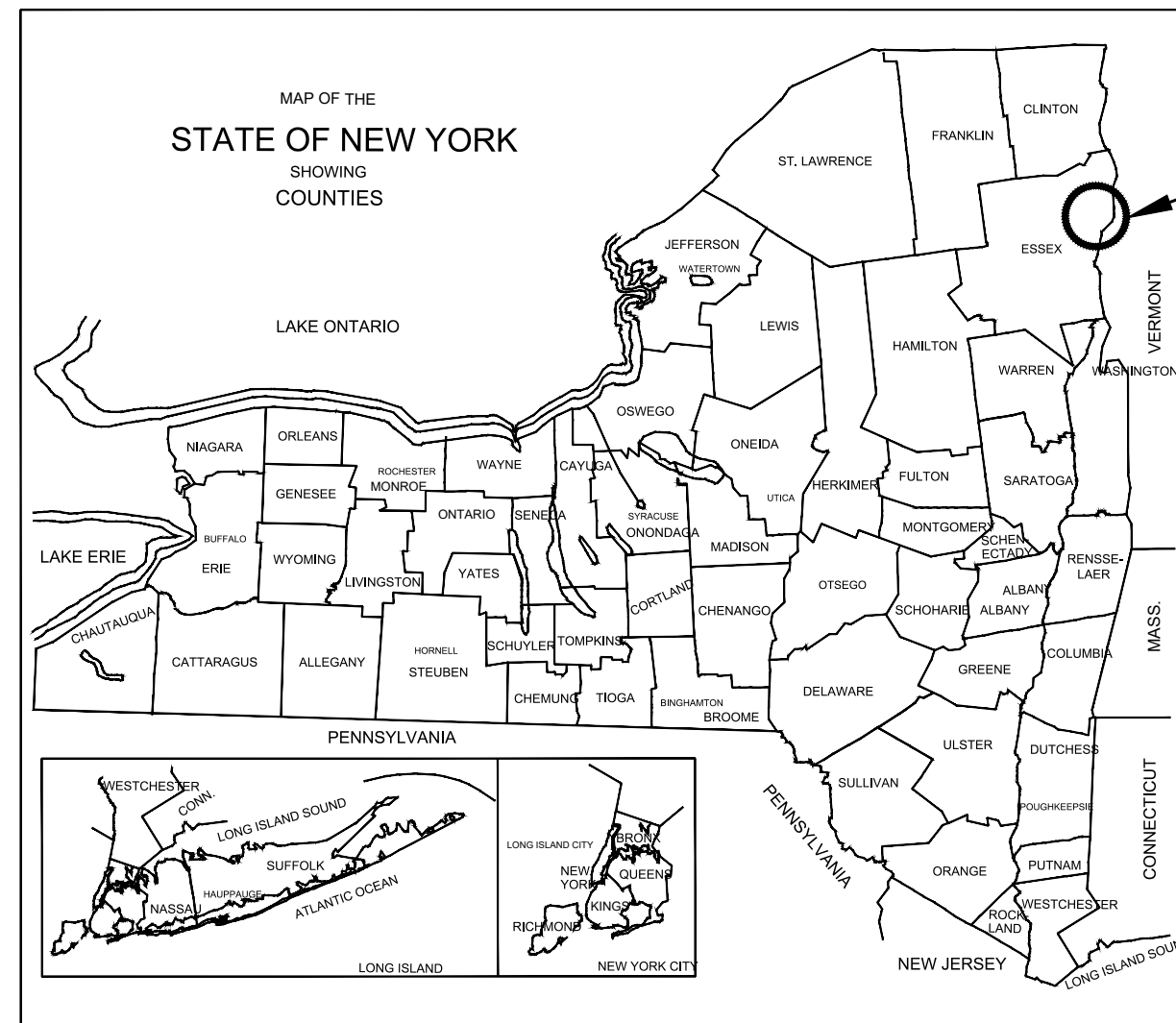


# TOWN OF ESSEX, N.Y.

## WATER PLANT UPGRADE PROJECT



PROJECT LOCATION



PROJECT LOCATION

SOURCE: U.S.G.S. 7.5' TOPOGRAPHIC MAP  
 QUADRANGLE: WILLSBORO, NY  
 SCALE: 1"=1,500'

**TOWN SUPERVISOR:**  
 KENNETH HUGHES

**TOWN BOARD:**  
 RONALD JACKSON  
 CHRISTOPHER DEPINTO  
 CLAIRE LAPINE

**WATER PROJECT COMMITTEE MEMBERS:**  
 RONALD JACKSON (CHAIR)  
 CLAIRE LAPINE  
 TINA GARDNER

**WATER/SEWER SUPERINTENDENT:**  
 TINA GARDNER

**HIGHWAY DEPARTMENT:**  
 BRADLEY FRENCH (SUPERINTENDENT)

**TOWN CLERK:**  
 ALICIA KELLY

PREPARED BY:

**Cedarwood Engineering Services, PLLC**  
 CIVIL & ENVIRONMENTAL ENGINEERING  
 8-12 Dietz Street, Suite 302      3903 Main Street  
 Oneonta, New York 13820      Warrensburg, New York 12885  
 607-441-3246      518-623-5500

MAY 2020

### DRAWING INDEX

- C-0 COVER
- C-1 EXISTING OVERALL SITE PLAN
- C-2 EXISTING SITE PHOTOS & REFERENCE TABLE
- C-3 EXISTING PLANT PROCESS SCHEMATIC
- C-4 EXISTING PLANT PLAN
- C-5 EXISTING PLANT SECTION VIEWS
- C-6 PROPOSED PROCESS SCHEMATIC
- C-7 PROPOSED OVERALL SITE PLAN
- C-8 PROPOSED PLANT PLAN
- C-9 PROPOSED PLANT SECTION VIEW
- C-10 PROPOSED PUMP STATION PROFILE
- C-11 PROPOSED PUMP STATION DETAILS
- C-12 PROPOSED RAIN GARDEN
- C-13 PROPOSED PLANTING/TREE SCREENING
- C-14 TREE SCREENING VIEW 1
- C-15 TREE SCREENING VIEW 2
- C-16 EROSION & SEDIMENT CONTROLS
- C-17 TEMPORARY TREATMENT
  
- D-1 DEMOLITION PLAN
  
- A-1 FOUNDATION PLAN
- A-2 FLOOR PLAN & ELEVATIONS
- A-3 NEW ROOF PLAN
- A-4 SECTIONS AND DETAILS
- A-5 SECTIONS AND DETAILS
- A-6 SECTIONS AND DETAILS
- A-7 DETAILS & RESTROOM LAYOUT
  
- P-1 PLUMBING SANITARY/SUPPLY
  
- E-1 ELECTRICAL LIGHTING/POWER
- E-2 ONE LINE DIAGRAM/DETAILS
- E-3 ONE LINE DIAGRAM/DETAILS



3903 Main Street, Warrensburg, NY 12885, (P) 518.623.5500  
 8-12 Dietz Street, Suite 302, Oneonta, NY 13820, (P) 607.441.3246  
 COPYRIGHT (C) CEDARWOOD ENGINEERING SERVICES PLLC ALL RIGHTS RESERVED

PROJECT INFORMATION:  
 DATE: 04/11/19  
 SCALE: AS SHOWN  
 DESIGNED BY: JS  
 DRAWN BY: JS  
 REVIEWED BY: TS  
 PROJECT NO.: 17-011  
 SHEET: 1 OF 30

NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/10/20		



TOWN OF ESSEX  
 ESSEX COUNTY  
 NEW YORK

WATER PLANT UPGRADES  
 COVER

C-0



LINETYPE	LINETYPE
	PROPERTY BOUNDARY LINE
	EXISTING NATIONAL REGISTER HISTORIC DISTRICT BOUNDARY LINE
	SURVEY BOUNDARY LINE
	LAKE CHAMPLAIN MEAN HIGH WATER LINE (APPROXIMATE)
	PREVIOUSLY DISTURBED AREA BOUNDARY

NOTE: LOCATION OF PROPERTY BOUNDARY IS SHOWN FOR RELATIONSHIP PURPOSES AND DOES NOT GIVE A PROFESSIONAL LOCATION OF THE PROPERTY BOUNDARY

1 EXISTING SITE PLAN  
1" = 20'

0 20 40 Feet

3405 Lake Street, Hammondsport, NY 14846, (814) 833-6343  
6-12 Great Street, Suite 202, Townsboro, NY 14850, (716) 807-4412, 2014  
COPYRIGHT (C) CEDARWOOD ENGINEERING SERVICES PLLC. ALL RIGHTS RESERVED.

<b>PROJECT INFORMATION:</b>	DATE: 4/12/19	SCALE: AS SHOWN	DESIGNED BY: JS	DRAWN BY: RB	REVIEWED BY: TS
<b>REVISIONS:</b>	NO. 1	DATE: 1/78/20	DOH REVIEW COMMENTS		
ANY CHANGE MADE TO THIS DOCUMENT IS SUBJECT TO APPROVAL BY THE STATE ENGINEER. THE ENGINEER'S REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE DESIGN AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED OR THE ADEQUACY OF THE DESIGN FOR THE PROJECT. THE USER OF THIS DOCUMENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES. THE ENGINEER'S LIABILITY IS LIMITED TO THE PROFESSIONAL SERVICES PROVIDED BY THE ENGINEER.					

**TOWN OF ESSEX** STATE OF NEW YORK

ESSEX COUNTY

**WATER PLANT UPGRADES**

**EXISTING OVERALL SITE PLAN**

C-1



1 EXISTING SITE PLAN  
C-2 1" = 30'



3 EXISTING ROOF PLATFORM  
C-2 DATE: MARCH 1st 2017



5 EXISTING WELL #1 AND #3  
C-2 DATE: MARCH 1st 2017



4 EXISTING BUILDING  
C-2 DATE: MARCH 1st 2017



9 EXISTING BUILDING FROM LAKE  
C-2 DATE: JUNE 2nd 2017



6 POINT OF VIEW NORTH  
C-2 DATE: MAY 5th 2017



6 POINT OF VIEW SOUTH  
C-2 DATE: MAY 5th 2017



7 POINT OF VIEW WEST  
C-2 DATE: MAY 5th 2017



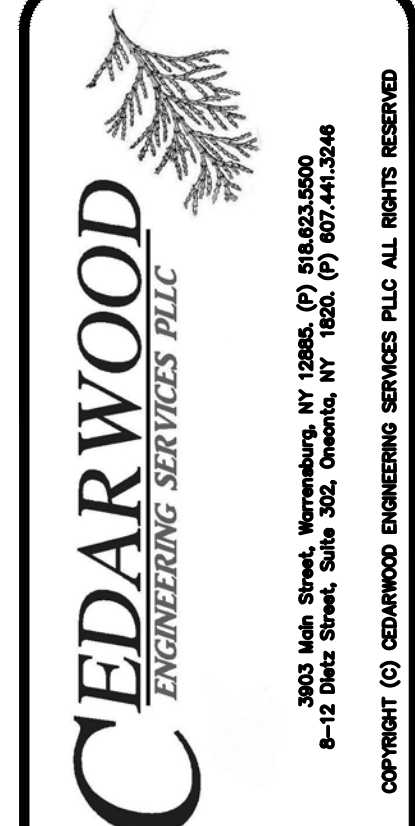
8 POINT OF VIEW EAST  
C-2 DATE: MAY 5th 2017

Town of Essex Water System Improvement Project

Beggs' Park Existing Conditions Map Key

Map Item #	Structure/Description	Construction Date	Dimensions	Detailed Description
1	WATER TREATMENT PLANT	1975	26.5'X20'	Town of Essex water supply. Plant will be upgraded to satisfy EPA and NYSDOH Administrative Order.
2	ENTRY PAVILION	1975	12'X11'	Used as a gatehouse, shade structure, entryway to park.
3	APPROX. TAX MAP PROPERTY BOUNDARY	-		
4	RETAINING WALL	1880s; 1996 - 1999		The full retaining wall was pre-existing from the nail factory (1880s) and the 1880's wall extended to where the pump house is located today, where the "new" rebuilt wall is now located. Where the original wall ended it didn't have a corner or a post etc. The bottom of the wall extended several feet farther than the top. After the horseshoe nail factory burned and they were cleaning up the mess, that part of the wall got knocked over and was never repaired for all those years. The unrepaired wall--the last 10' southward-- was reconstructed in 1996-1999, to prevent another injury to a child climbing on rubble.
5	ACCESS ROAD	1976-ongoing		Blacktop driveway. Access to the site.
6	SIDEWALK/WALKWAY	1880s-ongoing		
7	FENCE	1800-1918; 1975		Part of old Horse Shoe Nail Factory.
8	POWER POLE	1970s		(Not shown on map)
9	LOCATION OF BUILDING	1949		No longer exists (not shown on map). Old water supply building.
10	WATER MAIN/WATER SERVICE	1970s		Treated water spigot; potable water for park use.
11	UNDERGROUND ELECTRIC	2015, replaced in 2016		(Not shown on map)
12	LAKESIDE PAVILION	Originally built in 1964 - 1968; 2010		Originally built by James Morse for Donald Beggs as a storage facility / bathroom with an incinerator toilet for his cabin cruiser the Clan Mackay that was lifted up to the same level to be used as a guest cabin. Later the sides were removed. Rebuilt in 2010 on the same
13	WALKWAY/PIER/DOCK	1800s; 1960's, 2012		Temporary docking. Dock is estimated to have been installed in the 1960s built by James Morse for Donald Beggs. Refurbishment started in 2012. A previous dock at the end of the point was used for steamships in 1800's & early 1900's for the hoeshoe nail factory.
14	STORMWATER SYSTEM	2015		Shown on map as manholes and outlet. Essex County Stormwater.
15	SANITARY SEWER SYSTEM	Completed in 2012		Wastewater System for Hamlet. Note: no wastewater runs to the site.
16	DRINKING WATER SOURCE INTAKE	1975-76	Stands in 40' of water	Town water supply intake from lake (not shown on map).
17	TEST WELL 1	2016		Drinking water test well, to be used in Town system.
18	TEST WELL 2	2016		Drinking water test well, will not be used.
19	TEST WELL 3	2016		Drinking water test well, to be used in Town system.
20	BEACH	Unknown		Sand was placed in this area; NOT used for swimming.
21	PLAYGROUND	2000		Playground equipment

2 REFERENCE TABLE  
C-2 NOT TO SCALE



PROJECT INFORMATION:  
DATE: 4/12/19  
SCALE: AS SHOWN  
DESIGNED BY: JS  
DRAWN BY: RB  
REVIEWED BY: TS  
PROJECT NO.: 17-011  
SHEET: 3 OF 28

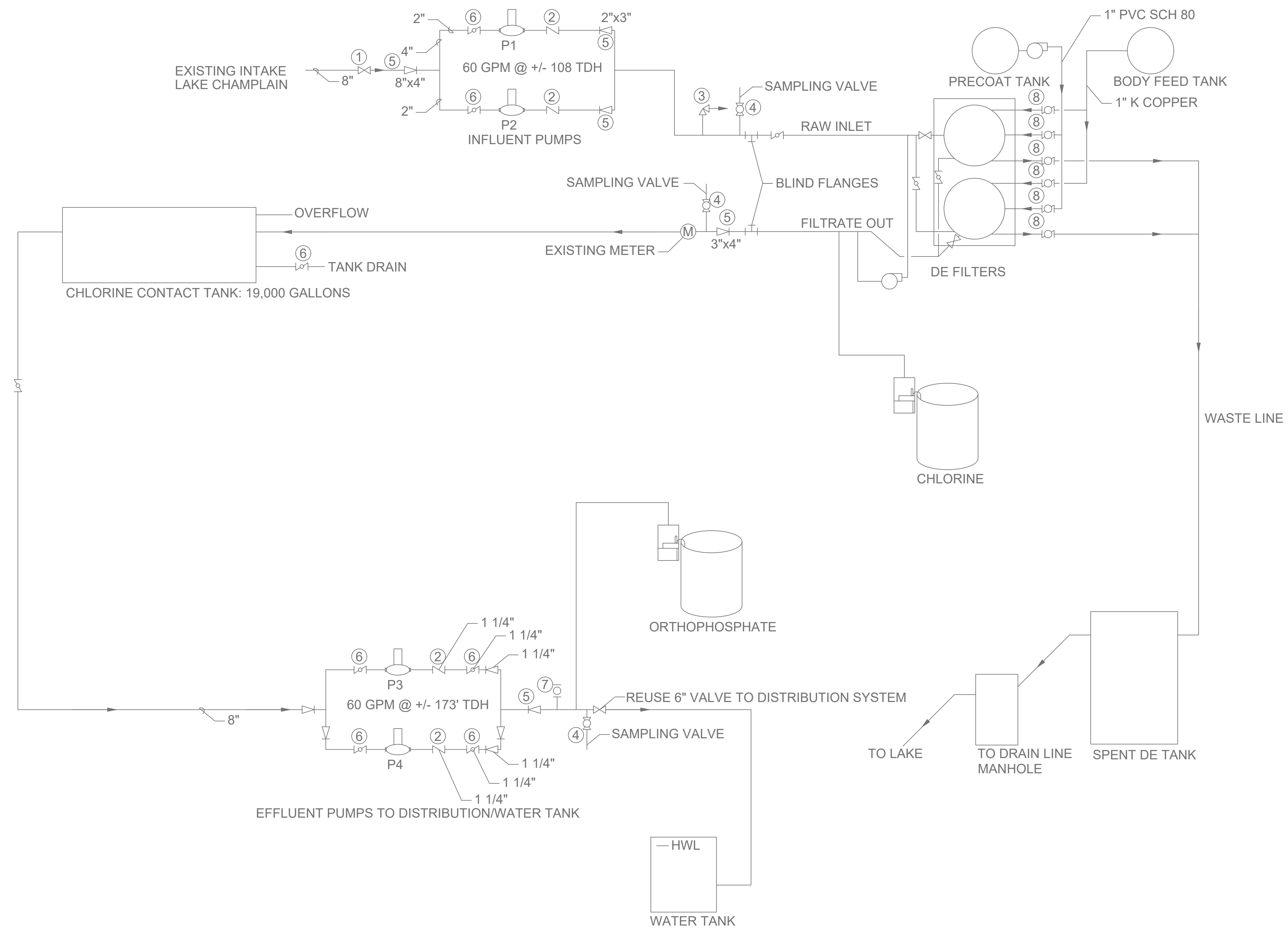
REVISIONS:  
NO. DATE DESCRIPTION  
1 1/8/20 DOH REVIEW COMMENTS



TOWN OF ESSEX  
STATE OF NEW YORK  
ESSEX COUNTY

WATER PLANT UPGRADES  
EXISTING SITE PHOTOS & REFERENCE TABLE

C-2



- KEY
- ① GATE VALVE
  - ② CHECK VALVE
  - ③ AIR RELEASE VALVE
  - ④ SMOOTH NOSED SAMPLE VALVE
  - ⑤ CONCENTRIC REDUCER
  - ⑥ BALL VALVE
  - ⑦ HOSE BIB
  - ⑧ ACTUATED VALVE

PROJECT INFORMATION:	DATE: 04/12/19	SCALE: AS SHOWN	DESIGNED BY: JS	DRAWN BY: JS	REVIEWED BY: TS	PROJECT NO.: 17-011	SHEET: 4 OF 28
----------------------	----------------	-----------------	-----------------	--------------	-----------------	---------------------	----------------

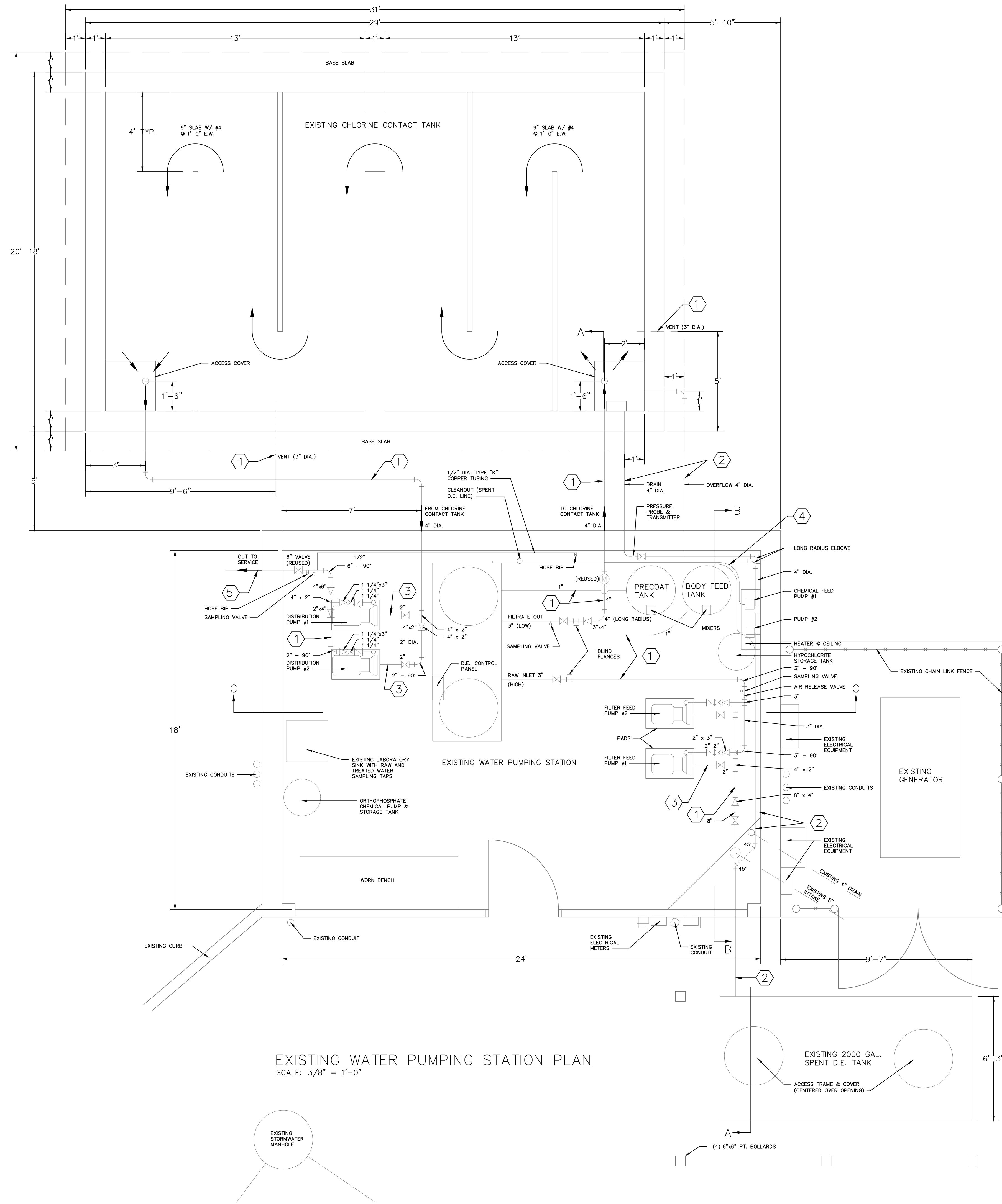
NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/8/20		

ANY LICENSEE WHO ALTERS THIS DOCUMENT IS SUBJECT TO LAW TO 49NY 1701.00. THE STATE OF NEW YORK DOES NOT WARRANT THE ACCURACY OF THIS INFORMATION OR THE RESULTS OF ANY DESIGN OR CONSTRUCTION THEREOF. THIS DOCUMENT IS A SEPARATION OF SECTION 2000 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW



TOWN OF ESSEX  
ESSEX COUNTY  
NEW YORK

WATER PLANT UPGRADES  
EXISTING PLANT  
PROCESS SCHEMATIC



**KEY:**

ELBOW - 90 DEG	CHECK VALVE, STRAIGHT WAY
ELBOW - TURNED UP	DIRECTION OF FLOW
ELBOW - TURNED DOWN	HOSE BIB
SIDE OUTLET ELBOW - OUTLET DOWN	SAMPLING VALVE (SMOOTH NOSED)
SIDE OUTLET ELBOW - OUTLET UP	WATER METER
TEE STRAIGHT SIZE	PVC SCH 80 (PRESSURE)
REDUCER - CONCENTRIC	PVC SCH 40 (GRAVITY)
JOINT CONNECTING PIPE	GALVANIZED STEEL
GATE VALVE	POLYETHYLENE
	DUCTILE IRON

**EXISTING WATER PUMPING STATION PLAN**  
SCALE: 3/8" = 1'-0"

**PROJECT INFORMATION:**

DATE:	04/11/19
SCALE:	AS SHOWN
DESIGNED BY:	JS
DRAWN BY:	JS
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	5 OF 28

**REVISIONS:**

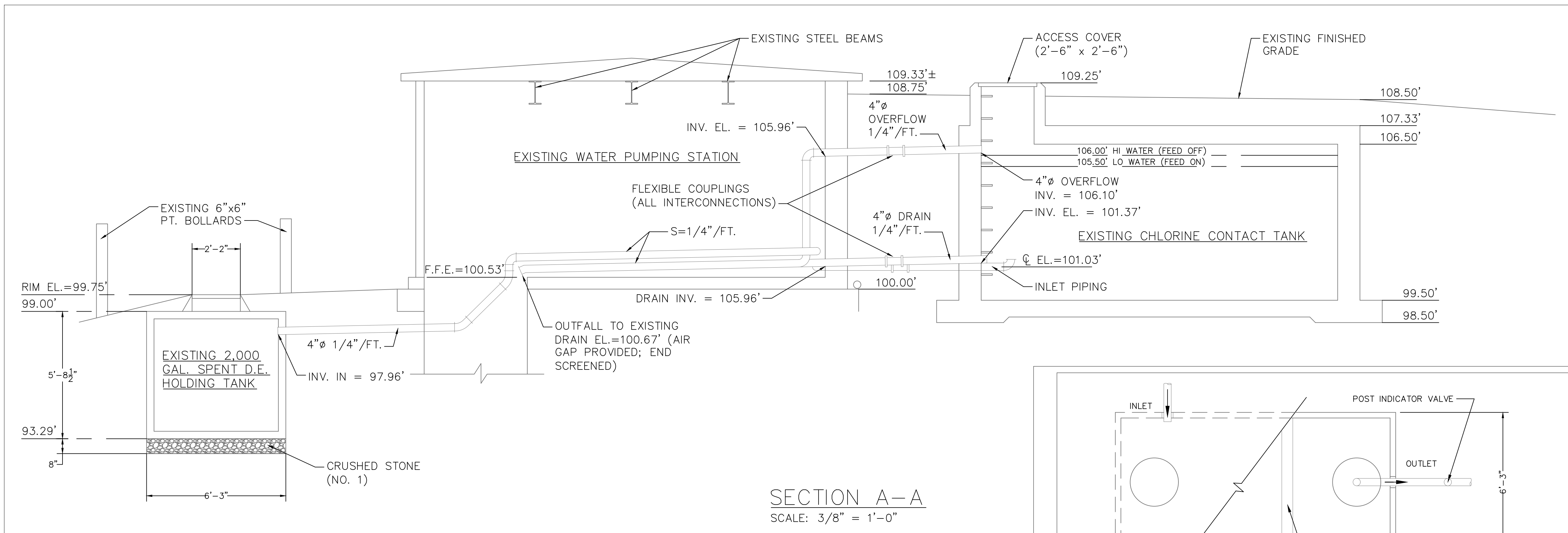
NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/8/20		

ANY LICENSEE WHO ALTERS THIS DOCUMENT IS SUBJECT TO PENALTY UNDER THE PROFESSIONAL ENGINEERING LAW. THE STATE OF NEW YORK PROFESSIONAL ENGINEERING BOARD HAS REVIEWED AND APPROVED THIS DOCUMENT FOR THE PURPOSES OF SECTION 2209 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW.

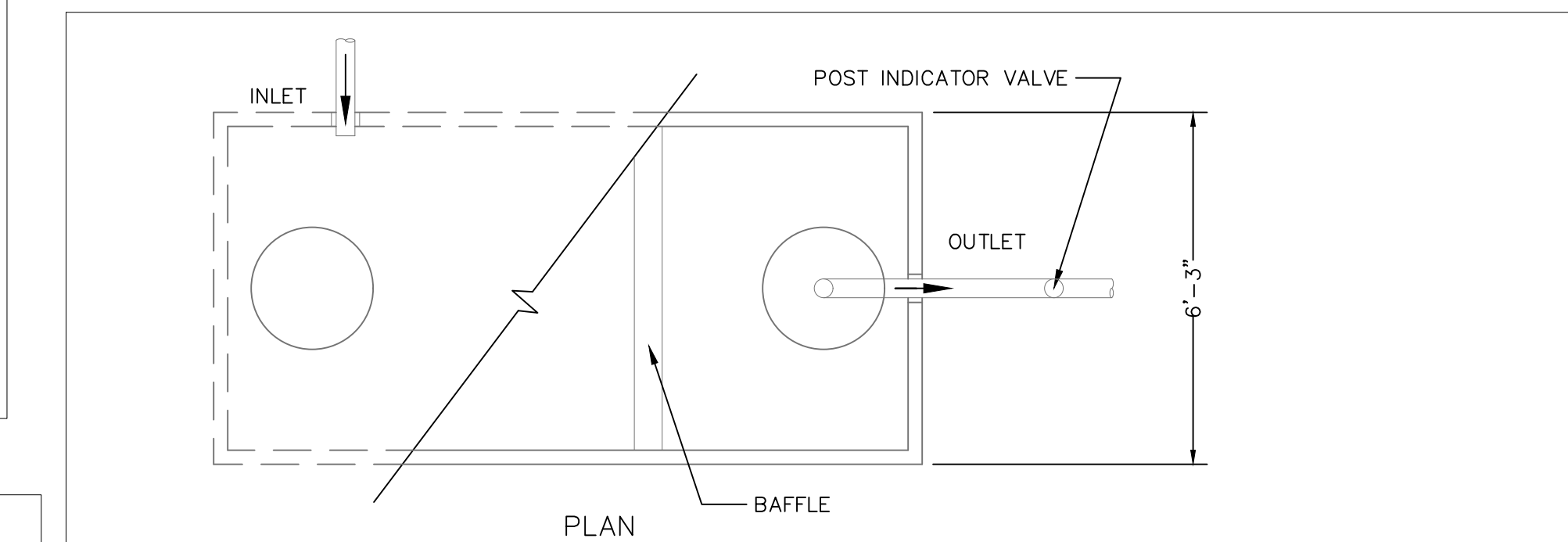


TOWN OF ESSEX  
ESSEX  
NEW YORK  
ESSEX COUNTY

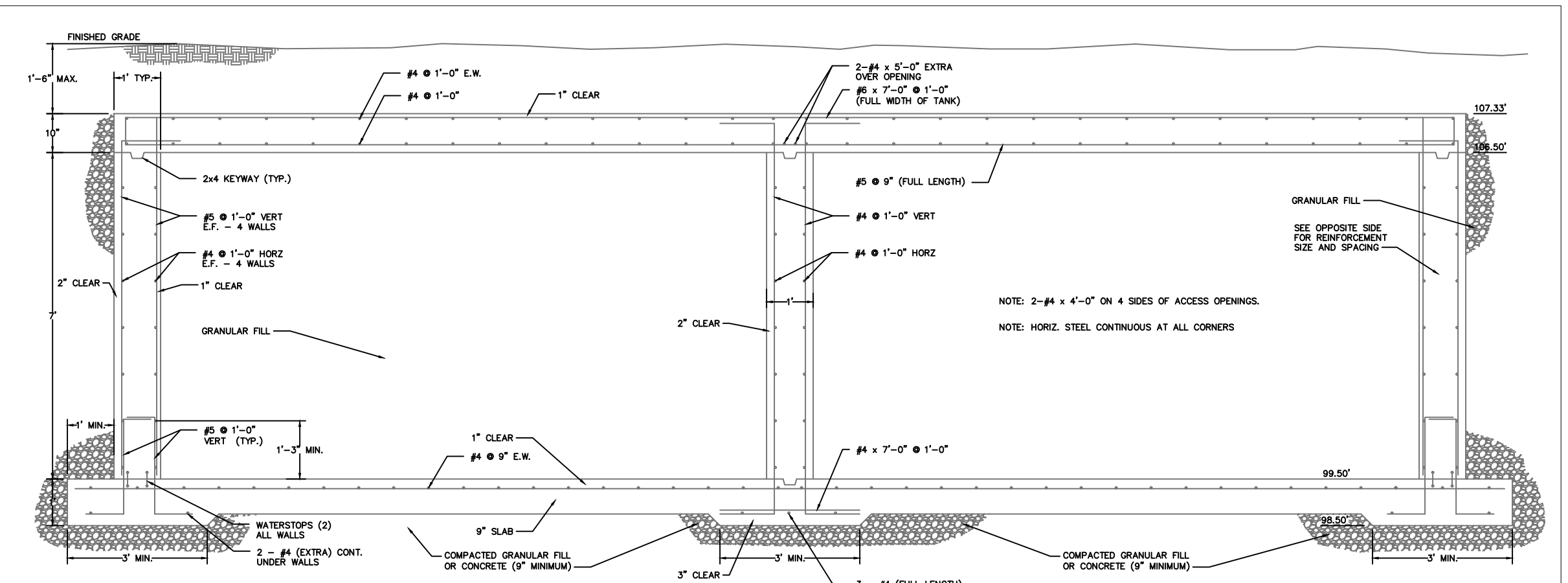
WATER PLANT UPGRADES  
EXISTING PLANT PLAN



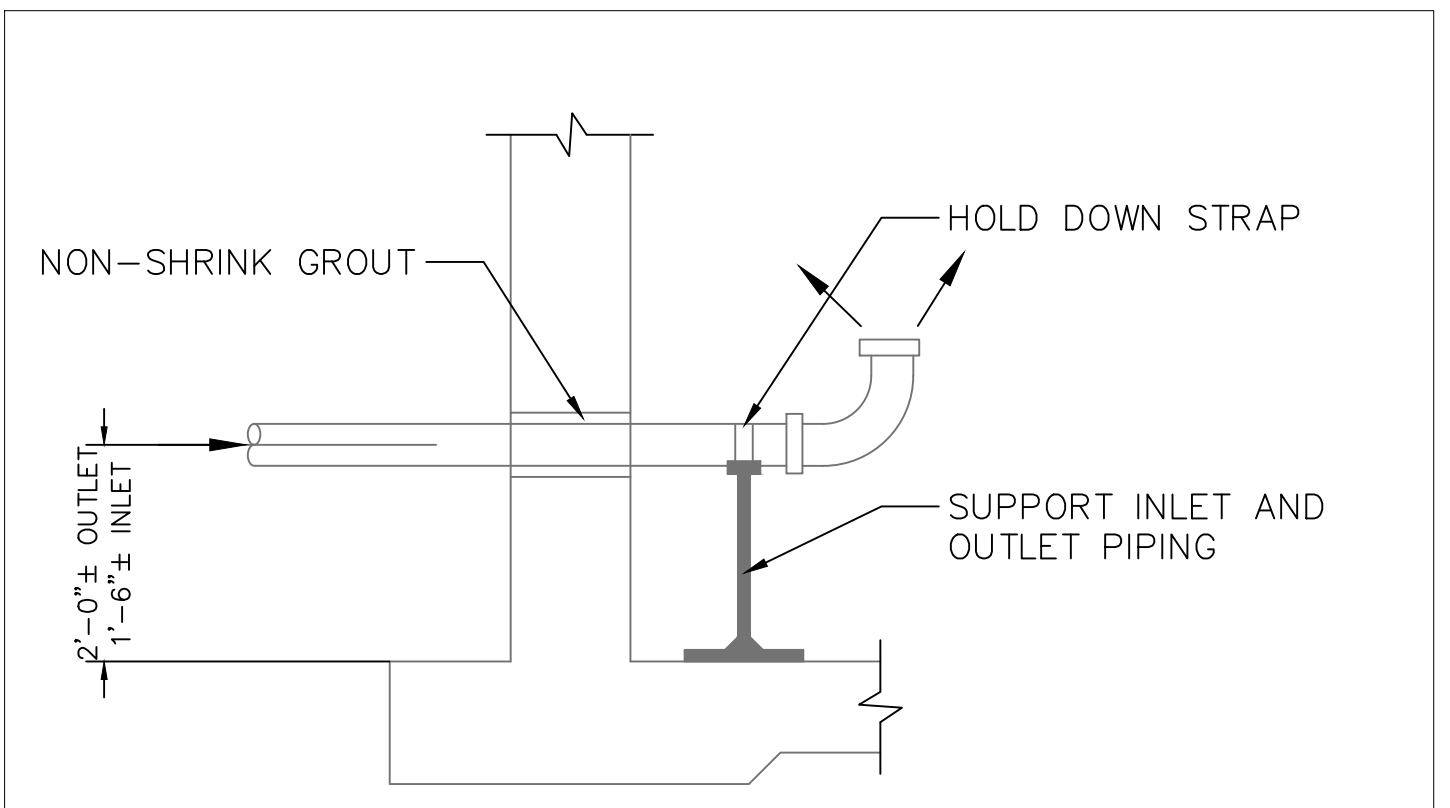
SECTION A-A  
SCALE: 3/8" = 1'-0"



