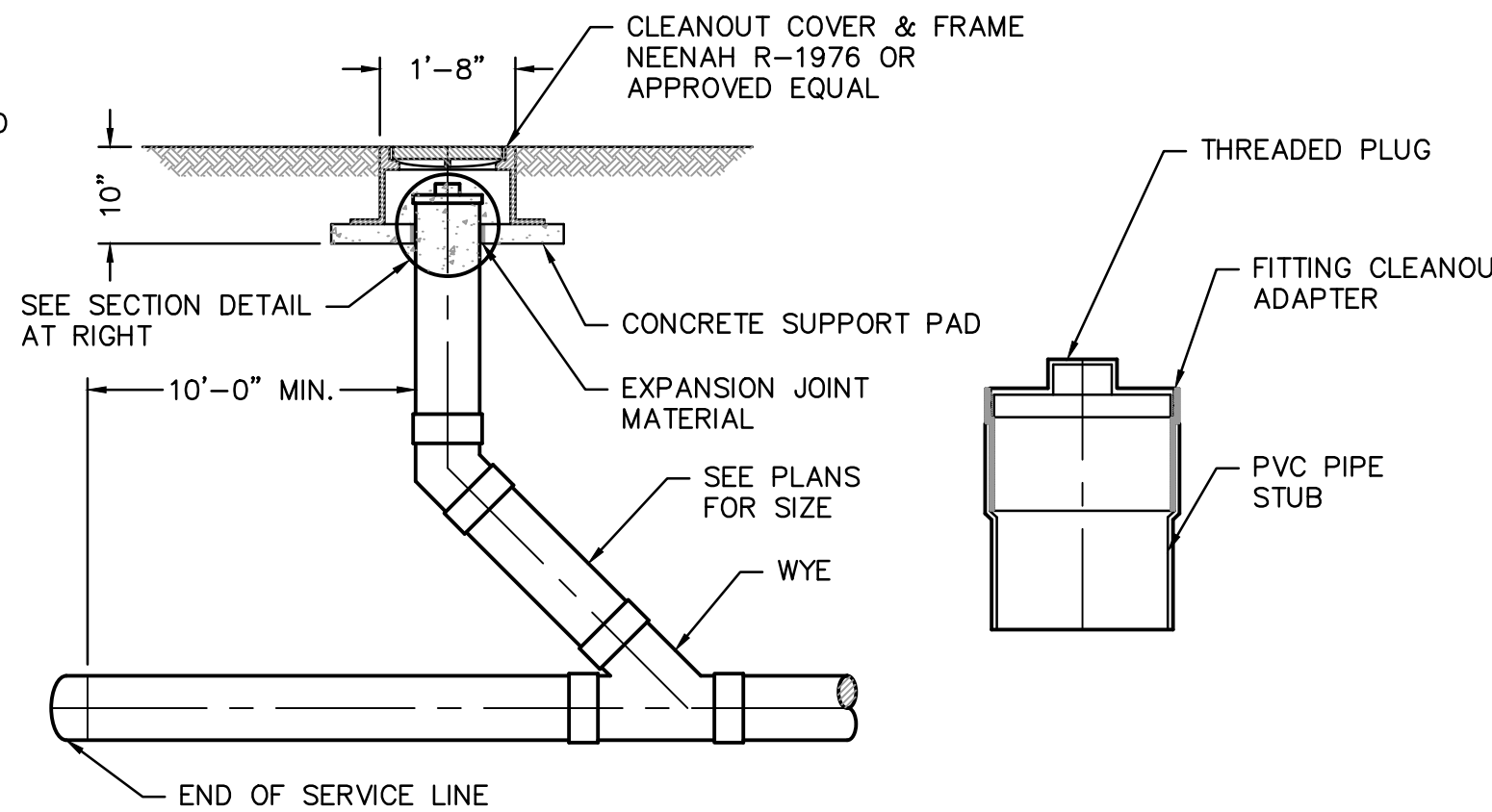
MATERIALS

The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The frames and covers furnished for all surface drainage inlets shall be ductile iron for sizes 8", 10", 12", 15", 18", 24" and 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION

The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1 or class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.



ONE-WAY WYE CLEANOUT DETAIL

NOT TO SCALE

**SAPP
DESIGN
ARCHITECTS**

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1629 Walnut
Kansas City, MO 64108 816.300.0300

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Missouri State Certificate of Authority #001592

Revision No.	Description	Date
1	AS-BUILT	02.18.19
2	DETENTION MODIFICATIONS	02.26.20
3	DETENTION AS-BUILT	04.08.20