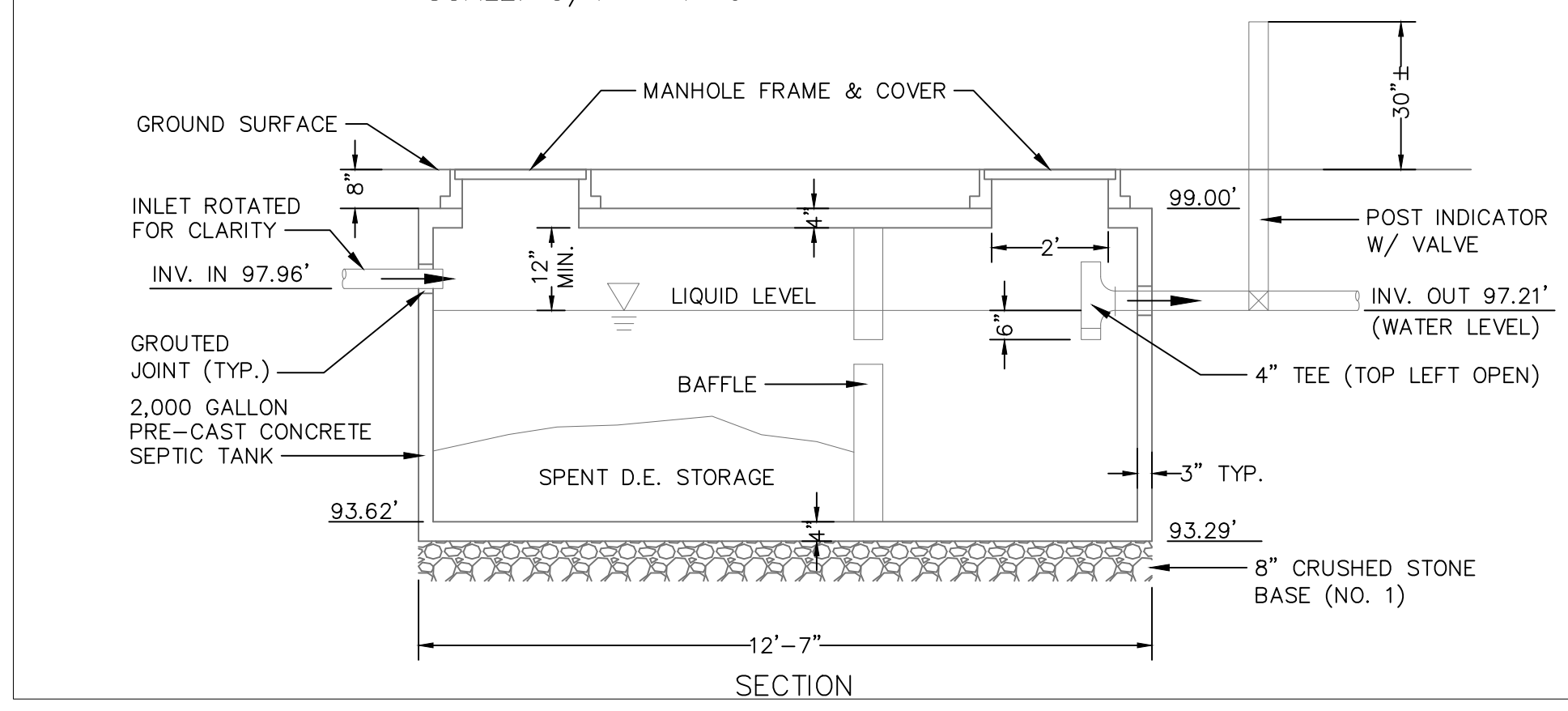
SPENT D.E. TANKAGE  
SCALE: 3/4" = 1'-0"



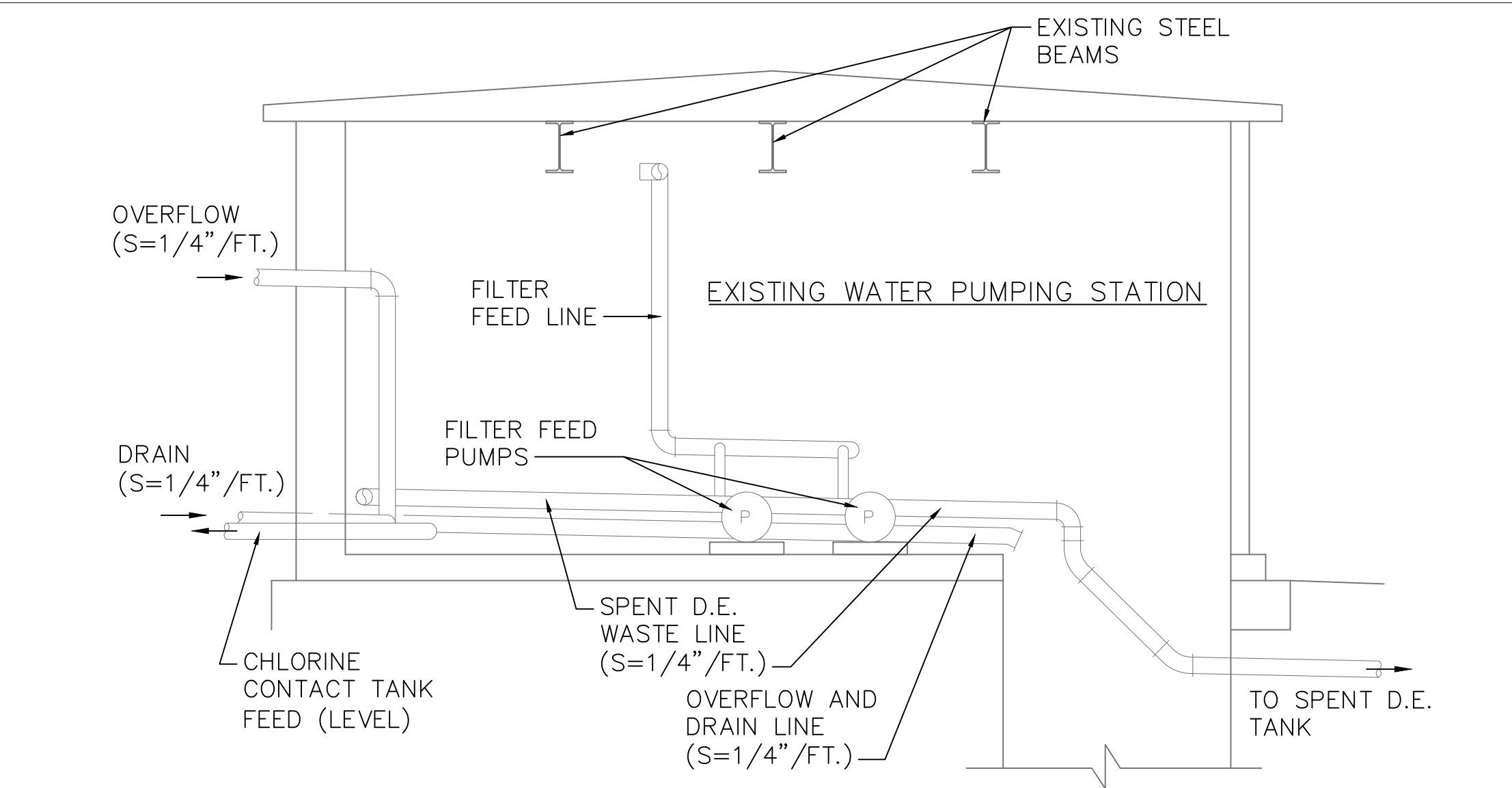
CHLORINE CONTACT TANK (CCT) SECTION  
SCALE: 1" = 1'-0"



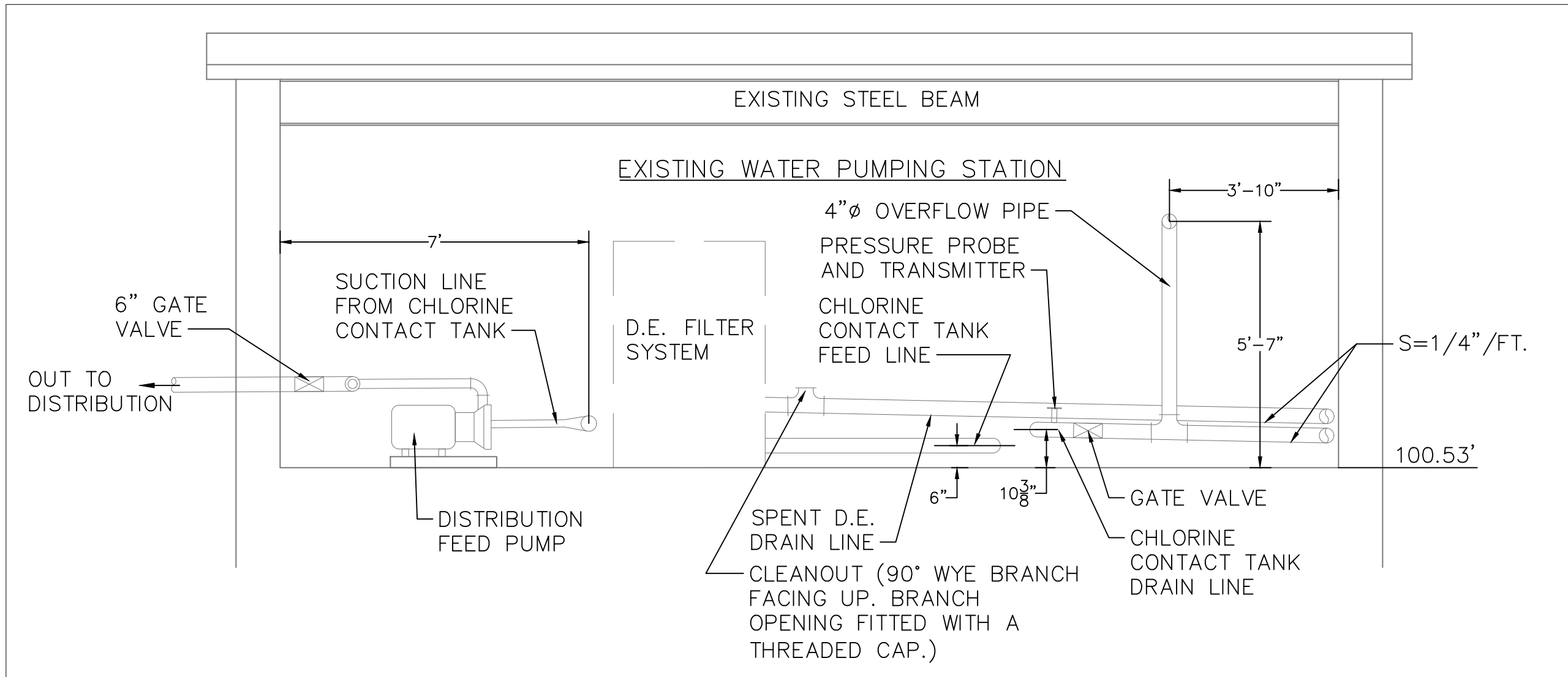
CCT INLET/OUTLET PIPING DETAIL  
N.T.S.



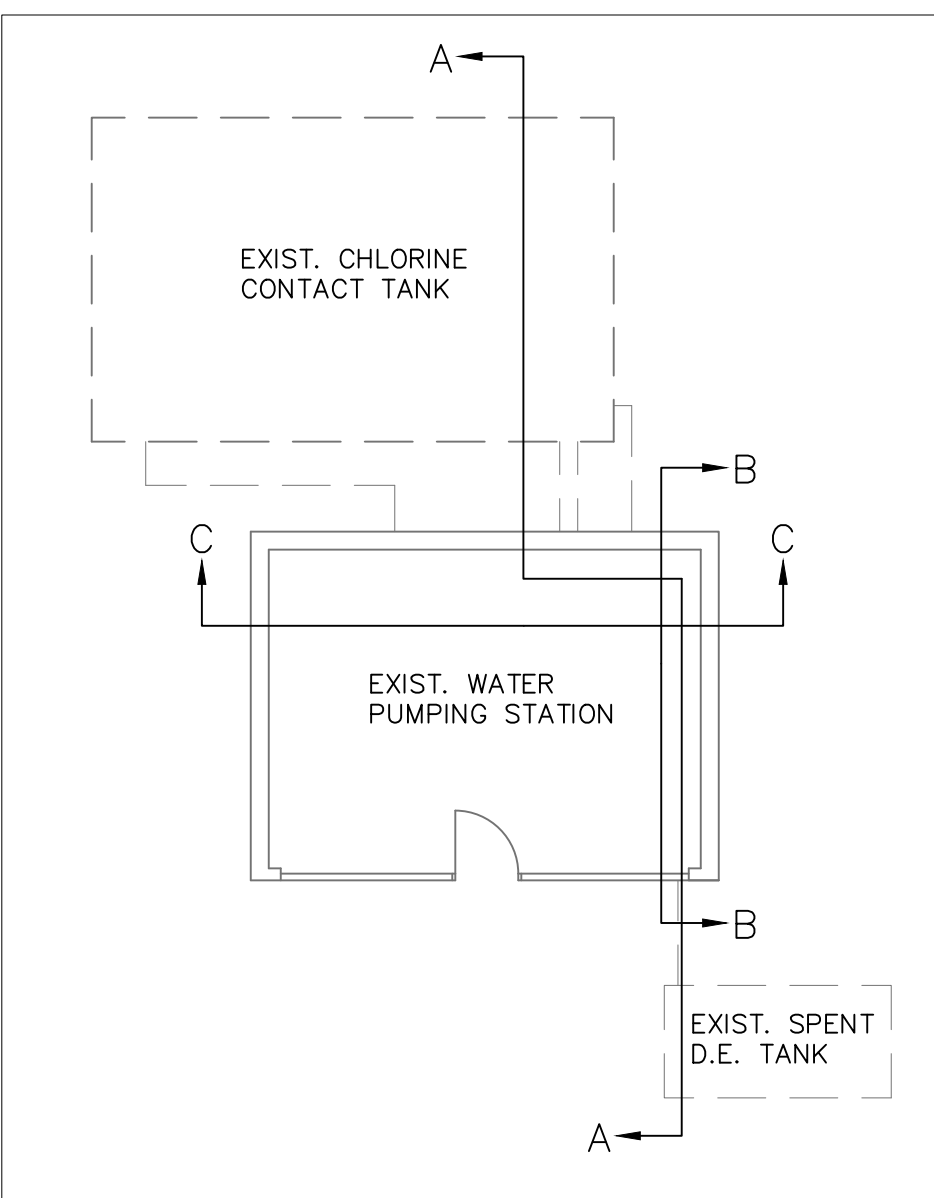
SECTION



SECTION B-B  
SCALE: 3/8" = 1'-0"



SECTION C-C  
SCALE: 3/8" = 1'-0"



KEY PLAN  
NTS

PROJECT INFORMATION:	DATE: 04/12/19	DESIGNED BY: JS	DRAWN BY: JS	REVIEWED BY: TS	PROJECT NO.: 17-011	SHEET: 6 OF 28
NO.:	DATE:	DESCRIPTION:	DOH REVIEW COMMENTS:			
1	1/8/20					

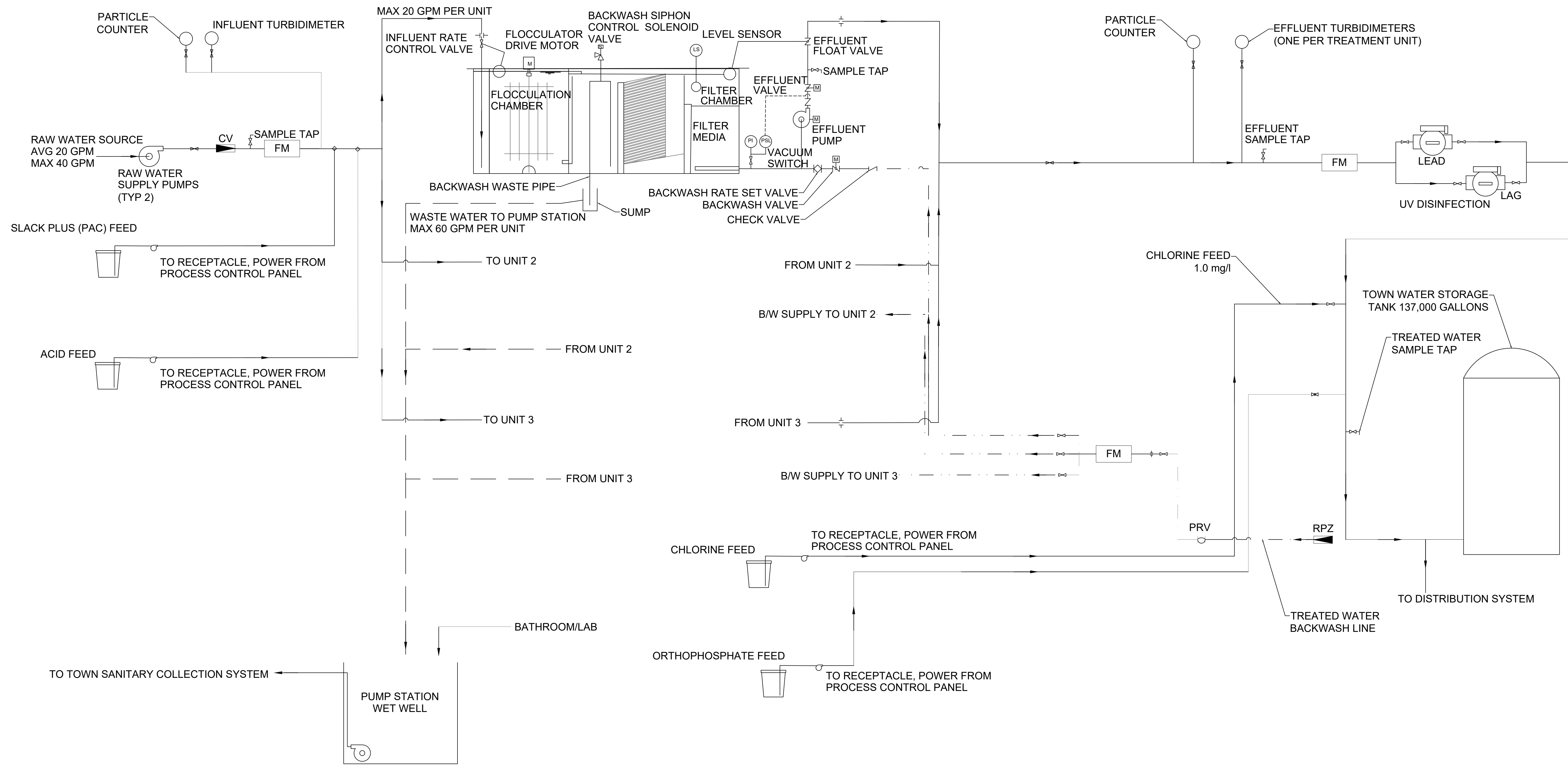
ANY LICENSEE WHO ALTERS THIS DOCUMENT IS VIOLATING THE PROFESSIONAL ENGINEERING AND SURVEYING LAW OF THE STATE OF NEW YORK. UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 2209 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW.



TOWN OF ESSEX  
ESSEX COUNTY  
NEW YORK

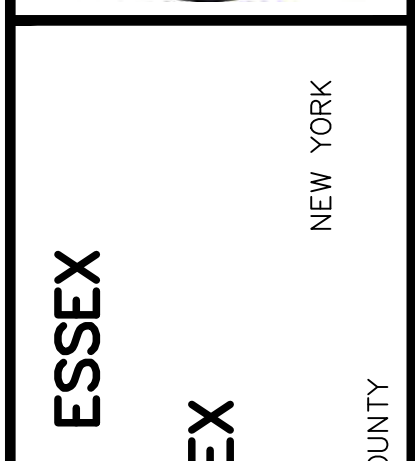
ESSEX

WATER PLANT UPGRADES  
EXISTING PLANT PLAN



PROJECT INFORMATION:	
DATE:	04/12/19
SCALE:	AS SHOWN
DESIGNED BY:	JS
DRAWN BY:	JS
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	7 OF 28

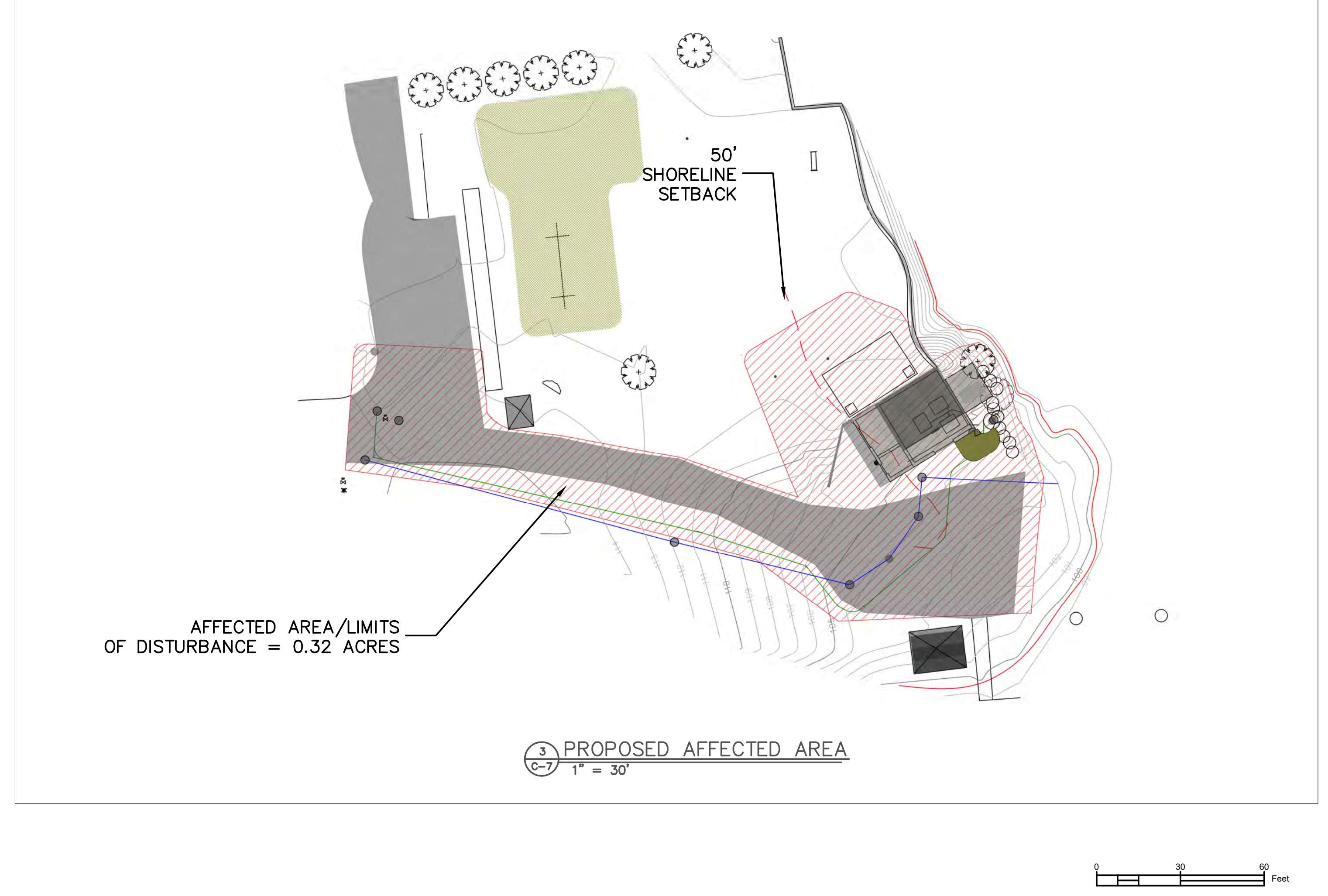
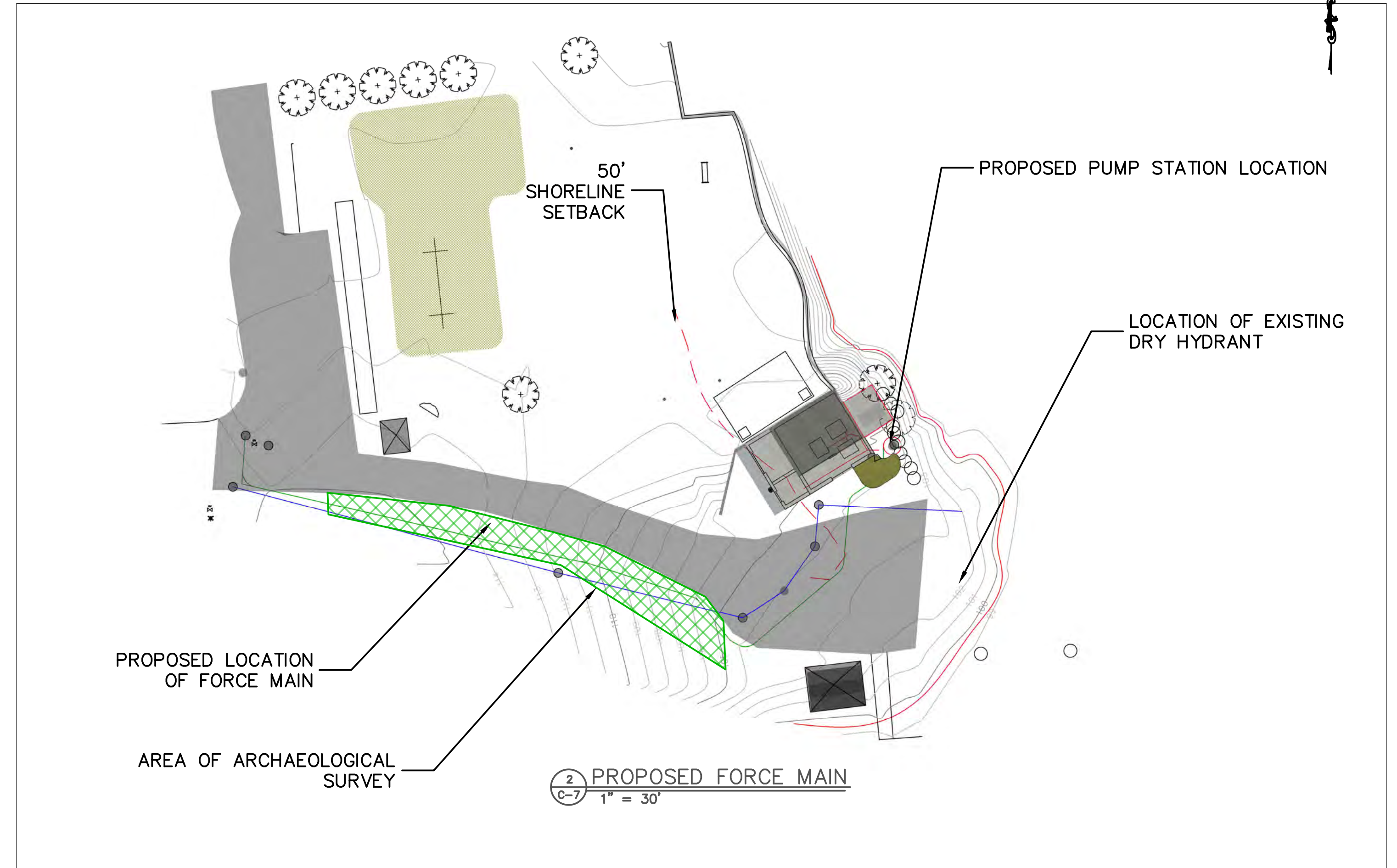
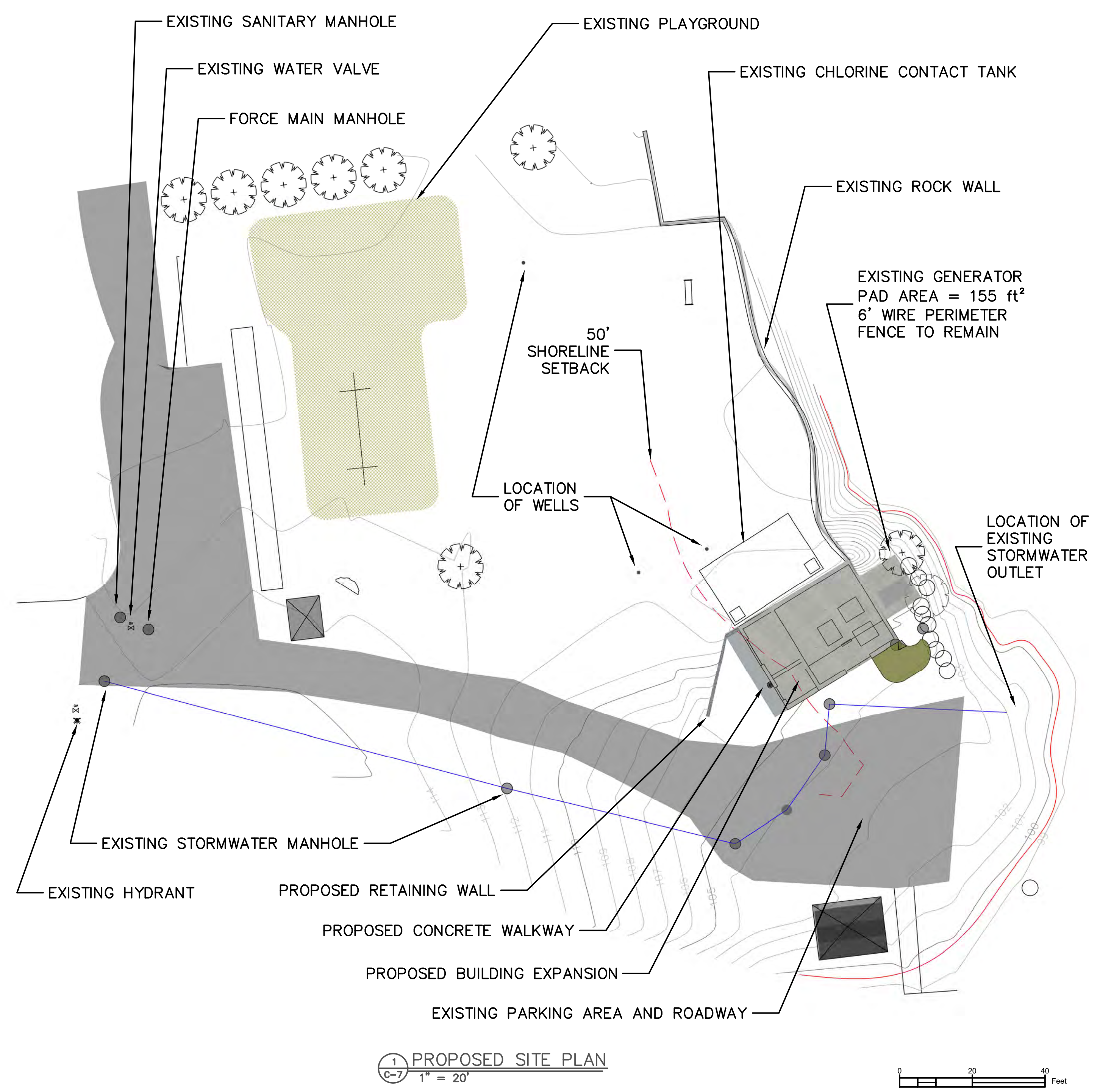
REVISIONS:	
NO:	DESCRIPTION:
1	1/8/20 DOH REVIEW COMMENTS



TOWN OF ESSEX  
ESSEX COUNTY  
NEW YORK  
ESSEX

WATER PLANT UPGRADES  
PROPOSED PROCESS  
SCHEMATIC

	PROPOSED AFFECTED AREA
	EXISTING PLAYGROUND AREA
	EXISTING ROADWAY AND PARKING AREA
	ARCHAEOLOGICAL SURVEY AREA
	MAJOR CONTOUR
	MINOR CONTOUR



PROJECT INFORMATION:	DATE: 4/12/19
SCALE: AS SHOWN	DESIGNED BY: JS
DRAWN BY: RB	REVIEWED BY: TS
PROJECT NO.: 17-011	SHEET: 8 OF 28

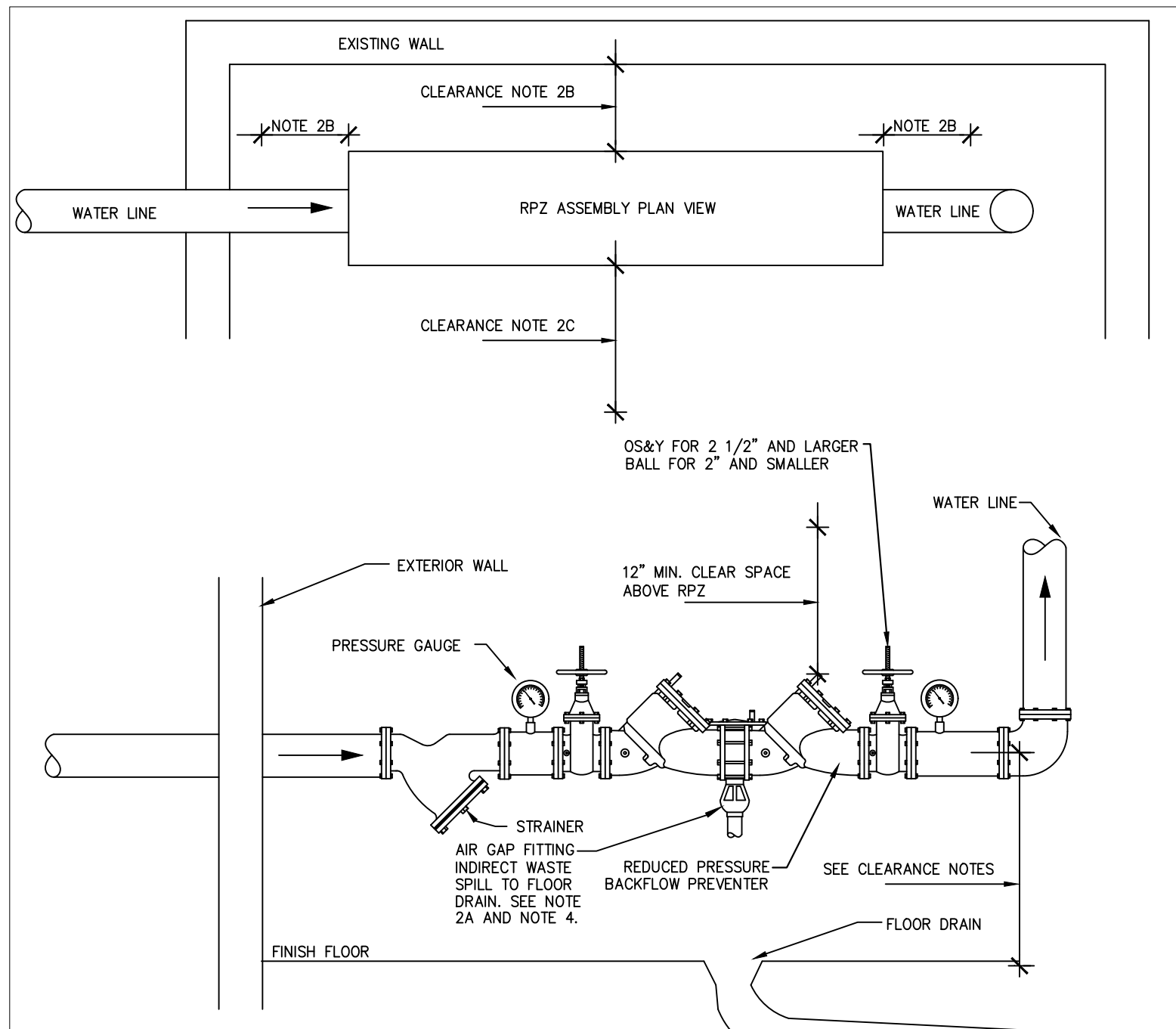
NO.   DATE:	DESCRIPTION:
1   1/8/20	DDH REVIEW COMMENTS



TOWN OF ESSEX  
 STATE OF NEW YORK  
 ESSEX COUNTY

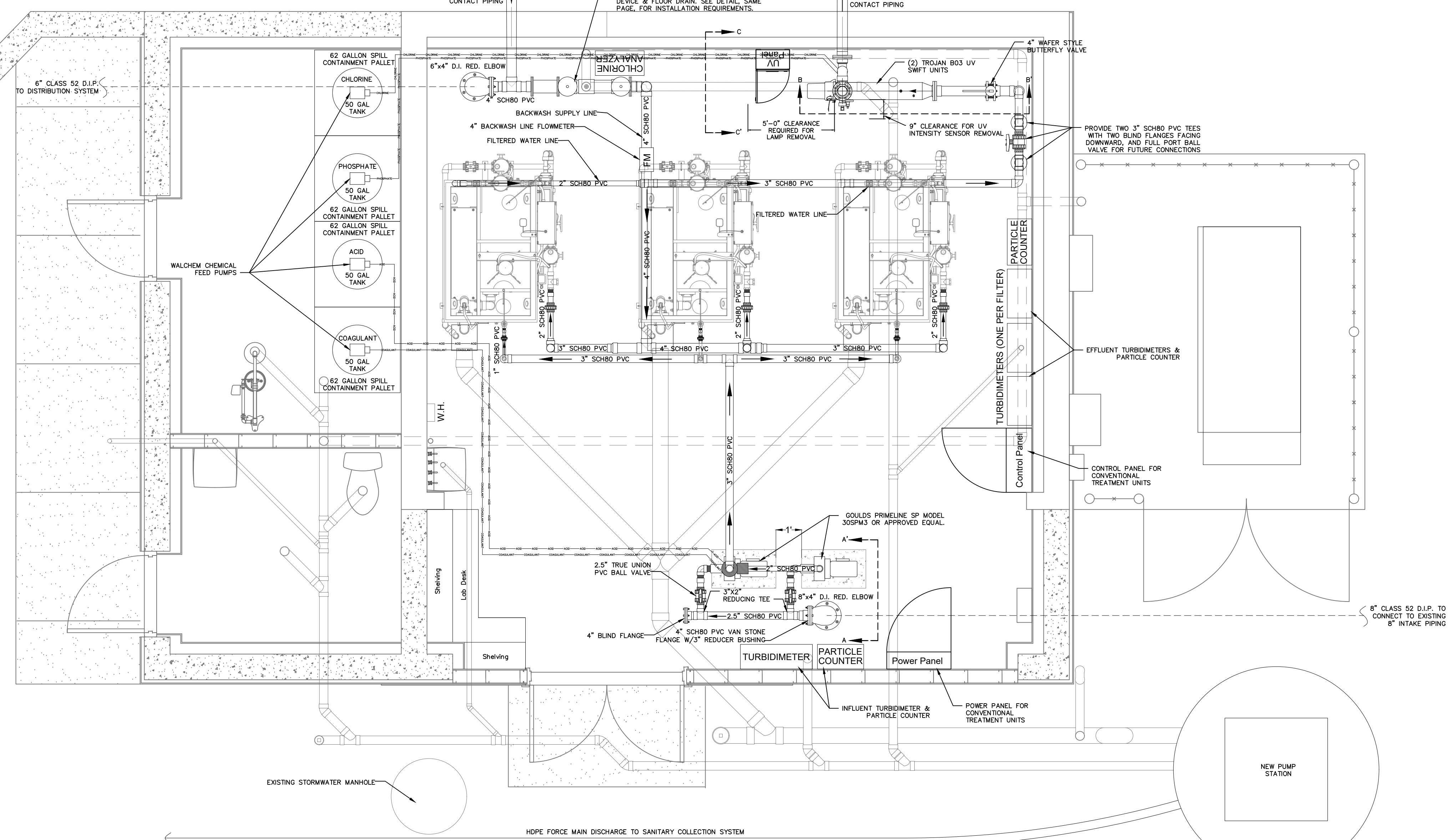
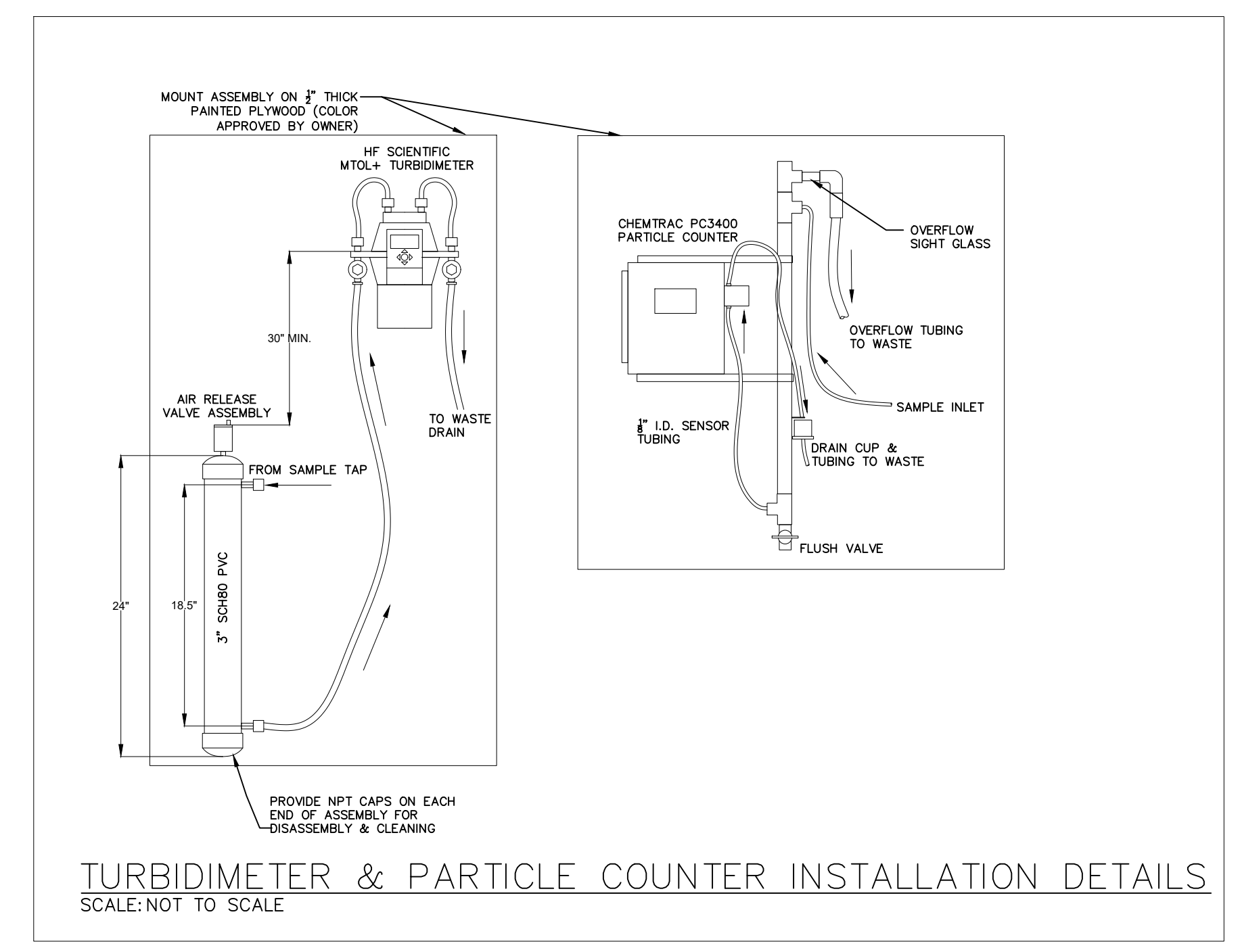
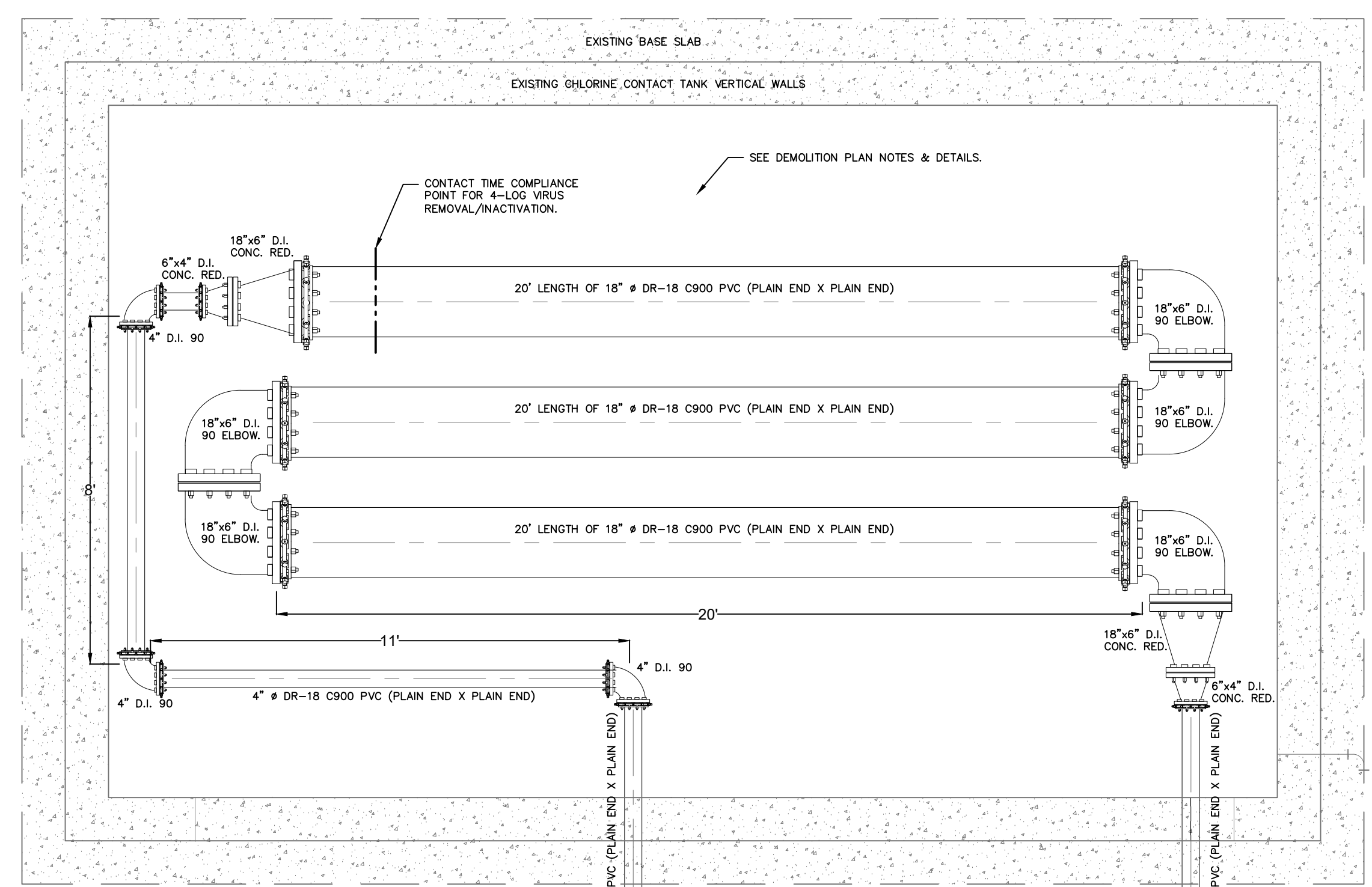
WATER PLANT UPGRADES  
 PROPOSED OVERALL SITE PLAN





**NOTES:**  
 1. SUPPORT PIPING AND FITTINGS AS REQUIRED TO CONFIRM TO MANUFACTURERS REQUIREMENTS.  
 2. INSTALL CENTERLINE OF RPZ TO:  
 A. BE WITHIN 30" TO 60" A.F.F. PROVIDED THAT THE RELIEF IS AT LEAST 18" A.F.F.  
 B. BE AT LEAST 8" OFF WALL OR CLOSEST OBSTRUCTION BEHIND AND AT LEAST 12" FROM EACH END.  
 C. HAVE AT LEAST 30" OF CLEAR SPACE IN FRONT SIDE OF DEVICE.  
 3. PROVIDE STRAINER ON DOMESTIC WATER SERVICES ONLY. DO NOT PROVIDE STRAINER ON FIRE OR COMBINATION DOMESTIC/FIRE SERVICES.  
 4. AIR GAP SHALL BE TWICE THE DIMENSION OF THE EFFECTIVE OPENING OF THE RELIEF VALVE, AND NOT LESS THAN 1 INCH.

**REDUCED PRESSURE ZONE BACKFLOW PREVENTER**  
 SCALE: NOT TO SCALE



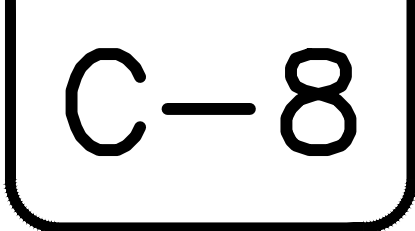
**WATER PLANT UPGRADE PLAN VIEW**  
 SCALE: 3/8" = 1'-0"

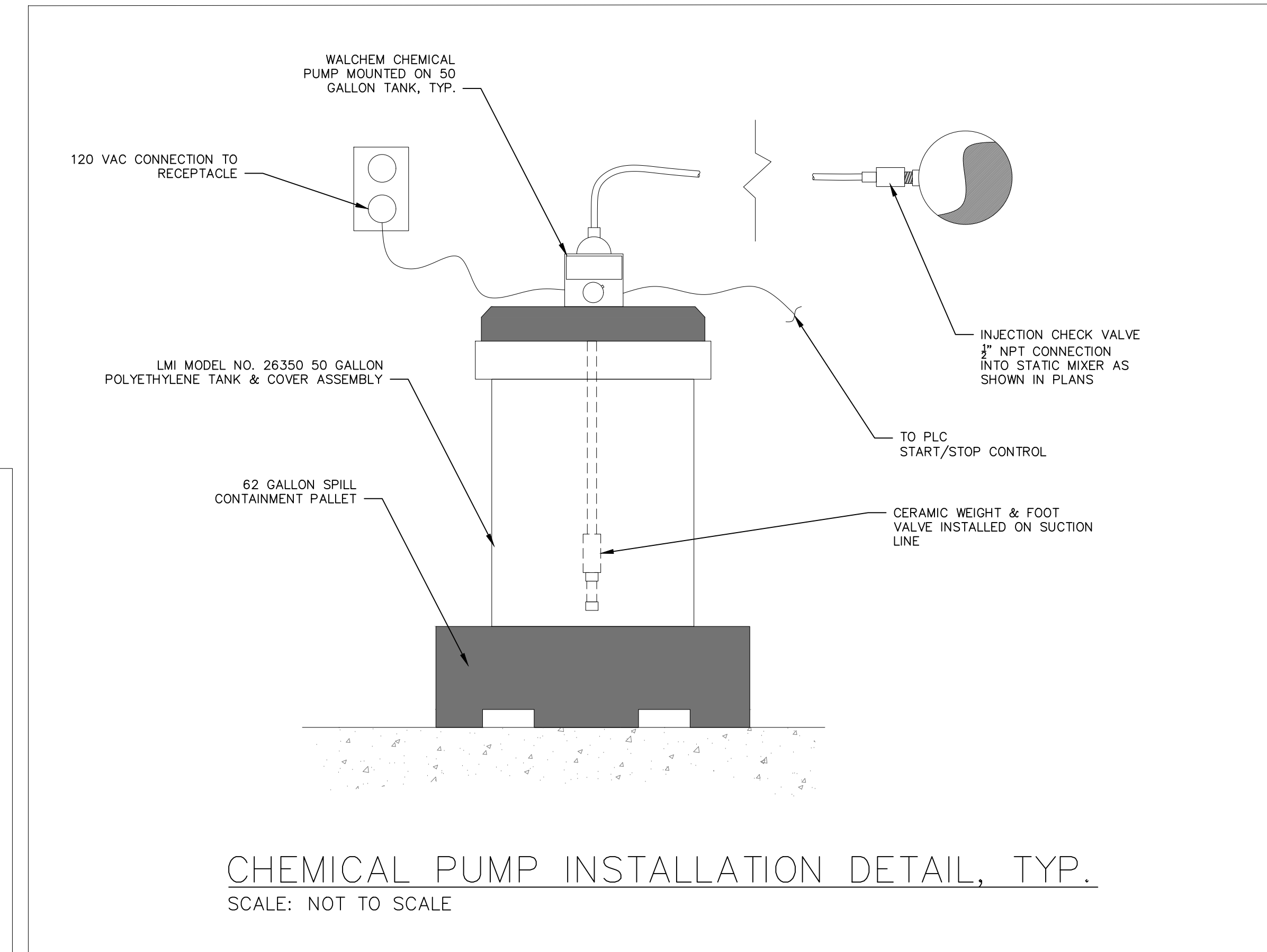
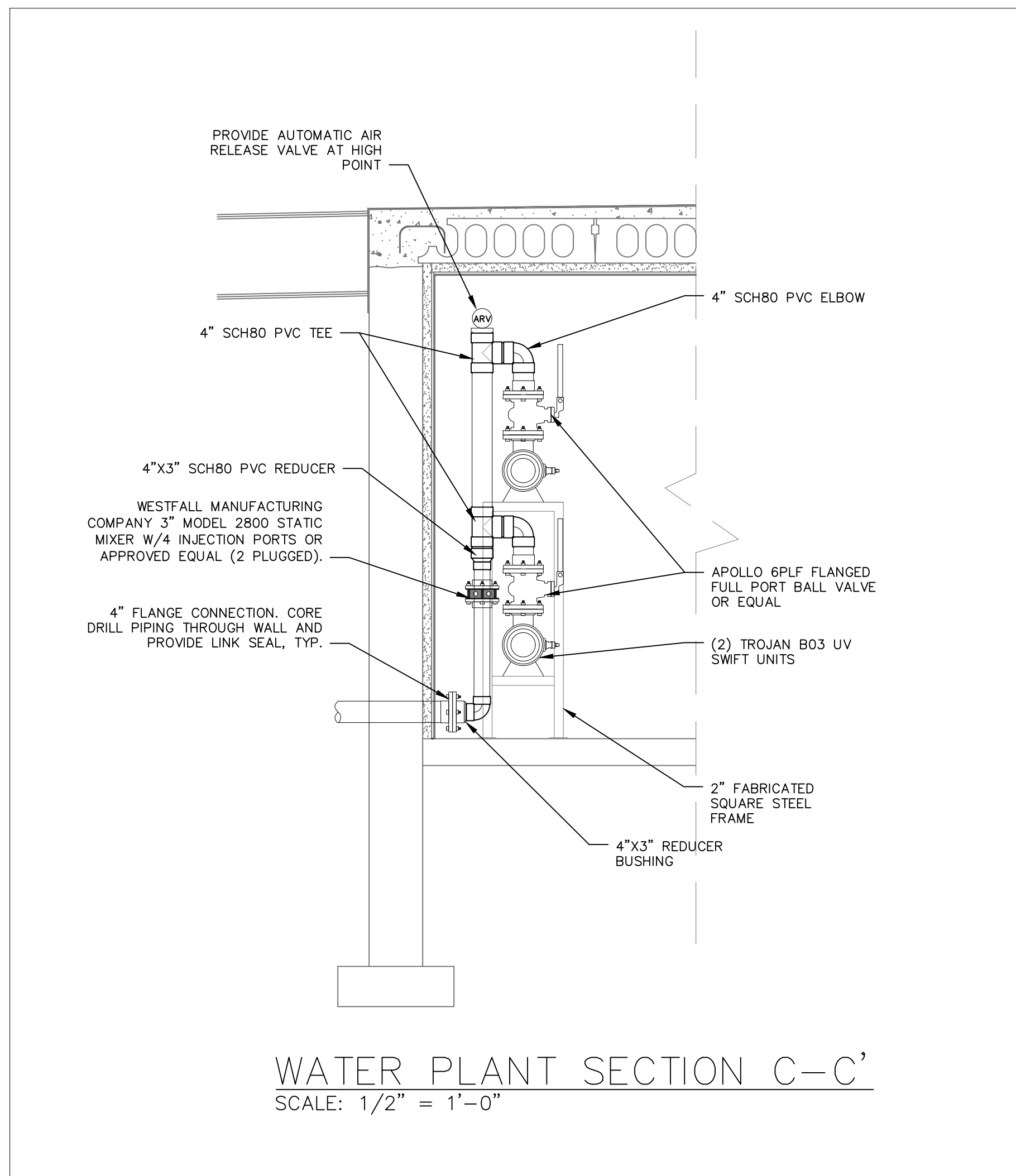
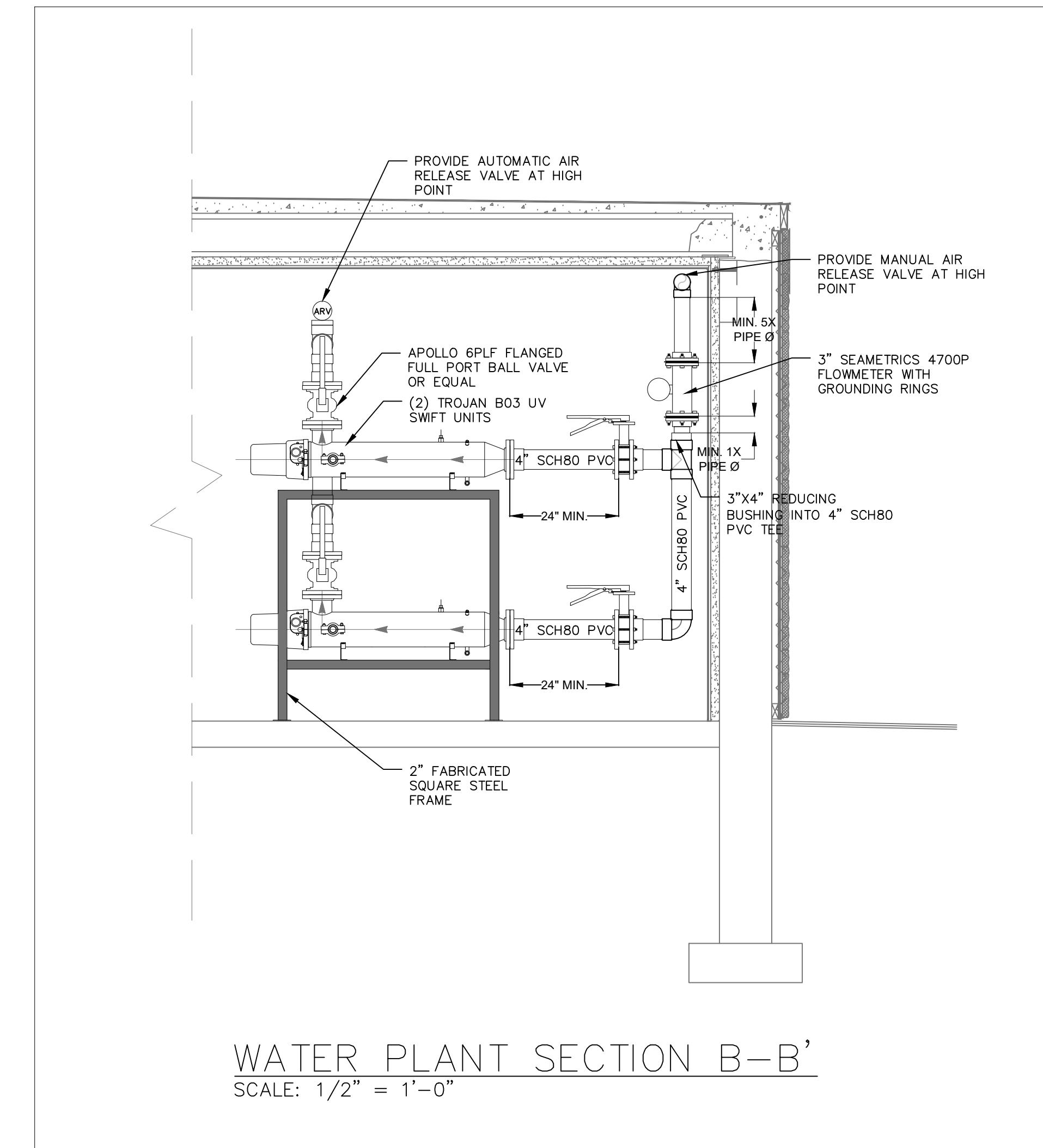
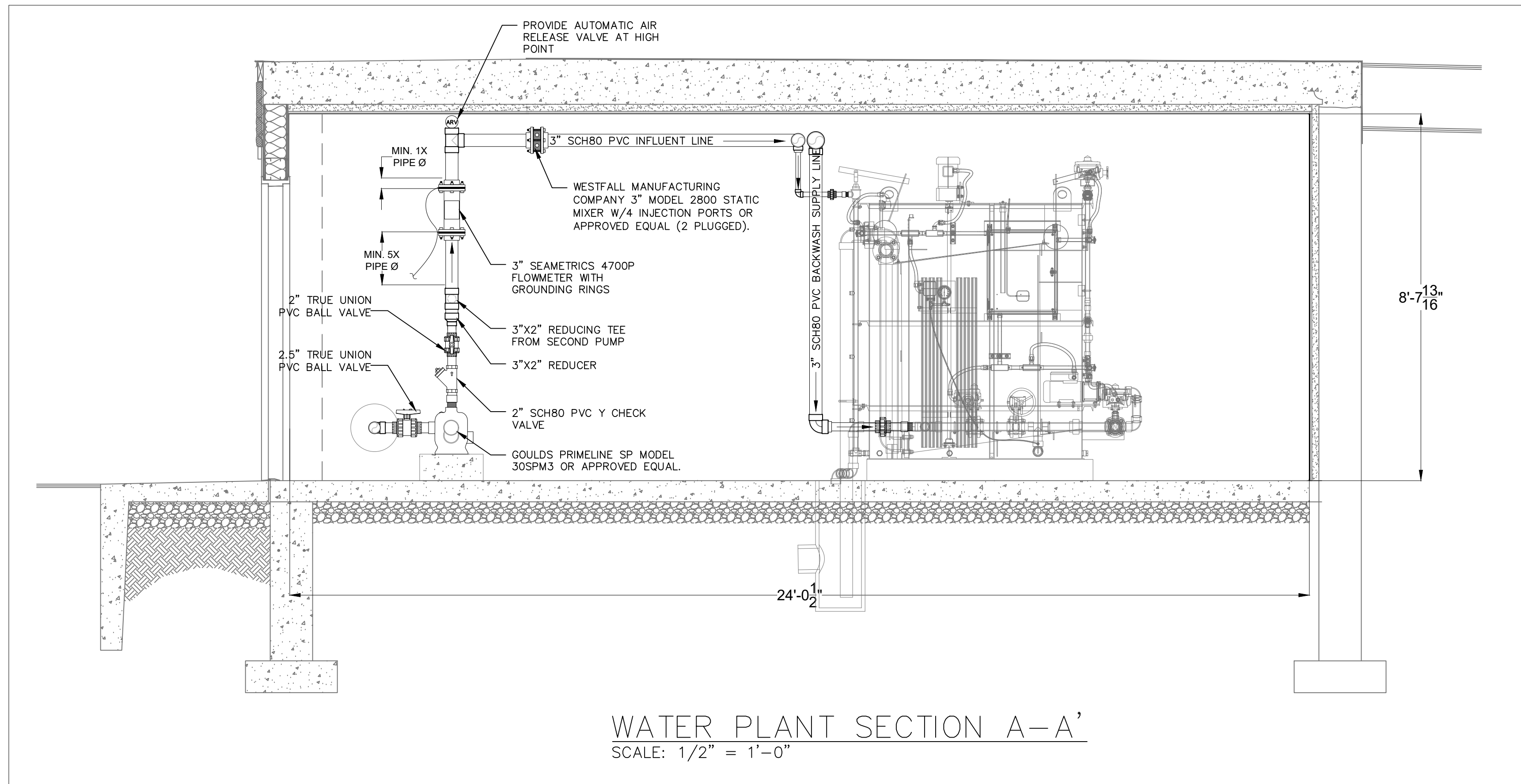
PROJECT INFORMATION:	
DATE:	03/28/2019
SCALE:	AS SHOWN
DESIGNED BY:	JS
DRAWN BY:	JS
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	9 OF 28



TOWN OF ESSEX  
 ESSEX  
 NEW YORK  
 ESSEX COUNTY

WATER PLANT UPGRADES  
 PROPOSED PLANT PLAN





**CEDARWOOD**  
ENGINEERING SERVICES LLC

3903 Main Street, Warwick, RI 02886, (P) 518.823.5000  
9-17 Dietz Street, Suite 303, Oneonta, NY 13820, (P) 607.441.3246  
COPYRIGHT (C) CEDARWOOD ENGINEERING SERVICES LLC ALL RIGHTS RESERVED

PROJECT INFORMATION:

DATE: 03/28/2019

SCALE: AS SHOWN

DESIGNED BY: JS

DRAWN BY: JS

REVIEWED BY: TS

NO. 1

DATE: 1/8/20

DESCRIPTION: DOH REVIEW COMMENTS

PROJECT NO.: 17-011

SHEET: 17 OF 28

ANY LICENSEE WHO ALTERS THIS DOCUMENT IS SUBJECT TO PENALTY AS SET FORTH IN THE STATE ENGINEERING LAW.  
UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 2009 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW

TOWN OF ESSEX

NEW YORK

ESSEX COUNTY

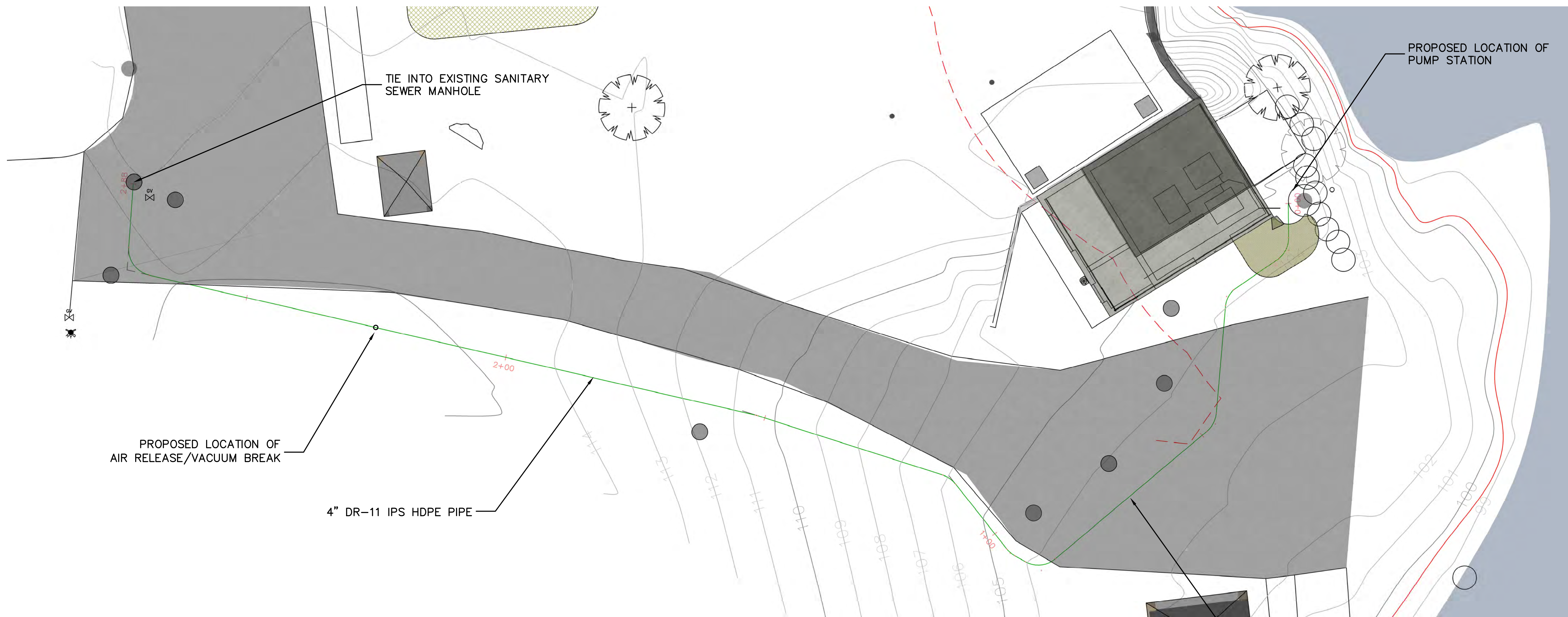
ESSEX

WATER PLANT UPGRADES

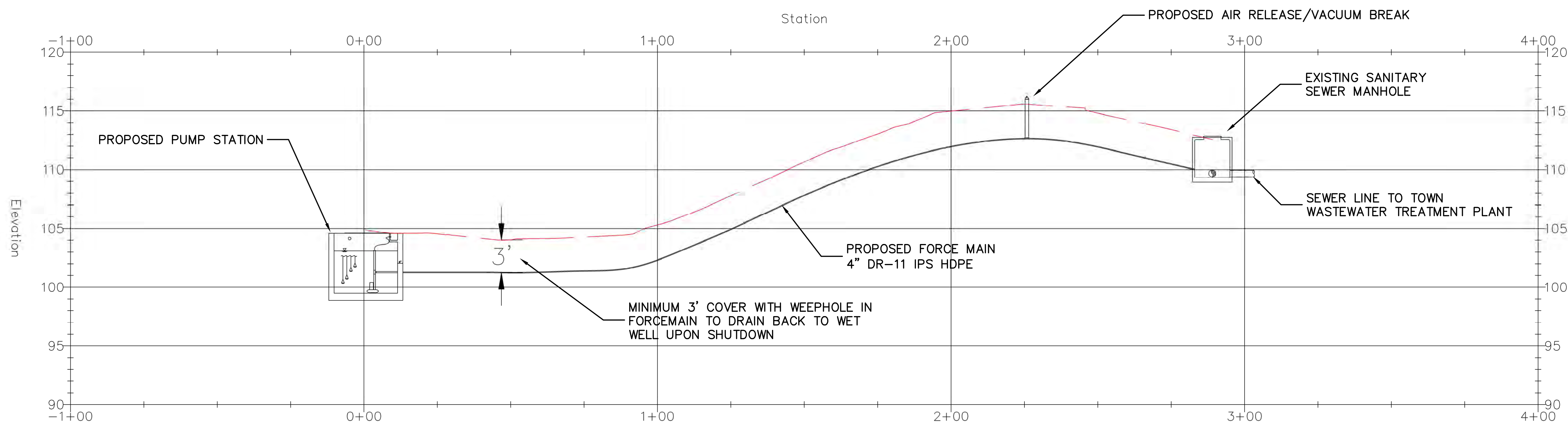
PROPOSED

PLANT SECTION VIEW

C
-
9

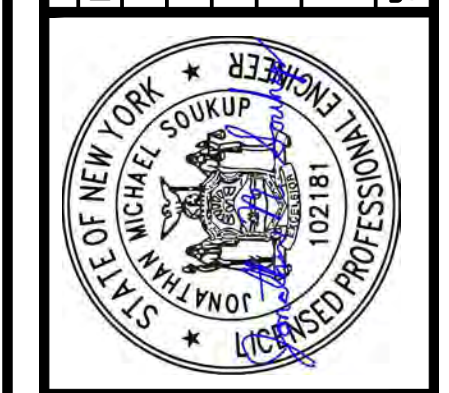


1 FORCE MAIN PLAN  
1" = 10'



2 FORCE MAIN PROFILE  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'

PROJECT INFORMATION:	
DATE:	4/12/2019
DESCRIPTION:	AS SHOWN
SCALE:	AS SHOWN
DESIGNED BY:	RB
DRAWN BY:	RB
REVIEWED BY:	TSS
PROJECT NO.:	
SHEET:	11 OF 28



TOWN OF ESSEX  
NEW YORK  
ESSEX COUNTY

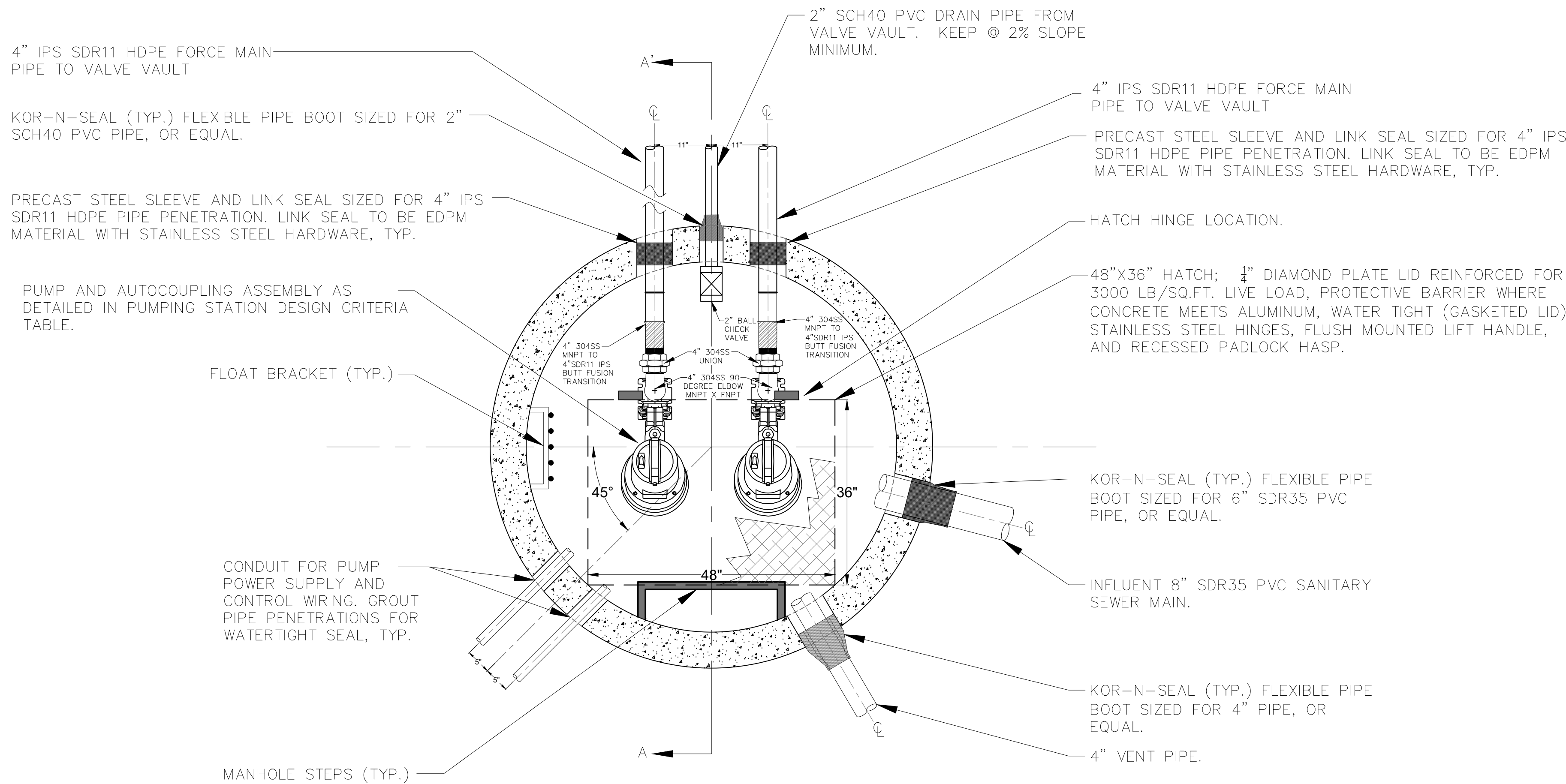
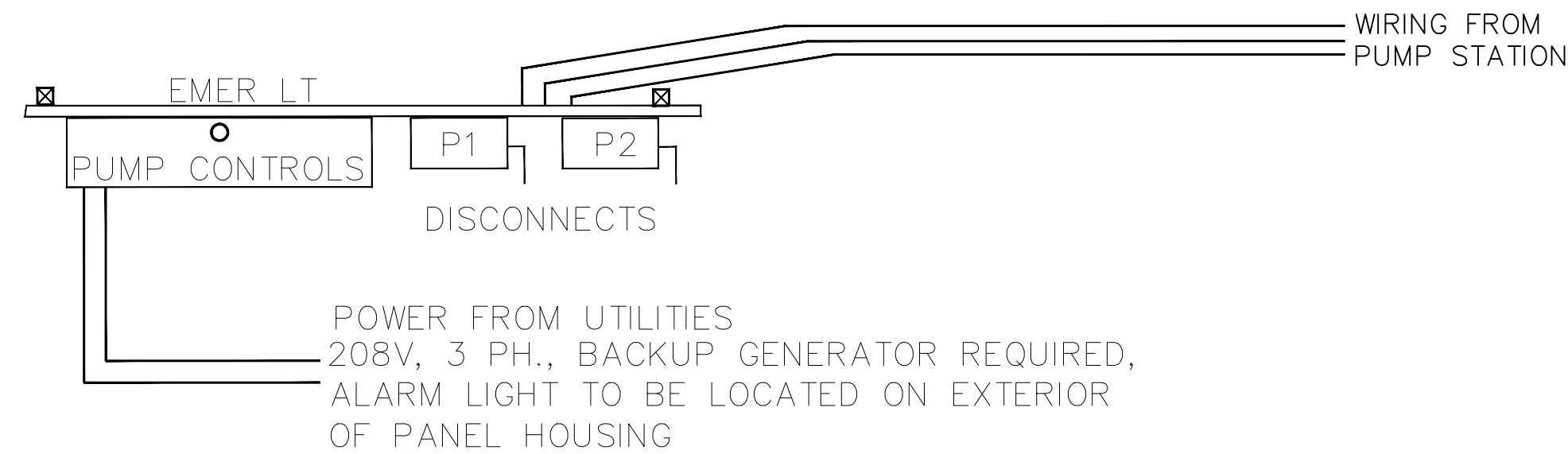
WATER PLANT UPGRADES  
PROPOSED PUMP STATION PROFILE

# PUMP STATION DETAILS

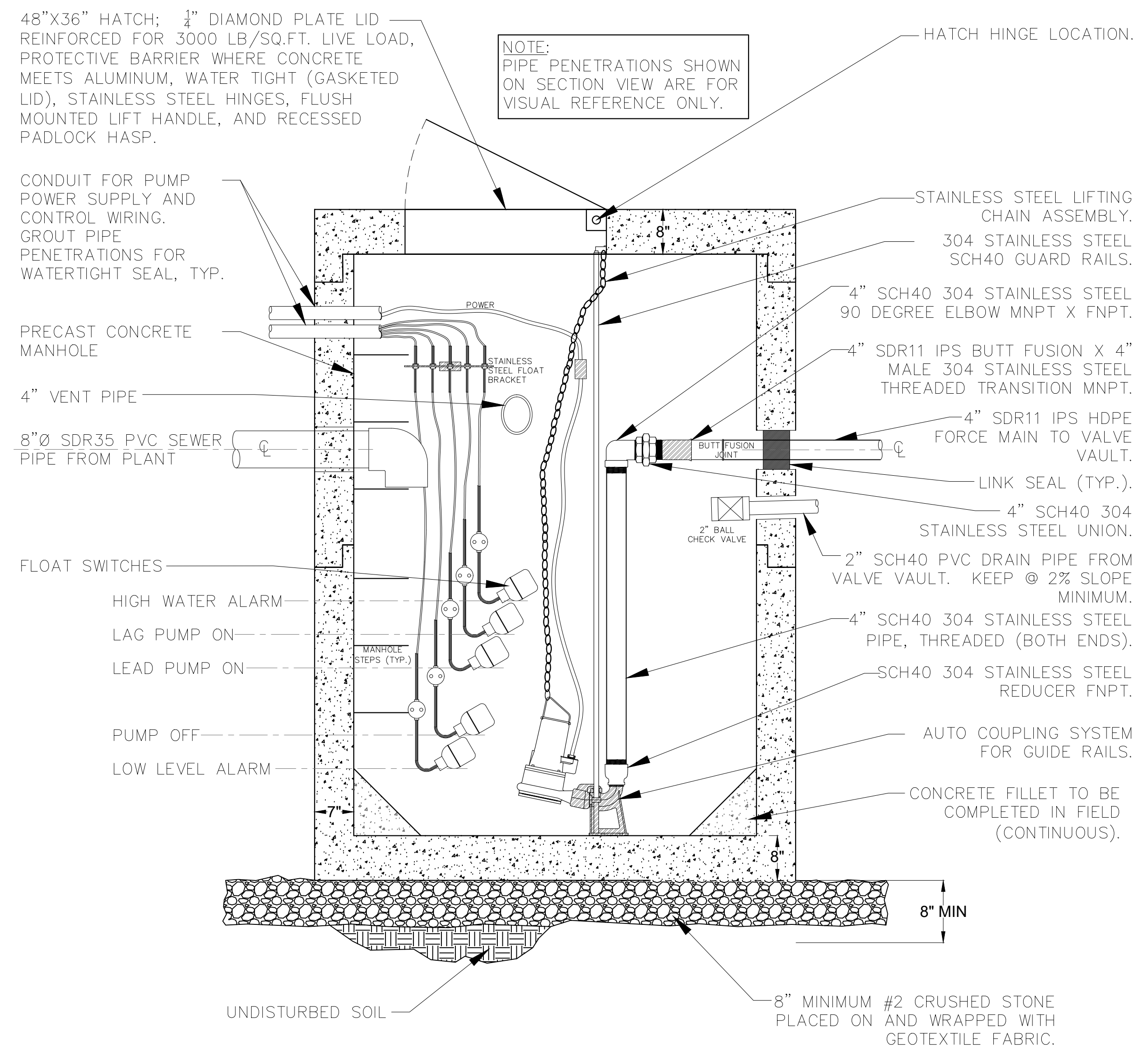
PUMPING STATION DESIGN CRITERIA														
PUMPING STATION	OVERALL DIMENSIONS	WETWELL DIMENSIONS	WETWELL HEIGHT	BOTTOM OF WETWELL	WETWELL CAPACITY	SUBMERSIBLE PUMP DESIGN CRITERIA	F.F.E./T.O.S. ELEVATION	GRAVITY SEWER INVERT IN ELEVATION	PS PIPING/VALVE SIZES	PS HEADER SIZE	FORCE MAIN OUT INV ELEVATION	FM TYPE/LENGTH	CALCULATED FM VELOCITY	NOTES
WATER PLANT	AS SHOWN	6'-0" DIAMETER	6.46 FEET	93.95	1080 GALLONS	120 GPM @ 30' TDH, FLYT 3069 SUBMERSIBLE PUMPS, 3290RPM, 2.7 HP, 208V, 3-PHASE	99.75	95.75 FROM WATER PLANT	4 INCH WALL CASTING, PLUG VALVES, AND CHECK VALVES	4" PIPING	96.00	4" DR 11 HDPE	3.72 FT/SEC	-

PUMPING STATION PUMP SETPOINTS									
PUMPING STATION	BOTTOM OF WETWELL	LOW LEVEL ALARM	PUMP(S) OFF	LEAD PUMP ON	LAG PUMP ON	LAG (2) PUMP ON	HIGH WATER ALARM	GRAVITY SEWER INVERT IN ELEVATION	PRESSURE TRANSDUCER/FLOATS
WATER PLANT	93.95	95.45	95.95	96.95	97.45	NA	97.95	95.75 FROM WATER PLANT	FLOATS

PUMP STATION CONTROL PANEL



PUMP STATION PLAN  
SCALE:  $\frac{3}{4}$ " TO 1'-0"



PUMP STATION SECTION A-A'  
SCALE:  $\frac{3}{4}$ " TO 1'-0"

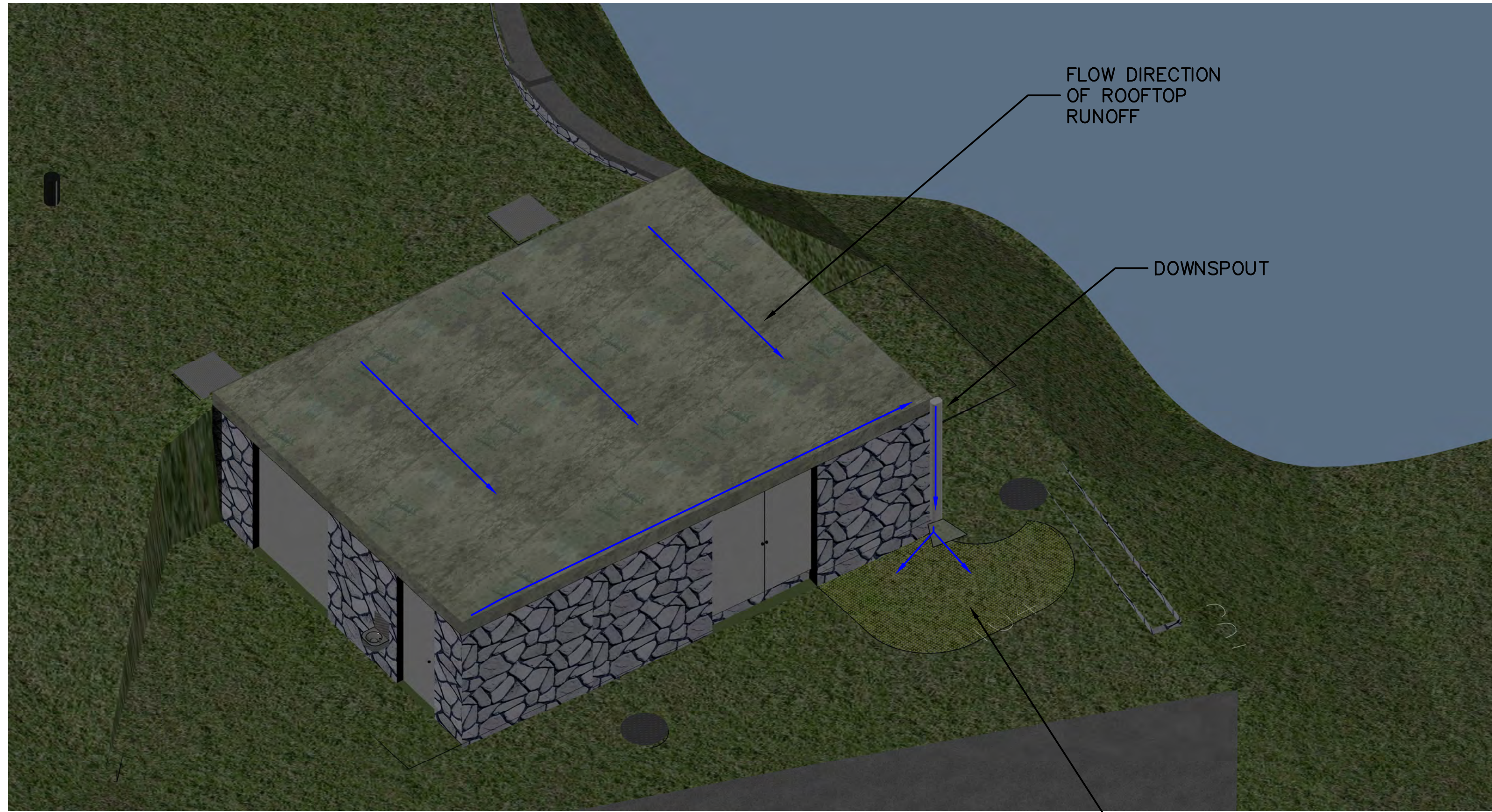
NOTE:  
1. SEE PLAN VIEW FOR PIPE PENETRATION LOCATIONS.  
2. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.

NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/8/20		

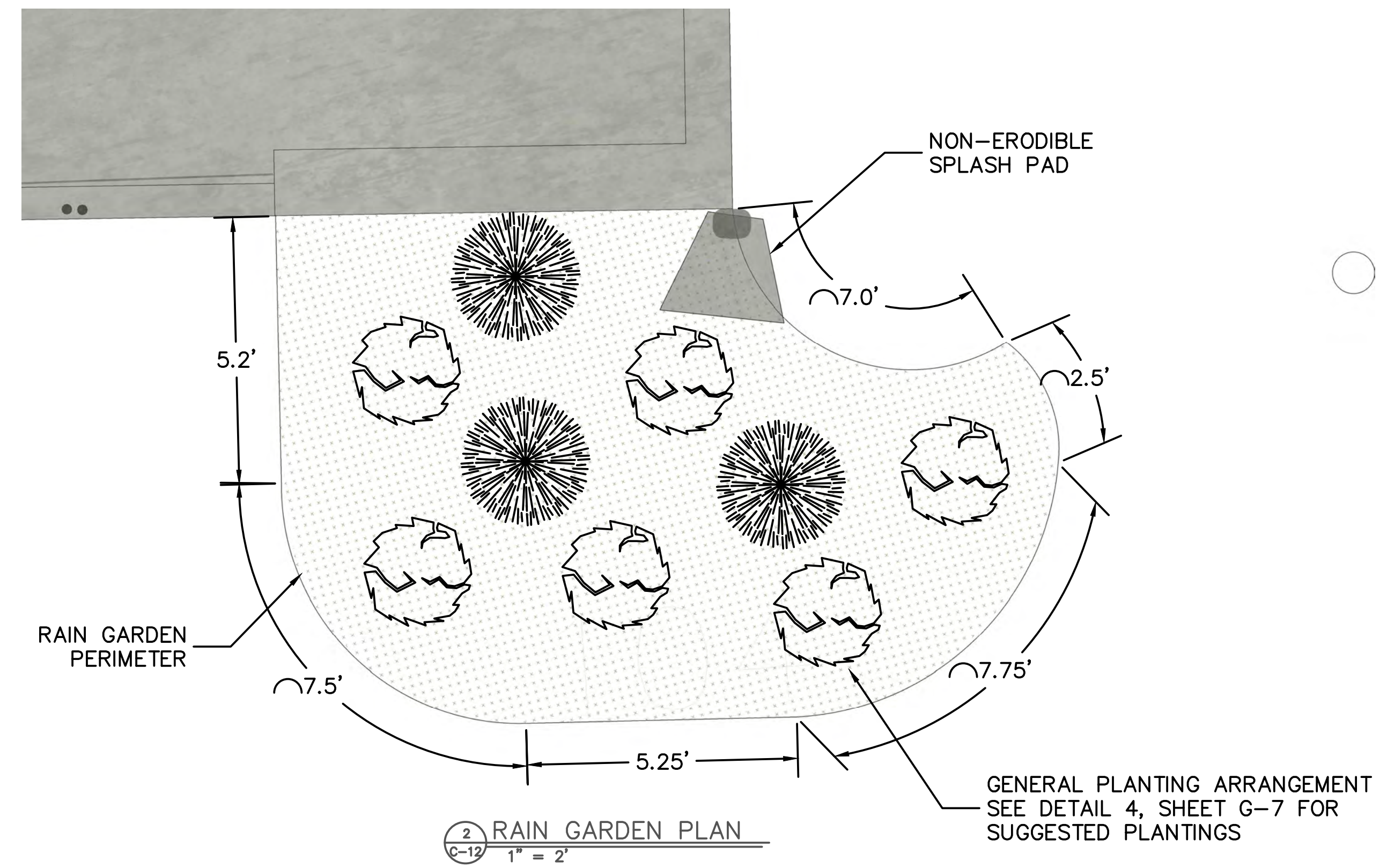


TOWN OF ESSEX  
 ESSEX COUNTY  
 NEW YORK  
 ESSEX

WATER PLANT UPGRADES  
 PROPOSED  
 PUMP STATION DETAILS



1 ROOF RUNOFF PATHWAY  
NOT TO SCALE



2 RAIN GARDEN PLAN  
NOT TO SCALE

GENERAL PLANTING ARRANGEMENT  
SEE DETAIL 4, SHEET G-7 FOR  
SUGGESTED PLANTINGS

Water Quality Calculation

$$WQ_v = \frac{R_v \cdot P \cdot A}{12}$$

$$R_v = 0.05 + 0.009 \cdot I$$

I = Percentage impervious area draining to site = 100%

A = Area draining to practice

P = 90% Rainfall number = 1 in

$$WQ_v = 0.95 \cdot 1 \text{ in} / 12 \cdot 783 \text{ ft}^2$$

$$WQ_v = 61 \text{ ft}^3$$

Storage Volume Calculation

$$WQ_v \leq VSM + VDL + (DP \cdot ARG)$$

$$VSM = ARG \cdot DSM \cdot PSM$$

$$VDL = ARG \cdot DDL \cdot PDL$$

ARG = proposed rain garden surface area = 120 ft<sup>2</sup>

DSM = depth soil media = 12 inches = 1.0 ft

DDL = depth drainage layer = 8 inches = 0.667 ft

PSM = porosity of soil media = 0.20

PDL = porosity of drainage layer = 0.40

VSM = 122 ft<sup>2</sup> x 1.0 ft x 0.20 = 24 ft<sup>3</sup>

VDL = 122 ft<sup>2</sup> x 0.667 ft x 0.40 = 40 ft<sup>3</sup>

DP = ponding depth = 6 inches = 0.5 ft

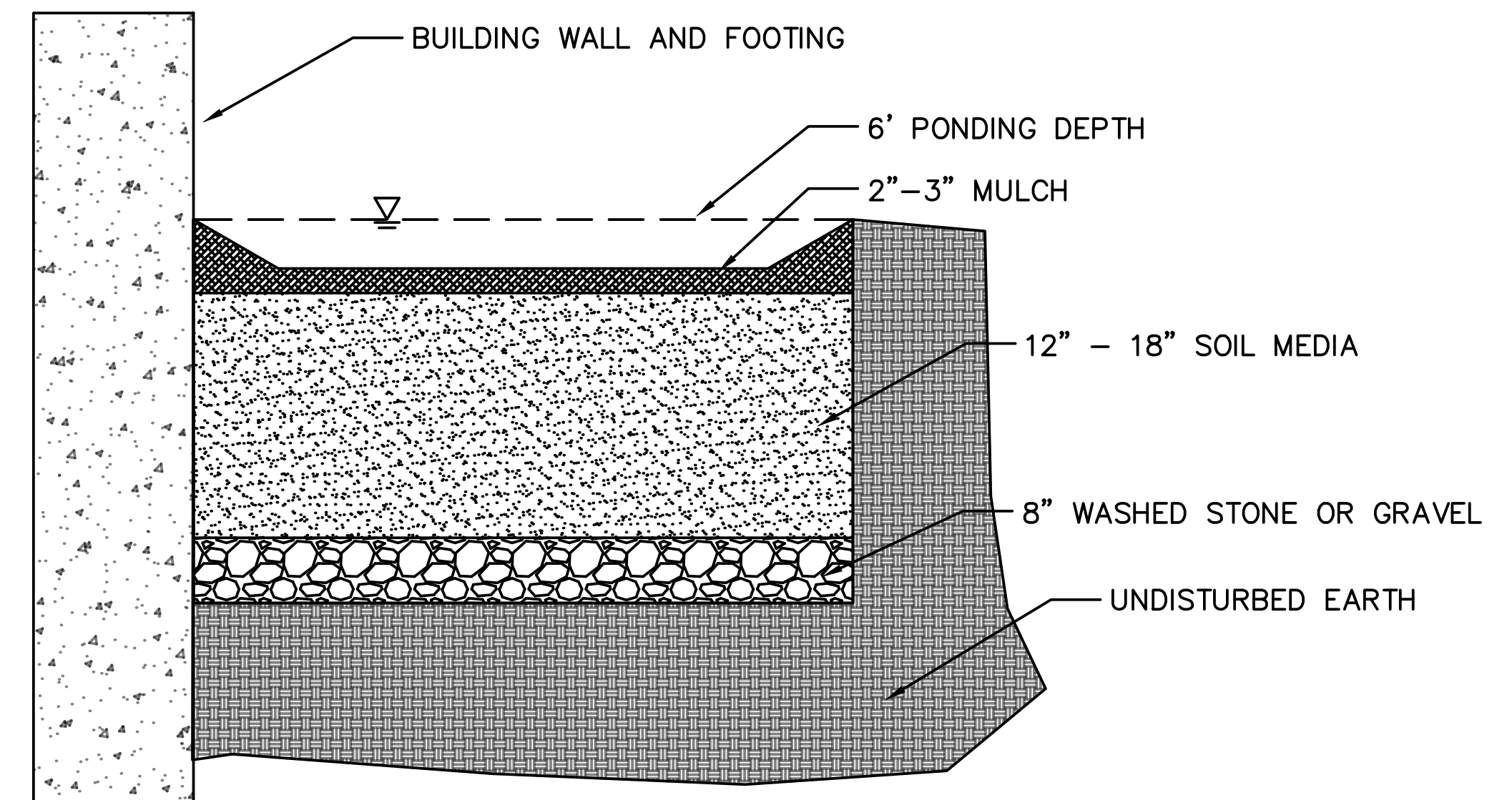
$$WQ_v \leq 24 \text{ ft}^3 + 40 \text{ ft}^3 + (0.5 \text{ ft} \cdot 122 \text{ ft}^2)$$

$$WQ_v \leq 189 \text{ ft}^3$$

3 RUNOFF VOLUME CALCULATION  
NOT TO SCALE

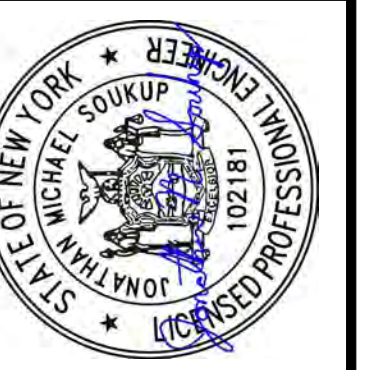
Shrubs	Herbaceous Plants
Witch Hazel <i>Hamamelis virginiana</i>	Cinnamon Fern <i>Osmunda cinnamomea</i>
Winterberry <i>Ilex verticillata</i>	Cutleaf Coneflower <i>Rudbeckia laciniata</i>
Arrowwood <i>Viburnum dentatum</i>	Woolgrass <i>Scirpus cyperinus</i>
Brook-side Alder <i>Alnus serrulata</i>	New England Aster <i>Aster novae-angliae</i>
Red-Osier Dogwood <i>Cornus stolonifera</i>	Fox Sedge <i>Carex vulpinoidea</i>
Sweet Pepperbush <i>Clethra alnifolia</i>	Spotted Joe-Pye Weed <i>Eupatorium maculatum</i>
Switch Grass <i>Panicum virgatum</i>	Great Blue Lobelia <i>Lobelia siphatica</i>
Wild Bergamot <i>Monarda fistulosa</i>	Red Milkweed <i>Asclepias incarnate</i>

4 RAIN GARDEN PLANTING LIST  
NOT TO SCALE



5 TYPICAL RAIN GARDEN PROFILE  
NOT TO SCALE

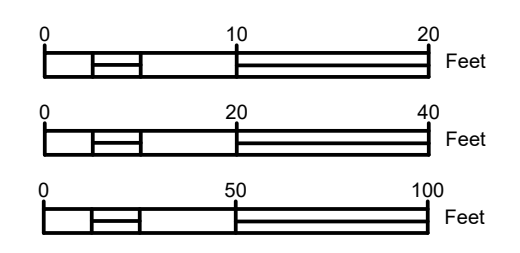
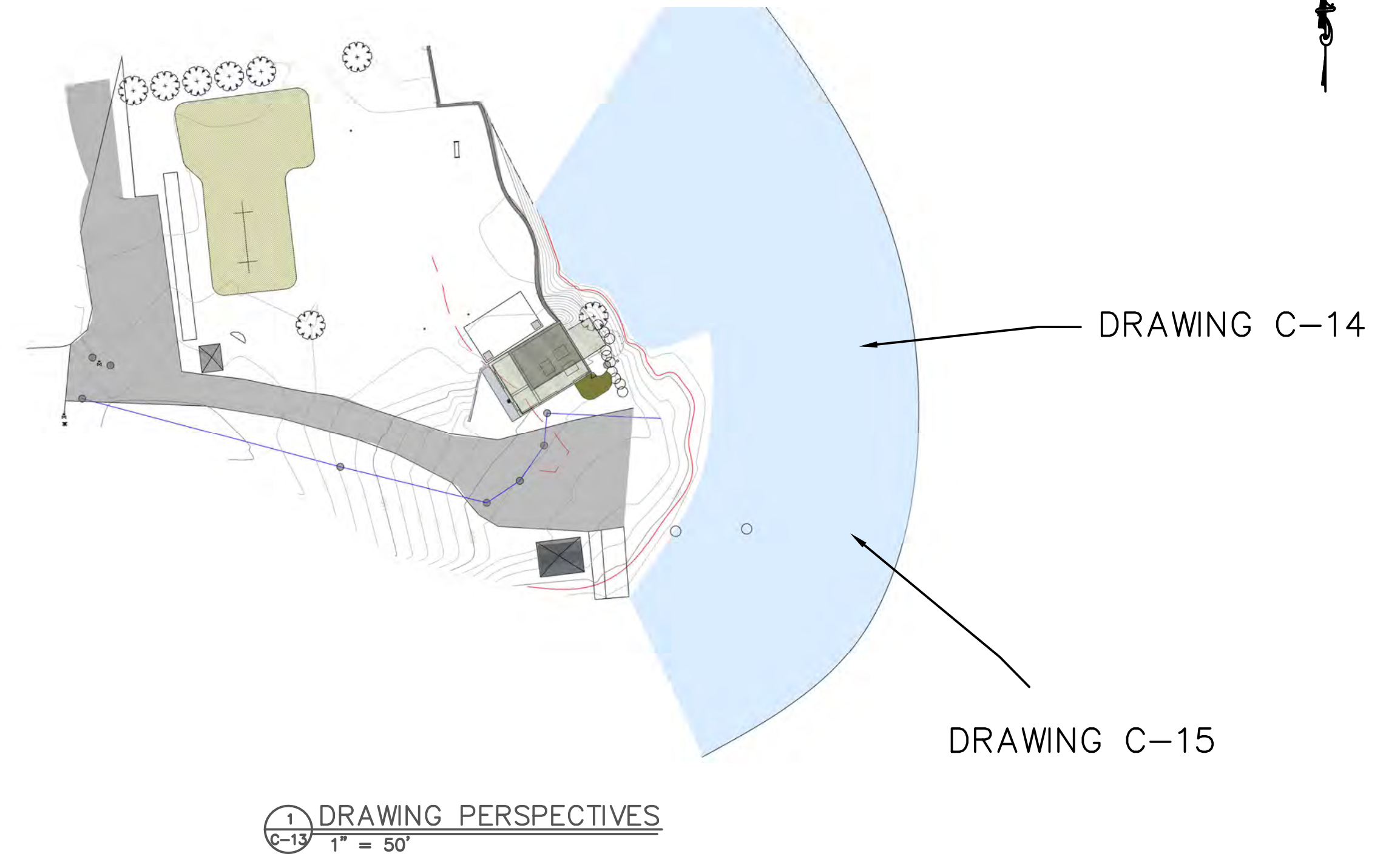
PROJECT INFORMATION:	
DATE:	4/12/19
SCALE:	AS SHOWN
DESIGNED BY:	RB
DRAWN BY:	RB
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	13 OF 28



TOWN OF ESSEX  
STATE OF NEW YORK  
ESSEX COUNTY

ESSEX

WATER PLANT UPGRADES  
PROPOSED RAIN GARDEN



NOTES: PLANTING SHALL BE ON EARTHEN BERM WITH *Thuja occidentalis* (NORTHERN WHITE CEDAR – EVERGREEN) AND *Juniperus communis* (COMMON JUNIPER SHRUBS) PLANTINGS AS SHOWN. TREES TO BE PLANTED APPROXIMATELY 10 FEET ON CENTER. APPROXIMATE NUMBER OF TREES FOR SOUTHERN FACE OF STRUCTURE: 6. APPROXIMATE NUMBER OF TREES FOR EASTERN FACE OF STRUCTURE: 3.

**CEDARWOOD**  
ENGINEERING SERVICES PLLC

2603 High Street, Westwood, NY 10986, (845) 653-5200  
6-12 West Street, Suite 302, Cornwall, NY 12527, (845) 607-4423x40  
COPYRIGHT (C) CEDARWOOD ENGINEERING SERVICES PLLC. ALL RIGHTS RESERVED.

<b>PROJECT INFORMATION:</b>	DATE: 4/12/19	DESIGNED BY: JS	DRAWN BY: JS
<b>REVISIONS:</b>	DOH REVIEW COMMENTS	REVIEWED BY: TS	PROJECT NO.: 17-011
NO. DATE	DESCRIPTION	DATE	SCALE
1 1/28/20			AS SHOWN
ANY LICENSEE WHO ALTERS THIS DOCUMENT IS DEEMED TO BE RESPONSIBLE FOR ANY SUCH ALTERATIONS. THE PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE ARE REQUIRED FOR ALL CHANGES TO THIS DOCUMENT. THE PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE ARE REQUIRED FOR ALL CHANGES TO THIS DOCUMENT. THE PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE ARE REQUIRED FOR ALL CHANGES TO THIS DOCUMENT.			

**TOWN OF ESSEX** STATE OF NEW YORK

ESSEX COUNTY

**WATER PLANT UPGRADES**

**PROPOSED PLANTING/TREE SCREENING**

C-13



1 PRE-SCREENING VIEW 1  
C-14 NOT TO SCALE



2 PROPOSED TREE SCREENING VIEW 1  
C-14 NOT TO SCALE

NOTES: PLANTING SHALL BE ON EARTHEN BERM WITH Thuja occidentalis (NORTHERN WHITE CEDAR – EVERGREEN) AND Juniperus communis (COMMON JUNIPER SHRUBS) PLANTINGS AS SHOWN. TREES TO BE PLANTED APPROXIMATELY 10 FEET ON CENTER. APPROXIMATE NUMBER OF TREES FOR SOUTHERN FACE OF STRUCTURE: 6. APPROXIMATE NUMBER OF TREES FOR EASTERN FACE OF STRUCTURE: 3.

PROJECT INFORMATION:	
DATE:	4/12/19
SCALE:	AS SHOWN
DESIGNED BY:	JS
DRAWN BY:	JS
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	15 OF 28



TOWN OF ESSEX  
STATE OF NEW YORK  
ESSEX COUNTY

WATER PLANT UPGRADES  
TREE SCREENING VIEW 1

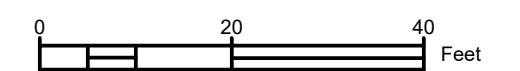


1 PRE-SCREENING VIEW 2  
C-15 NOT TO SCALE



2 PROPOSED TREE SCREENING VIEW 2  
C-15 NOT TO SCALE

NOTES: PLANTING SHALL BE ON EARTHEN BERM WITH Thuja occidentalis (NORTHERN WHITE CEDAR – EVERGREEN) AND Juniperus communis (COMMON JUNIPER SHRUBS) PLANTINGS AS SHOWN. TREES TO BE PLANTED APPROXIMATELY 10 FEET ON CENTER. APPROXIMATE NUMBER OF TREES FOR SOUTHERN FACE OF STRUCTURE: 6. APPROXIMATE NUMBER OF TREES FOR EASTERN FACE OF STRUCTURE: 3.



PROJECT INFORMATION:			
DATE:	4/12/19		
SCALE:	AS SHOWN		
DESIGNED BY:	JS		
DRAWN BY:	JS		
REVIEWED BY:	TS		
PROJECT NO.:	17-011		
SHEET:	16 OF 28		
NO:	DATE:	DESCRIPTION:	DOH REVIEW COMMENTS:
1	7/8/20		

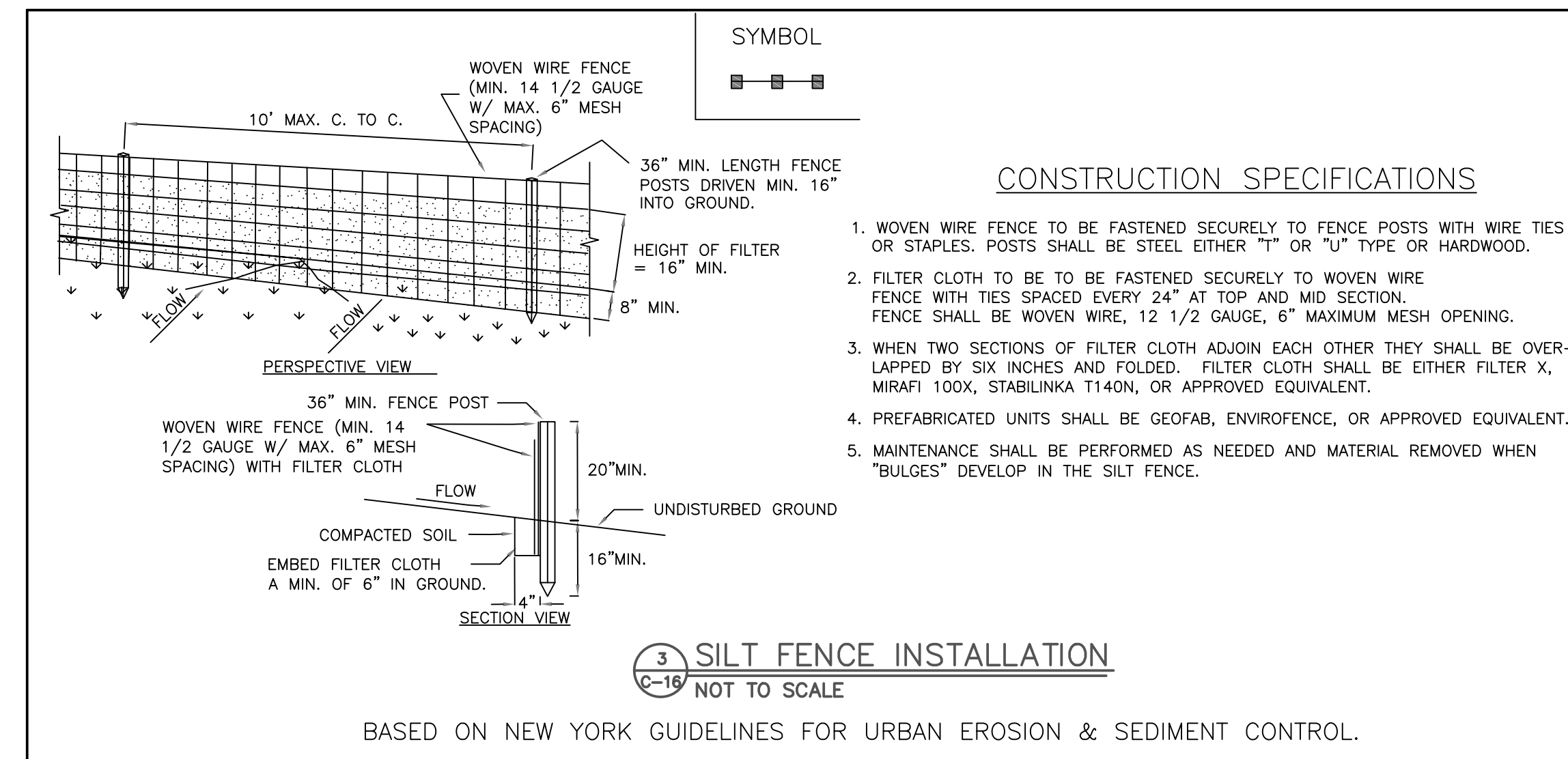
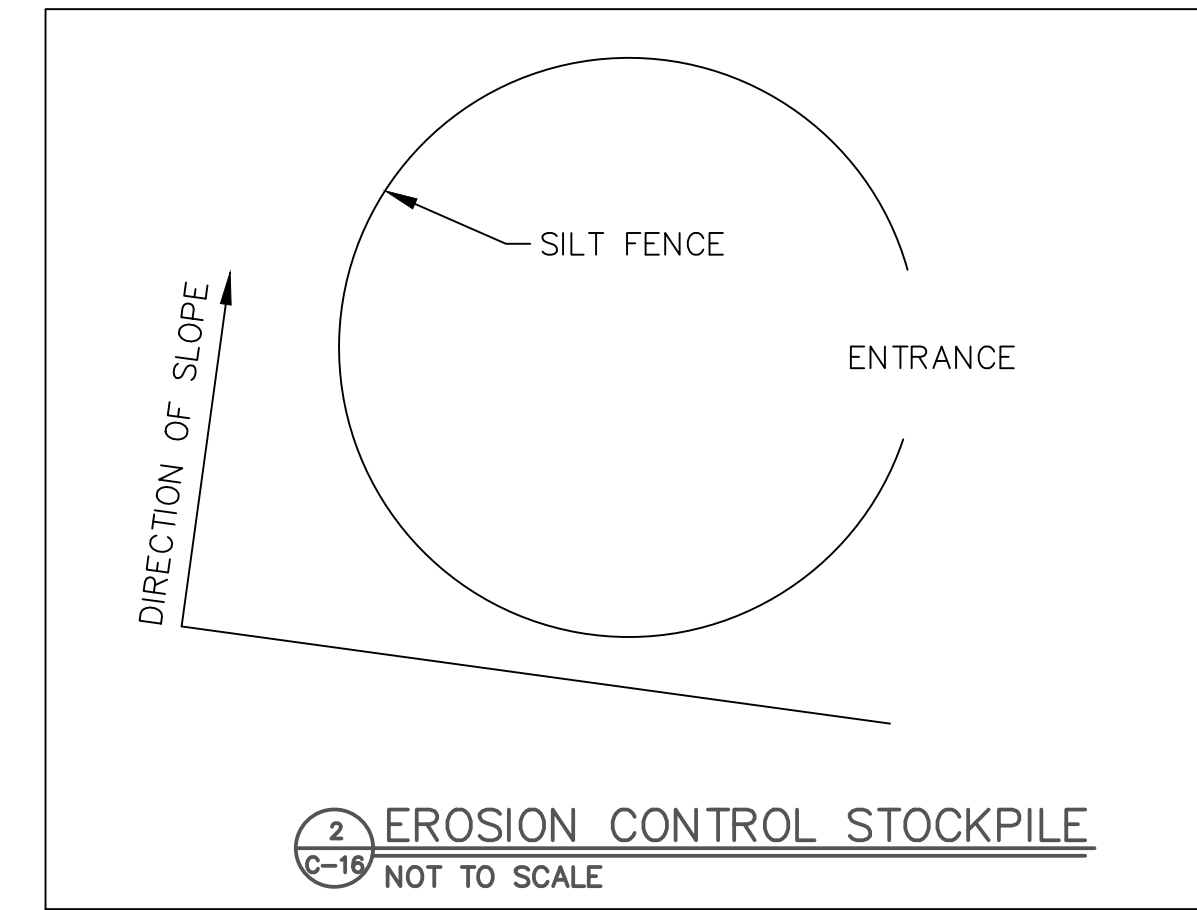
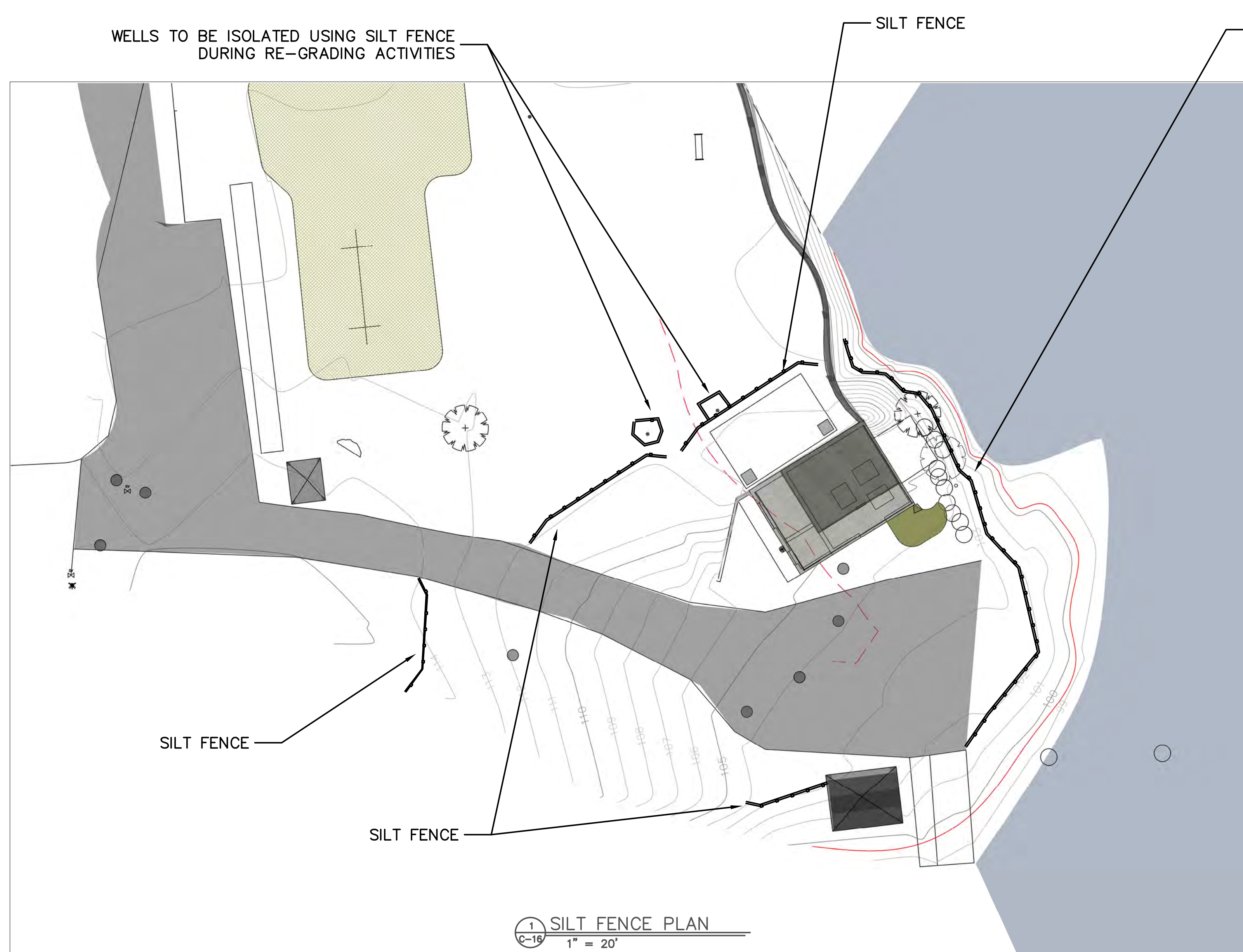
ANY LICENSEE WHO VIOLATES THE PROVISIONS OF SECTION 201 OF THE PROFESSIONAL ENGINEERING LAW OR SECTION 201 OF THE PROFESSIONAL LAND SURVEYING LAW OR SECTION 201 OF THE PROFESSIONAL ARCHITECTURE LAW OR SECTION 201 OF THE PROFESSIONAL ENGINEERING LAW OR SECTION 201 OF THE PROFESSIONAL LAND SURVEYING LAW OR SECTION 201 OF THE PROFESSIONAL ARCHITECTURE LAW IS SUBJECT TO THE PENALTIES PROVIDED IN SECTION 201 OF THE PROFESSIONAL ENGINEERING LAW OR SECTION 201 OF THE PROFESSIONAL LAND SURVEYING LAW OR SECTION 201 OF THE PROFESSIONAL ARCHITECTURE LAW.



TOWN OF ESSEX  
STATE OF NEW YORK  
ESSEX COUNTY

WATER PLANT UPGRADES  
TREE SCREENING VIEW 2





PROJECT INFORMATION:	
NO.:	DATE:
1	1/28/20
DESCRIPTION: DOH REVIEW COMMENTS	
DATE:	DESIGNED BY:
4/12/19	AS SHOWN
SCALE:	DRAWN BY:
	RB
REVIEWED BY:	PROJECT NO.:
TS	17-011
	SHEET:
	17 OF 28



TOWN OF ESSEX

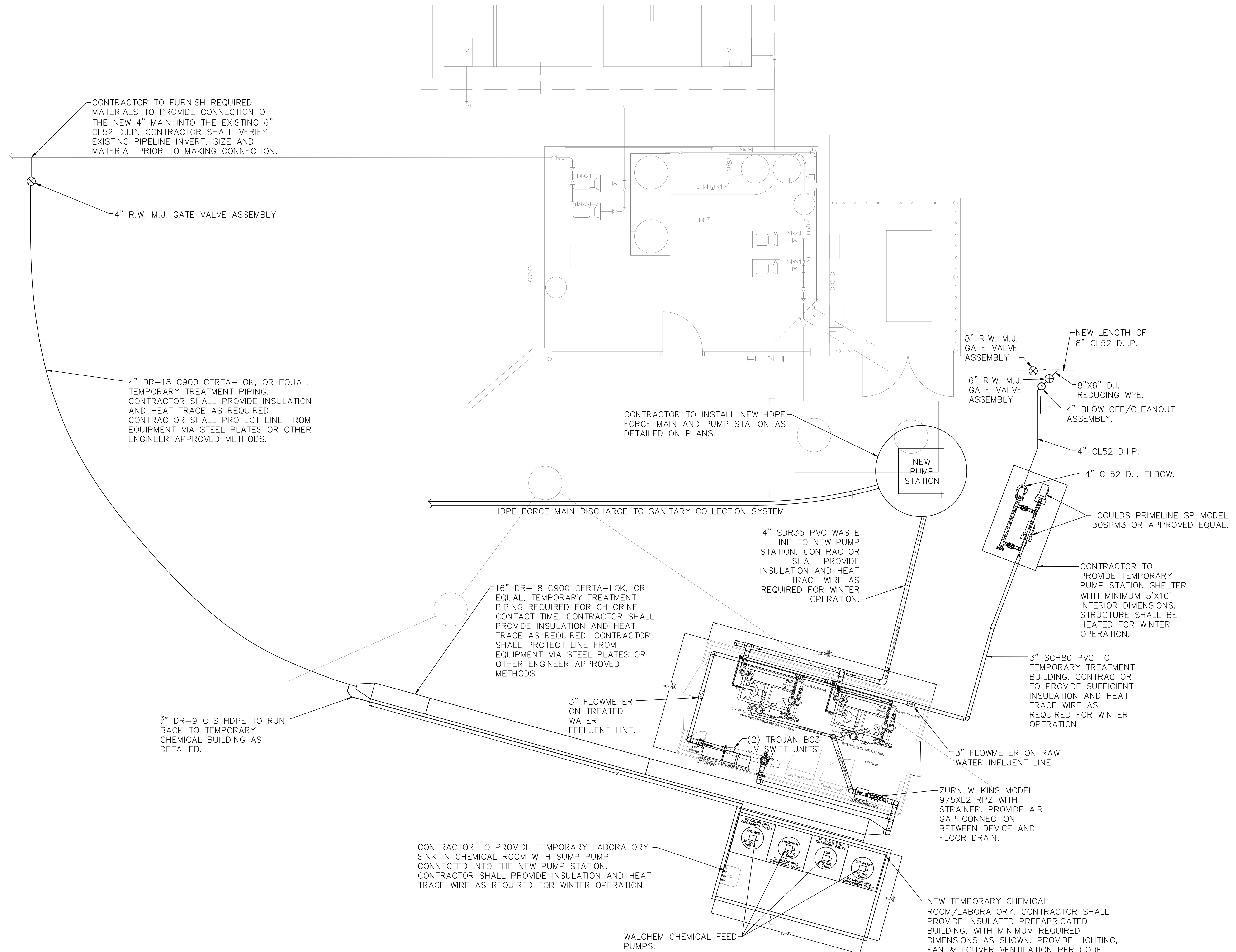
STATE OF NEW YORK

ESSEX COUNTY

ESSEX

WATER PLANT UPGRADES

EROSION & SEDIMENT CONTROLS



NOTE:  
 1. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN FOR TEMPORARY TREATMENT TO ENGINEER & OWNER PRIOR TO THE NOTICE TO PROCEED. RECOMMENDED SEQUENCING HAS BEEN PROVIDED IN THE TECHNICAL SPECIFICATIONS SECTION OF THE CONTRACT DOCUMENTS.

TEMPORARY TREATMENT PLAN  
 SCALE: 1/4" = 1'-0"

PROJECT INFORMATION:	DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	REVIEWED BY:	PROJECT NO.:	SHEET:
	03/28/2019	AS SHOWN	JS	JS	TS	17-011	18 OF 28

REVISIONS:	DESCRIPTION:	DATE:
NO:	DOH REVIEW COMMENTS	
1		1/10/20

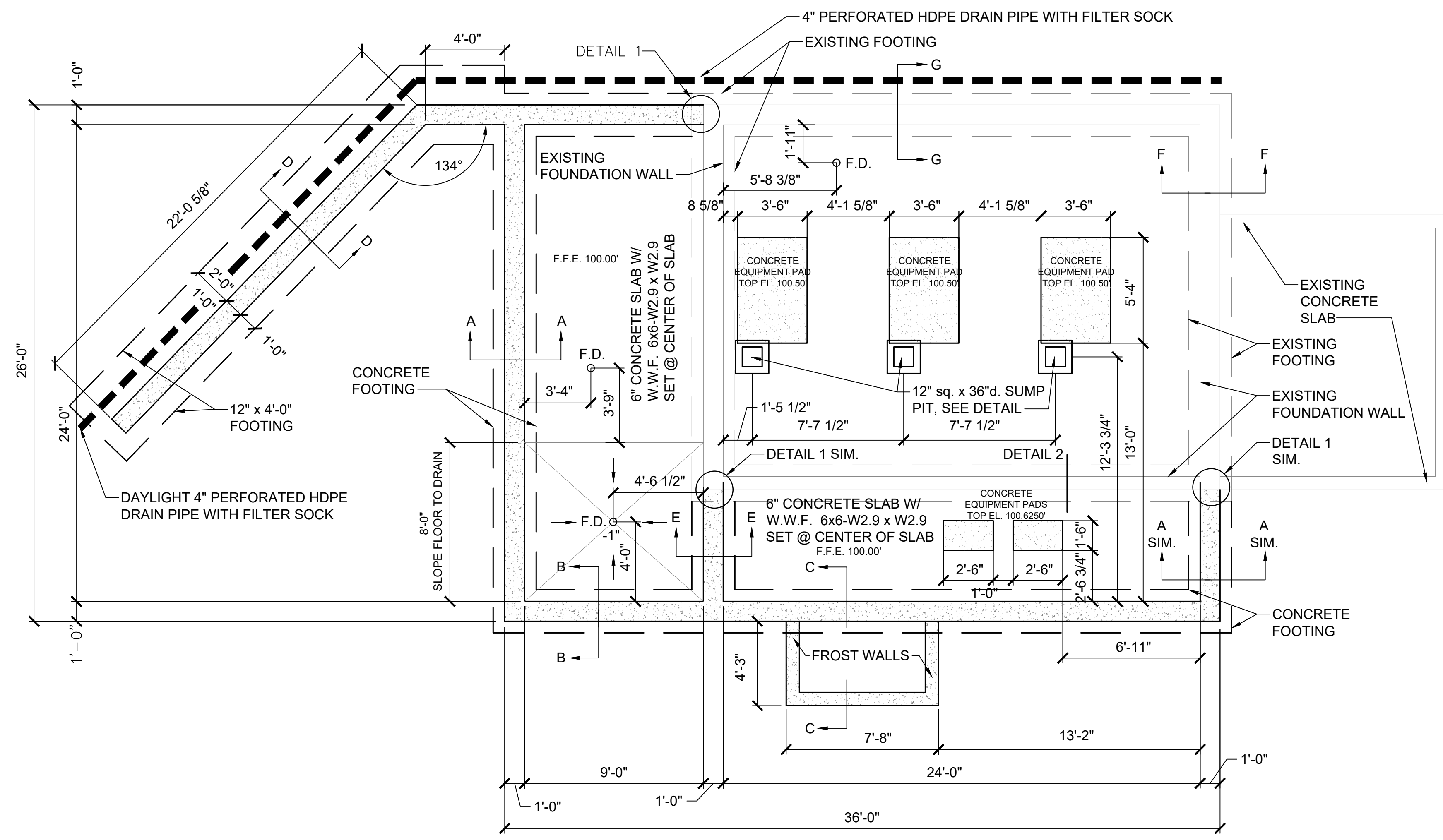
ANY LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER OWN SEAL AND SIGNATURE TO THE DOCUMENT. ANY UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 2309 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW.



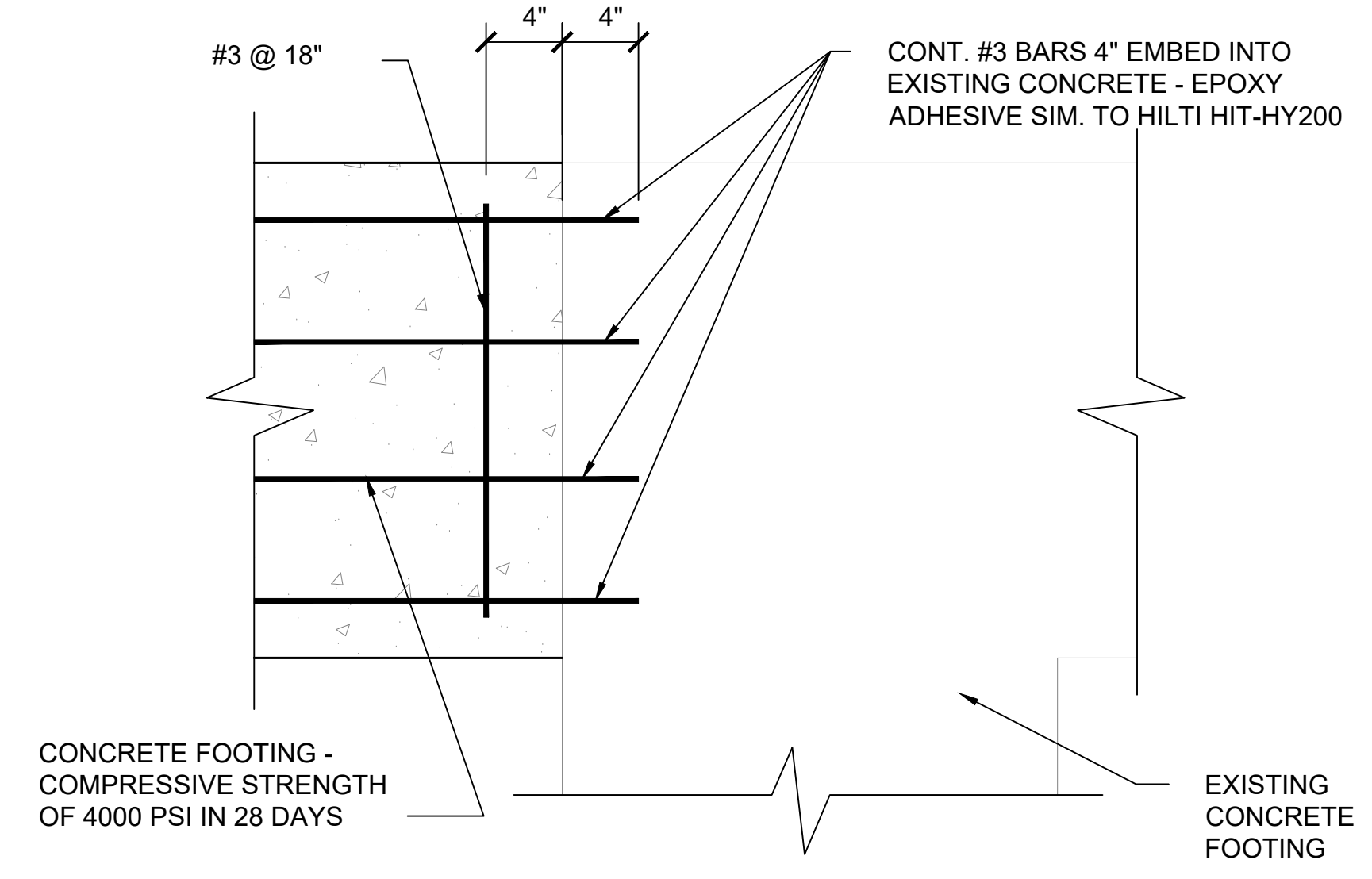
TOWN OF ESSEX  
 ESSEX  
 NEW YORK  
 ESSEX COUNTY  
 ESSEX

WATER PLANT UPGRADES  
 TEMPORARY TREATMENT

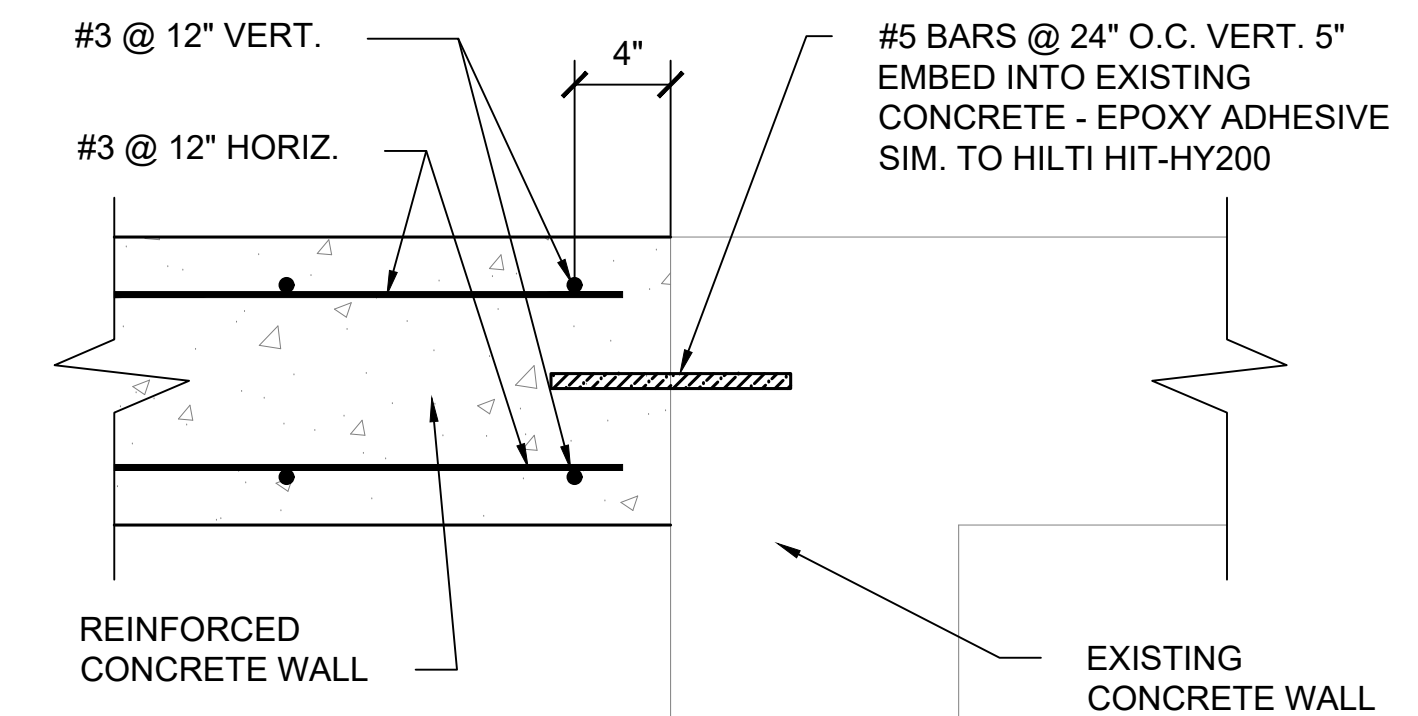




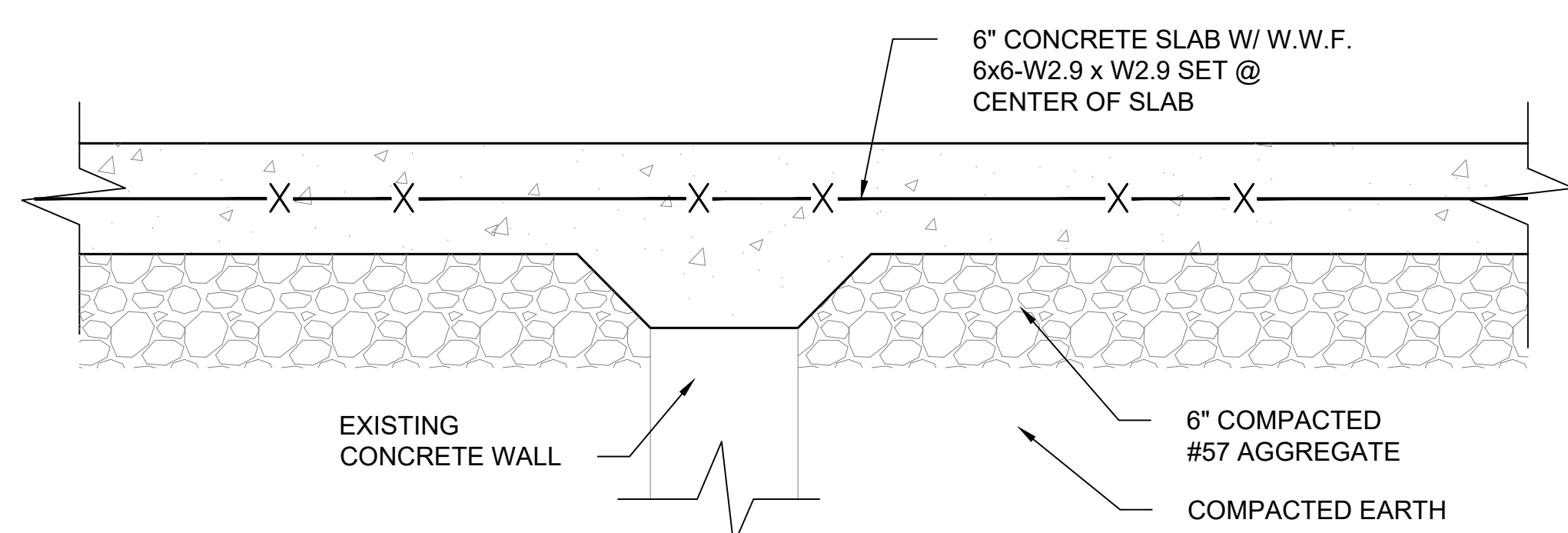
**WATER PUMPING STATION FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**PLAN DETAIL 1 @ FOOTING**  
SCALE: 1 1/2" = 1'-0"



**PLAN DETAIL 1 @ WALL**  
SCALE: 1 1/2" = 1'-0"



**DETAIL 2**  
SCALE: 1 1/2" = 1'-0"

**GENERAL NOTES:**

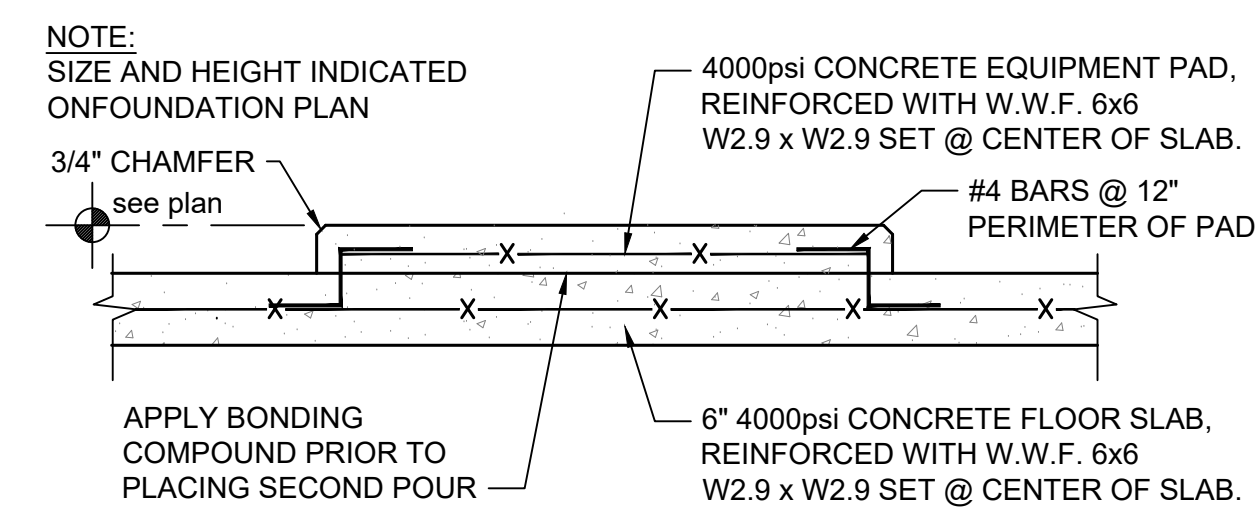
- CONCRETE FLOOR FINISH - TYPE 2 FLOATED.
- FORM WORK SHALL NOT BE REMOVED UNTIL CONCRETE HAS REACHED 80% OF ITS SPECIFIED STRENGTH (10 DAYS MINIMUM)
- ALLOW CONCRETE FOOTING TO CURE A MINIMUM OF 7 DAYS PRIOR TO POURING WALL ABOVE.

**CONCRETE MIX DESIGN:**

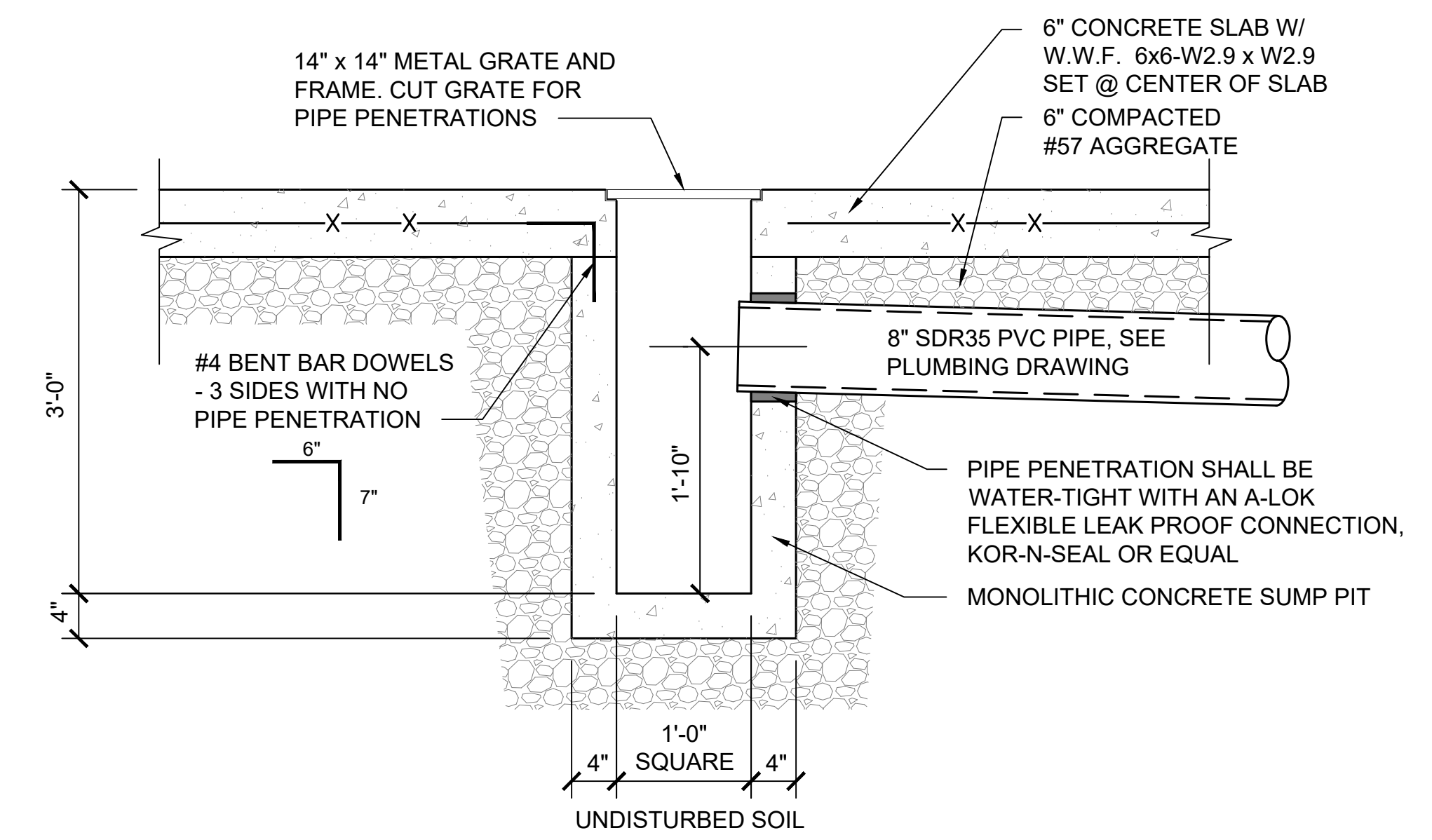
- FLOOR/EQUIPMENT PADS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000psi IN 28 DAYS. AGGREGATE MIX OF 1/2" NOMINAL MAXIMUM AGGREGATE SIZE. AIR CONTENT: 5% ± 1.5%.
- FOOTINGS AND WALL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000psi IN 28 DAYS. AGGREGATE MIX OF 3/4" NOMINAL MAXIMUM AGGREGATE SIZE. AIR CONTENT: 6% ± 1.5%.
- SIDEWALK/ENTRANCE PAD & FROST WALLS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500psi WITH FIBERGLASS FIBERS IN 28 DAYS. AGGREGATE MIX OF 3/4" NOMINAL MAXIMUM AGGREGATE SIZE. AIR CONTENT: 6% ± 1.5%.
- SLUMP LIMIT: 4 INCHES, PLUS/MINUS 1 INCH.

**REINFORCEMENT NOTES:**

- BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. INSTALL REINFORCEMENT WITH COVERAGE AS SHOWN.
- MESH REINFORCEMENT SHALL BE ASTM A185 AND A82.
- ALL SPLICES IN BAR REINFORCEMENT SHALL BE 30" MINIMUM WITH NO MORE THAN 50% OF REINFORCEMENT TO BE SPLICED AT SAME LOCATION, SPLICES SHALL BE STAGGERED.



**TYPICAL EQUIPMENT PAD DETAIL**  
SCALE: 3/4" = 1'-0"



**TYPICAL SUMP PIT**  
SCALE: 1" = 1'-0"

PROJECT INFORMATION:	DATE:	04/12/2019
SCALE:	AS SHOWN	
DESIGNED BY:	TS	
DRAWN BY:	GF	
REVIEWED BY:	TS	
PROJECT NO.:	17-011	
SHEET:	20	OF 28

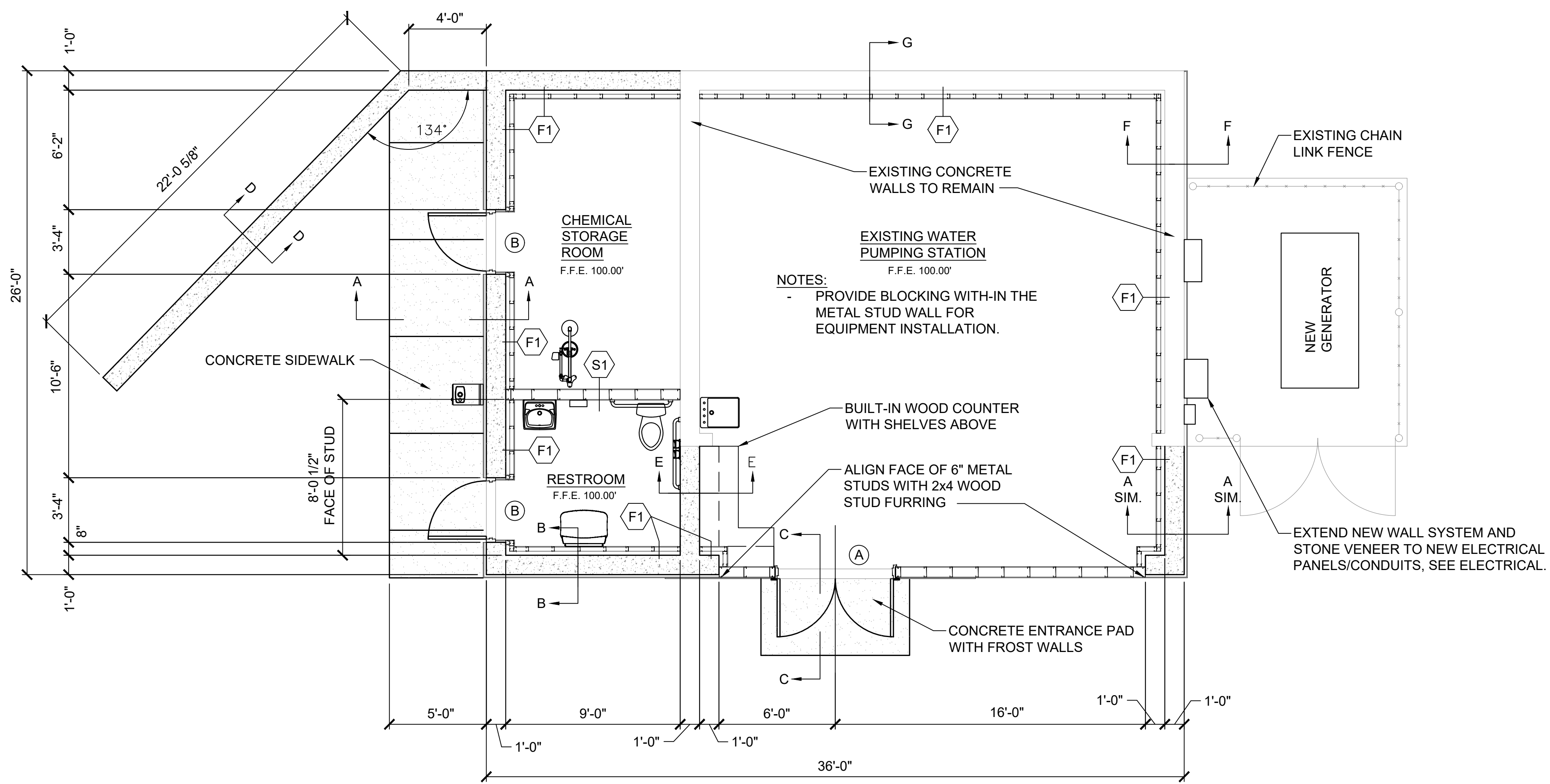
NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/8/20		

ANY LICENSEE WHO ALTERS THIS DOCUMENT IS VIOLATING THE PROFESSIONAL ENGINEERING AND SURVEYING LAW OF THE STATE OF NEW YORK. UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 2209 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW.

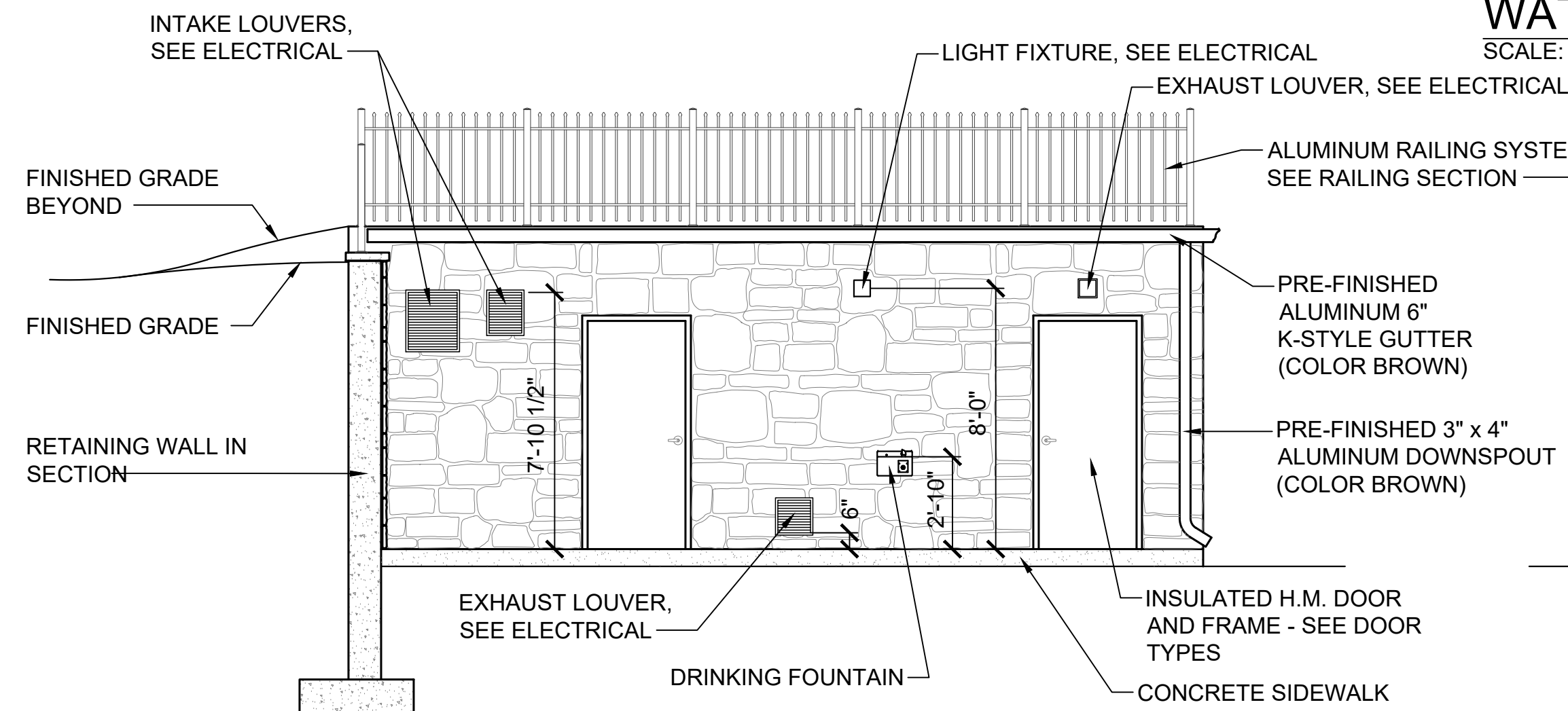


TOWN OF ESSEX  
ESSEX  
NEW YORK  
ESSEX

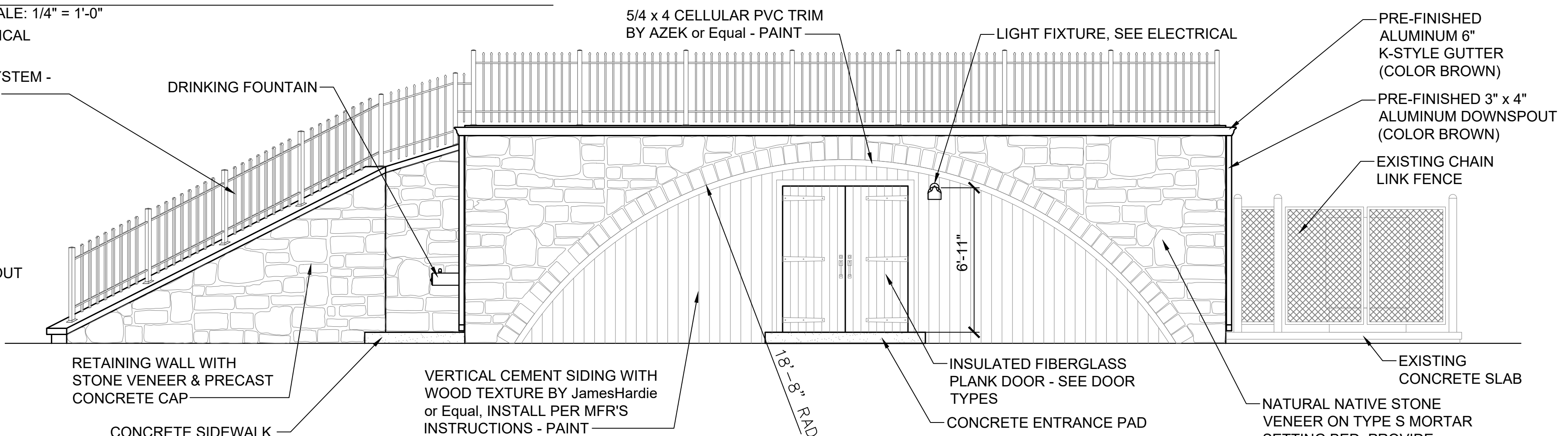
WATER PLANT UPGRADES  
FOUNDATION PLAN



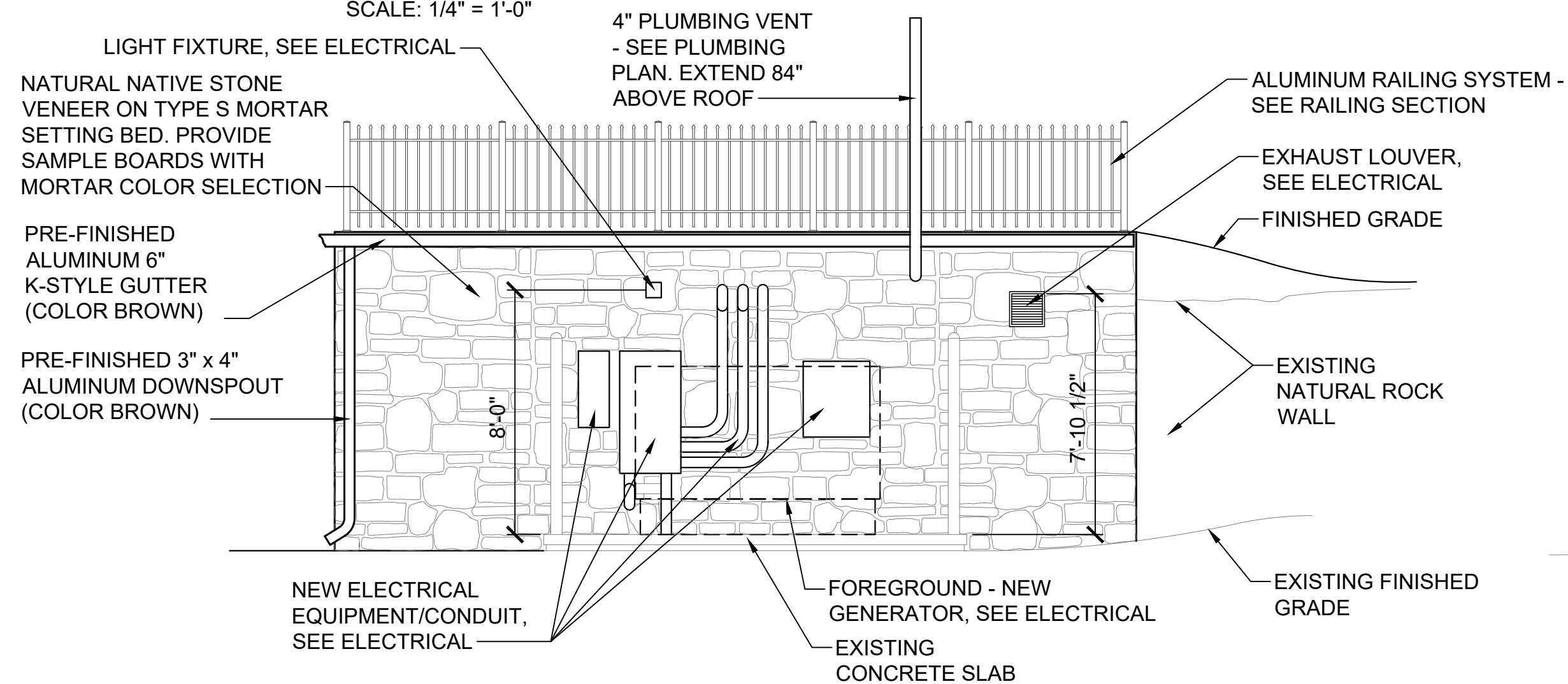
**WATER PUMPING STATION FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



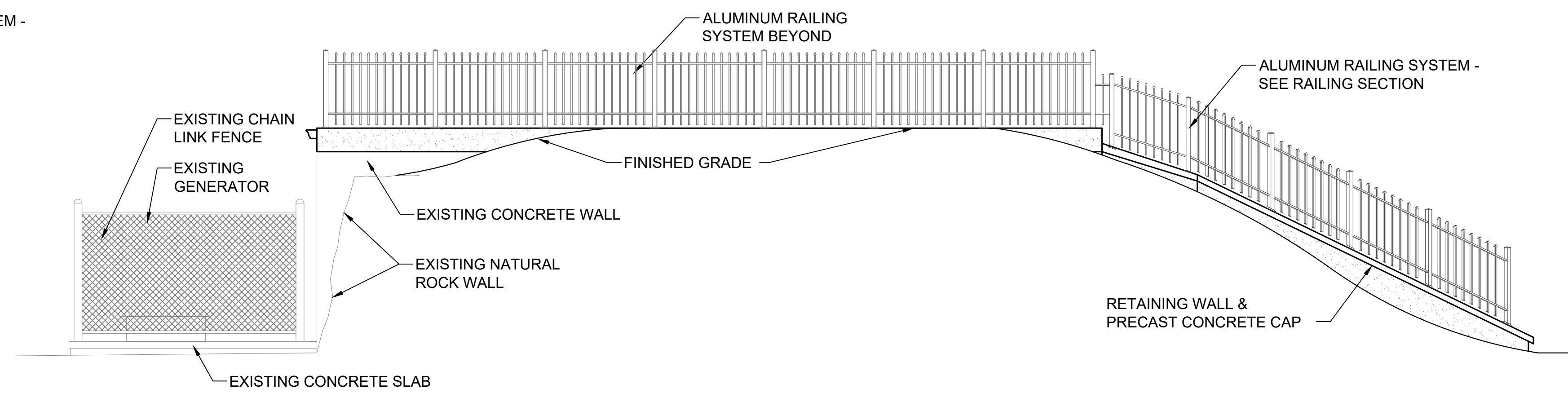
**EXTERIOR ELEVATION - WEST**  
SCALE: 1/4" = 1'-0"



**EXTERIOR ELEVATION - SOUTH**  
SCALE: 1/4" = 1'-0"



**EXTERIOR ELEVATION - EAST**  
SCALE: 1/4" = 1'-0"



**EXTERIOR ELEVATION - NORTH**  
SCALE: 1/4" = 1'-0"

PROJECT INFORMATION:	DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	PROJECT NO.:	SHEET:
04/12/2019	AS SHOWN	TS	GF	17-011	21 OF 28	

REVISIONS:	NO.	DATE:	DESCRIPTION:
	1	1/8/20	DOH REVIEW COMMENTS



TOWN OF ESSEX  
NEW YORK  
ESSEX

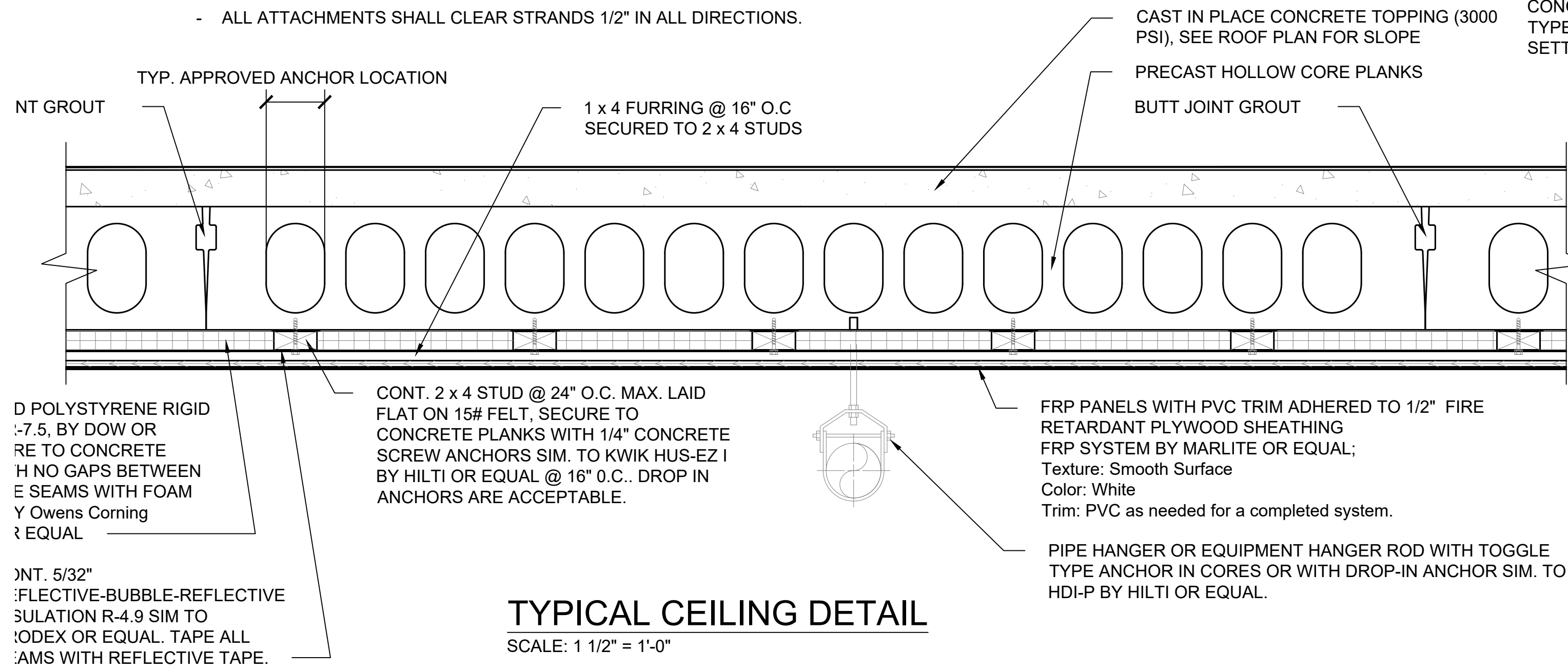
ESSEX

WATER PLANT UPGRADES  
FLOOR PLAN & ELEVATIONS

A-2

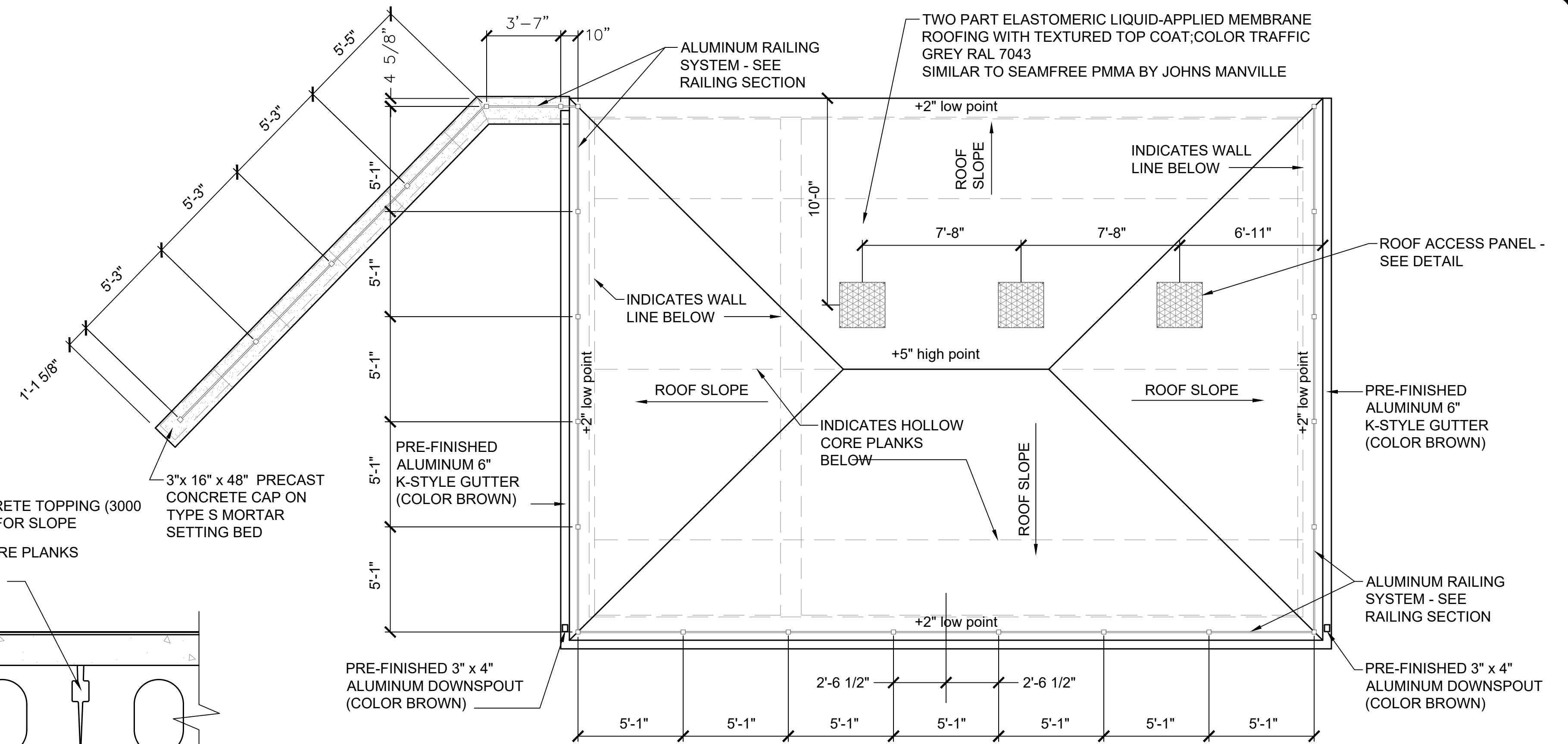
**NOTES**

- PIPES AND EQUIPMENT SHALL NOT BE MOUNTED TO PLYWOOD CEILING. VENT PIPES AND ELECTRICAL CONDUITS ARE ALLOWED.
- ALL FASTENERS SHALL BE DESIGNED FOR LOAD CAPACITIES REQUIRED. FASTENER METHOD SHALL BE COORDINATED WITH CONCRETE PLANK MANUFACTURERS APPROVED FASTENING METHODS.
- SEE SHOP DRAWINGS FOR CORE AND STRAND LOCATIONS.
- ALL ATTACHMENTS SHALL CLEAR STRANDS 1/2" IN ALL DIRECTIONS.



**TYPICAL CEILING DETAIL**

SCALE: 1 1/2" = 1'-0"

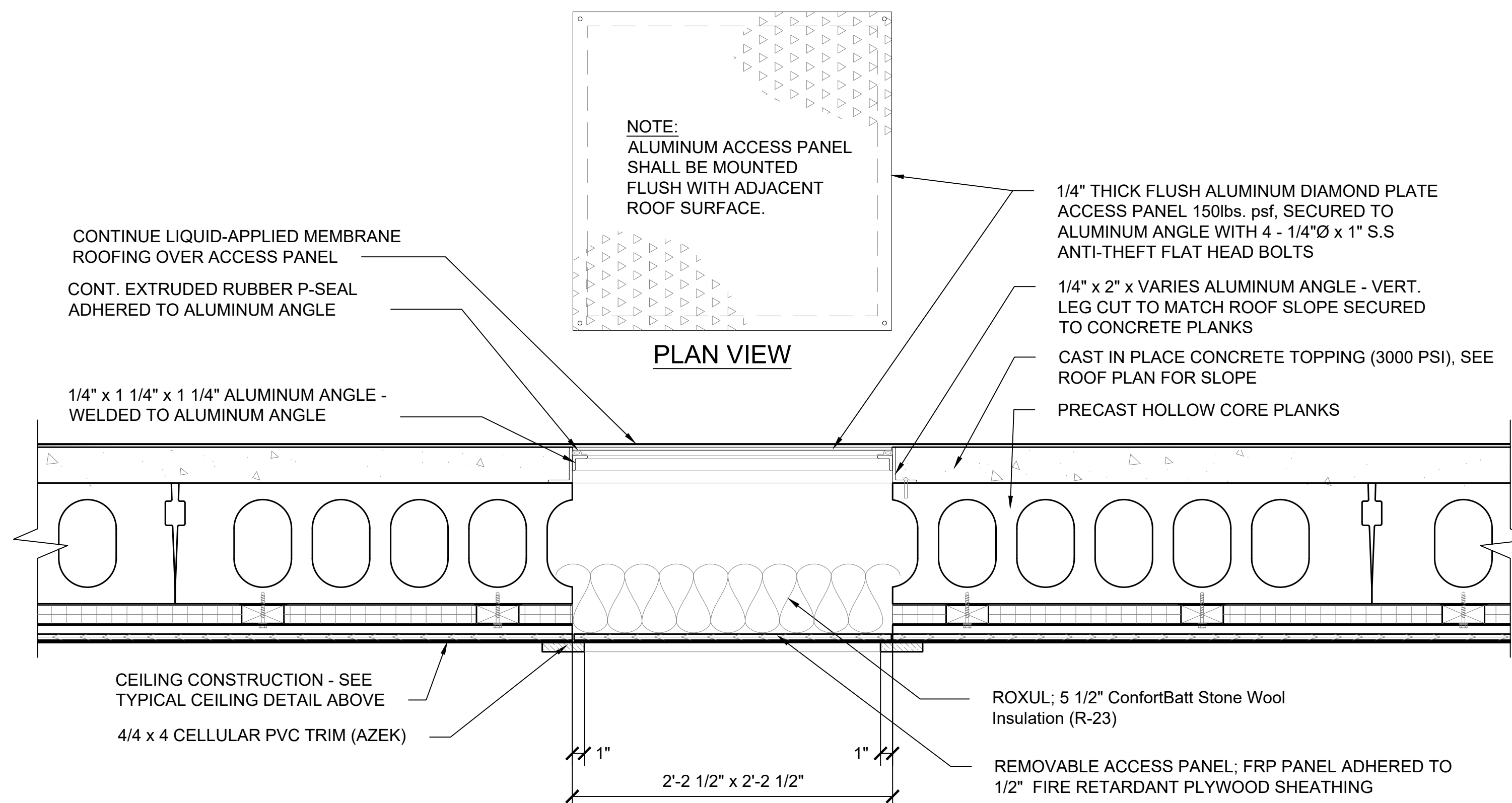


**WATER PUMPING STATION ROOF PLAN**

SCALE: 1/4" = 1'-0"

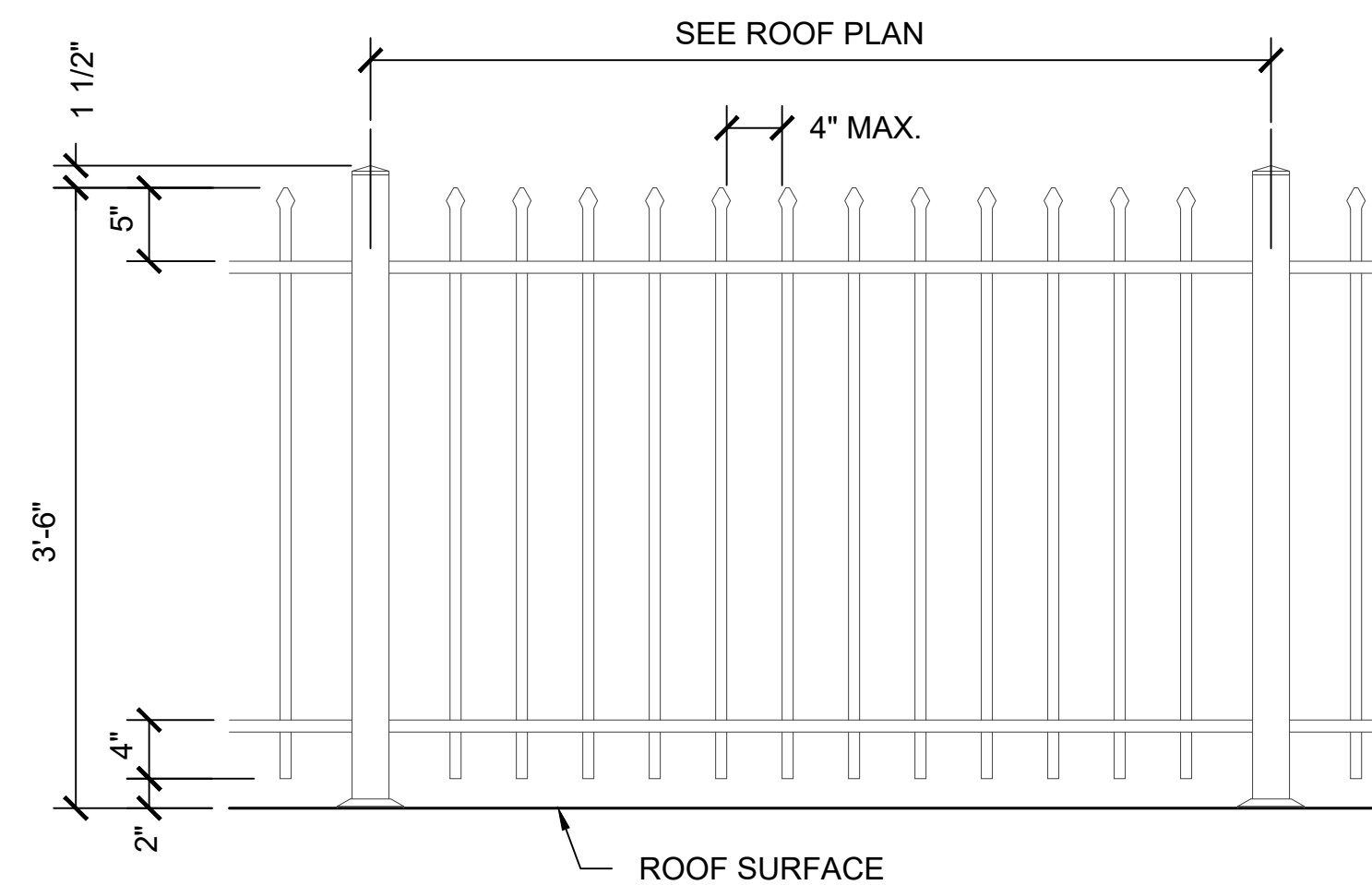
**PRECAST HOLLOW CORE PLANK DESIGN LOAD;**

- Live Load = 100psf
- Snow load = 60psf
- Dead load = (concrete topping) = 72psf
- Dead load = (membrane roofing) = 1.5psf



**ROOF ACCESS PANEL DETAIL**

SCALE: 1 1/2" = 1'-0"



**TYPICAL RAILING SECTION**

SCALE: 1" = 1'-0"

**RAILING DESIGN;**

- Guardrail Assembly Design shall be designed to resist a linear load of 50 pounds per linear foot.
- Guardrail Assembly Design shall be designed to resist a concentrated load of 200 pounds.
- All railing components shall be comprised of high strength aluminum with factory finish. Finish shall be warranted against workmanship, defects, chipping, peeling and cracking. Color Black.
- Assembly hardware shall be of stainless steel, corrosion resistant screws. Exposed heads shall be painted to match the railing finish.
- Accessories are of zinc die cast or cast aluminum. All accessories shall be finished to match the railing finish.
- Railing Post/rails/pickets; Use manufactures standard sizes as required to meet the guardrail assembly design. Use manufactures standard flat post cap and spear finial.

PROJECT INFORMATION:	DATE: 04/12/2019
SCALE: AS SHOWN	DRAWN BY: TS
DESIGNED BY: TS	REVIEWED BY: TS
PROJECT NO.: 17-011	SHEET: 22 OF 28

NO:	DATE:	DESCRIPTION:
1	1/8/20	DOH REVIEW COMMENTS



TOWN OF ESSEX  
ESSEX  
NEW YORK

WATER PLANT UPGRADES  
ROOF PLAN & DETAILS

CONT. PRE-FINISHED (COLOR BROWN) ALUMINUM DRIP EDGE TRIM FASTENED TO WOOD BLOCKING WITH COUNTER SUNK FLAT HEAD WOOD SCREWS AND INTO REGLET

SELF ADHERED FLASHING - EXTEND OVER ZIP WALL SYSTEM 3"

PRE-FINISHED ALUMINUM 6" K-STYLE GUTTER (COLOR BROWN) WITH SCREW TYPE HANGER @ 24" O.C.

DOWNSPOUT BEYOND

TWO PART ELASTOMERIC LIQUID-APPLIED MEMBRANE ROOFING WITH TEXTURED TOP COAT; COLOR TRAFFIC GREY RAL 7043 SIMILAR TO SEAMFREE PMMA BY JOHNS MANVILLE

LEAD WEDGE

16ga. STAINLESS STEEL STAY-PUT FLASHING REGLET

CONT. 2x6 P.T. WOOD BLOCKING SECURED TO CONC. WITH 1/2" BOLT ANCHORS @ 32" O.C.

ALUMINUM RAILING SYSTEM

CAST IN PLACE CONCRETE TOPPING (5000 PSI). SEE ROOF PLAN FOR SLOPE - FORM EDGE AS SHOWN

10" PRECAST HOLLOW CORE PLANKS

BEARING 8'-10 1/2" A.F.F.

METAL LATH AND TYPE S MORTAR SCRATCH COAT

NATURAL NATIVE STONE VENEER ON TYPE S MORTAR SETTING BED. PROVIDE SAMPLE BOARDS WITH MORTAR COLOR SELECTION

1/2" ZIP WALL SHEATHING - TAPE ALL JOINTS

P.T. 2x4 WOOD STUD LAID FLAT @ 24" O.C. SECURED TO CONC. WALL

FOUNDATION WEEP SCREED SEALANT AND BACKER ROD

CONT. 26ga. TYPE 304 S.S. FLASHING

1/2" EXPANSION MATERIAL

SLOPE

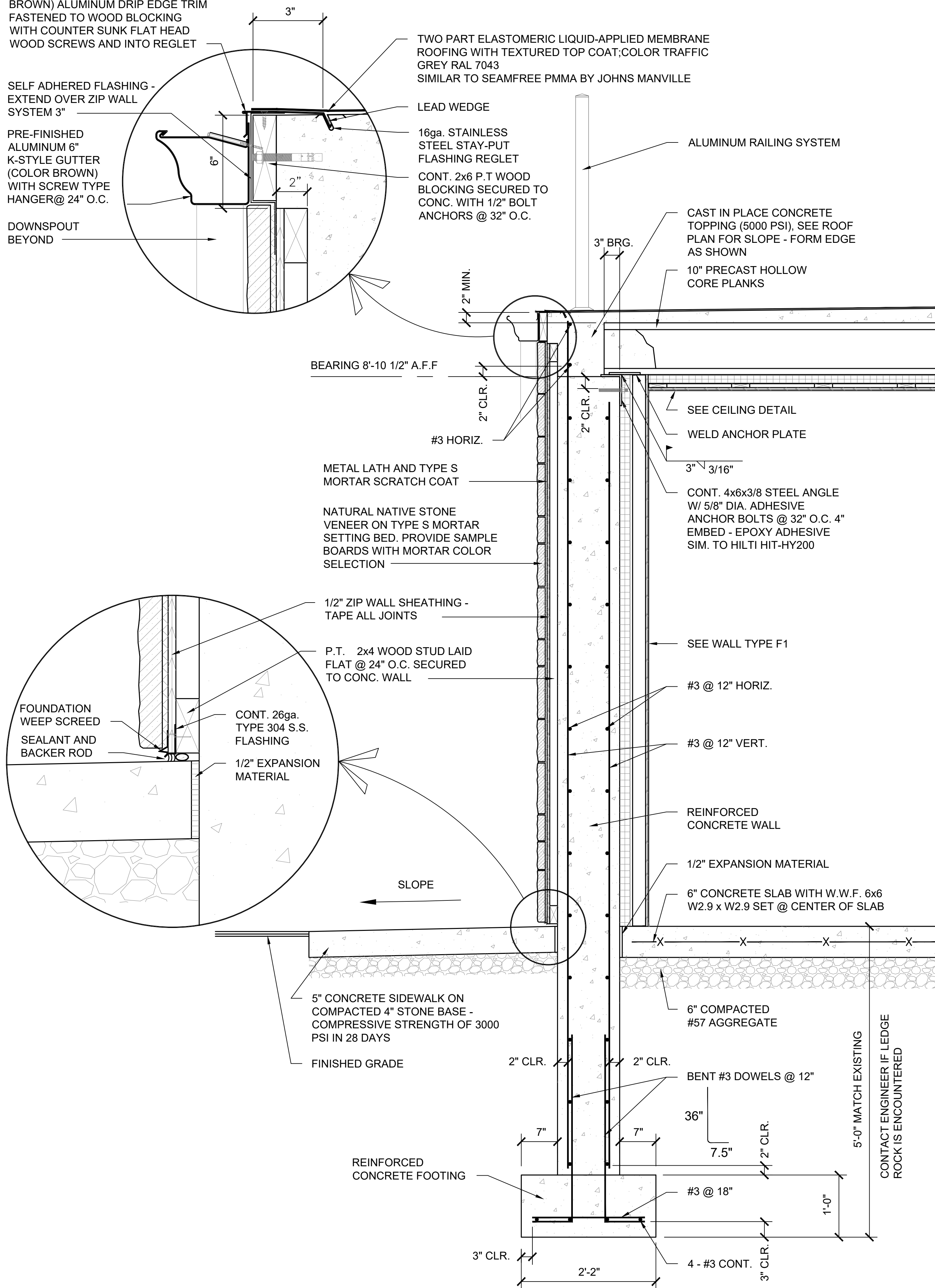
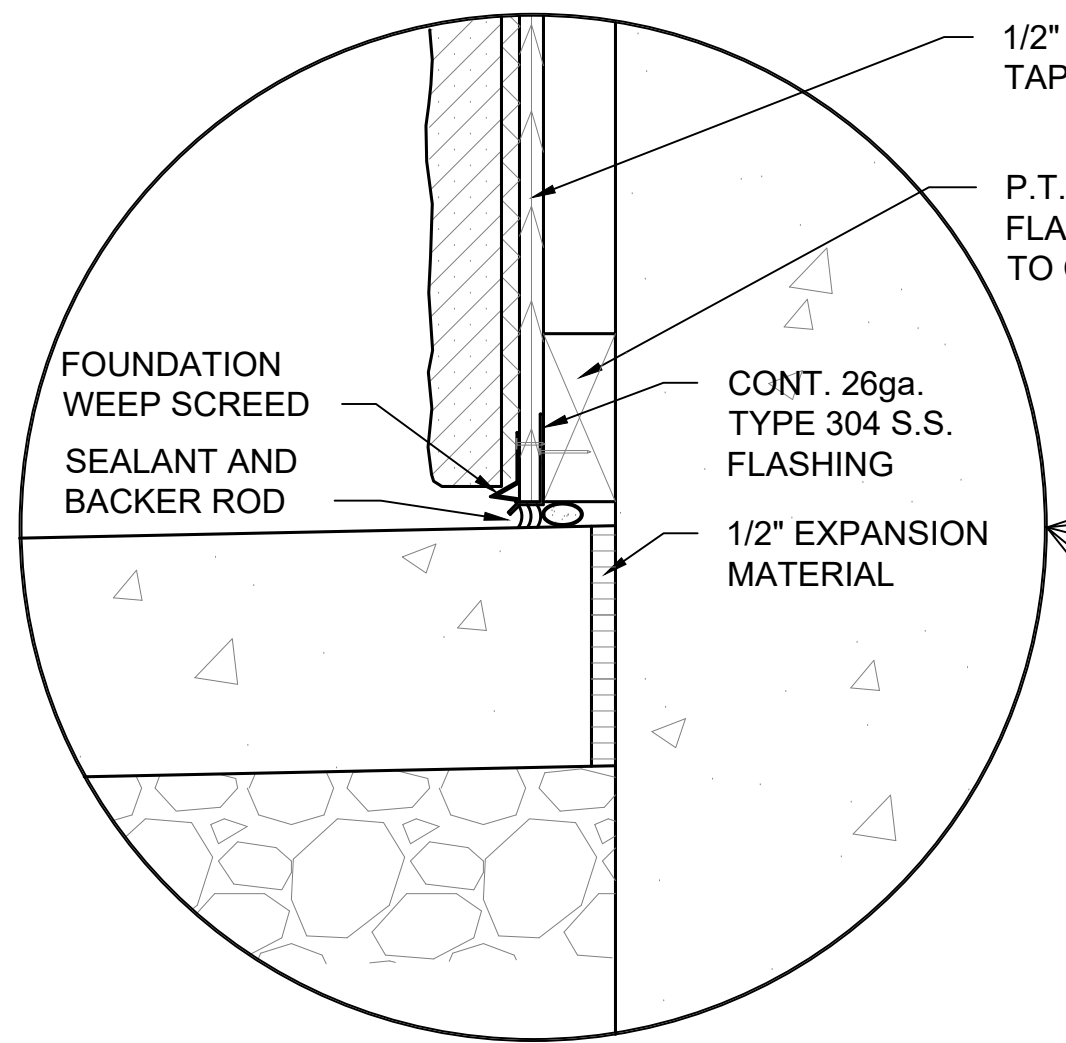
5" CONCRETE SIDEWALK ON COMPACTED 4" STONE BASE - COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS

FINISHED GRADE

REINFORCED CONCRETE FOOTING

**WALL SECTION A-A**

SCALE: 1" = 1'-0"



ALUMINUM RAILING SYSTEM

CAST IN PLACE CONCRETE TOPPING (5000 PSI). SEE ROOF PLAN FOR SLOPE - FORM EDGE AS SHOWN

#4 U-BAR GROUDED INTO POCKET @ 4'-0" O.C.

BUTT JOINT GROUT

SIM. SEE SECTION A-A

BEARING 8'-10 1/2" A.F.F.

METAL LATH AND TYPE S MORTAR SCRATCH COAT

NATURAL NATIVE STONE VENEER ON TYPE S MORTAR SETTING BED. PROVIDE SAMPLE BOARDS WITH MORTAR COLOR SELECTION

1/2" ZIP WALL SHEATHING - TAPE ALL JOINTS

P.T. 2x4 WOOD STUD LAID FLAT @ 24" O.C. SECURED TO CONC. WALL

FOUNDATION WEEP SCREED

CONT. 26ga. TYPE 304 S.S. FLASHING

FINISHED GRADE

FINISHED GRADE

PER PLANK MFR

SEE WALL TYPE F1

#3 @ 12" HORIZ.

#3 @ 12" VERT.

REINFORCED CONCRETE WALL

1/2" EXPANSION MATERIAL

6" CONCRETE SLAB WITH W.W.F. 6x6 W2.9 x W2.9 SET @ CENTER OF SLAB

6" COMPACTED #57 AGGREGATE

REINFORCED CONCRETE WALL

BENT #3 DOWELS @ 12"

36"

7.5"

2" CLR.

#3 @ 18"

4 - #3 CONT.

3" CLR.

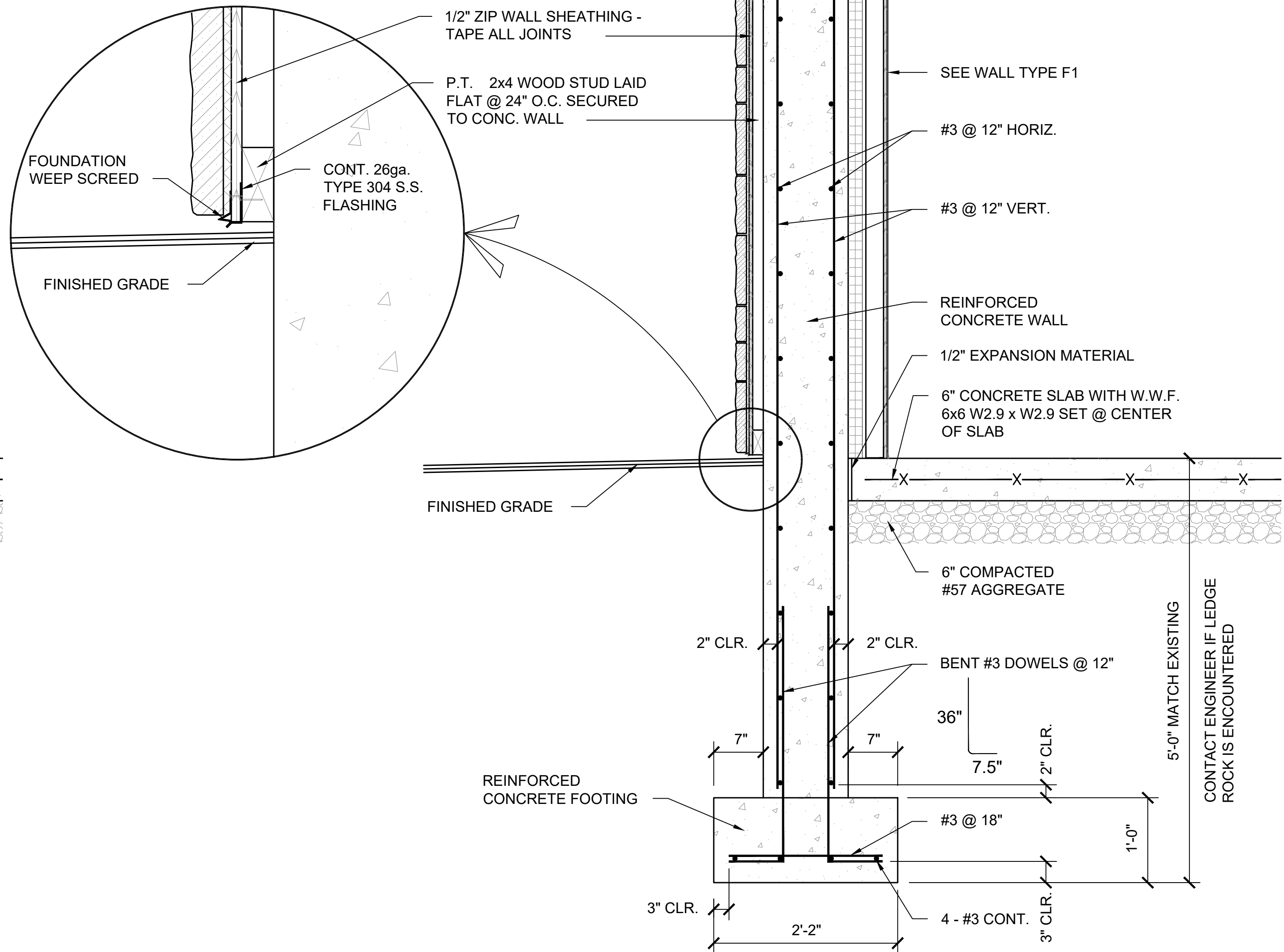
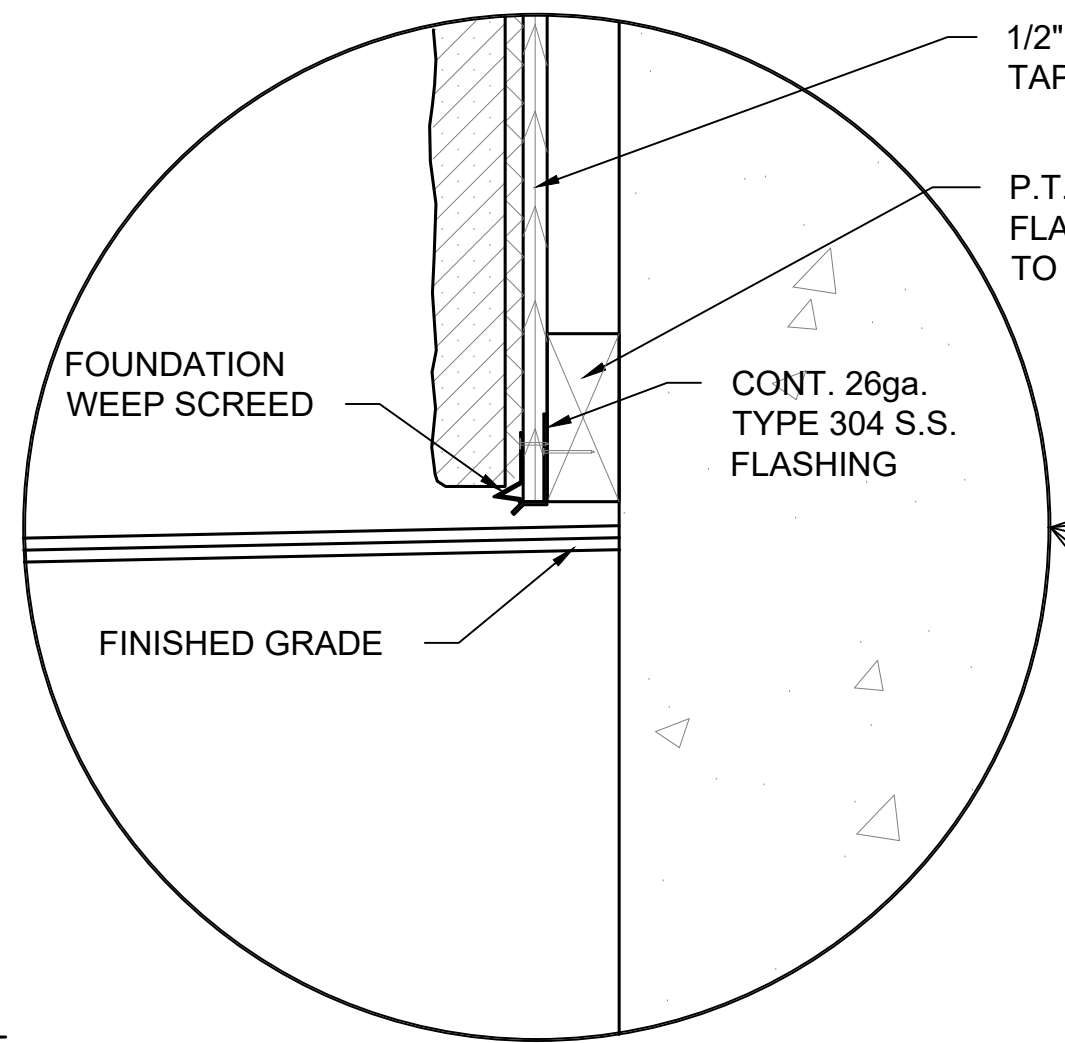
2'-2"

5'-0" MATCH EXISTING

CONTACT ENGINEER IF LEDGE ROCK IS ENCOUNTERED

**WALL SECTION B-B**

SCALE: 1" = 1'-0"



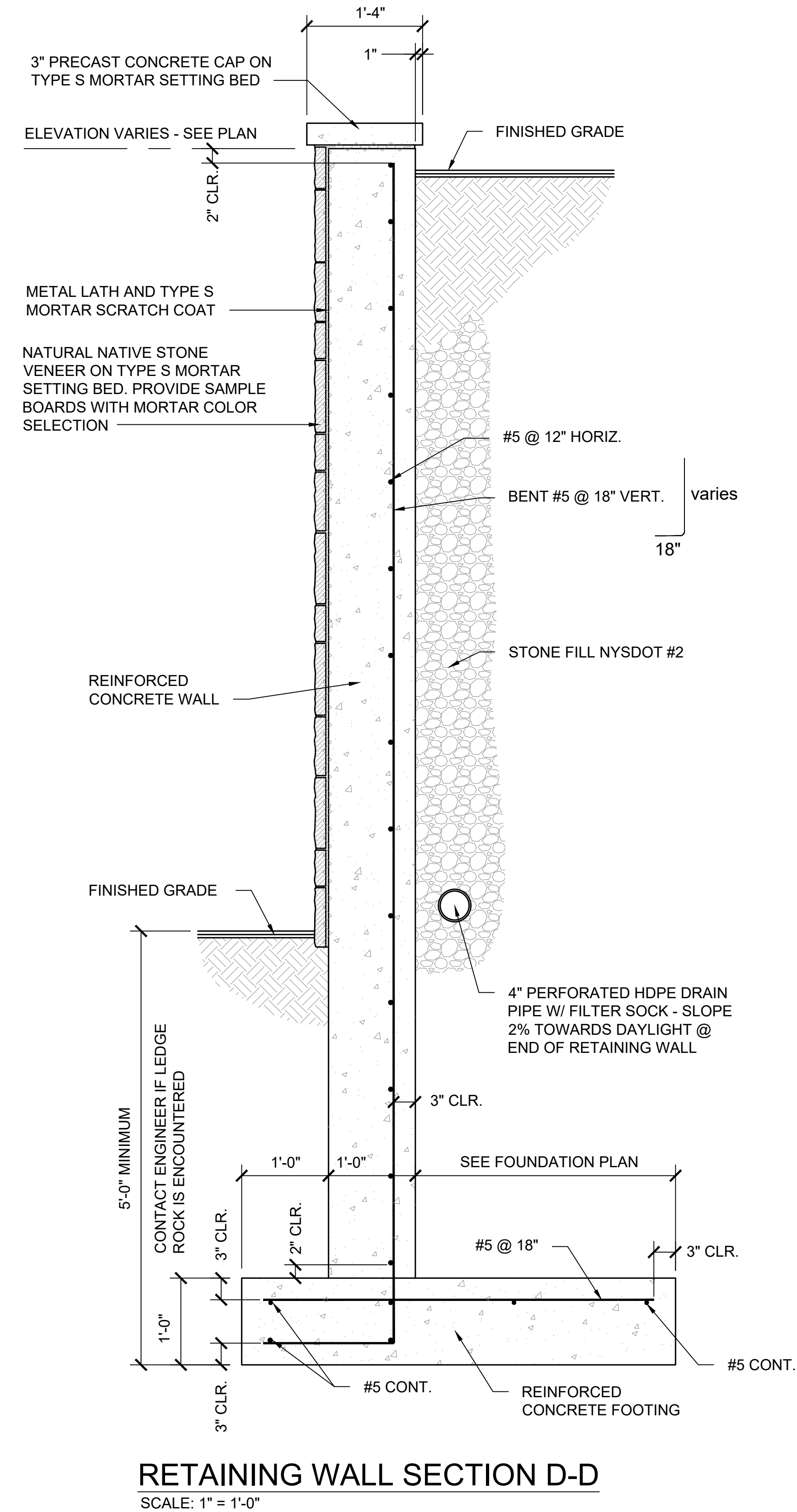
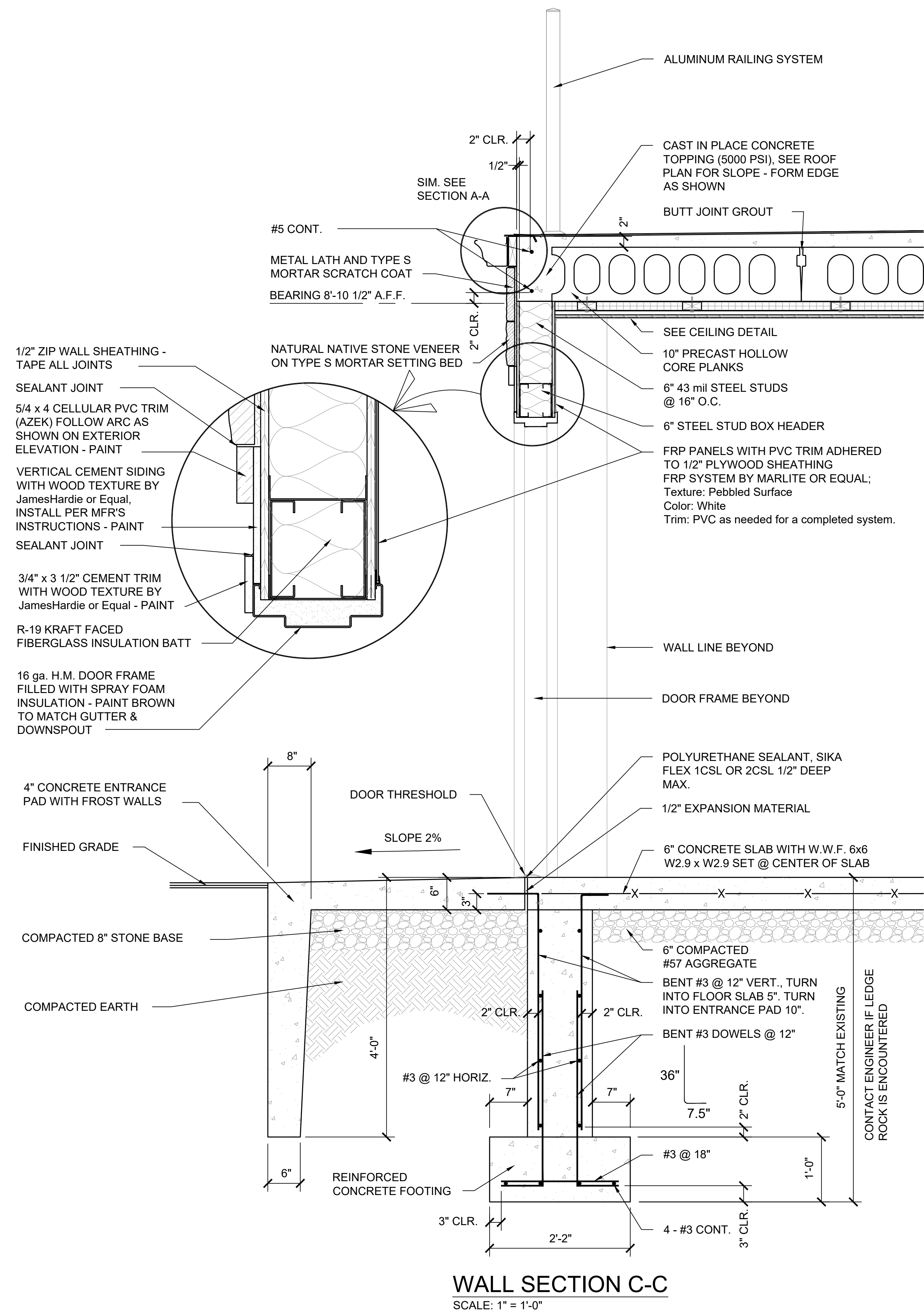
PROJECT INFORMATION:	DATE:	04/12/2019
SCALE:	AS SHOWN	
DESIGNED BY:	TS	
DRAWN BY:	GF	
REVIEWED BY:	TS	
PROJECT NO.:	17-011	
SHEET:	23 OF 28	

NO.:	DATE:	DESCRIPTION:	DOH REVIEW COMMENTS:
1	1/8/20		



TOWN OF ESSEX  
NEW YORK  
ESSEX  
ESSEX

WATER PLANT UPGRADES  
SECTIONS AND DETAILS



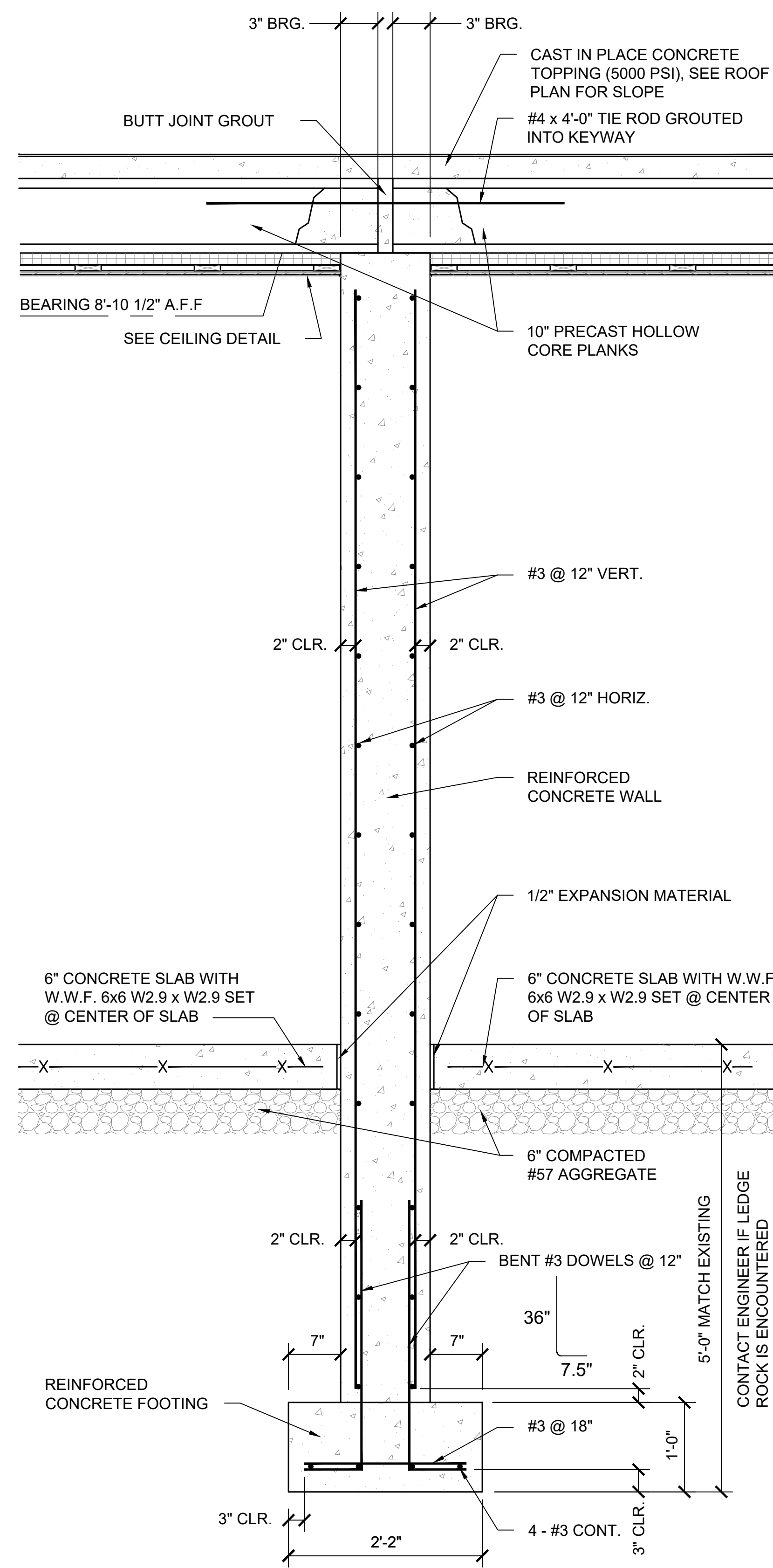
PROJECT INFORMATION:	
DATE:	04/12/2019
SCALE:	AS SHOWN
DESIGNED BY:	TS
DRAWN BY:	GF
REVIEWED BY:	TS
PROJECT NO.:	17-011
SHEET:	24 OF 28



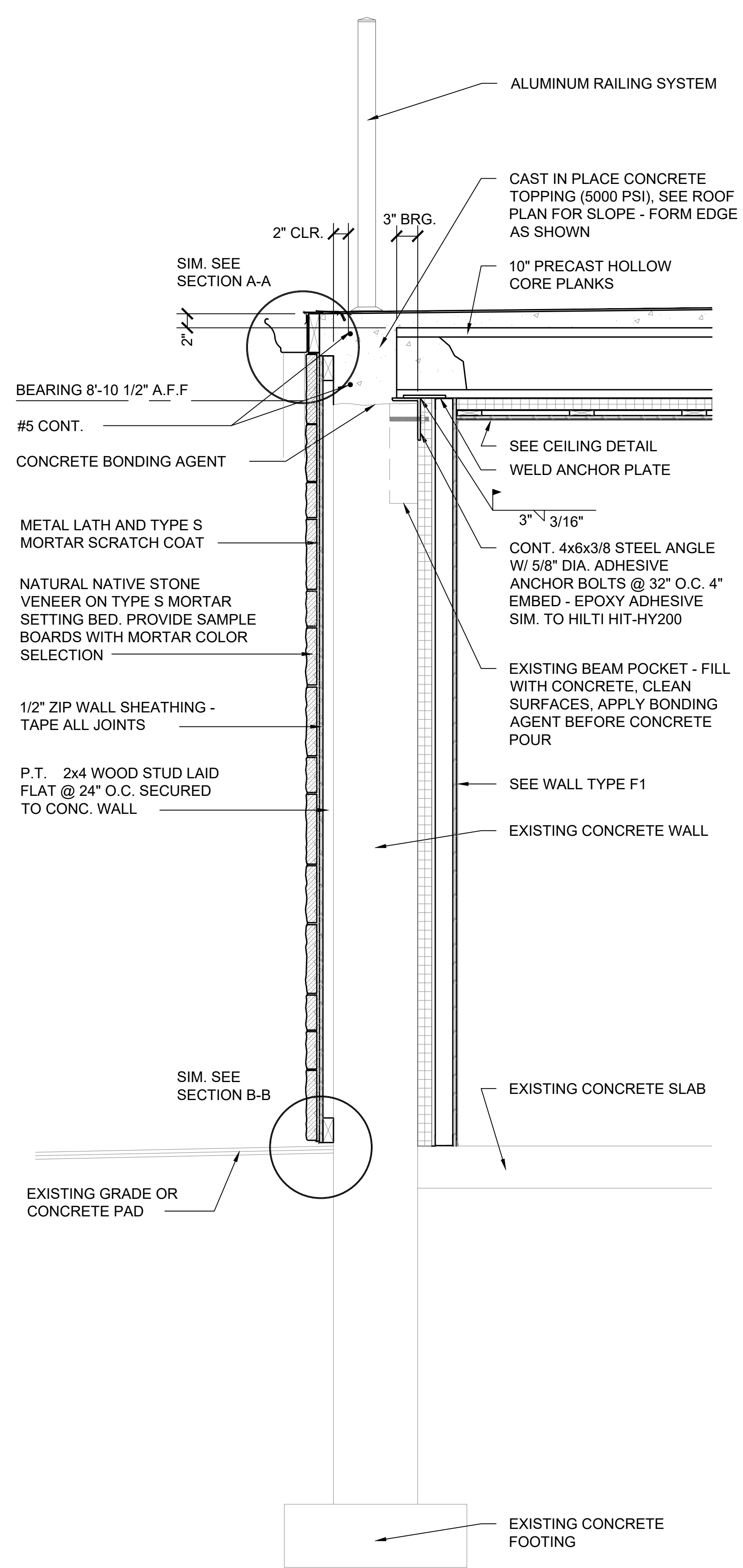
TOWN OF ESSEX  
NEW YORK  
ESSEX

WATER PLANT UPGRADES  
SECTIONS AND DETAILS

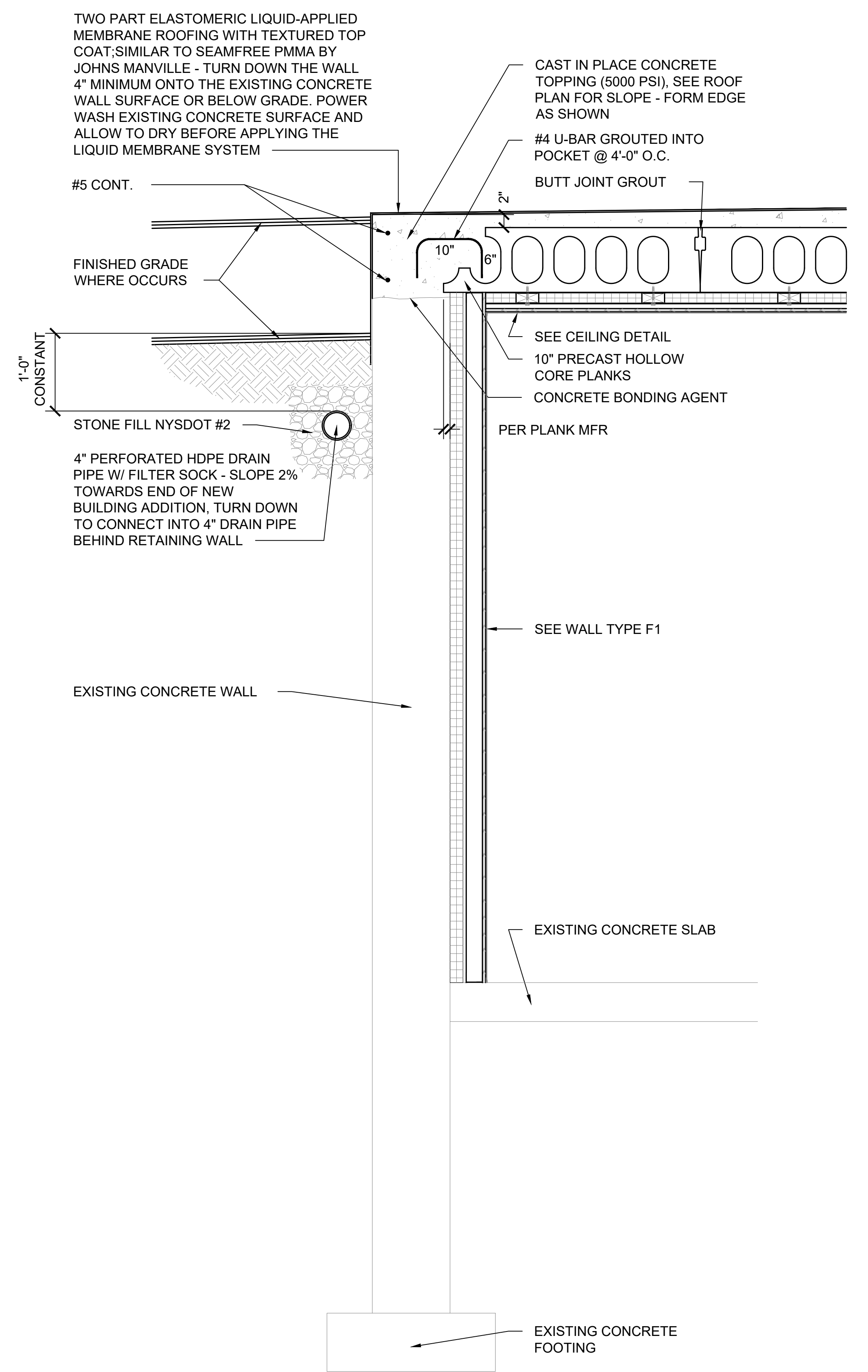




**WALL SECTION E-E**  
SCALE: 1" = 1'-0"



**WALL SECTION F-F**  
SCALE: 1" = 1'-0"



**WALL SECTION G-G**  
SCALE: 1" = 1'-0"

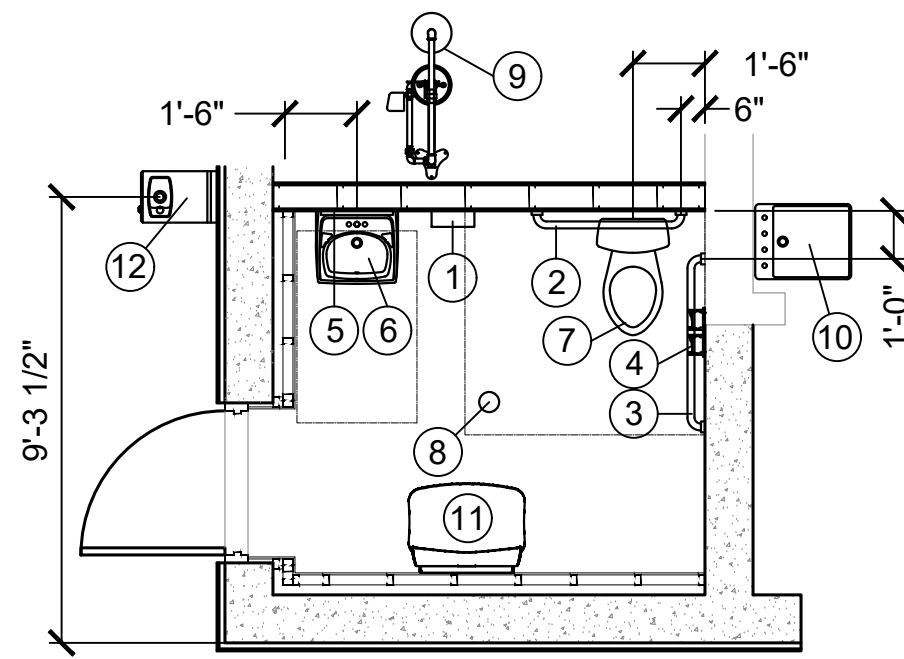
PROJECT INFORMATION:	DATE: 03/28/2019
SCALE: AS SHOWN	DESIGNED BY: TS
NO. DATE DESCRIPTION DOH REVIEW COMMENTS	DRAWN BY: GF
1 1/8/20	REVIEWED BY: TS
	PROJECT NO.: 17-011
	SHEET: 25 OF 28

NO. DATE DESCRIPTION DOH REVIEW COMMENTS	REVISIONS:
1 1/8/20	



TOWN OF ESSEX  
ESSEX  
NEW YORK  
ESSEX

WATER PLANT UPGRADES  
SECTIONS AND DETAILS

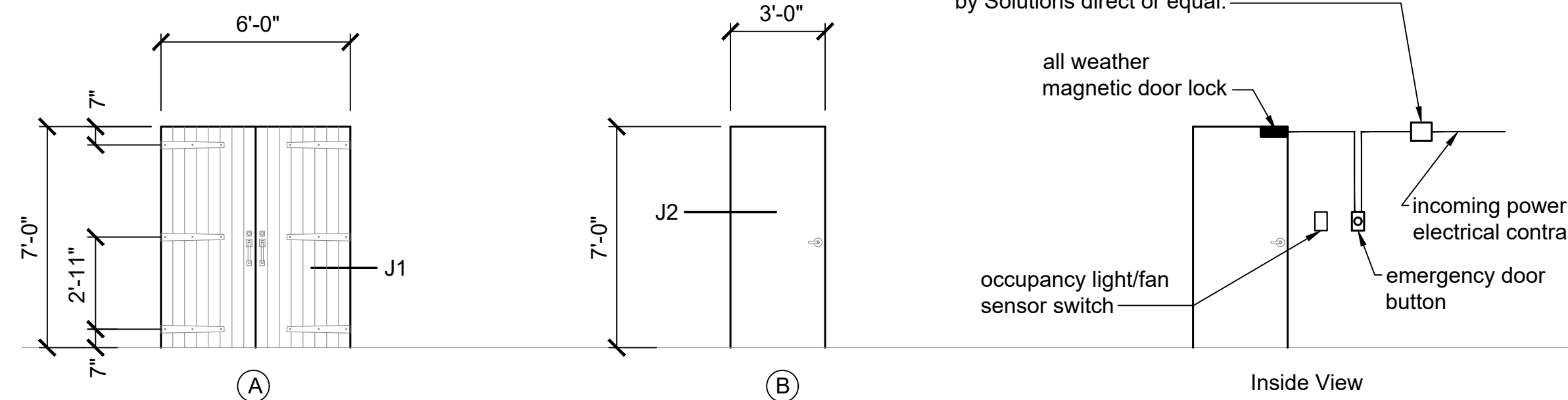


**RESTROOM LAYOUT**  
SCALE: 1/4" = 1'-0"

- NOTES:**
- PROVIDE BLOCKING WITH-IN THE METAL STUD WALL FOR EQUIPMENT INSTALLATION.
  - SEE FOUNDATION FOR FLOOR SLOPE TO FLOOR DRAIN.

- EQUIPMENT SCHEDULE**
- BOBRICK B-262 OR EQUAL; Surface mounted stainless steel paper towel dispenser.
  - BOBRICK B-5806X36 OR EQUAL; 18ga. 1 1/4" dia. type 304 satin-finish stainless steel tubing with concealed mounting flange. Mounting height 33"-36" a.f.f.
  - BOBRICK B-5806X42 OR EQUAL; 18ga. 1 1/4" dia. type 304 satin-finish stainless steel tubing with concealed mounting flange. Mounting height 33"-36" a.f.f.
  - BOBRICK B-274 OR EQUAL; Toilet tissue dispenser for two rolls. Cast aluminum, satin finish and plastic spindles with concealed locking device; theft resistant.
  - BOBRICK B-165 1824 OR EQUAL; 18"w. x 24"h. one-piece channel frame. type 403 stainless steel with bright-polished finish and mitered corners. No. 1 quality 1/4" glass mirror with galv. steel back. Theft resistant mounting. Mounting height 40" bottom of frame to fin. fr., center on sink.
  - AMERICAN STANDARD 0356.028.020 OR EQUAL; Lucerne wall mounted sink (ADA compliant - front rim 34" a.f.f. and have 27" min knee clearance), 4" centerset, 1 1/4" trap, vitreous china color white.
  - AMERICAN STANDARD 2467.016.020 OR EQUAL; Cadet right height elongated pressure assisted toilet 1.6gpf (ADA compliant), vitreous china color white. Bowl rim height 16 1/2".
  - FLOOR DRAIN; See Plumbing Plan
  - GUARDIAN G1950 OR EQUAL; SAFETY STATION with EYE/FACE WASH, S.S. BOWL
  - MUSTEE #21F OR EQUAL; 18w." x 24"d. x 13"deep plastic single laundry tub sink with legs. Impact and chemical resistant 1-piece molded tub with molded 1.5" drain for standard P-Trap. Potable hot/cold water - 2 hole, 4 inch centerset laundry faucet with double lever handles, chrome, by PROFLO PFWSC1120CP or equal. Additional holes to be drilled for treated and raw water faucets, 1 hole, single handle deckmount kitchen faucet, chrome, by PROFLO PFX300 or equal. Provide chrome drain and 1.5" p-trap assembly.
  - KOALA KARE KB200-01 GREY OR EQUAL; Horizontal wall mounted baby changing station. Mounting and height per manufactures recommendations.
  - ELKAY LK4593 OR EQUAL; Outdoor stone fountain, wall mount, non-filtered, non-refrigerated. Mount rim 34" above concrete sidewalk elevation.

**DOOR TYPES**  
SCALE: 1/4" = 1'-0"



**FIBERGLASS EXTERIOR DOOR**

- Plank Style Door, Sim to Pella Architectural Series - 1 3/4" thick solid panel with woodgrain texture
- Right hand active door; Kwikset - Tavaris single cylinder handle set. Model: #800TVH LIP 11P SMT
- Finish: Venetian Bronze
- Function: Handleset with single cylinder deadbolt.
- Interior thumb turn - Single Sided Deadbolt; Kwikset Model: #663 11P
- Finish: Venetian Bronze
- Interior door lever - Passage Lever; Kwikset Model: #720VDL 11P
- Finish: Venetian Bronze
- Left hand inactive/dummy door; Kwikset - Tavaris inactive/dummy cylinder handle set. Model: #802TVH LIP 11P
- Finish: Venetian Bronze
- Function: Inactive/dummy Handleset and deadbolt.
- Everbuilt 4 1/2 x 4 1/2 commercial grade door hinge, five knuckle full mortise design. Oil-rubbed Bronze finish, Model #20422
- Hand Forged Distressed Iron Straps, 3 per door, Powder Coated Flat Black, 1/4" x 2" to 3" x 24", fasten with 3 wood screws.
- Aluminum Threshold, 5" x 1/2" x door width, Finish: Dark Bronze
- Provide and install perimeter weatherstripping

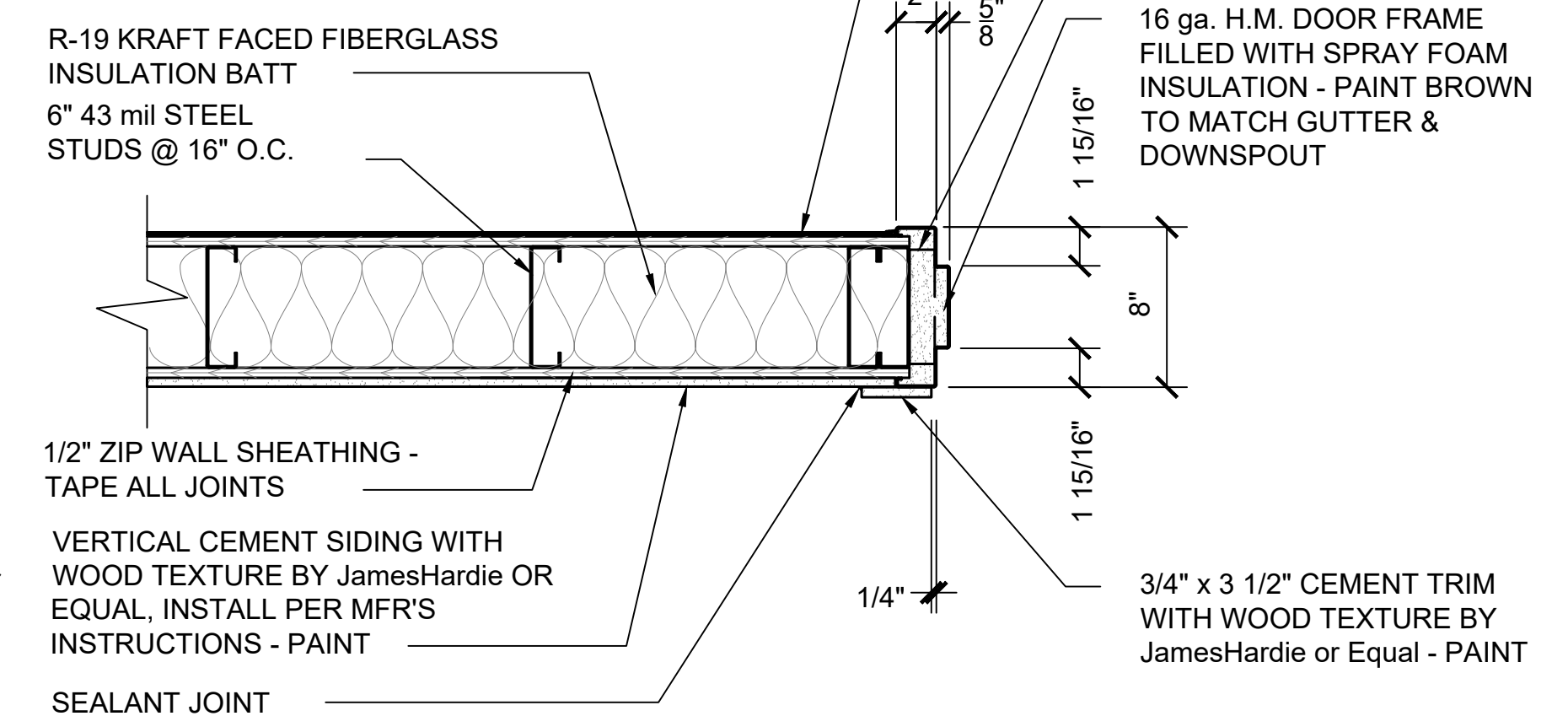
**INSULATED HOLLOW METAL DOOR**

- 1 3/4" thick flush style door - paint Brown to match pre-finished gutter/downspout color
- RESTROOM Lockset; Restroom function Kwikset Kingston 756KNL-26D, single cylinder keyed entry door lever and interior push button.
- Finish: Satin Chrome
- Door shall be operable only during hours selected by the town of Essex, other times door will be locked by a 7 day programmable timer similar to the DTM-9 by EMX Industries, Inc., 12/24VDC/AC
- All weather magnetic door lock with a holding force of 600lbs and mounting hardware. Current draw and voltage 12/24VDC.
- STORAGE Lockset; Restroom function Kwikset Kingston 781KNL-26D, single cylinder keyed entry door lever.
- Finish: Satin Chrome
- Everbuilt 4 1/2 x 4 1/2 commercial grade door hinge, five knuckle full mortise design. Satin Chrome finish, Model #20442
- Aluminum Threshold, 5" x 1/2" x door width, Finish: Milled
- Provide and install perimeter weatherstripping

**HARDWARE NOTE:**

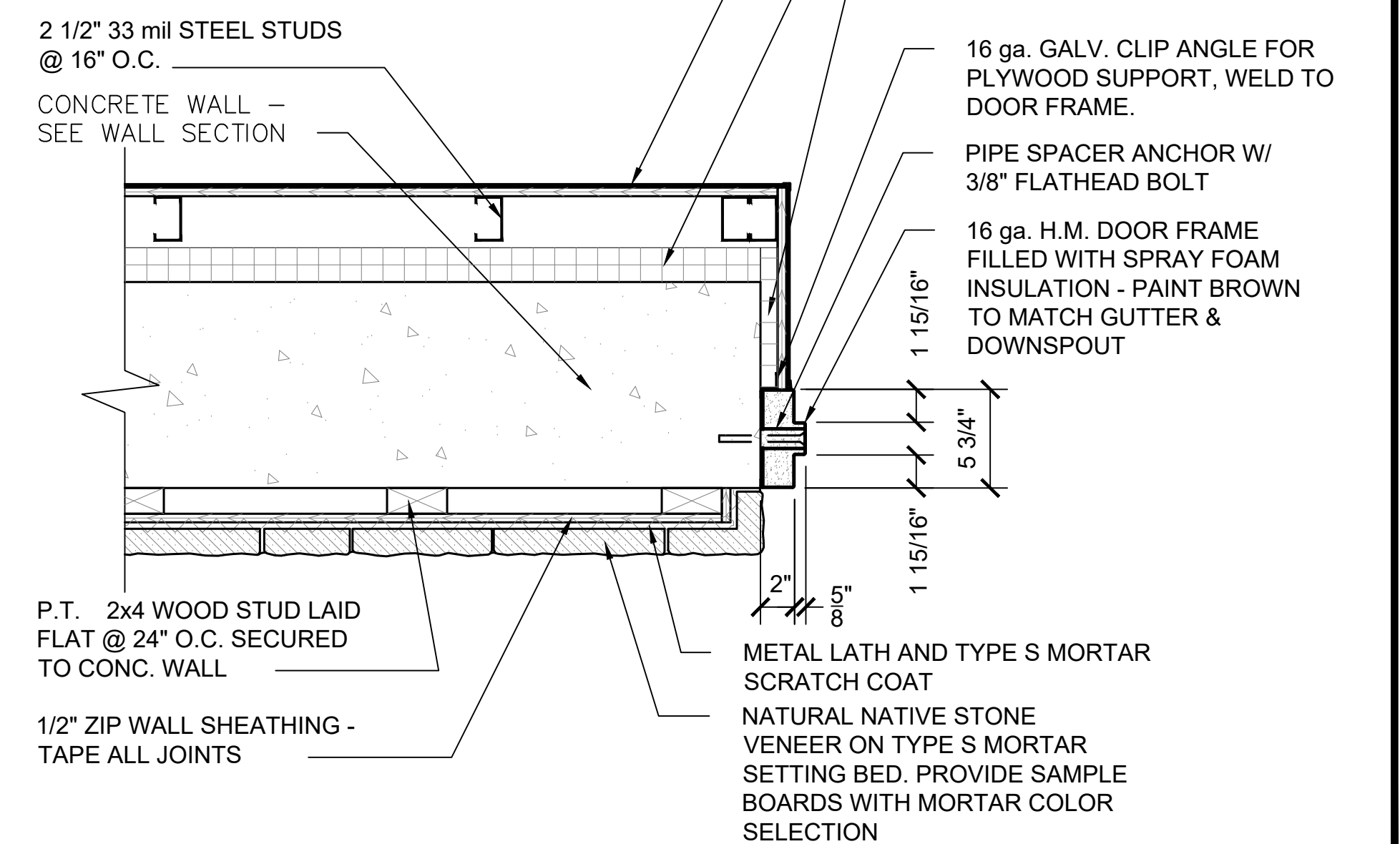
Base design is based on Kwikset and Everbuilt, equal design criteria by another manufacture is acceptable.

FRP PANELS WITH PVC TRIM ADHERED TO 1/2" FIRE RETARDANT PLYWOOD SHEATHING FRP SYSTEM BY MARLITE OR EQUAL; Texture: Pebbled Surface Color: White Trim: PVC as needed for a completed system.

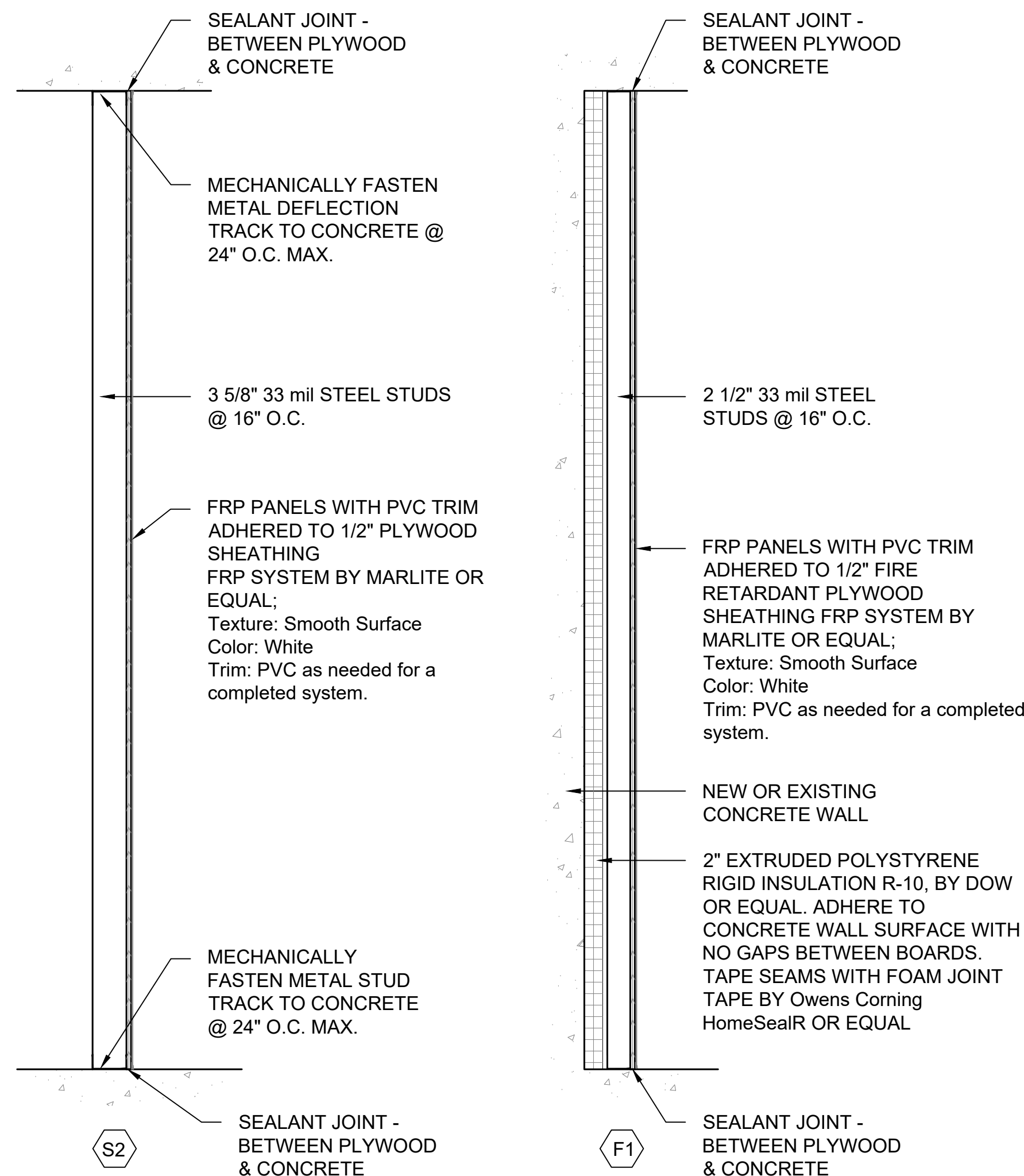


**DOOR JAMB DETAIL J1**  
SCALE: 1 1/2" = 1'-0"

FRP PANELS WITH PVC TRIM ADHERED TO 1/2" FIRE RETARDANT PLYWOOD SHEATHING FRP SYSTEM BY MARLITE OR EQUAL; Texture: Pebbled Surface Color: White Trim: PVC as needed for a completed system.



**DOOR JAMB DETAIL J2**  
SCALE: 1 1/2" = 1'-0"



**WALL TYPES**  
SCALE: 1" = 1'-0"

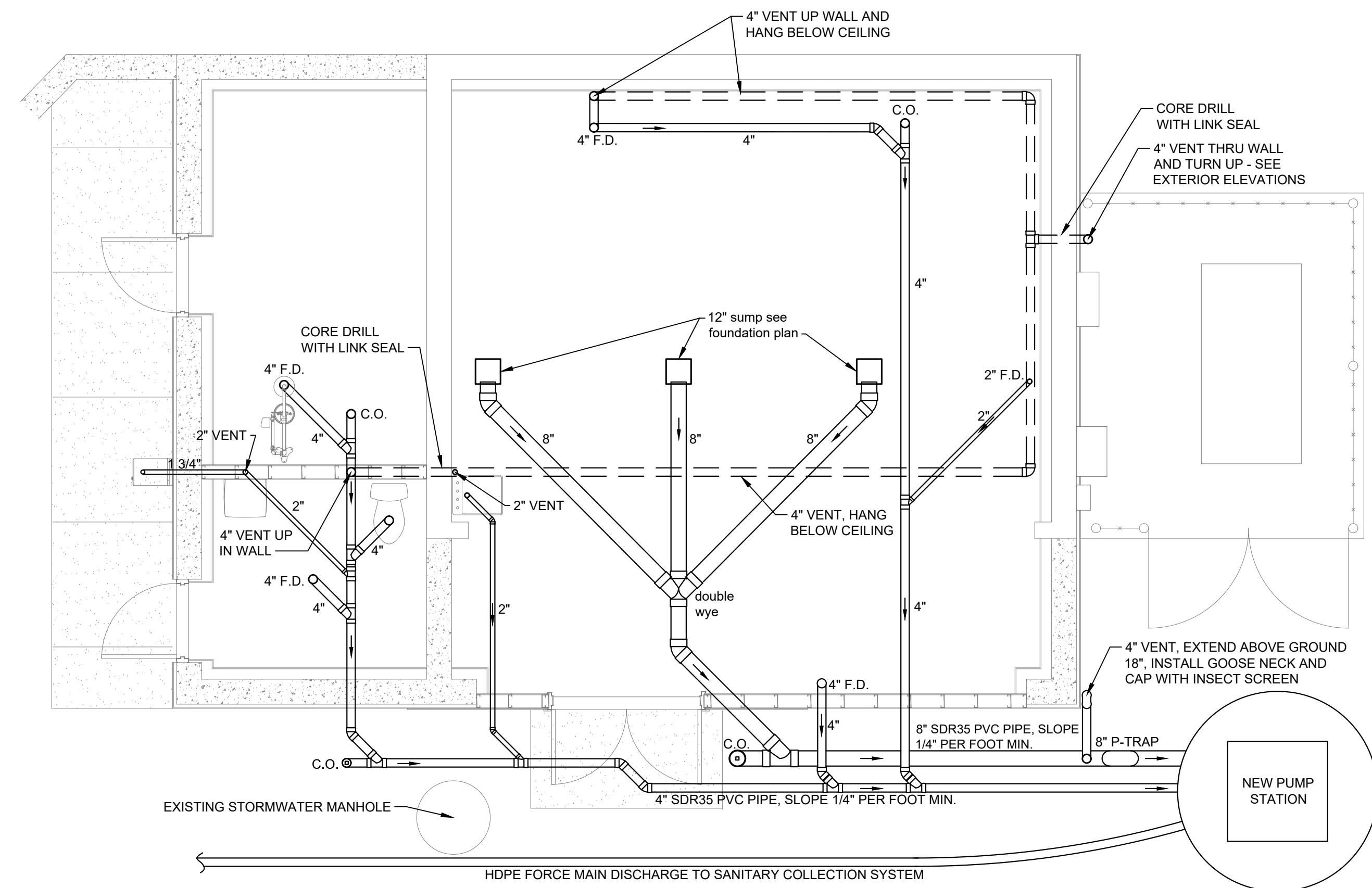
PROJECT INFORMATION:	DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	REVIEWED BY:	PROJECT NO.:	SHEET:
	04/12/2019	AS SHOWN	TS	GF	TS	17-011	26 OF 28

REVISIONS:	DESCRIPTION:	DATE:
NO:	DOH REVIEW COMMENTS	
1		1/8/20



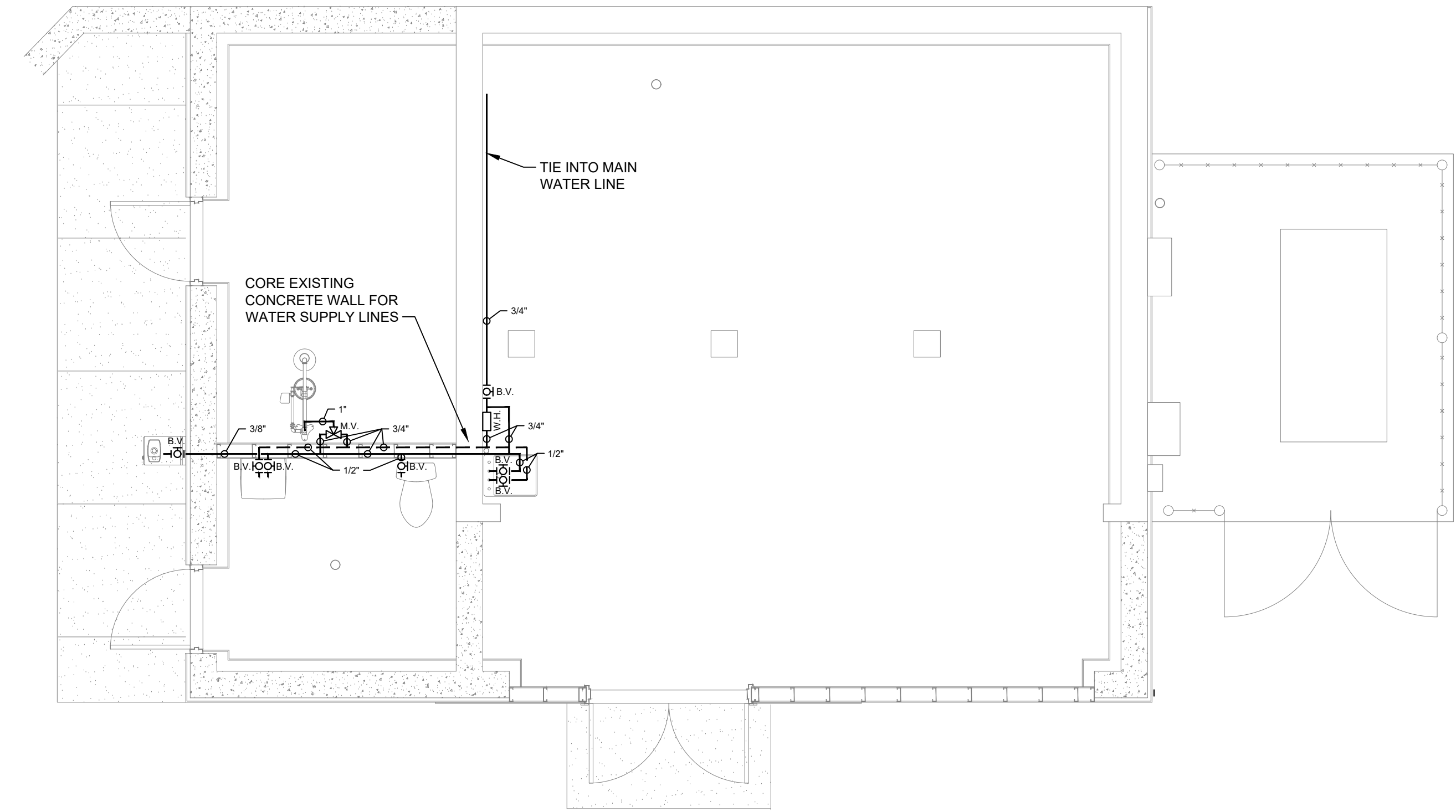
TOWN OF ESSEX  
NEW YORK

WATER PLANT UPGRADES  
DOOR TYPES, WALL TYPES  
DETAILS & RESTROOM LAYOUT



**WATER PUMPING STATION PLUMBING PLAN - SANITARY**  
SCALE: 1/4" = 1'-0"

PLUMBING SCHEDULE			
SYMBOL	DESCRIPTION	MANF./MODEL # OR EQUAL	REMARKS
	4" ADJUSTABLE FLOOR DRAIN	WATTS FD12-R-4PVC-5RSS	SEE S-1 FOUNDATION PLAN FOR LOCATION
	4" ADJUSTABLE FLOOR CLEANOUT	WATTS CO12-4PVC-SS	INTERIOR OF BUILDING
	THREADED PLUG TYPE		EXTERIOR OF BUILDING
	BALL VALVE		
	TANKLESS ELECTRIC WATER HEATER	RHEEM RETEX-18	208v/1ph - 13.3 kw
	MIXING VALVE	GUARDIAN EQUIP. PRODUCTS G3700LF	



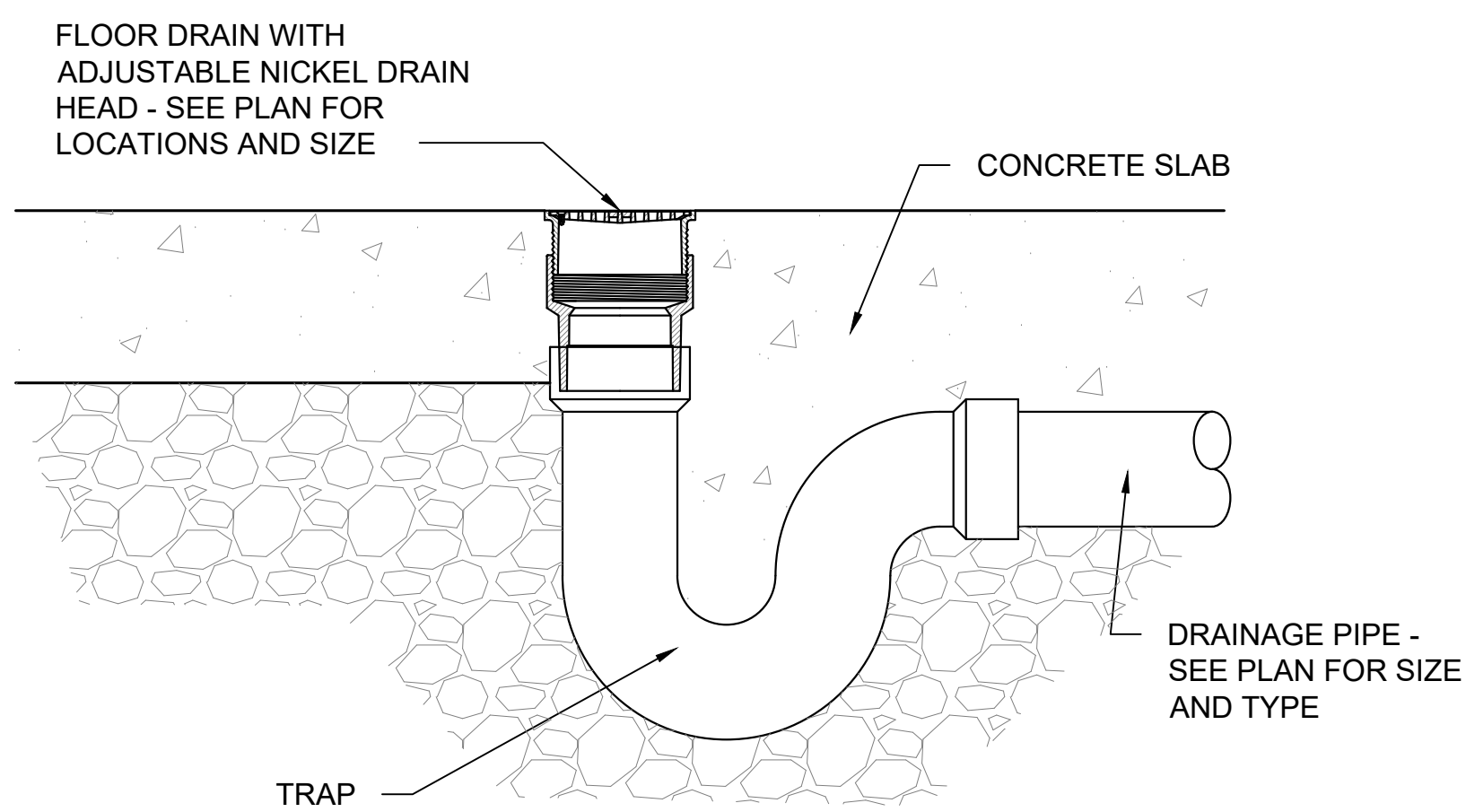
**WATER PUMPING STATION PLUMBING PLAN - SUPPLY**  
SCALE: 1/4" = 1'-0"

**PLUMBING GENERAL NOTES:**

- Plumbing Code 2015 of New York State
- PVC hanger spacing: 4ft. horizontally, 10ft vertically.
- Provide and install new 1/2" PEX hot and cold water supply lines to new sink in Restroom and eyewash in chemical storage.
- Provide and install new 1/2" PEX cold water supply line to new toilet in Restroom.
- Supply lines shall be supported 5'-0" o.c. and at all changes of direction.
- Piping shall be insulated to prevent condensation.

**LEGEND**

- INDICATES COLD WATER SUPPLY
- - - INDICATES HOT WATER SUPPLY



**TYPICAL FLOOR DRAIN DETAIL**  
NO SCALE

NO.	DATE	DESCRIPTION	DOH REVIEW COMMENTS
1	1/8/20		

ANY LICENSEE WHO ALTERS THIS DOCUMENT IS SUBJECT TO LAW TO 47NY 1601. THE STATE OF NEW YORK PROFESSIONAL ENGINEERING BOARD HAS REVIEWED AND APPROVED THIS DOCUMENT FOR THE STATE OF NEW YORK. UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 2209 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW.

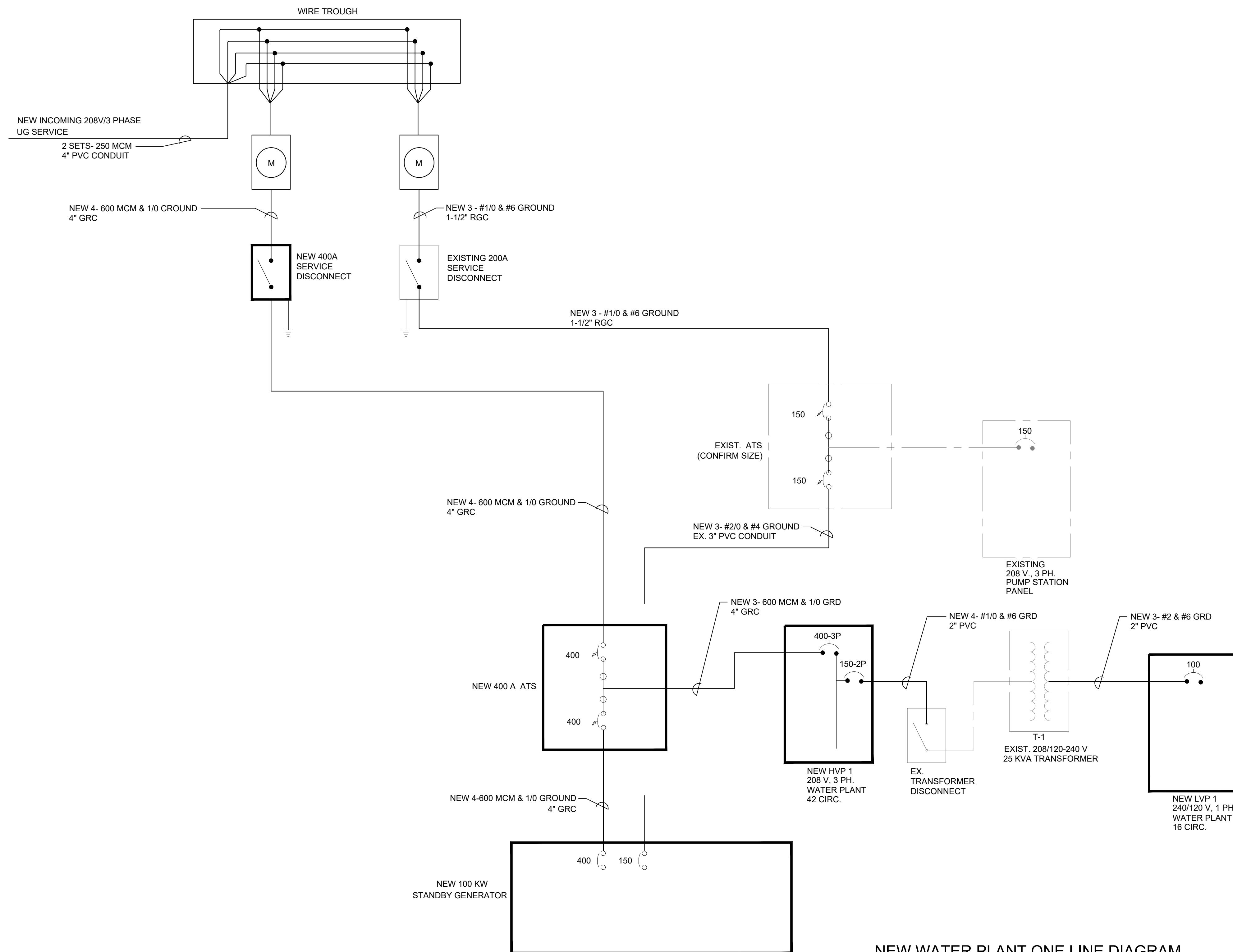


TOWN OF ESSEX  
ESSEX  
NEW YORK

WATER PLANT UPGRADES  
PLUMBING SANITARY/SUPPLY







**NEW WATER PLANT ONE LINE DIAGRAM**  
N.T.S.

**PANEL BOARD HVP-1 SCHEDULE**

MAIN BUS RATINGS: 600A, 208/120 VOLTS, 3 PHASE, 4 WIRE  
MINIMUM SHORTCIRCUIT INTERRUPTION RATING: 10,000 AIC  
MAIN BREAKER TRIP: 400A (54 circ.)  
ESTIMATED CONNECTED LOAD: 302 A

FED FROM: INCOMING SERVICE  
INCOMING FEED: 400 A.  
ENCLOSURE: 3R

DESCRIPTION	CB TRIP/POLE	CIR. NO	kVA			CIR. NO	CB TRIP/POLE	DESCRIPTION
			21	23.4	20			
			A	B	C			
SPARE	20A/1	1				2		
WATER HEATER (CKT 1)	40A/2	3				4	30A/3	EUH-2
		5				6		
		7				8		
EUH-1	20A/3	9				10	20A/3	RAW WATER PUMP #1
		11				12		
RAW WATER PUMP #2	20A/3	13				14		
		15				16	60A/3	WASTEWATER PUMP CONTROL PANEL
		17				18		
EF-1 / INT-1	20A/1	19				20	20A/1	WP GFCI OUTLET
EF-3	15A/1	21				22	20A/1	WP GFCI OUTLET
EMERGENCY/EXIT LIGHTING	20A/1	23				24		
WATER HEATER (CKT 2)	40A/2	25				26	20A/2	UV PANEL
		27				28	20A/1	GFCI OUTLET
SPARE	20A/1	29				30	EBB-1	EBB-1
LIGHTING	20A/1	31				32	20A/1	EF-2 / INT-2
GFCI OUTLET	20A/1	33				34	20A/1	AUX. GFCI OUTLET
GFCI OUTLET	20A/1	35				36	20A/1	AUX. GFCI OUTLET
WP GFCI OUTLET	20A/1	37				38	20A/1	SPARE
SPARE	20A/1	39				40	20A/1	SPARE
TRANSFORMER T1 / LVP-1	100A/2	41				42	20A/1	CHLOR. ANALYZER CL17
		43				44		
SPARE	20A/1	45				46		
UPHILL PAVILLION	20A/1	47				48	20A/1	UPHILL PAVILLION
		49				50		
		51				53		
		53				54		

SQUARE D - NQ454L4C WITH ENCLOSURE, LAL36400 MB, MAIN BREAKER KIT, NEUTRAL AND GROUND BARS AS REQUIRED  
SURFACE MOUNT COVER, 400A, 208/120 VOLTS, 3 PHASE, 4 WIRE

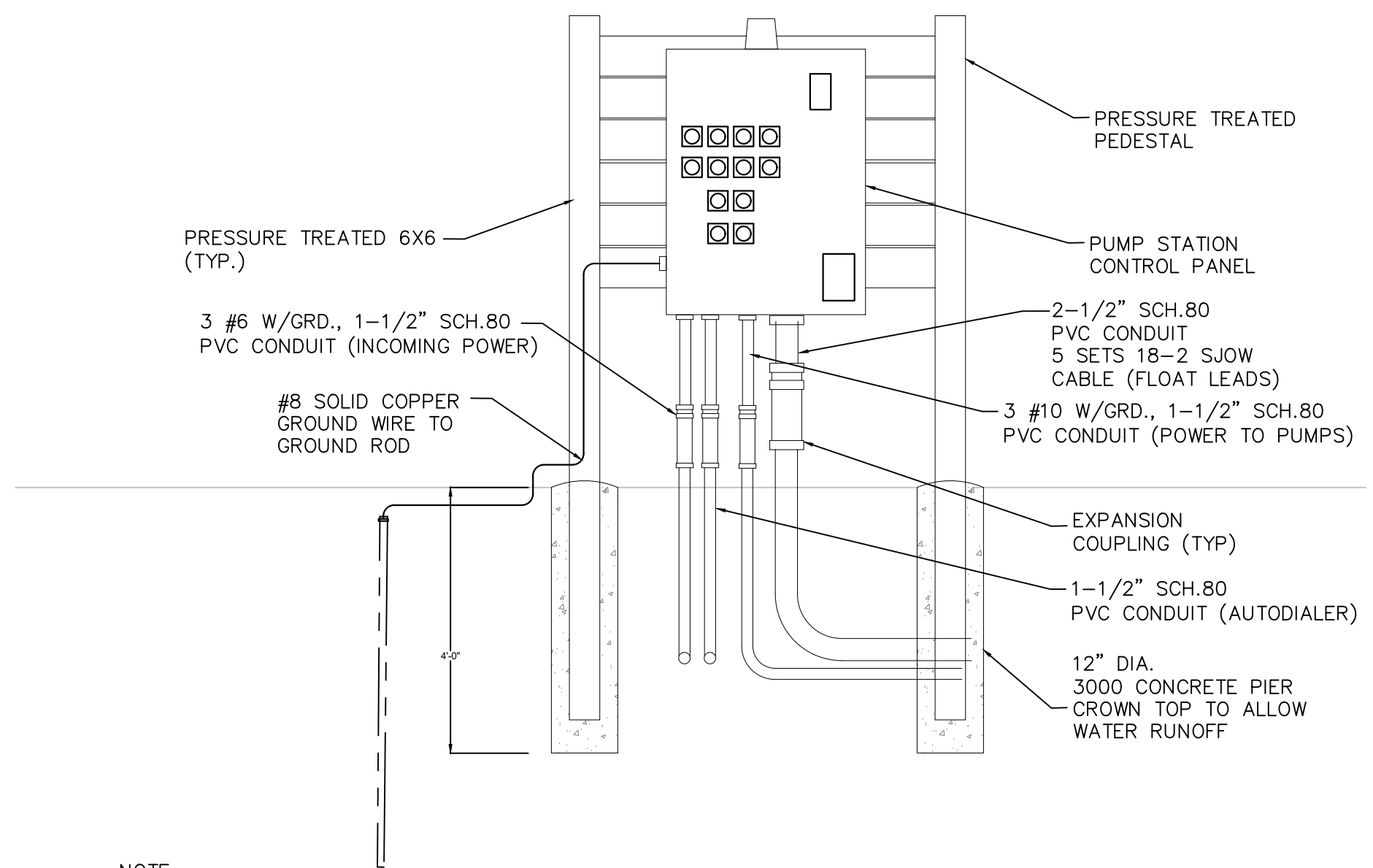
**PANEL BOARD LVP-1 SCHEDULE**

MAIN BUS RATINGS: 100A, 240/120 VOLTS, 1 PHASE, 3 WIRE  
MINIMUM SHORTCIRCUIT INTERRUPTION RATING: 10,000 AIC  
MAIN BREAKER TRIP: 100A (16 circ.)  
ESTIMATED CONNECTED LOAD: 53.5A

FED FROM: T1  
INCOMING FEED: 100A - 208/240-120V TRANSF. T1  
ENCLOSURE: NEMA 3R

DESCRIPTION	CB TRIP/POLE	CIR. NO	kVA		CIR. NO	CB TRIP/POLE	DESCRIPTION
			A	B			
WATERBOY WBPP	70A/2	1			2	20A/1	SPARE
		3			4	20A/1	SPARE
SPARE	20A/1	5			6		
		7			8		
		9			10		
		11			12		
		13			14		
		15			16		

SQUARE D - QO116M100RB, NEMA 3R, NEUTRAL AND GROUND BARS AS REQUIRED  
100A, 240/120 VOLTS, 1 PHASE, 3 WIRE



NOTE:  
1. CONTRACTOR SHALL VERIFY PROPOSED LOCATION OF PANEL PRIOR TO CONSTRUCTION WITH OWNER & ENGINEER.  
2. GROUNDING/BONDING SHALL CONFORM TO NEC REQUIREMENTS.

**PUMP STATION ELECT. FEED DETAIL**  
N.T.S.