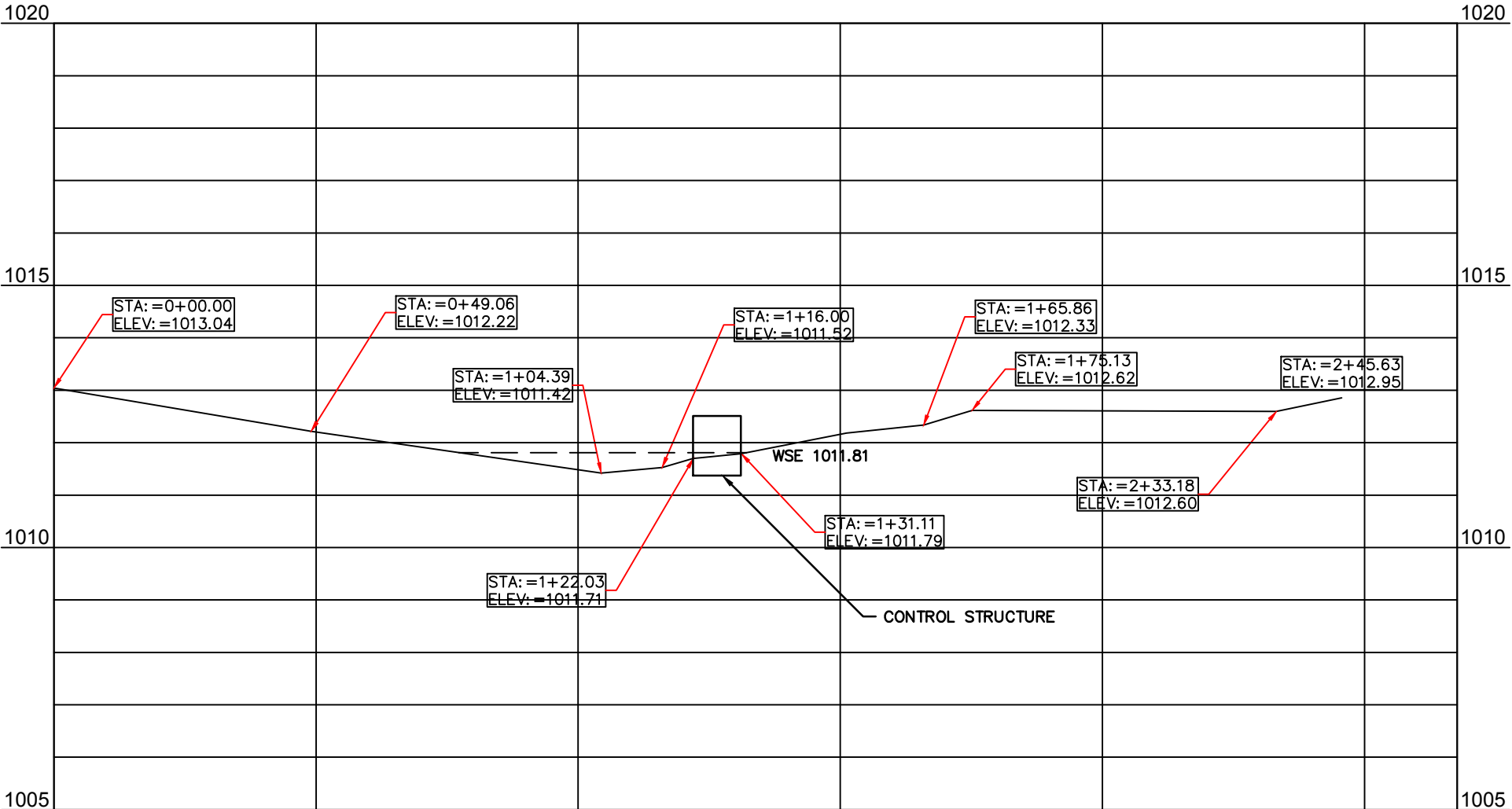
Project No. B18-0330 Date 12.07.18 Drawn RLK

Drawing No. **C10.6**

STANDARD DETAILS

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EAST LEES SUMMIT - EMERGENCY SPILLWAY AS-BUILT



Channel Report

<Name>

User-defined

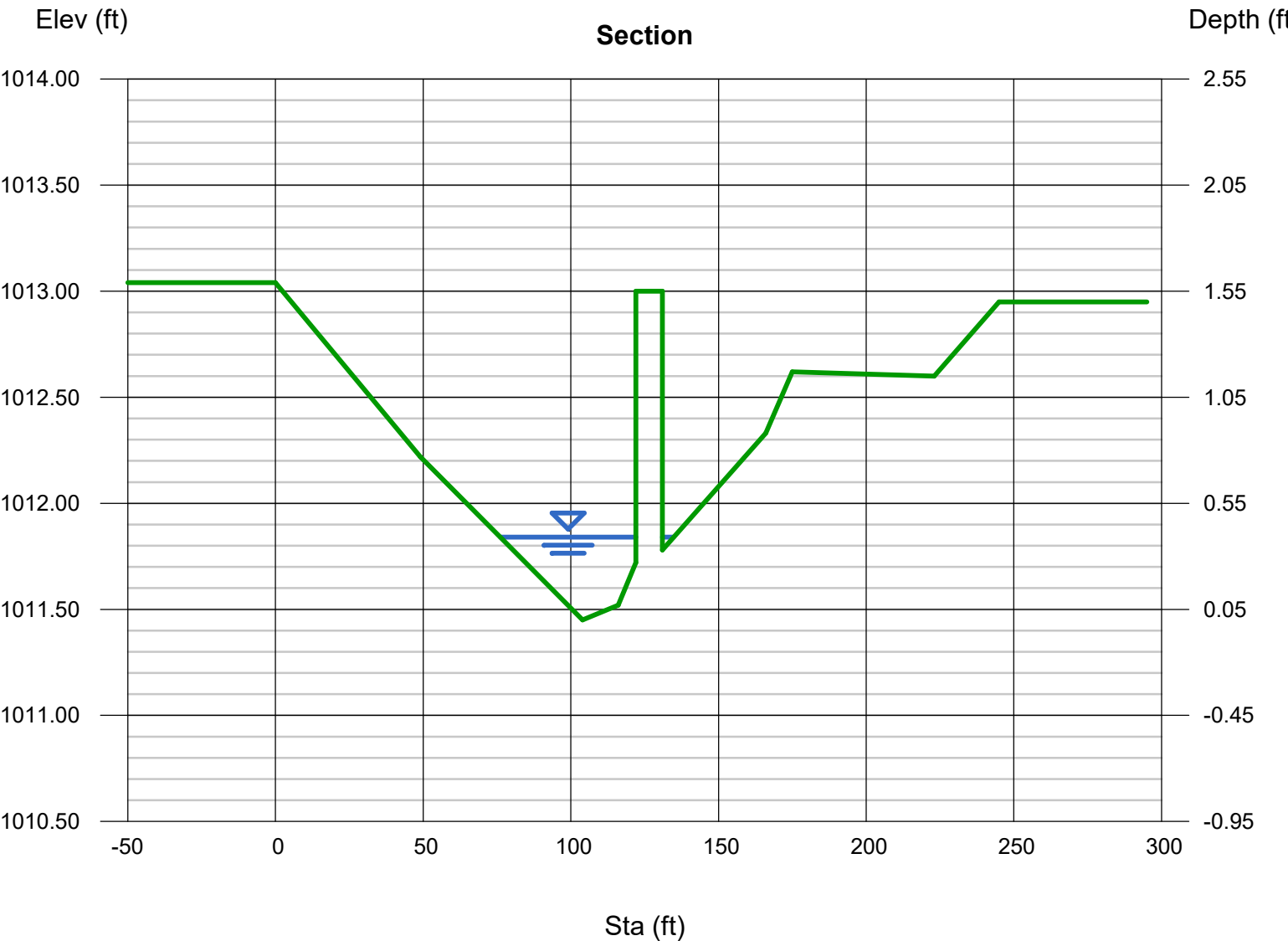
Invert Elev (ft) = 1011.45
Slope (%) = 2.00
N-Value = 0.025

Calculations

Compute by: Known Q
Known Q (cfs) = 33.40

Highlighted

Depth (ft) = 0.39
Q (cfs) = 33.40
Area (sqft) = 11.13
Velocity (ft/s) = 3.00
Wetted Perim (ft) = 49.86
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 49.68
EGL (ft) = 0.53



Sanitary Structure Inventory Sheet

Storm

Project Number: 18-0330 Project Name: Mid Con Library LS Structure Number: _____
Date Surveyed: 4-7-20 Surveyed By: RSW Structure Elevation: 1012.11

Structure Location: _____

Structure Type: Standard Drop Lift Station Diversion Other: _____

Structure Details: Barrel Dia.: _____ Lid Dia.: _____ Lid Offset: _____ Cone / Riser Depth: _____

Structure Material: ☒ Concrete ☐ Brick ☐ Block ☐ Other: _____

☐ Liner (Unknown Structure Material)

Structure Condition: ☒ New ☐ Good ☐ Fair ☐ Poor

Structure Contents: ☐ Flowing ☐ Plugged ☐ Sludge

Additional Comments: 5' x 5' conc box with weir plate in center

Pipe Size	Pipe Type	Flow Direction		Invert Depth	Invert Elevation	Upstream / Downstream Structure Number
<u>18"</u>	<u>HDPE</u>	☒ In	☐ Out (SE)	<u>6.53</u>	<u>1005.58</u>	_____
<u>18"</u>	<u>HDPE</u>	☐ In	☒ Out (NDE)	<u>7.01</u>	<u>1005.10</u>	_____
_____	_____	☐ In	☐ Out ()	_____	_____	_____
_____	_____	☐ In	☐ Out ()	_____	_____	_____
_____	_____	☐ In	☐ Out ()	_____	_____	_____
_____	_____	☐ In	☐ Out ()	_____	_____	_____

Sanitary Structure Sketch:

