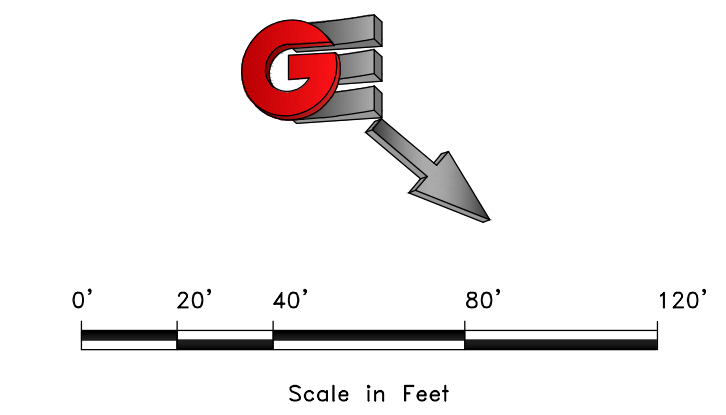


LEGEND

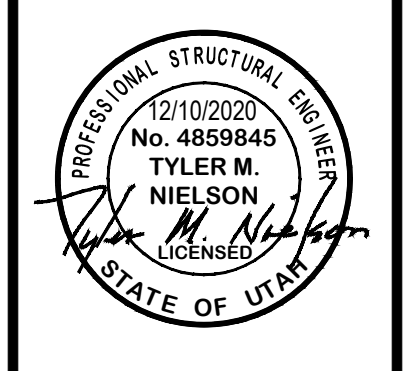
- SUBDIVISION BOUNDARY
- ROAD CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- FINISH GRADE 1' CONTOUR
- EXISTING SANITARY SEWER
- NEW SANITARY SEWER
- NEW PRESSURE SEWER LATERAL
- EXISTING STORM DRAIN
- NEW STORM DRAIN
- EXISTING CULINARY WATER
- NEW CULINARY WATER
- NEW CULINARY WATER LATERAL
- NEW CULINARY WATER METER
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- EXISTING SECONDARY WATER
- NEW ASPHALT PAVING
- 6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL (HYDRO SEED IN DESIGNATED PHASE)
- HYDRO SEED FILL SLOPES AND DETENTION POND DISTURBED AREAS



SCALE: 1"=40'

REVISIONS	DATE	DESCRIPTION
1	12/10/2020	STORM DRAIN REV.
2	4/6/21	CUL-DE-SAC REV.

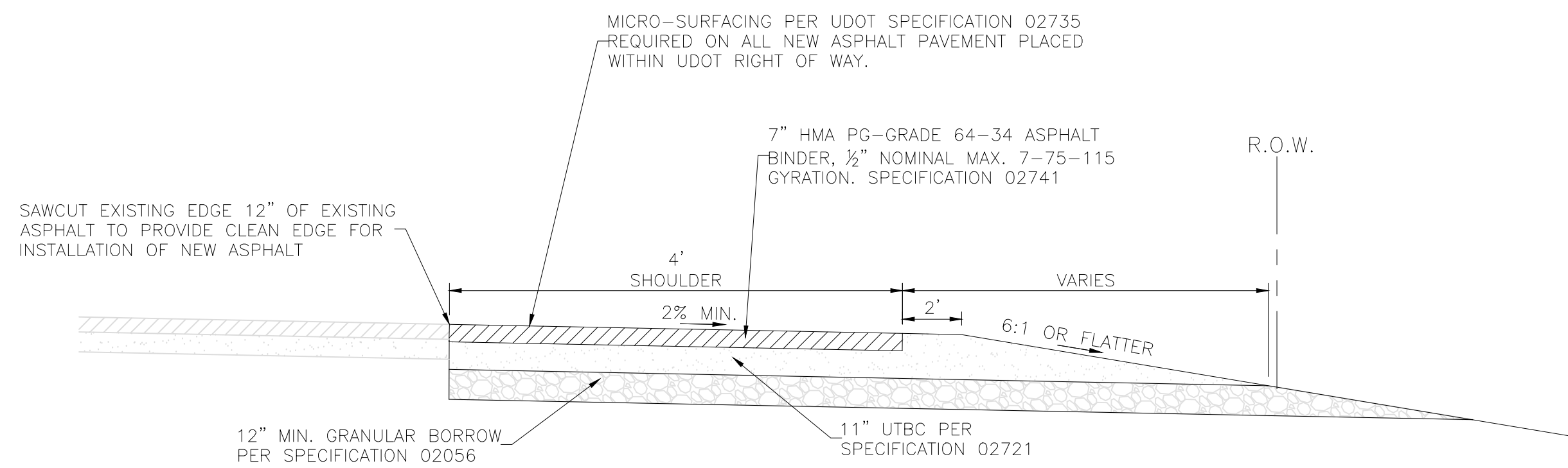
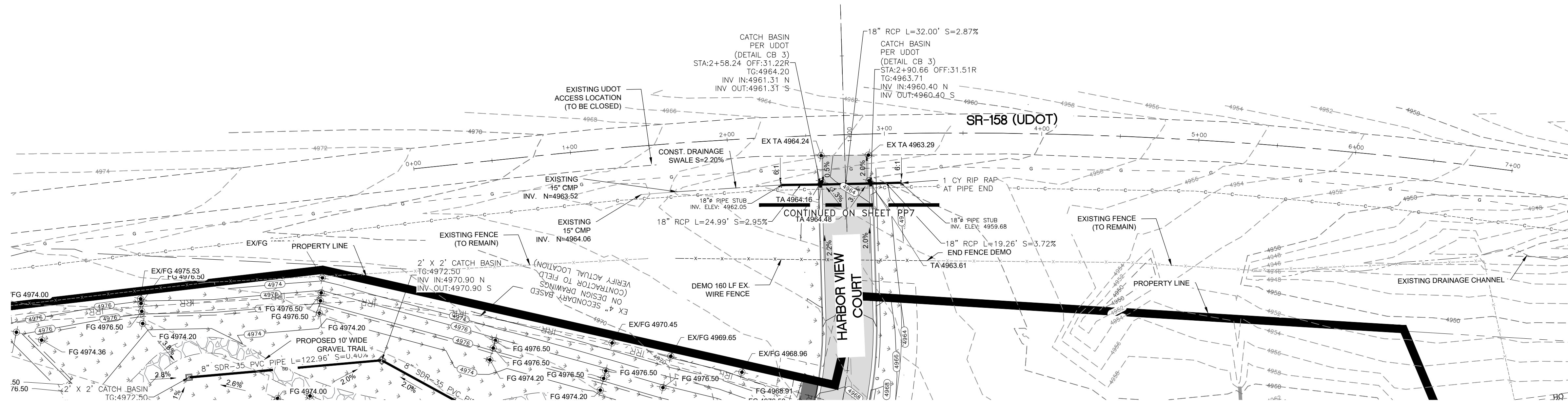
DESIGN: BBD/WJS
DRAWN: BBD/WJS
CHECKED: TMM



HARBOR VIEW COURT - PLAN AND PROFILE
 HARBOR VIEW ESTATES SUBDIVISION
 HARBOR VIEW COURT (1250 NORTH) HWY 158
 EDEN, WEBER COUNTY, UTAH

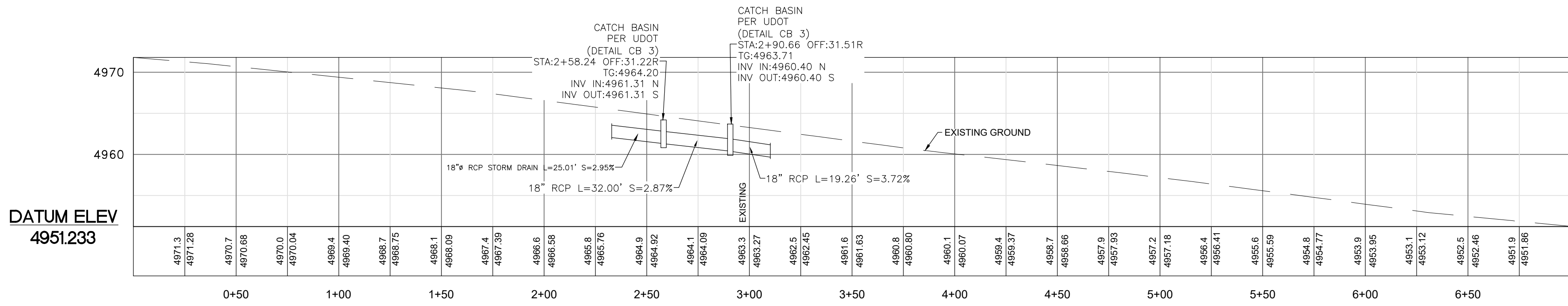
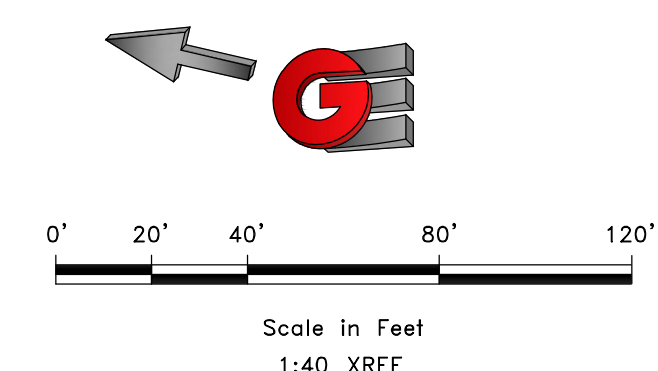
GARDNER ENGINEERING
 CIVIL-LAND PLANNING
 MUNICIPAL-LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801.476.0202 FAX: 801.476.0066

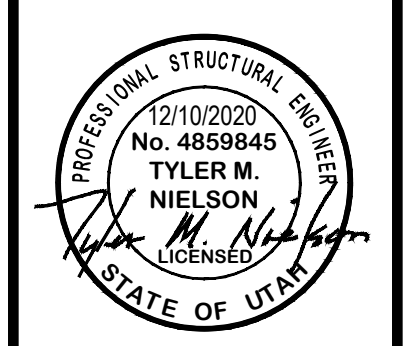


LEGEND

	SUBDIVISION BOUNDARY
	ROAD CENTERLINE
	EXISTING EDGE OF ASPHALT
	EXISTING 1' CONTOUR
	EXISTING 5' CONTOUR
	FINISH GRADE 1' CONTOUR
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	NEW PRESSURE SEWER LATERAL
	EXISTING STORM DRAIN
	NEW STORM DRAIN
	EXISTING CULINARY WATER
	NEW CULINARY WATER
	NEW CULINARY WATER LATERAL
	NEW CULINARY WATER METER
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	EXISTING SECONDARY WATER
	NEW ASPHALT PAVING
	HYDRO SEED FILL SLOPES AND DETENTION POND DISTURBED AREAS



SCALE: 1/4\"/>



SR-158 (UDOT) - PLAN AND PROFILE
 HARBOR VIEW ESTATES SUBDIVISION
 HARBOR VIEW COURT (1250 NORTH) HWY 158
 EDEN, WEBER COUNTY, UTAH

GARDNER ENGINEERING
 CIVIL - LAND PLANNING
 MUNICIPAL - LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801-476-0202 FAX: 801-476-0066

Pump Selection for a Non-Pressurized System - Single Family Residence Project

Crimson Ridge / Harbor View Estates - Effluent Sewer Section



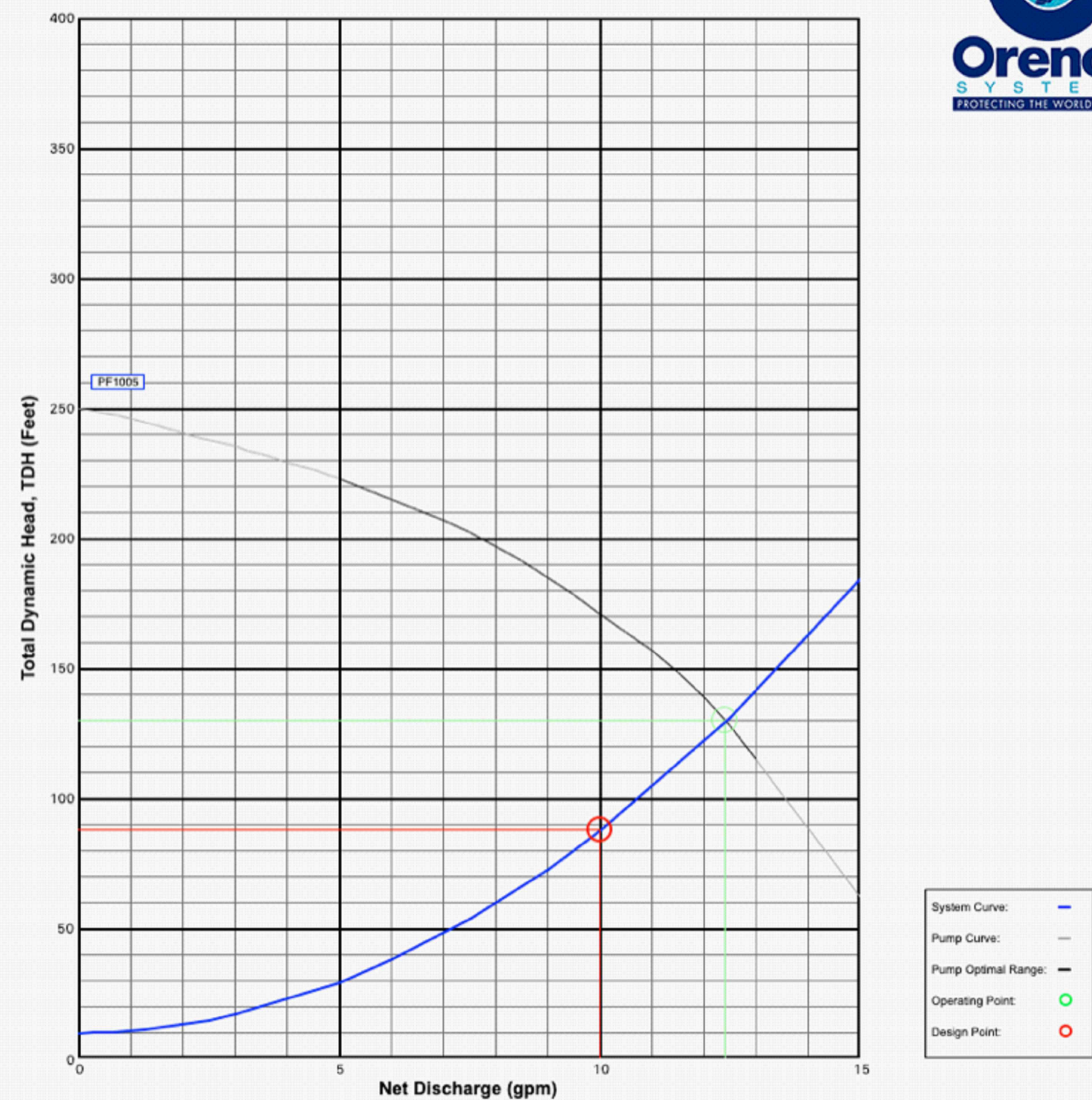
Parameters	
Discharge Assembly Size	1.25 inches
Transport Length	70 feet
Transport Pipe Class	40
Transport Line Size	1.25 inches
Distributing Valve Model	None
Max Elevation Lift	10 feet
Design Flow Rate	10 gpm
Flow Meter	None
'Add-on' Friction Losses	76 feet

Calculations	
Transport Velocity	2.2 fps

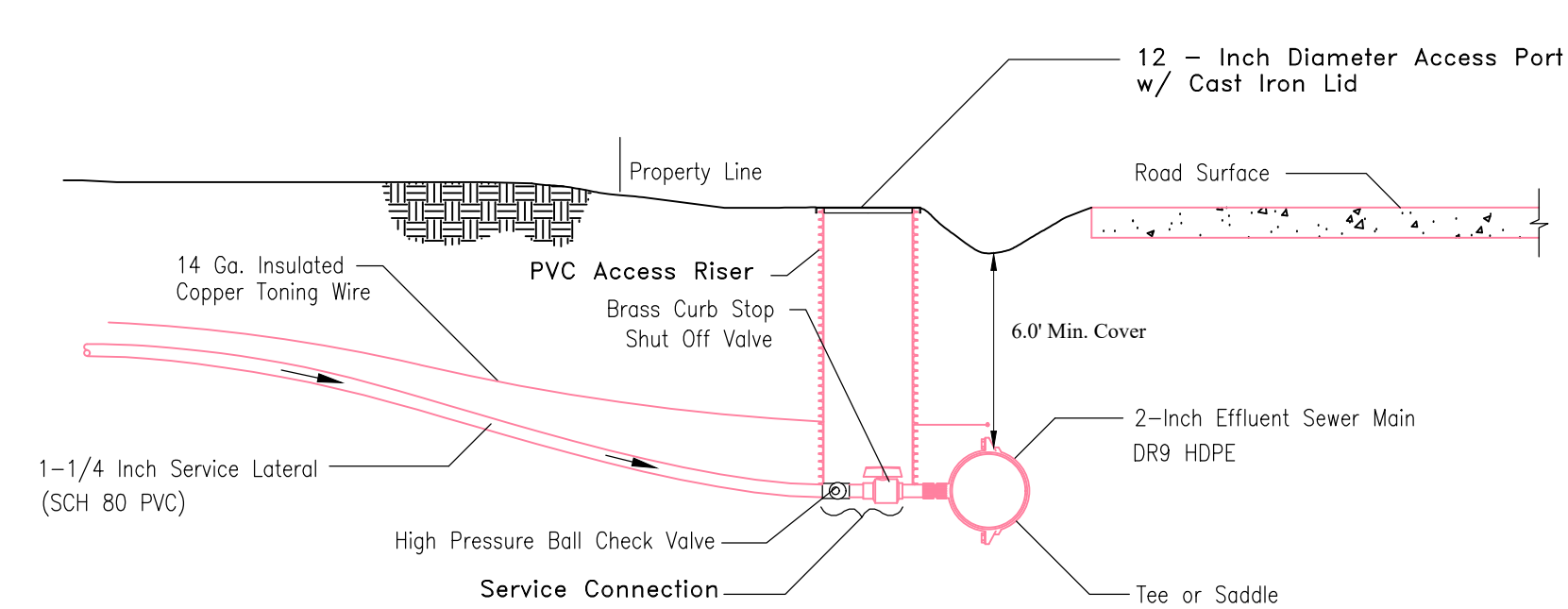
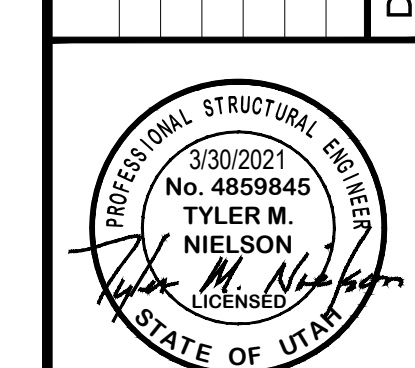
Frictional Head Losses	
Loss through Discharge	0.7 feet
Loss in Transport	1.0 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
'Add-on' Friction Losses	76.0 feet

Pipe Volumes	
Vol of Transport Line	5.4 gals

Minimum Pump Requirements	
Design Flow Rate	10.0 gpm
Total Dynamic Head	87.7 feet



REVISIONS	DESCRIPTION
DATE	



All service line connections shall be solvent welded. The only acceptable solvents and cements are those that are recommended by the pipe manufacturer. All service laterals from the effluent sewer main to the property line shall be pressure tested prior to any backfilling.

1 EFFLUENT PRESSURE SEWER TYPICAL SERVICE CONNECTION
Scale: (NOT TO SCALE)

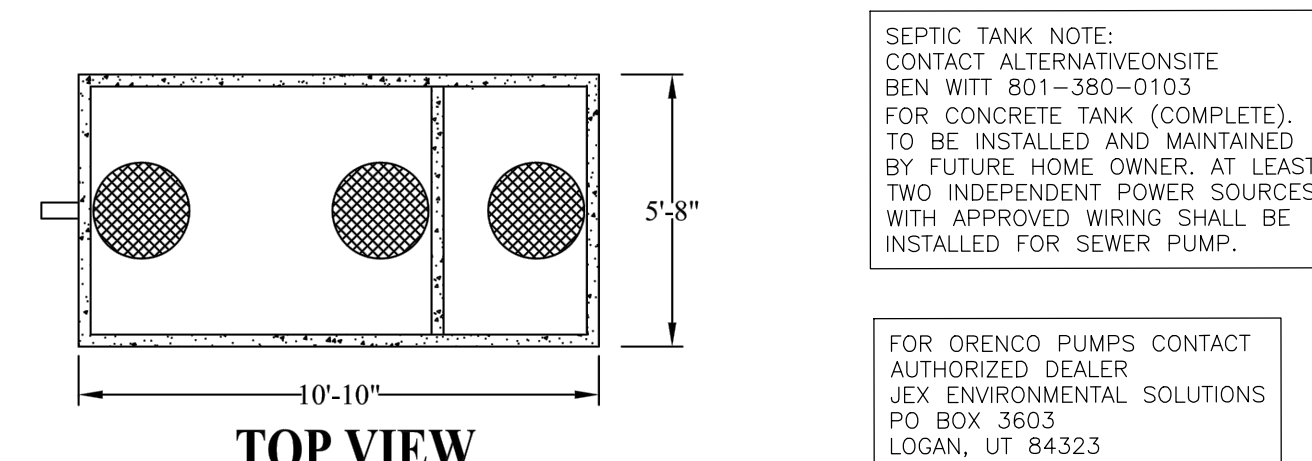
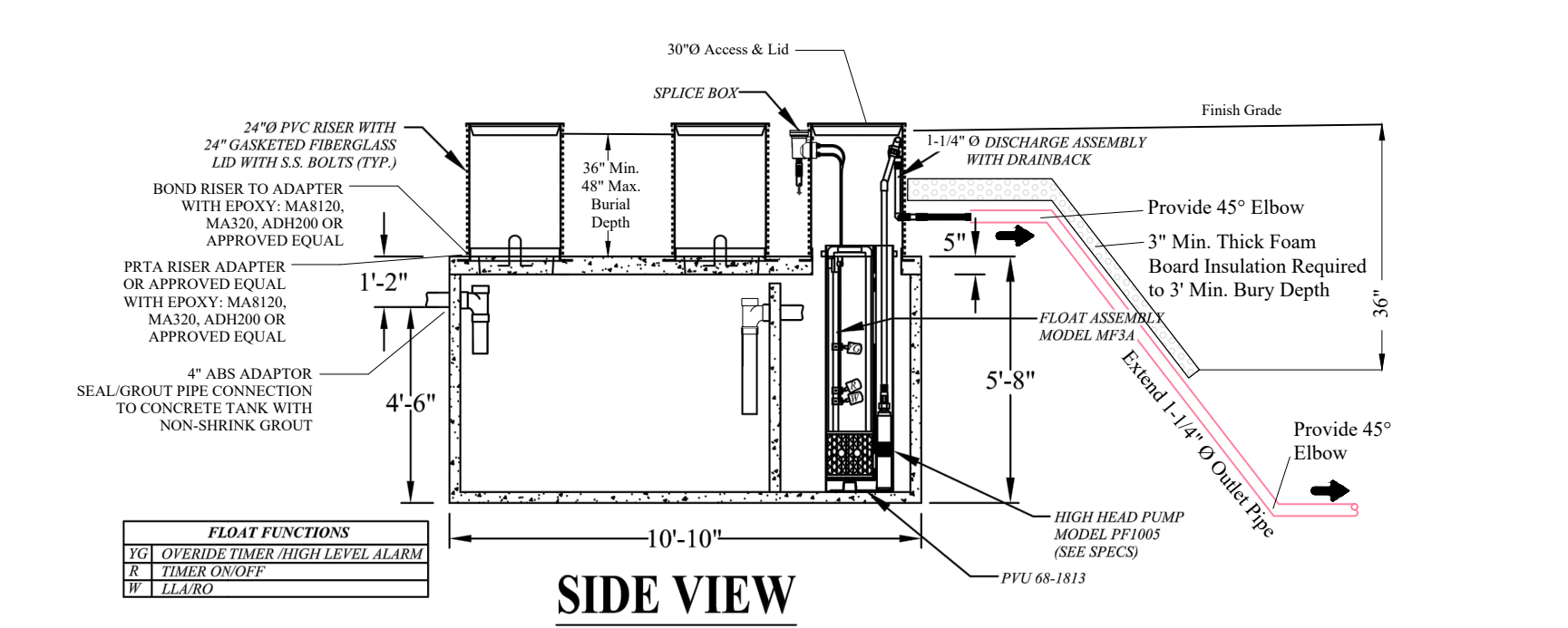
1500 GALLON SEPTIC TANK DETAIL

NOTES:
WEIGHT: 10,800 LBS
EXCAVATION DIMS: 8' X 13'
SEALED WITH BUTYL ROPE
4" SANITARY TEE
4500 PSI CONCRETE

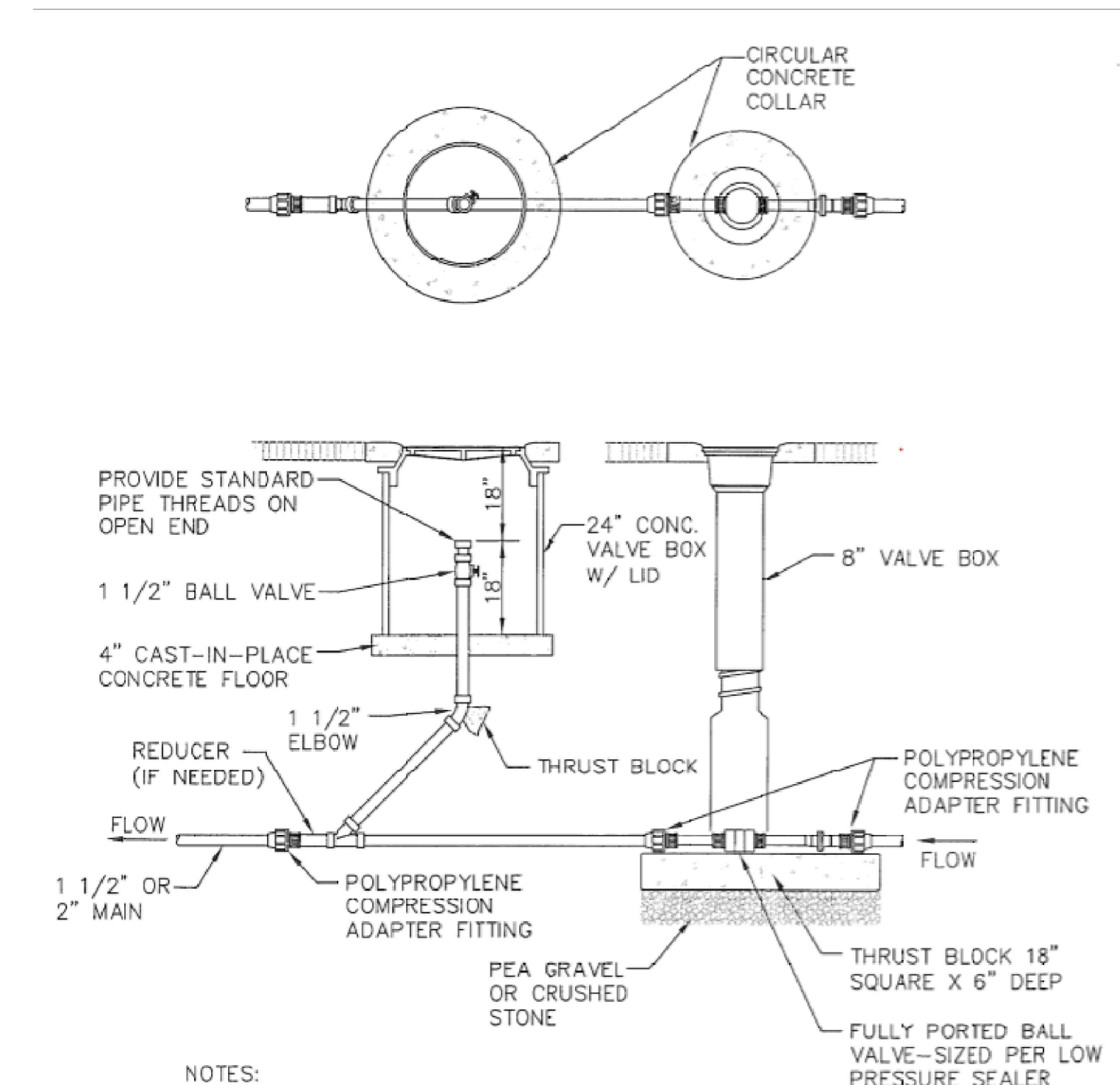
REINFORCING:
TANK - 6X6-6X6 WELDED WIRE FABRIC CAGE
#4 BAR OVERLAP 2" O.C.
LID - #4 BAR 8" O.C.E.W.

SPECS ON THICKNESS
WALLS-3"
FLOOR-3"
LID-5"

NOTE: WATERTIGHT TANK TEST TO EXTEND A MINIMUM OF 3" ABOVE HIGHEST JOINT IN ACCESS RISER



2 1,500 GALLON TANK W/ PUMP (HARBOR VIEW ESTATES ONLY)
(4 BEDROOMS OR LESS)
Scale: (NOT TO SCALE)



NOTES:
1. LOCATION OF FLUSHING CONNECTION SHALL BE AT 200 FEET ON CENTER.
2. ALL MATERIALS SHALL BE HDPE SDR 9 OR PVC - 200 PSI OPERATION PRESSURE.

3 EFFLUENT PRESSURE SEWER TYPICAL FLUSHING CONNECTION ON MAIN LINE
Scale: (NOT TO SCALE)

SEWER DETAILS - HARBOR VIEW ESTATES SUBDIVISION
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
1250 NORTH 5200 EAST
EDEN, WEBER COUNTY, UTAH



Pump Selection for a Non-Pressurized System - Single Family Residence Project
Crimson Ridge / Harbor View Estates - Effluent Sewer Section



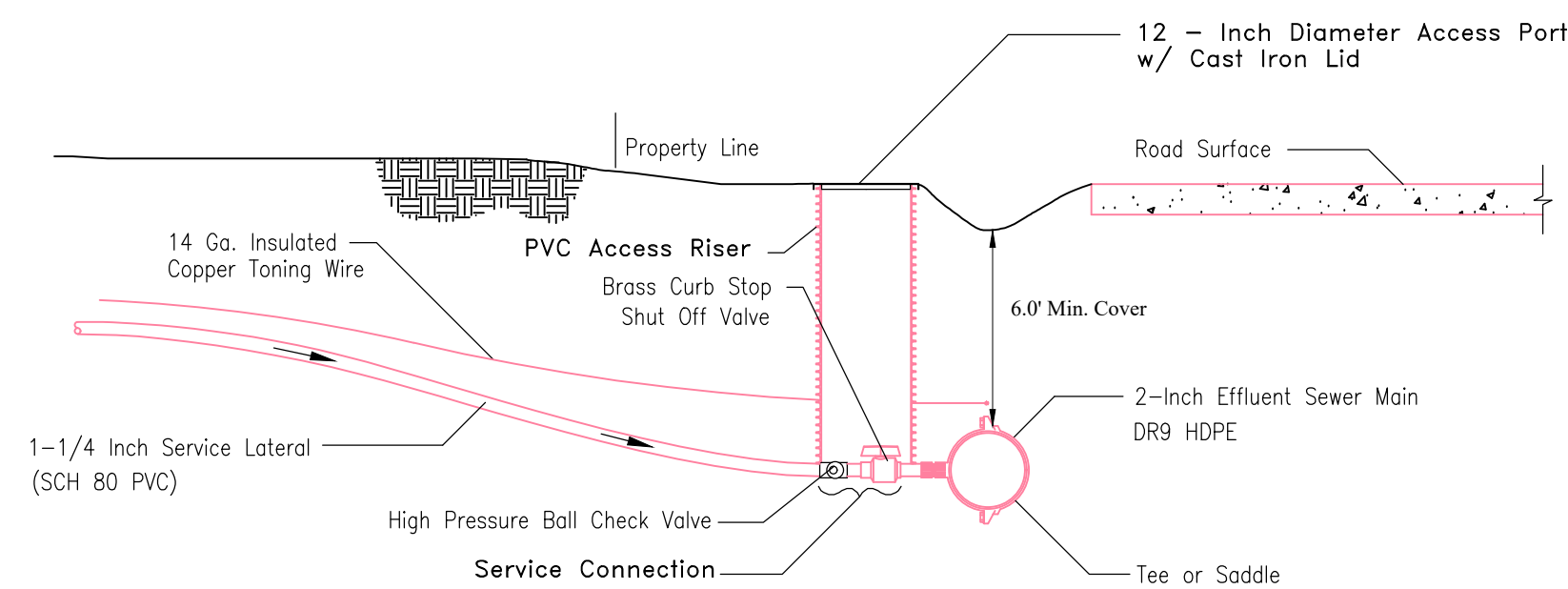
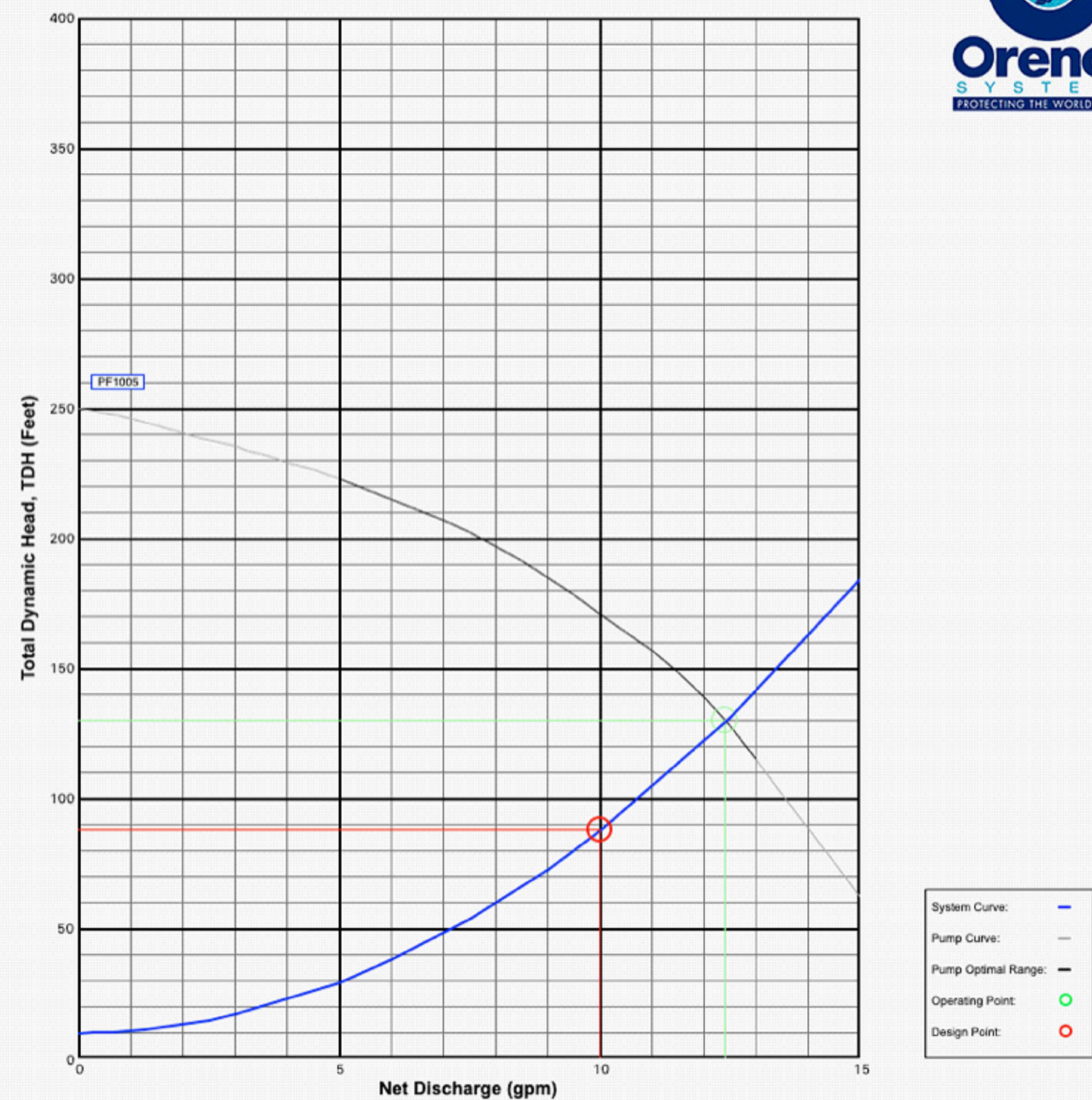
Parameters	
Discharge Assembly Size	1.25 inches
Transport Length	70 feet
Transport Pipe Class	40
Transport Line Size	1.25 inches
Distributing Valve Model	None
Max Elevation Lift	10 feet
Design Flow Rate	10 gpm
Flow Meter	None
'Add-on' Friction Losses	76 feet

Calculations	
Transport Velocity	2.2 fps

Frictional Head Losses	
Loss through Discharge	0.7 feet
Loss in Transport	1.0 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
'Add-on' Friction Losses	76.0 feet

Pipe Volumes	
Vol of Transport Line	5.4 gals

Minimum Pump Requirements	
Design Flow Rate	10.0 gpm
Total Dynamic Head	87.7 feet



All service line connections shall be solvent welded. The only acceptable solvents and cements are those that are recommended by the pipe manufacturer. All service laterals from the effluent sewer main to the property line shall be pressure tested prior to any backfilling.

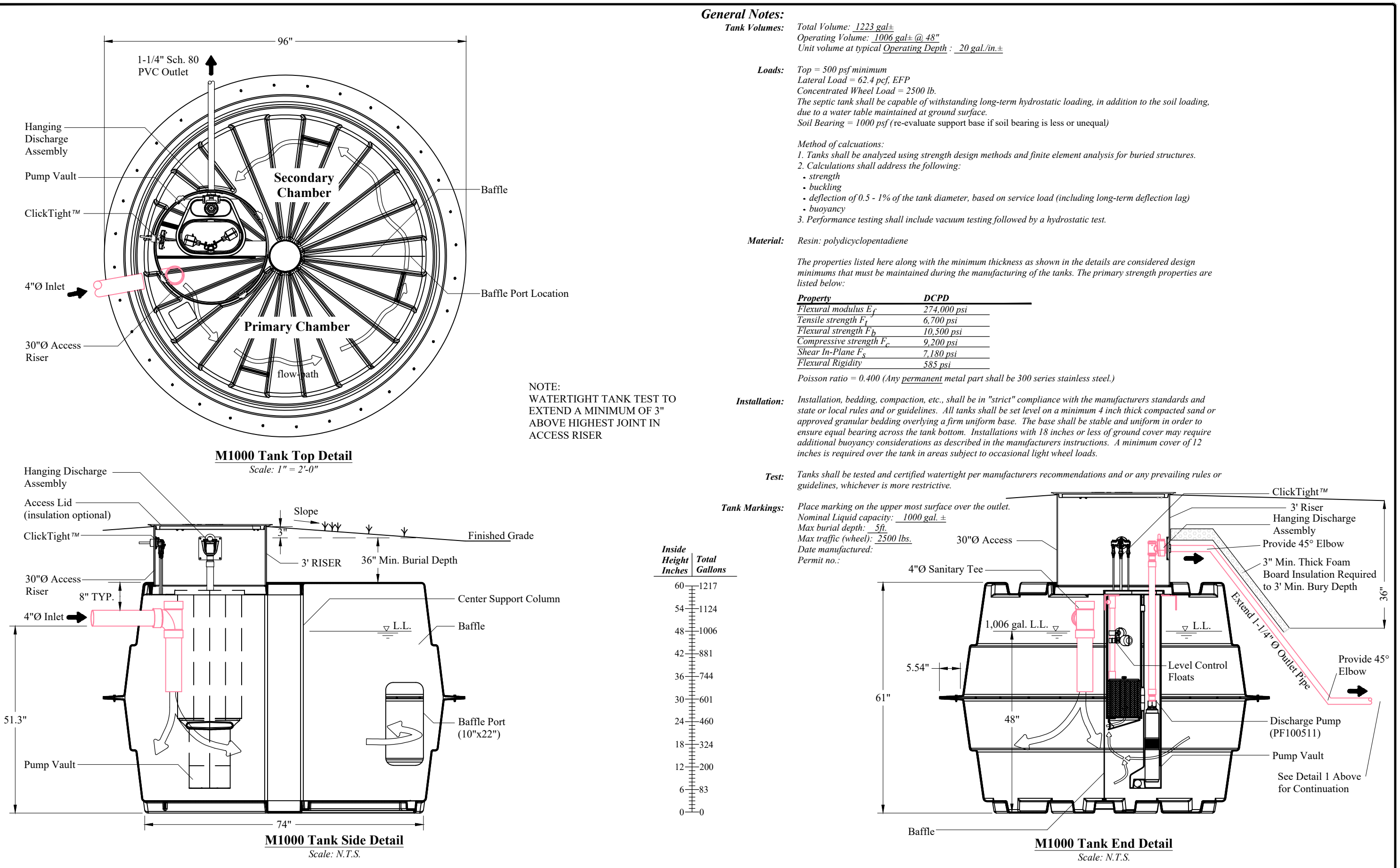
1 EFFLUENT PRESSURE SEWER TYPICAL SERVICE CONNECTION
Scale: (NOT TO SCALE)

REVISIONS	DATE	DESCRIPTION

SCALE: NTS	DATE: 3/30/2021
DESIGN: BBO/MS	DRAWN: BBO/MS
CHECKED: TMN	DWG: R:\2021 - B&H INVESTMENT\CRIMSON RIDGE\DESIGN\DWG\CRIMSON RIDGE - COS.DWG

PROFESSIONAL STRUCTURAL ENGINEER
3/30/2021
No. 4859845
TYLER M. NIELSON
LICENSED
STATE OF UTAH

ORENGO ALT DETAILS - HARBOR VIEW ESTATES SUBDIVISION
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
 1250 NORTH 5200 EAST
 EDEN, WEBER COUNTY, UTAH



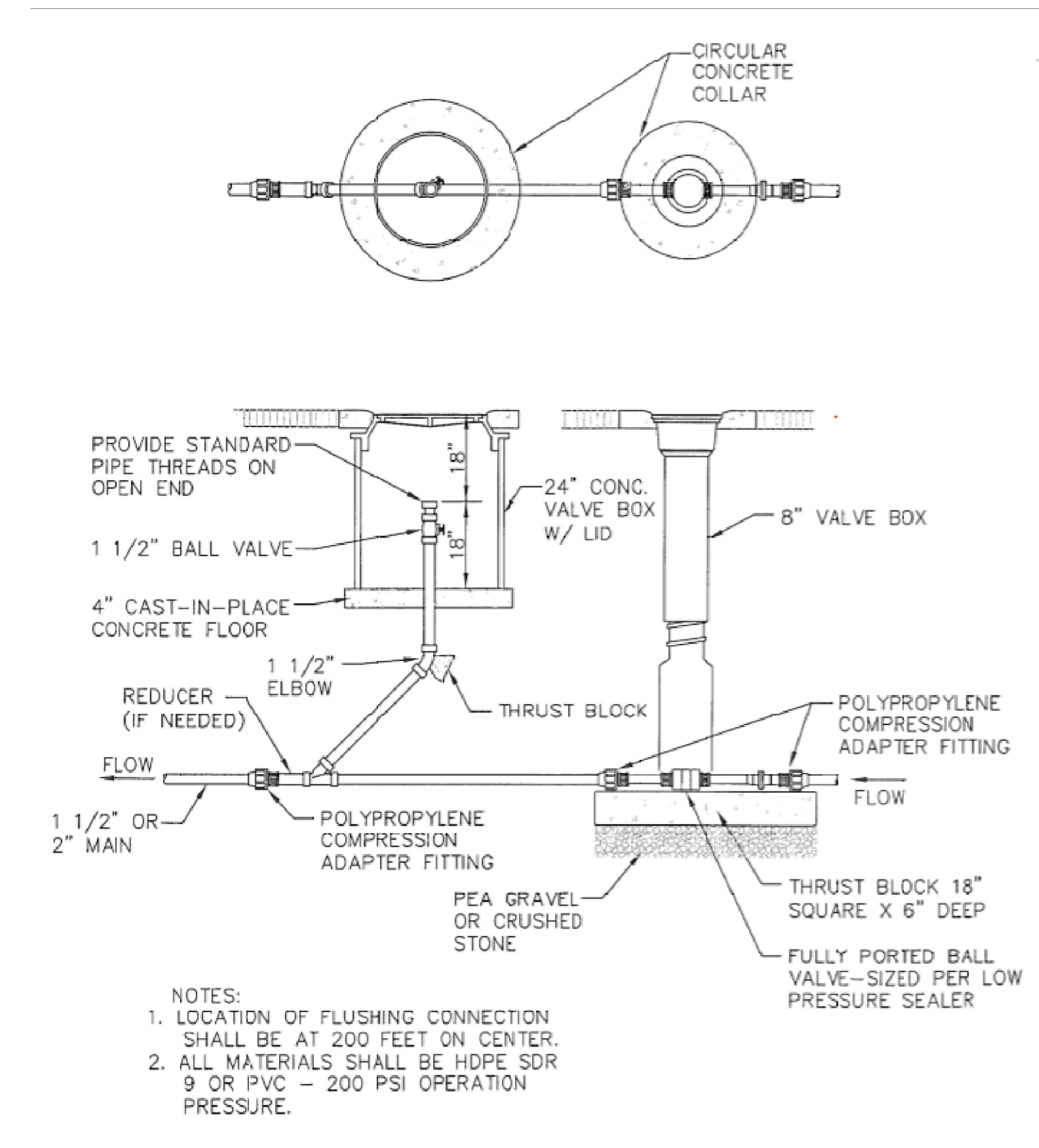
General Notes:
Tank Volume: Total Volume: 1223 gal.; Operating Volume: 1005 gal. @ 48" Line Volume at typical Operating Depth: 20 gal./in.
Loads: Top - 500 psf minimum; Lateral Load - 62.4 pcf, EFP; Concentrated Wheel Load - 2500 lb. The septic tank shall be capable of withstanding long-term hydrostatic loading, in addition to the soil loading, due to a water table maintained at ground surface. Soil Bearing - 1000 psf (re-evaluate support base if soil bearing is less or unequal).
Method of calculations:
 1. Tanks shall be analyzed using strength design methods and finite element analysis for buried structures.
 2. Calculations shall address the following:
 - buckling
 - deflection of 0.5 - 1% of the tank diameter, based on service load (including long-term deflection lag)
 - buoyancy
 3. Performance testing shall include vacuum testing followed by a hydrostatic test.
Material: Resin: polydicyclopentadiene
 The properties listed here along with the minimum thickness as shown in the details are considered design minimums that must be maintained during the manufacturing of the tanks. The primary strength properties are listed below:

Property	DCPD
Flexural modulus E_f	274,000 psi
Tensile strength F_t	6,700 psi
Flexural strength F_b	10,500 psi
Compressive strength F_c	9,200 psi
Shear by Pulling F_v	7,100 psi
Flexural Rigidity	585 psi

 Poisson ratio = 0.400 (Any permanent metal part shall be 300 series stainless steel).
Installation: Installation, bedding, compaction, etc., shall be in "strict" compliance with the manufacturers standards and state or local rules and/or guidelines. All tanks shall be set level on a minimum 4 inch thick compacted sand or approved granular bedding covering a firm uniform base. The base shall be stable and uniform in order to ensure equal bearing across the tank bottom. Installations with 18 inches or less of ground cover may require additional buoyancy considerations as described in the manufacturers instructions. A minimum cover of 12 inches is required over the tank in areas subject to occasional light wheel loads.
Test: Tanks shall be tested and certified watertight per manufacturers recommendations and or any prevailing rules or guidelines, whichever is more restrictive.
Tank Markings: Place marking on the upper most surface over the outlet.
 Nominal Liquid Capacity: 1000 gal. ±
 Max burial depth: 5ft.
 Max traffic (wheels): 2200 lbs.
 Date manufactured:
 Permit no.:

ORENGO AUTHORIZED DEALER
 JEX ENVIRONMENTAL SOLUTIONS
 PO BOX 3603
 LOGAN, UT 84323
 1-833-753-2051

PRELOS 1000 GALLON PROCESSOR WITH PUMP
 NOTES:
 THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.



NOTES:
 1. LOCATION OF FLUSHING CONNECTION SHALL BE AT 200 FEET ON CENTER.
 2. ALL MATERIALS SHALL BE HDPE SDR 9 OR PVC - 200 PSI OPERATION PRESSURE.

3 EFFLUENT PRESSURE SEWER TYPICAL FLUSHING CONNECTION ON MAIN LINE
Scale: (NOT TO SCALE)



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Disclaimer: This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orengo's design criteria for the requirements and/or specifications that have been communicated to Orengo (based on third-party standards listing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its viability for the project, are at the sole discretion of the system's designer.

Prelos 1000 Processor with Pump Discharge	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: NDR-TP-LOS-100-DWG	Rev: 1.0 Date: 11/24/20

2 ORENGO 1,000 GALLON PROCESSOR WITH PUMP DISCHARGE
Scale: (NOT TO SCALE)

GARDNER ENGINEERING
 CIVIL-LAND PLANNING
 MUNICIPAL-LAND SURVEYING
 5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801-476-0202 FAX: 801-476-0066

DIALT

DURA-CRETE INC.
1475 W. 3500 S.
WVC, UTAH 84119
801-972-8686
SALES@DURACRETE.COM

MFG. TANK MARKINGS
INLET & OUTLET
TANK GAL. SIZE
MFG. NAME ON OUTLET SIDE

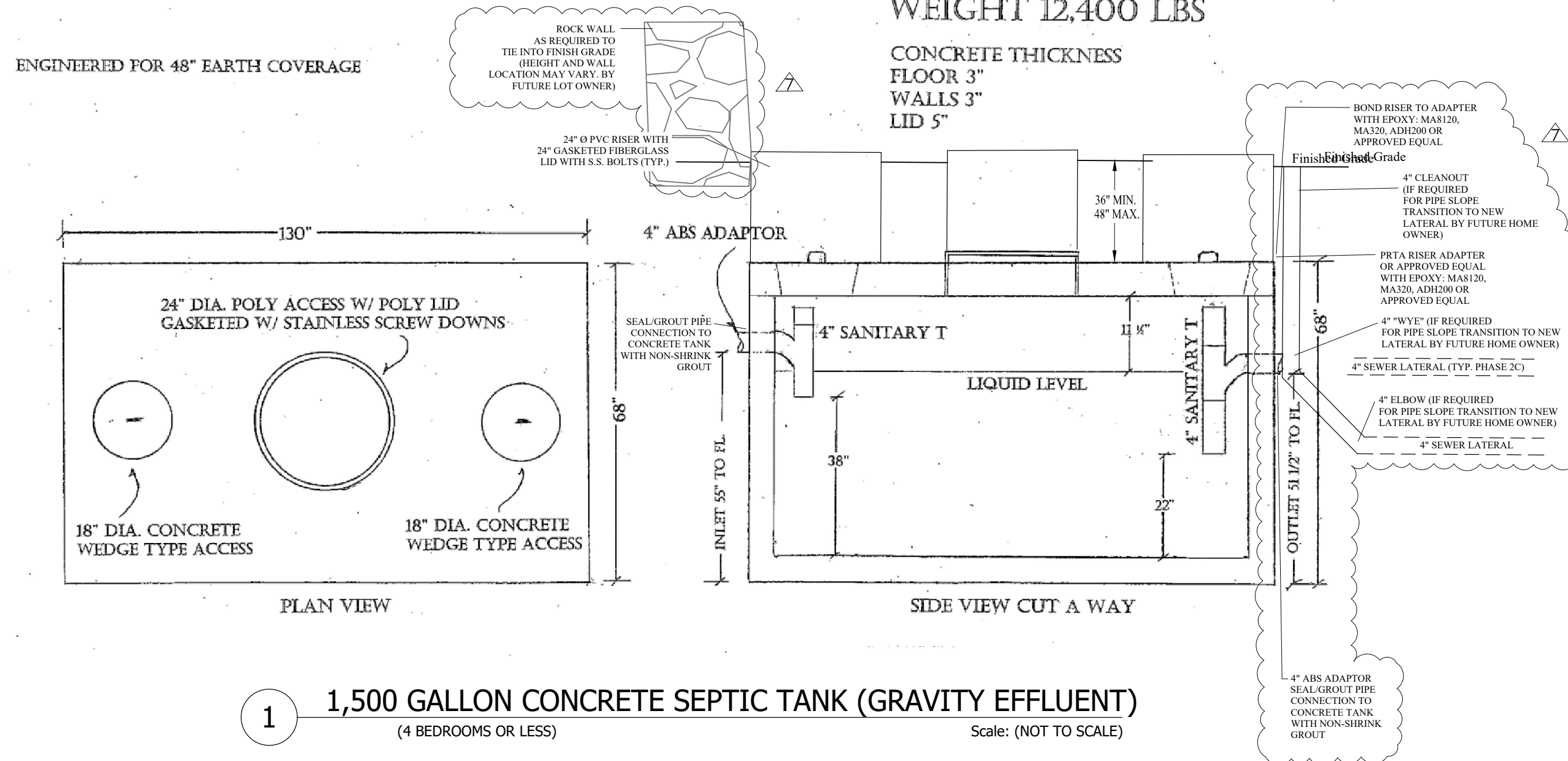
1500 GALLON SEPTIC TANK

DURA-CRETE INC.

EXCAVATION HOLE SIZE
8'X 13'
WEIGHT 12,400 LBS

CONCRETE THICKNESS
FLOOR 3"
WALLS 3"
LID 5"

ENGINEERED FOR 48" EARTH COVERAGE



1 1,500 GALLON CONCRETE SEPTIC TANK (GRAVITY EFFLUENT)
(4 BEDROOMS OR LESS) Scale: (NOT TO SCALE)

SEPTIC TANK NOTE:
CONTACT ALTERNATIVEONSITE
BEN WITT 801-380-0103
FOR CONCRETE TANK (COMPLETE).
TO BE INSTALLED AND MAINTAINED
BY FUTURE HOME OWNER.

NOTE:
WATERTIGHT TANK TEST TO
EXTEND A MINIMUM OF 3"
ABOVE HIGHEST JOINT IN
ACCESS RISER

DURA-CRETE INC.
1475 W. 3500 S.
WVC, UTAH 84119
801-972-8686
SALES@DURACRETE.COM

MFG. TANK MARKINGS
INLET & OUTLET
TANK GAL. SIZE
MFG. NAME ON OUTLET SIDE

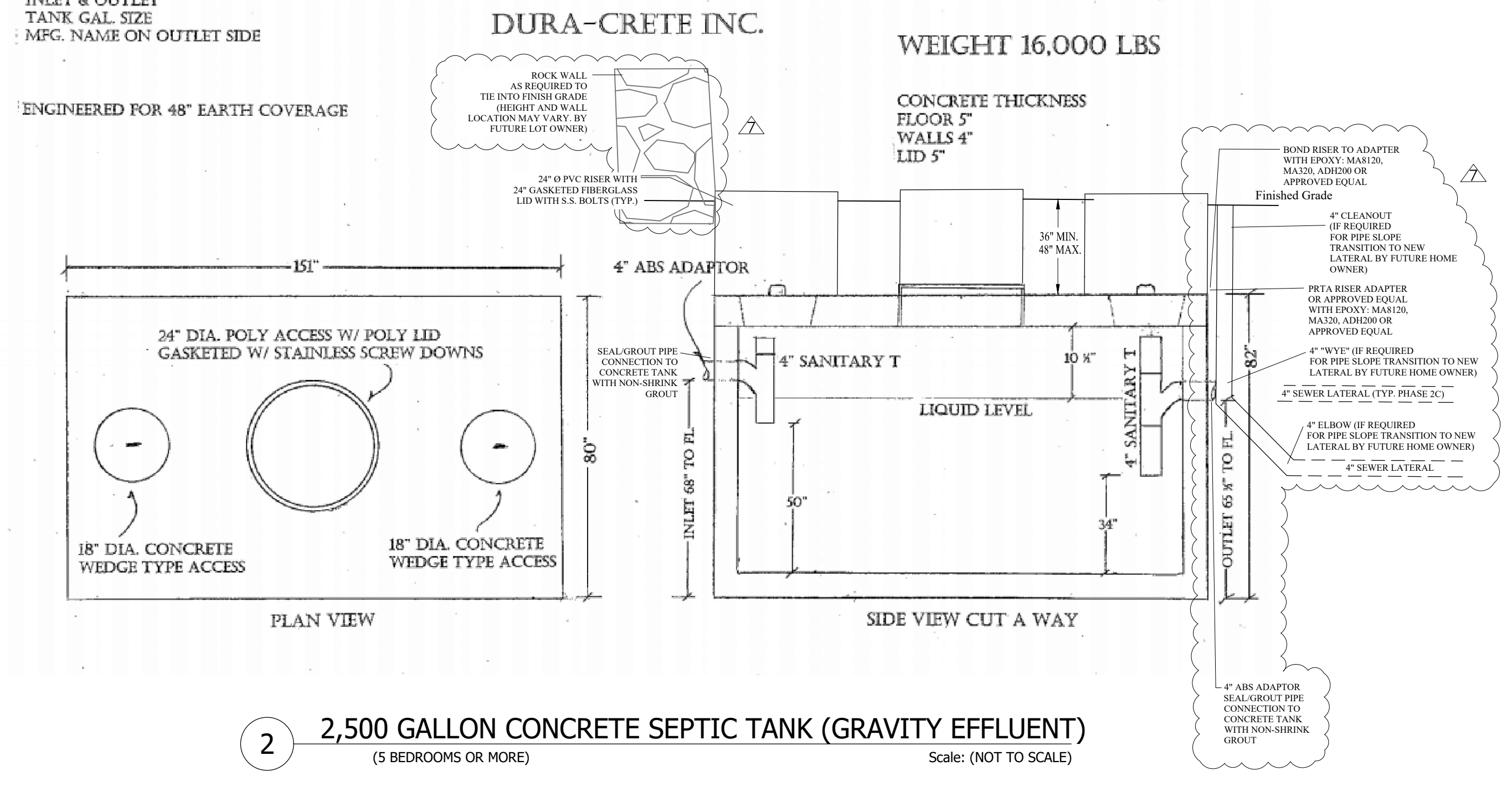
2500 GALLON SEPTIC TANK

EXCAVATION HOLE SIZE
9'X 15'

WEIGHT 16,000 LBS

CONCRETE THICKNESS
FLOOR 5"
WALLS 4"
LID 5"

ENGINEERED FOR 48" EARTH COVERAGE



2 2,500 GALLON CONCRETE SEPTIC TANK (GRAVITY EFFLUENT)
(5 BEDROOMS OR MORE) Scale: (NOT TO SCALE)

SEPTIC TANK NOTE:
CONTACT ALTERNATIVEONSITE
BEN WITT 801-380-0103
FOR CONCRETE TANK (COMPLETE).
TO BE INSTALLED AND MAINTAINED
BY FUTURE HOME OWNER.

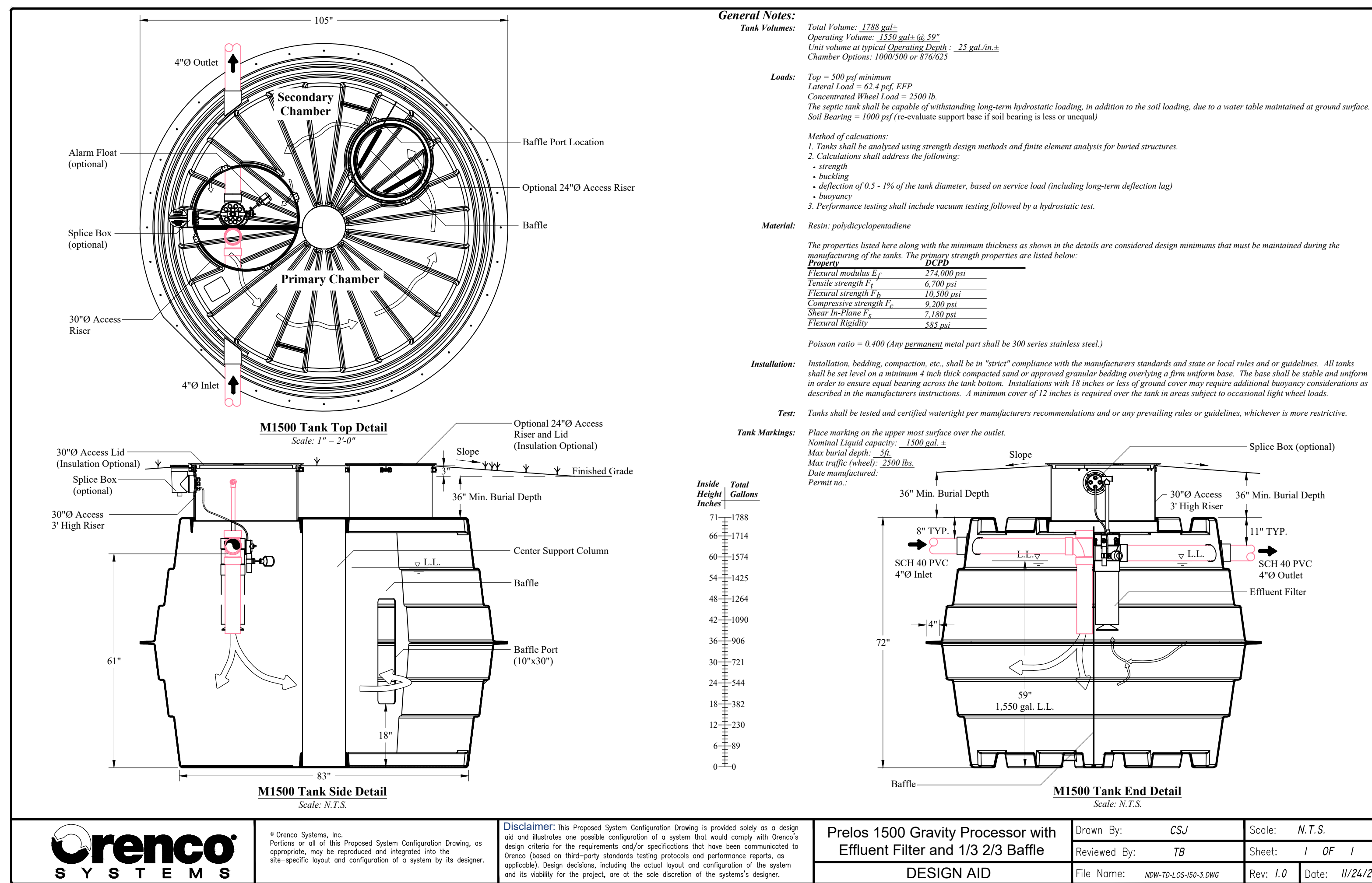
NOTE:
WATERTIGHT TANK TEST TO
EXTEND A MINIMUM OF 3"
ABOVE HIGHEST JOINT IN
ACCESS RISER

REVISIONS	DATE	DESCRIPTION
1	4/24/23	CUL-DE-SAC REV.

SCALE: NTS
DATE: 3/9/2023
DESIGN: WJS
DRAWN: WJS
CHECKED: TIM
DWG: RA\008 - 884 INVESTMENT, CRIMSON RIDGE, DESIGN, CRIMSON RIDGE - DETAIL SHEETS.DWG

SEPTIC TANK DETAILS PHASE 2A, 2B, + 2C
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
1250 NORTH 5200 EAST
EDEN, WEBER COUNTY, UTAH

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CIVIL-LAND PLANNING
MUNICIPAL-LAND SURVEYING
5150 SOUTH 375 EAST OGDEN, UT
OFFICE: 801-476-0202 FAX: 801-476-0066



NOTE: WATERTIGHT TANK TEST TO EXTEND A MINIMUM OF 3" ABOVE HIGHEST JOINT IN ACCESS RISER

PRELOS 1500 GALLON GRAVITY PROCESSOR NOTES: THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.

ORENCO AUTHORIZED DEALER JEX ENVIRONMENTAL SOLUTIONS PO BOX 3603 LOGAN, UT 84323 1-435-753-2051

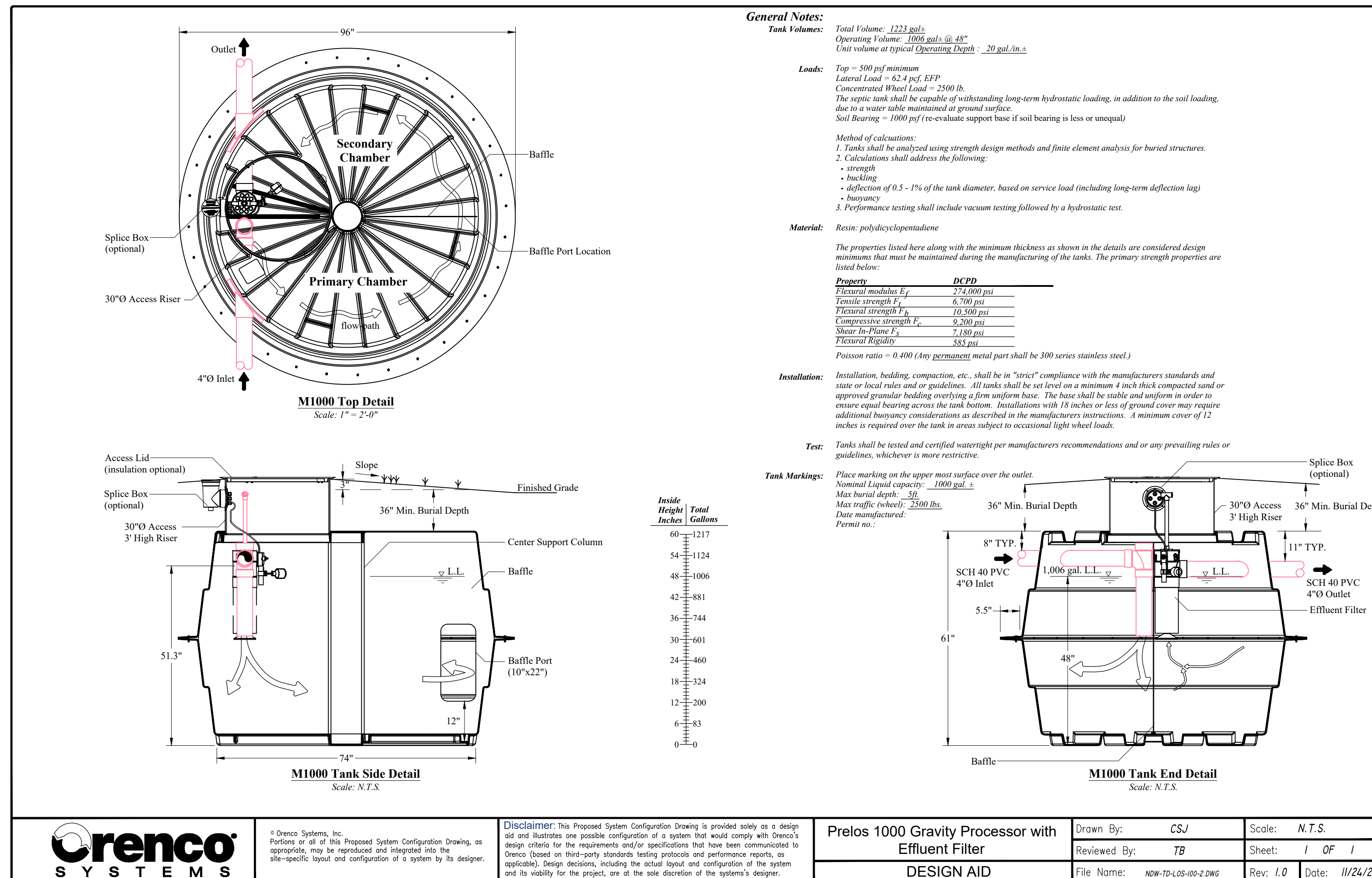


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Disclaimer: This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orenco's design criteria for the requirements and/or specifications that have been communicated to Orenco (based on third-party standards testing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its suitability for the project, are at the sole discretion of the system's designer.

Prelos 1500 Gravity Processor with Effluent Filter and 1/3 2/3 Baffle	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: NDW-TD-LDS-00-3.DWG	Rev: 1.0 Date: 11/24/20

2 ORENCO 1,500 GALLON GRAVITY PROCESSOR DISCHARGE (5 BEDROOMS OR LARGER) Scale: (NOT TO SCALE)



NOTE: WATERTIGHT TANK TEST TO EXTEND A MINIMUM OF 3" ABOVE HIGHEST JOINT IN ACCESS RISER

PRELOS 1000 GALLON GRAVITY PROCESSOR NOTES: THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.

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Prelos 1000 Gravity Processor with Effluent Filter	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: NDW-TD-LDS-00-2.DWG	Rev: 1.0 Date: 11/24/20

3 ORENCO 1,000 GALLON GRAVITY PROCESSOR DISCHARGE (4 BEDROOMS OR LESS) Scale: (NOT TO SCALE)

SCALE: N.T.S. DATE: 3/30/2021 DESIGN: BBO/MUS DRAWN: BBO/MUS CHECKED: TMN DWG: EN2024 - BBA INVESTMENT/CRIMSON RIDGE DESIGN/DWG/CRIMSON RIDGE - COS.DWG

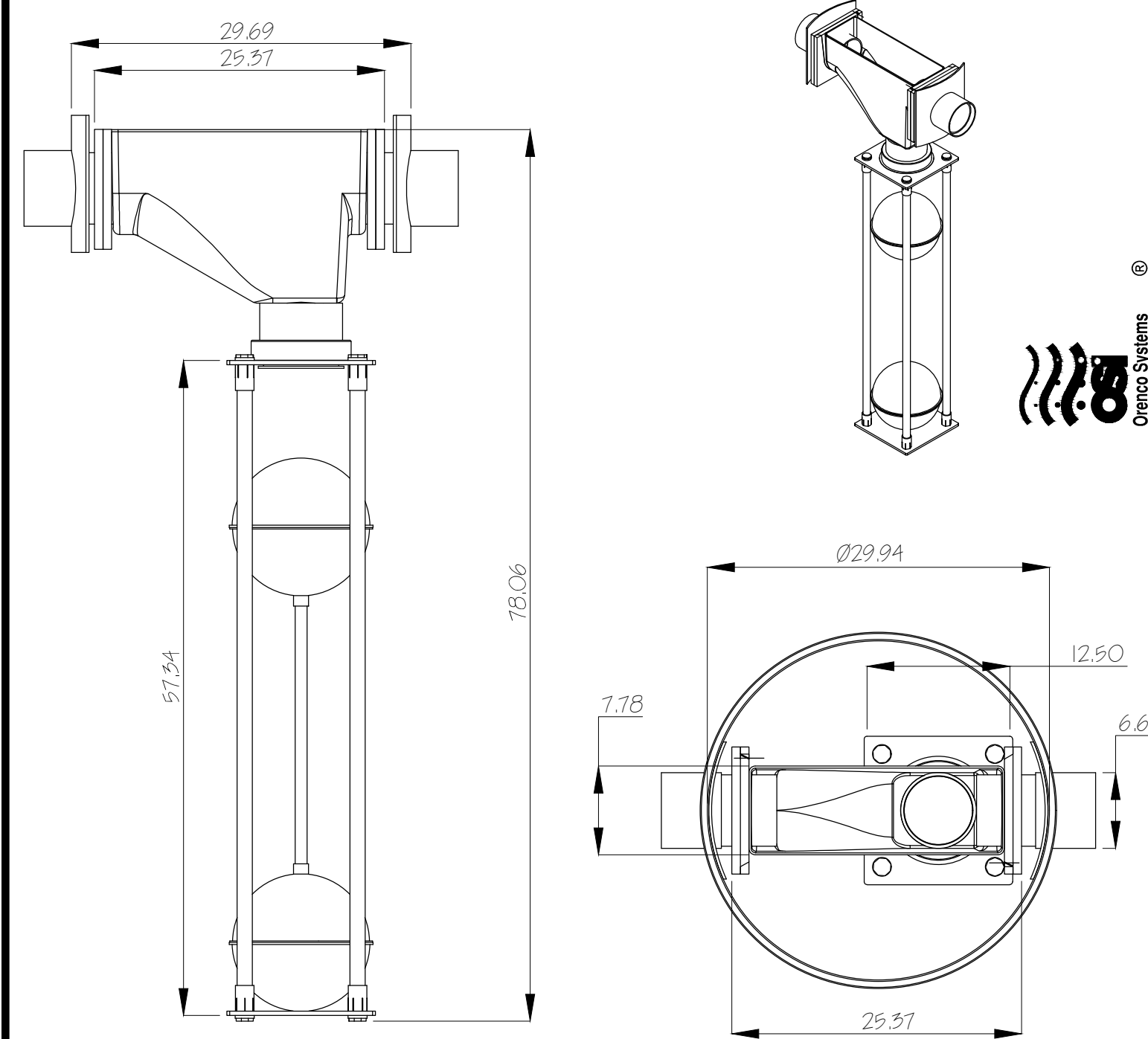
REVISIONS: DATE DESCRIPTION

PROFESSIONAL STRUCTURAL ENGINEER
 3/30/2021
 No. 4859845
 TYLER M. NIELSON
 LICENSED
 STATE OF UTAH

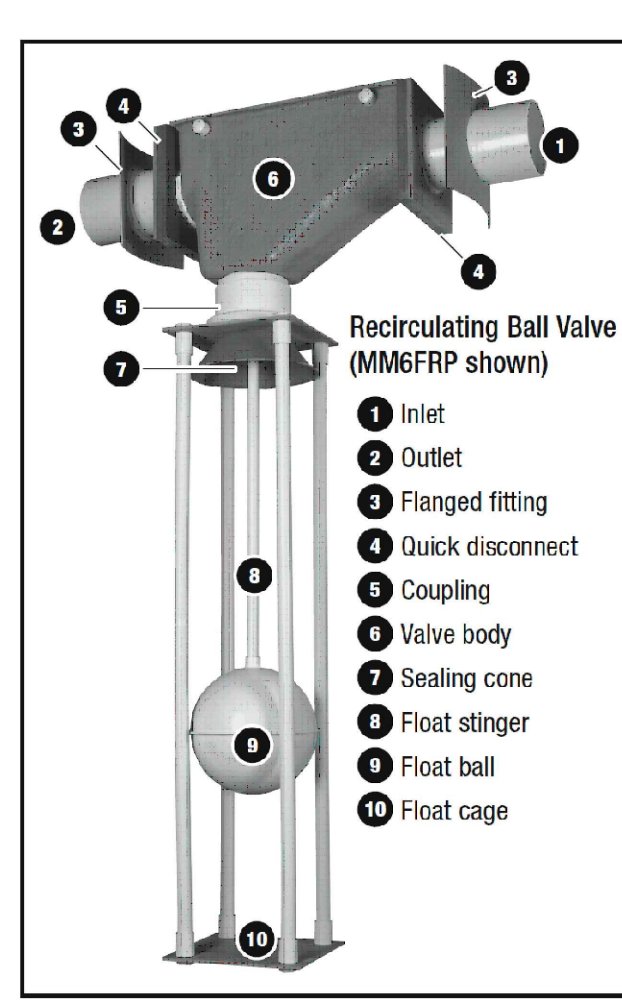
ORENCO ALT SEPTIC TANK DETAILS PHASE 2A. 2B. + 2C
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
 1250 NORTH 5200 EAST
 EDEN, WEBER COUNTY, UTAH

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 CIVIL-LAND PLANNING
 MUNICIPAL-LAND SURVEYING
 5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801-476-0202 FAX: 801-476-0066

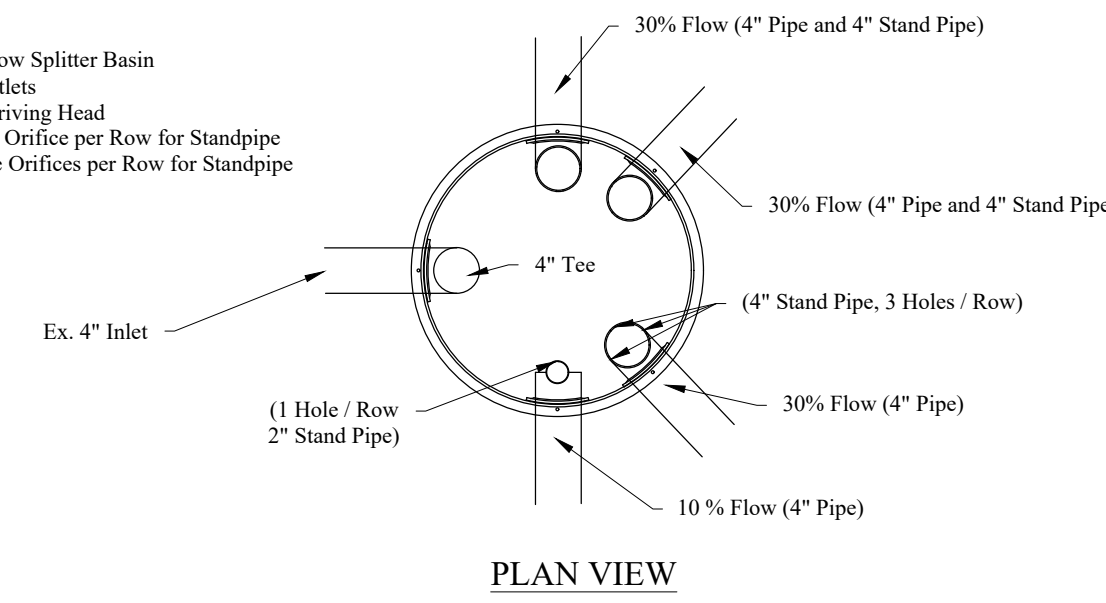
D2ALT



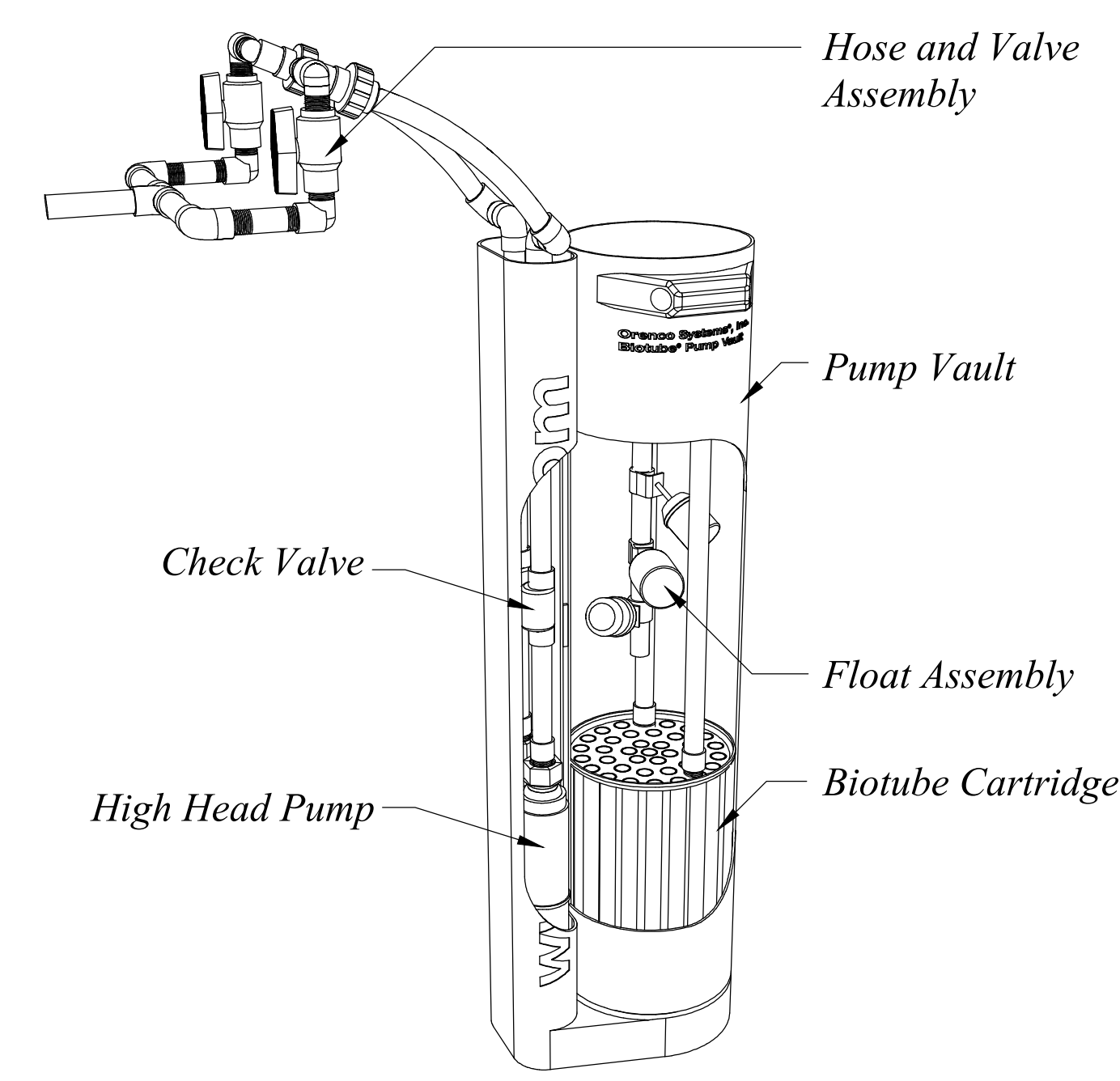
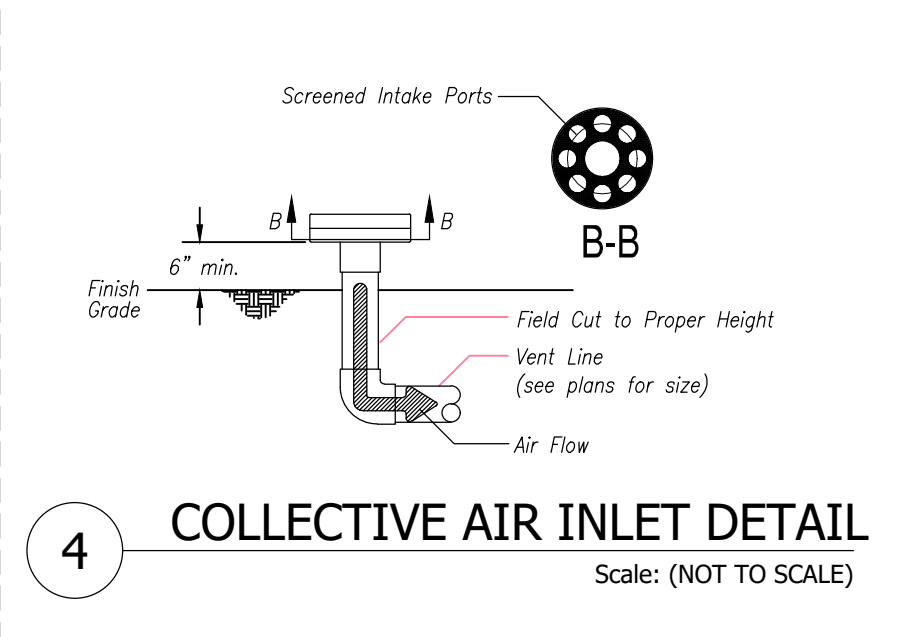
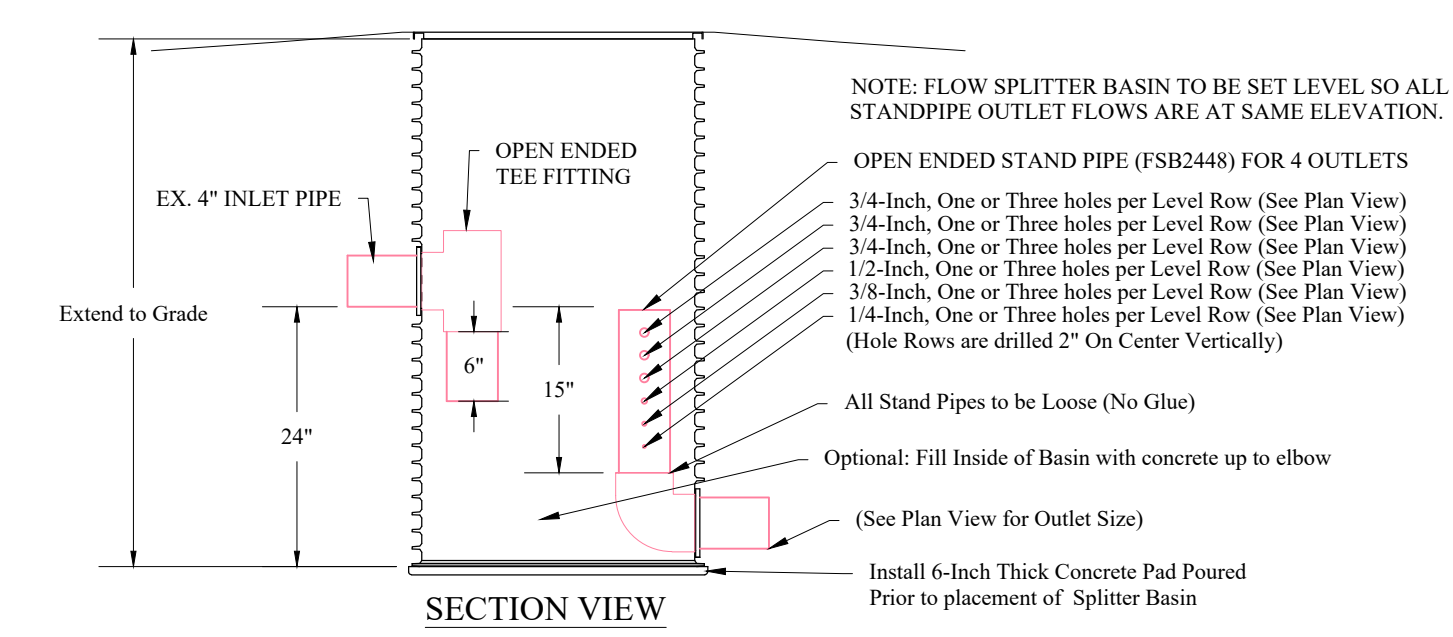
1 RECIRCULATING SPLITTER VALVE DETAIL (MM6-FRP)
Scale: (NOT TO SCALE)



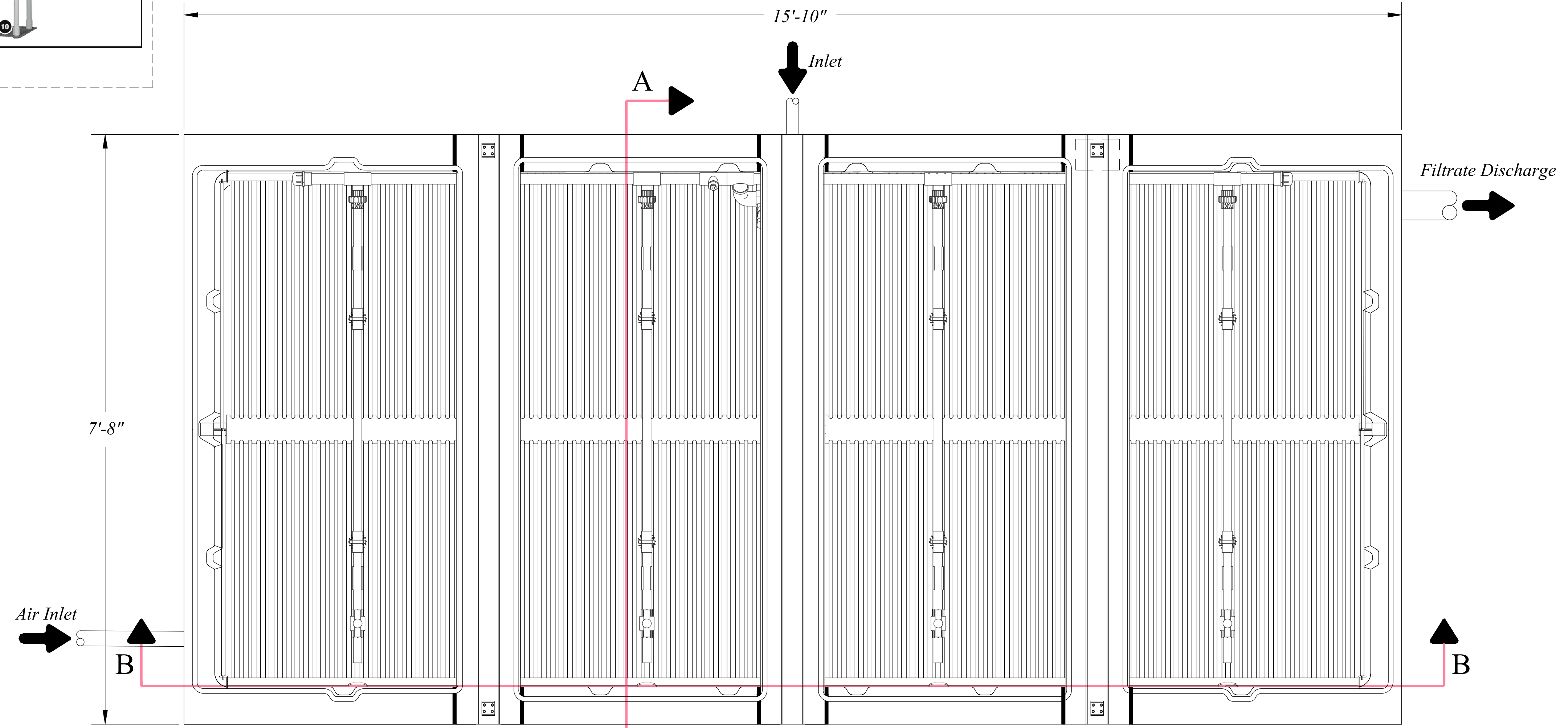
Orenco Multi-Outlet Flow Splitter Basin
FSB2448 (4) Outlets
- Minimum 15" Driving Head
- (1) Outlet Single Orifice per Row for Standpipe
- (3) Outlets Three Orifices per Row for Standpipe



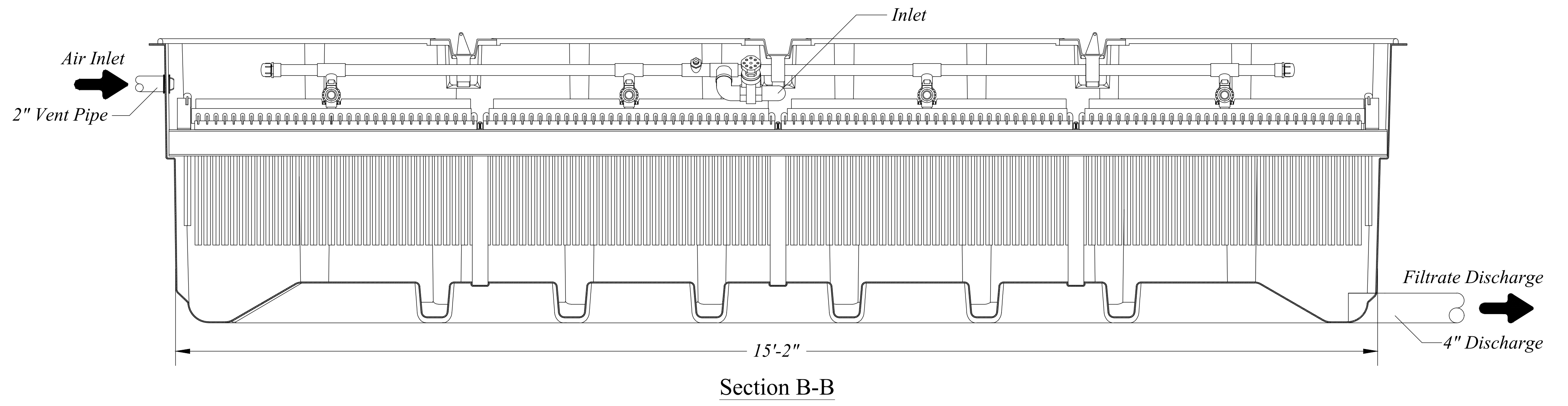
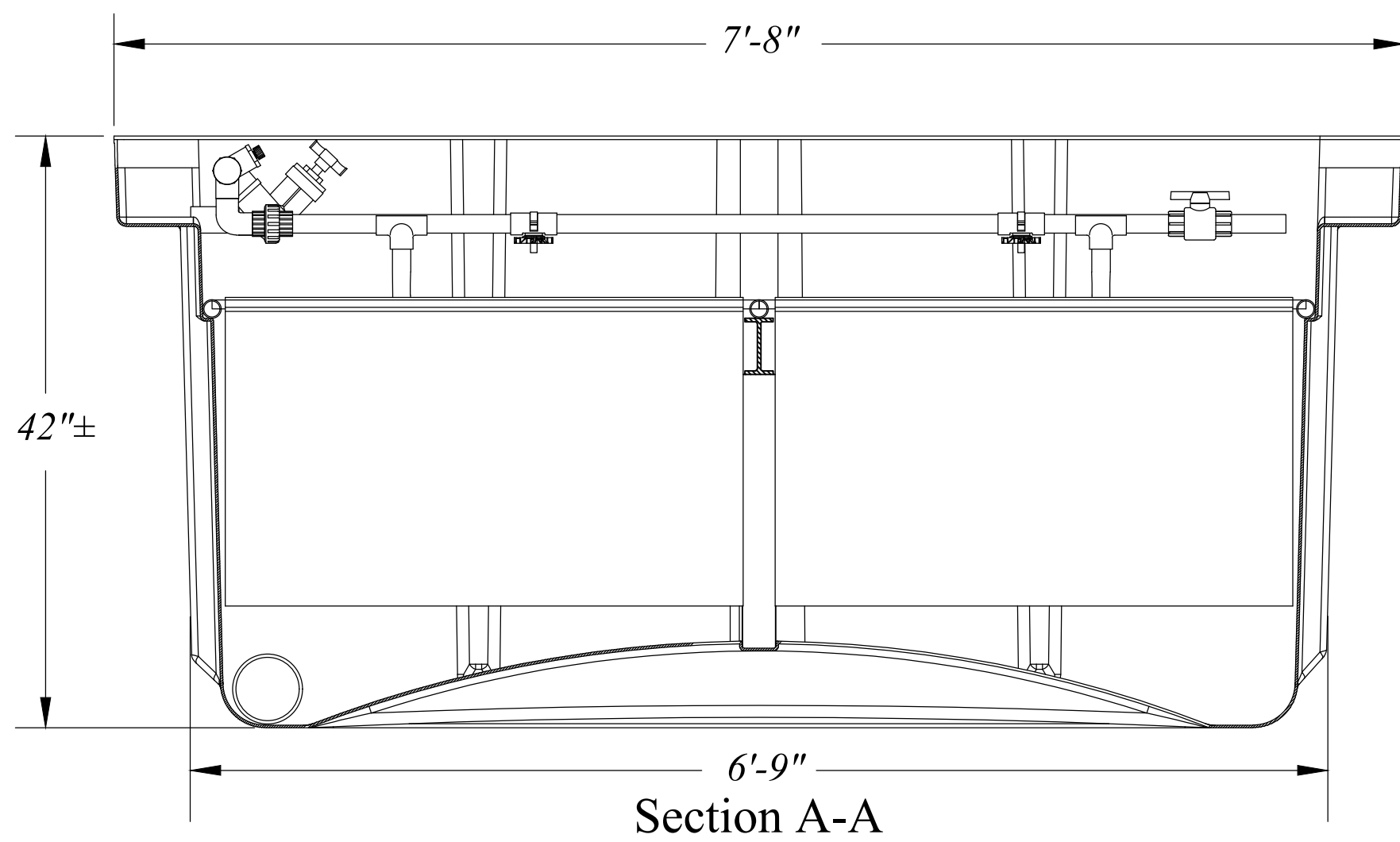
2 MULTI-OUTLET FLOW SPLITTER BASIN DETAIL
Scale: (NOT TO SCALE)



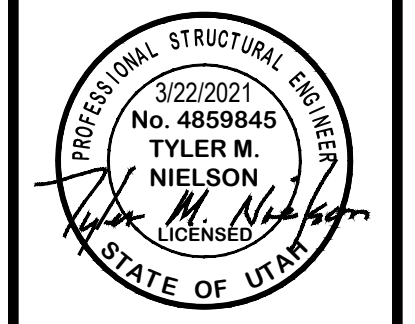
3 DUPLEX PUMP VAULT DETAIL
Scale: (NOT TO SCALE)



ORENCO AUTHORIZED DEALER
JEX ENVIRONMENTAL SOLUTIONS
PO BOX 3603
LOGAN, UT 84323
1-435-753-2051

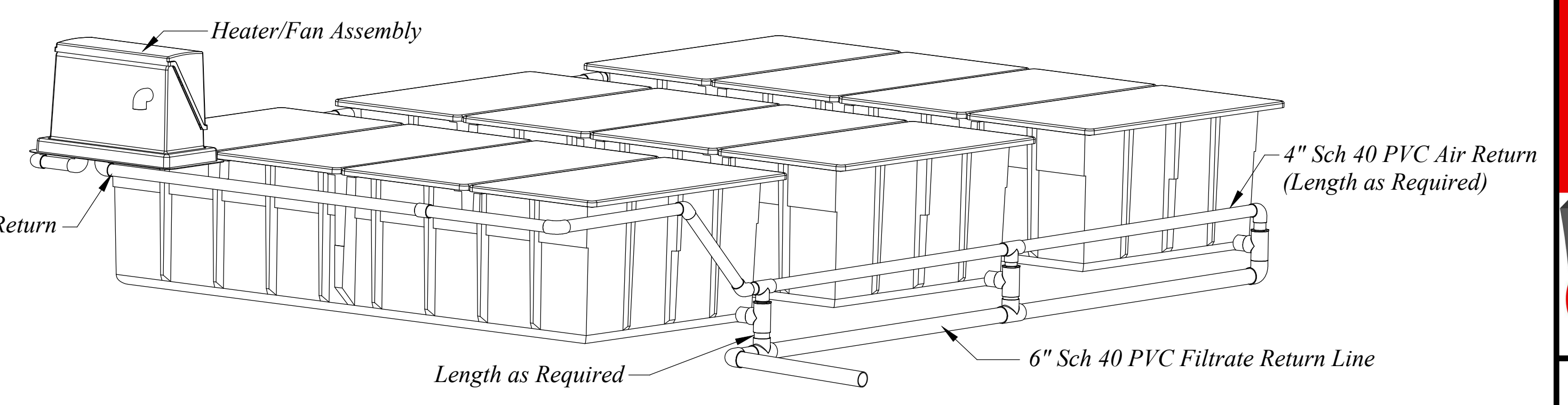
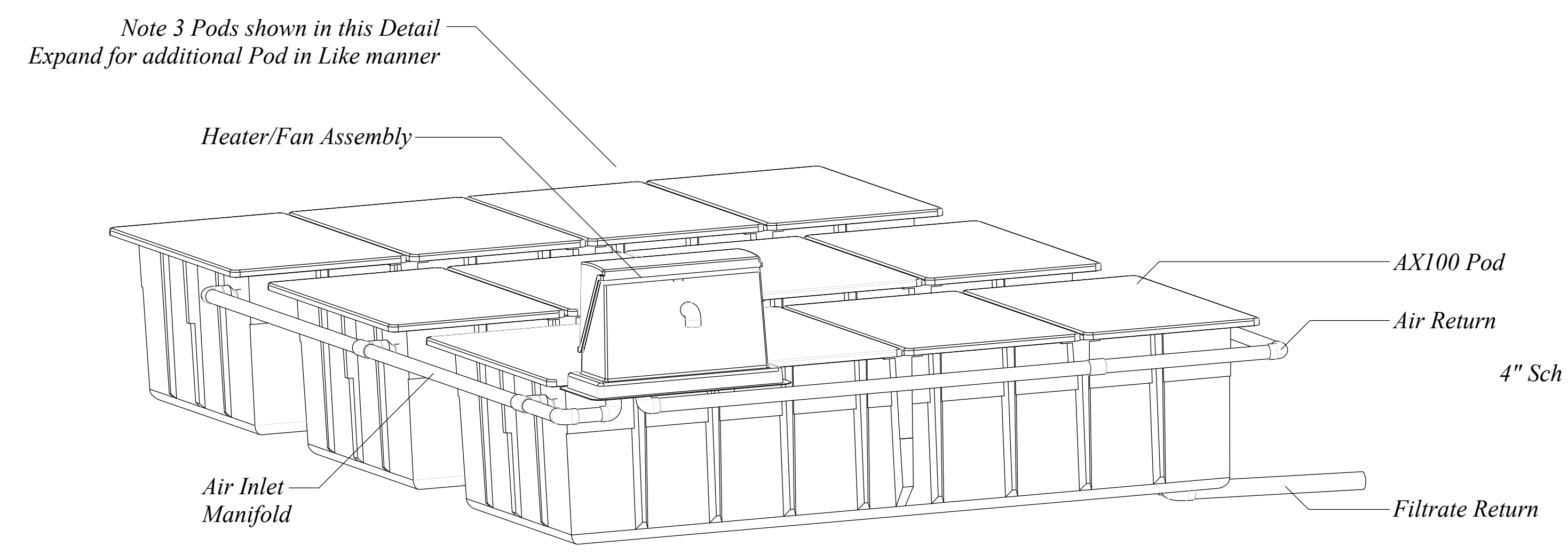
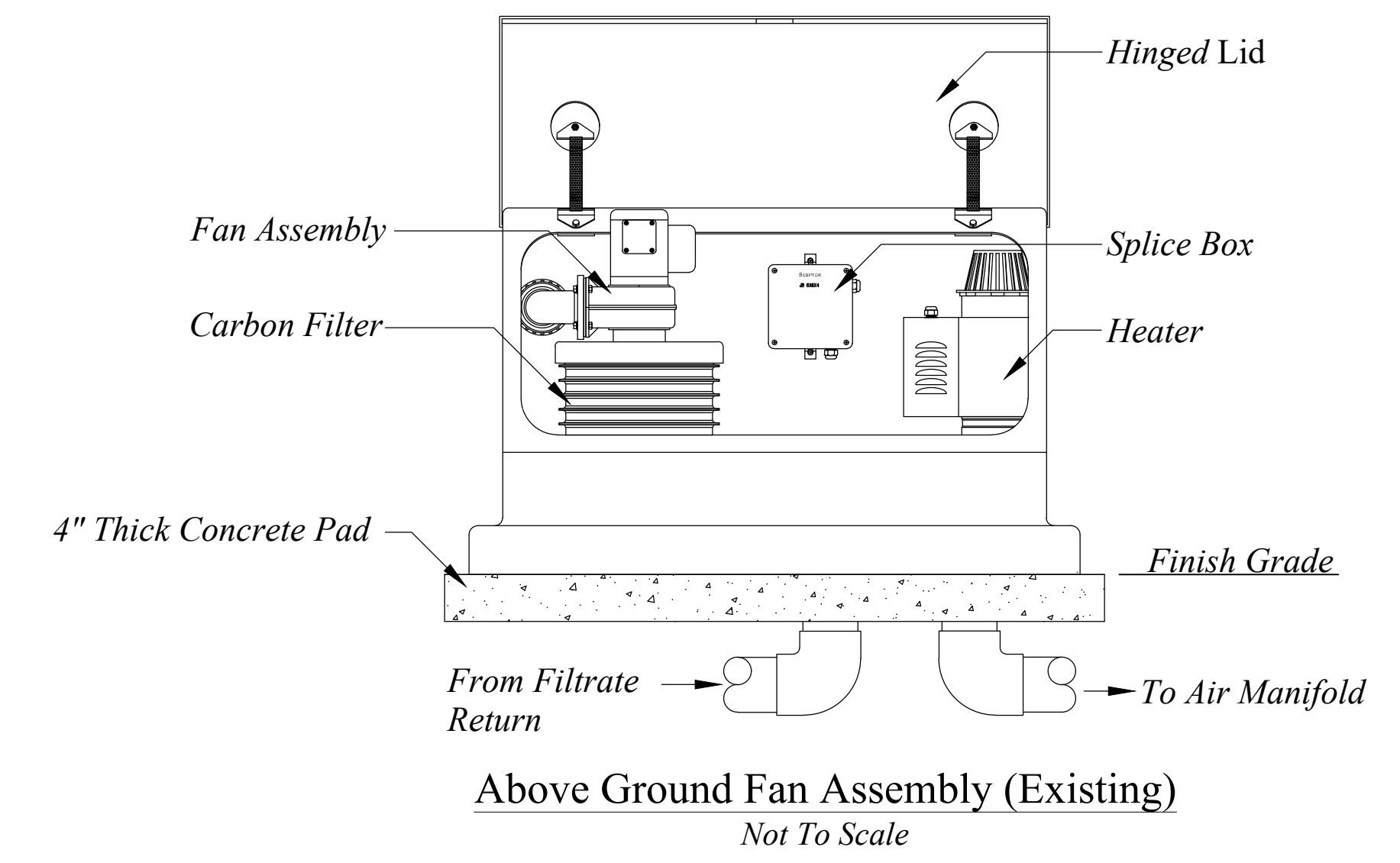
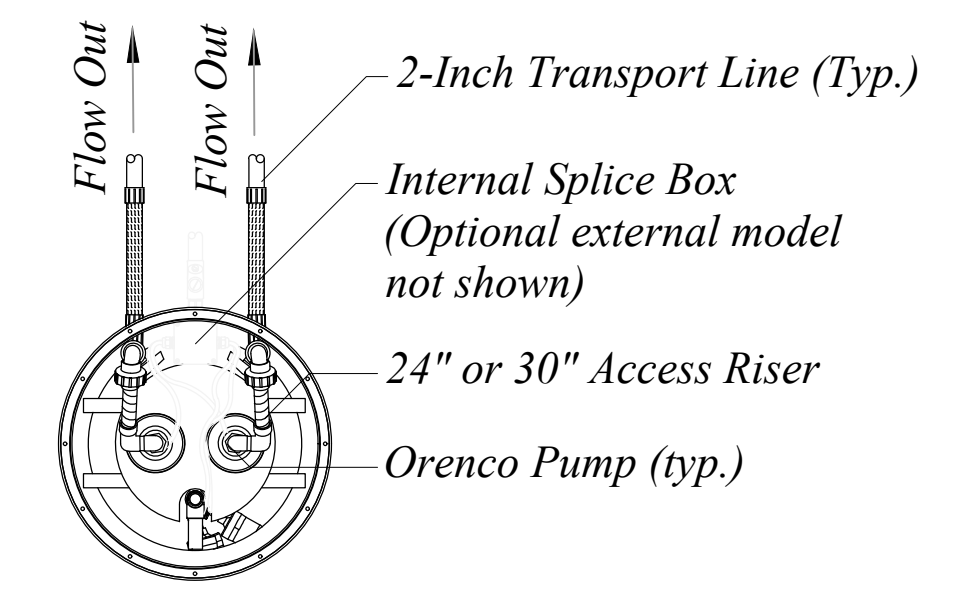
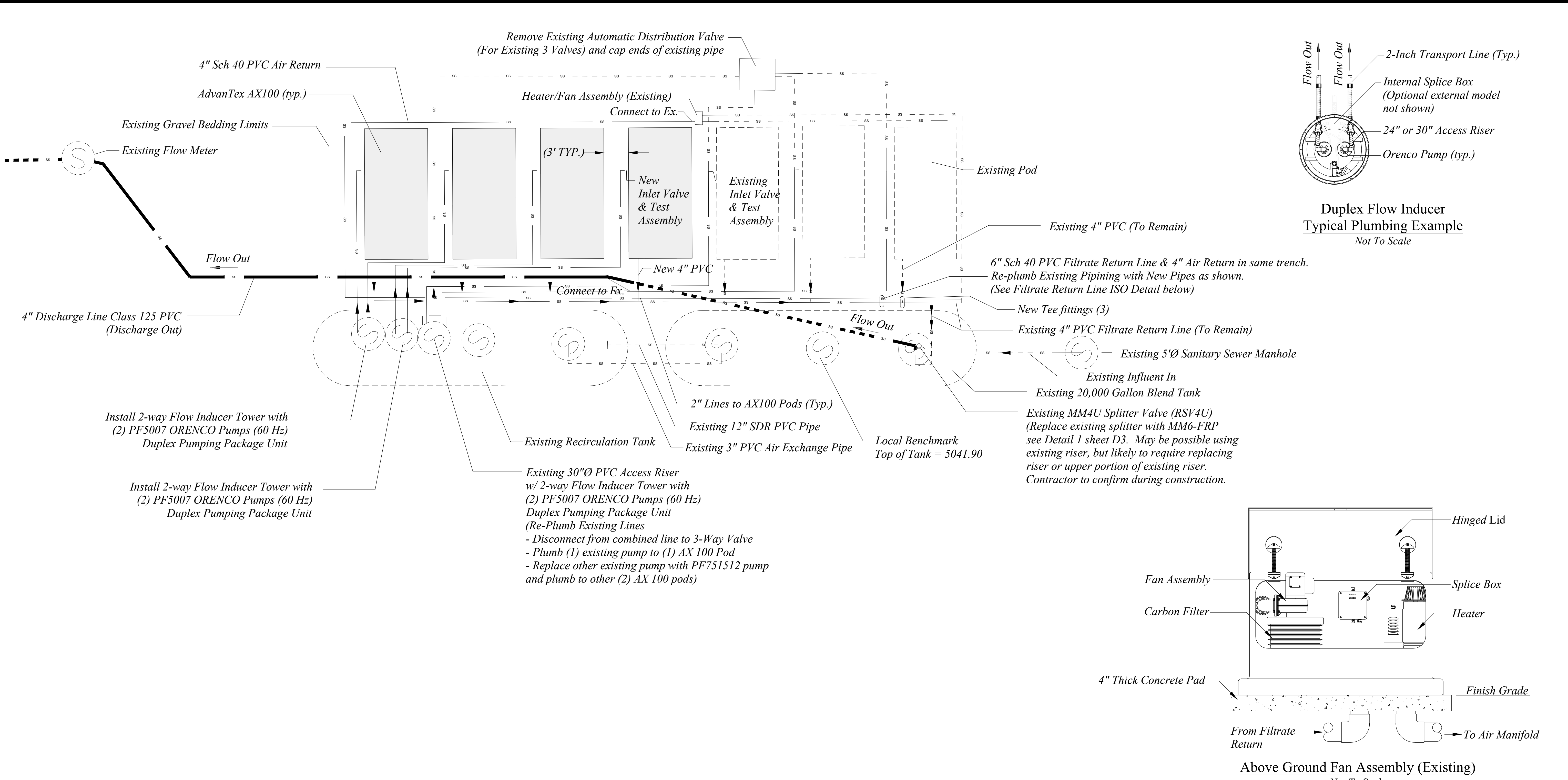


SCALE: NTS	DATE: 3/22/2021	DESIGN: BSO/MUS	DRAWN: BSO/MUS	CHECKED: TMN
REVISIONS	DESCRIPTION	DATE		



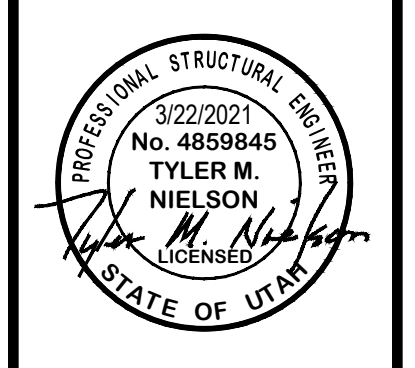
EFFLUENT TREATMENT FACILITY DETAILS
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
1250 NORTH 5200 EAST
EDEN, WEBER COUNTY, UTAH





AdvanTex AX100 System Cold Weather Venting (Example)

SCALE	NTS
DATE	3/22/2021
DESIGN	BSD/MS
DRAWN	BSD/MS
CHECKED	TJM
DWG.	BY:2024 - BAH INVESTMENT, CRIMSON RIDGE, DESIGN, CRIMSON RIDGE - COS.DWG



EFFLUENT + AIR POD DETAILS

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2

1250 NORTH 5200 EAST

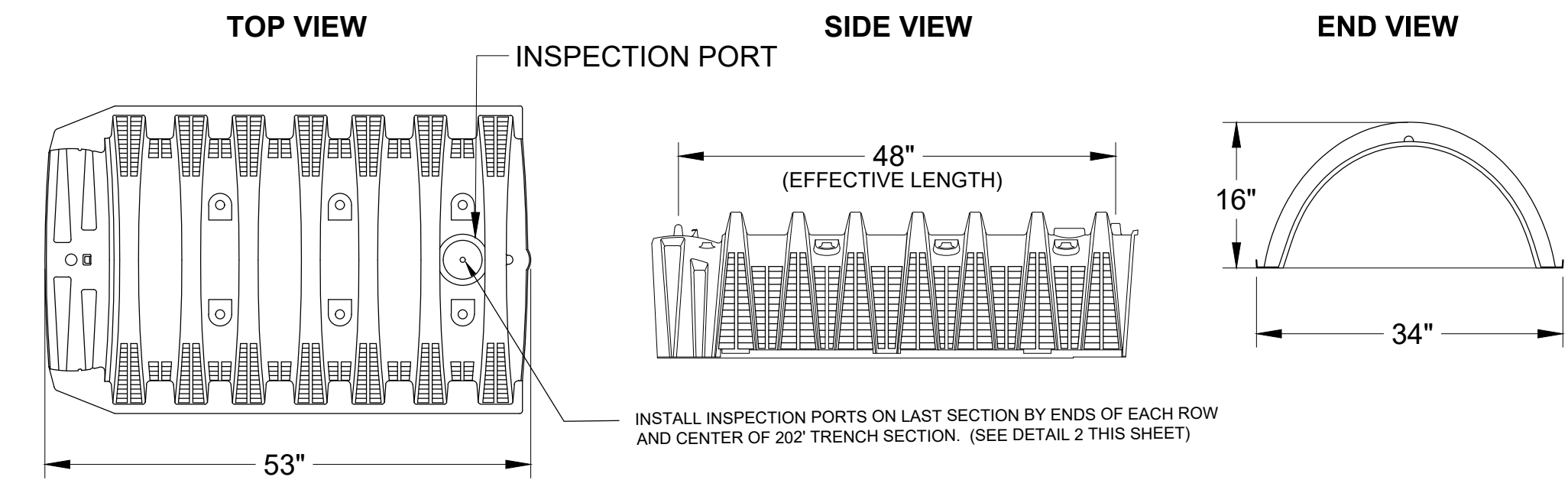
EDEN, WEBER COUNTY, UTAH

GARDNER ENGINEERING

CIVIL - LAND PLANNING
MUNICIPAL - LAND SURVEYING

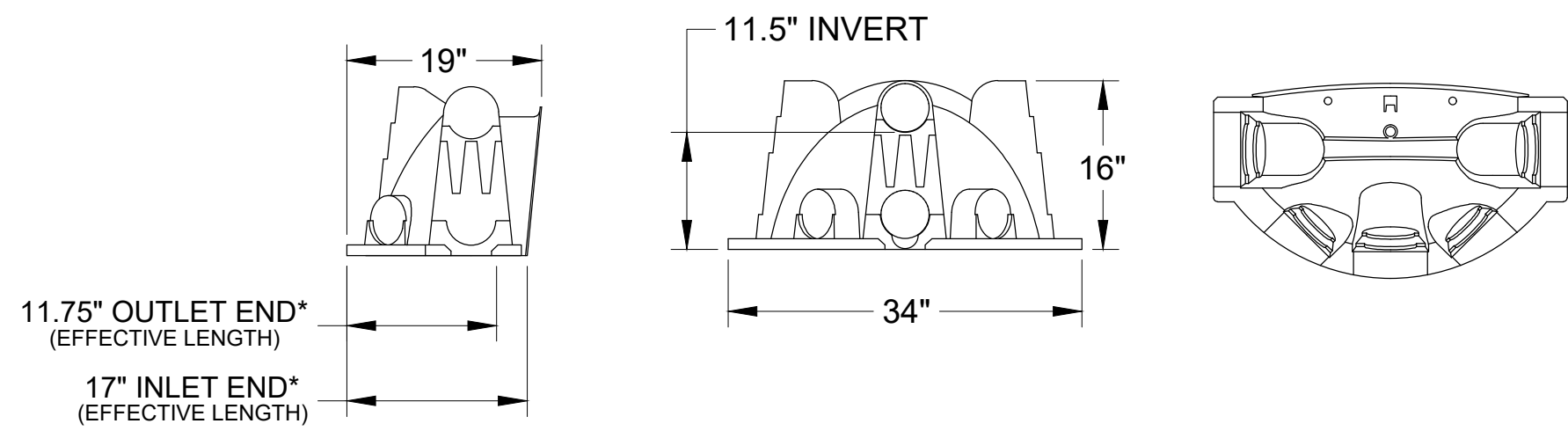
5150 SOUTH 375 EAST OGDEN, UT
OFFICE: 801.476.0202 FAX: 801.476.0066

**INFILTRATOR WATER TECHNOLOGIES
QUICK4 HIGH CAPACITY CHAMBER
PRODUCT SPECIFICATIONS
(NOT TO SCALE)**

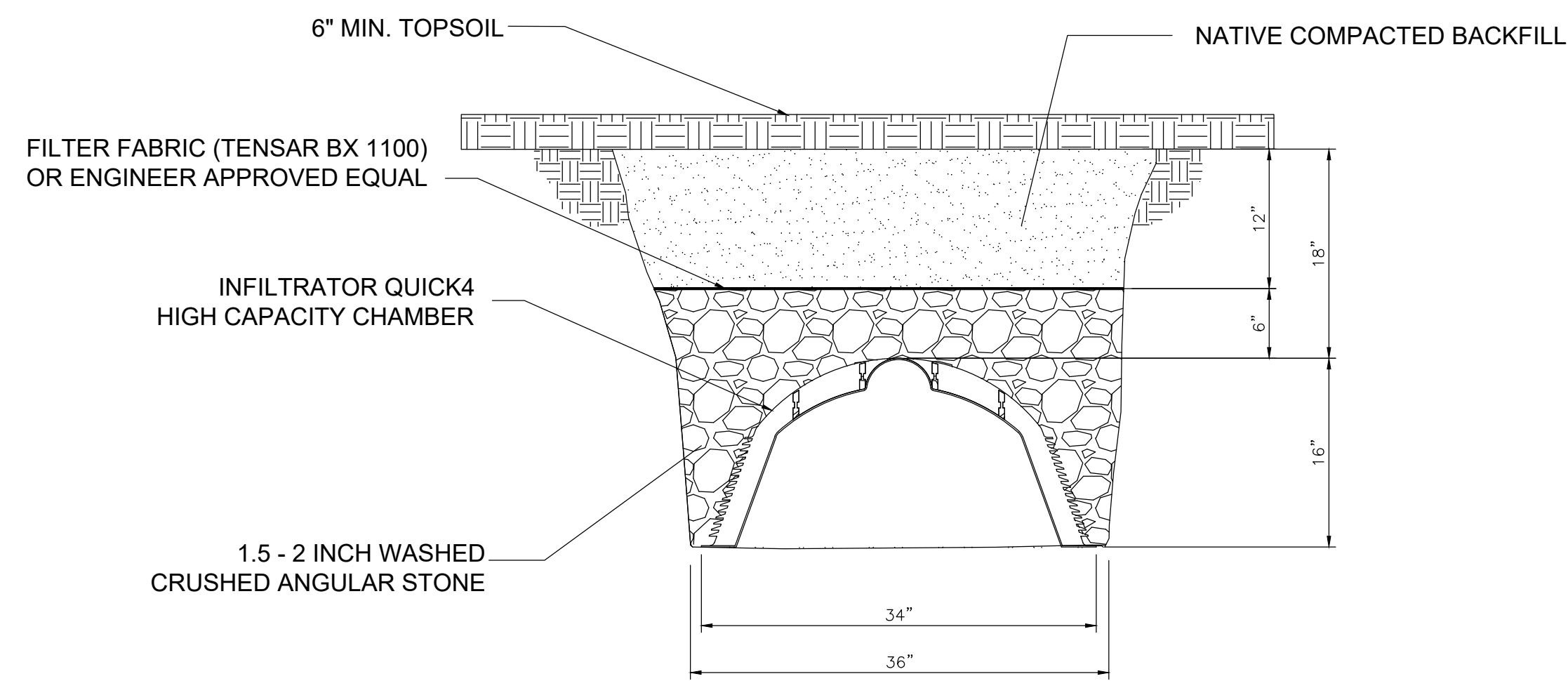


INSTALL INSPECTION PORTS ON LAST SECTION BY ENDS OF EACH ROW AND CENTER OF 20' TRENCH SECTION. (SEE DETAIL 2 THIS SHEET)

QUICK4 HIGH CAPACITY MULTI-PORT END CAP

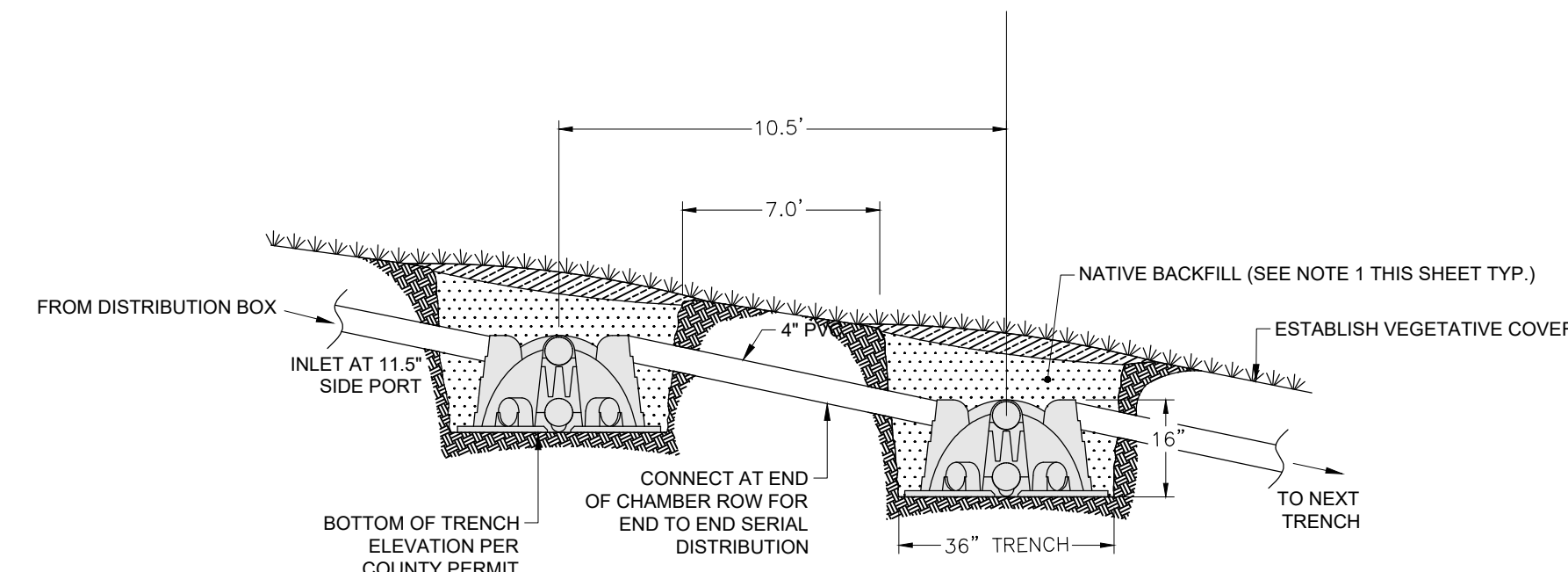


*ALL VIEWS = INSTALLED LENGTHS.



**CHAMBER SYSTEM
TRENCH DETAIL
(NOT TO SCALE)**

1 INFILTRATION TRENCH DETAIL
Scale: (NOT TO SCALE)

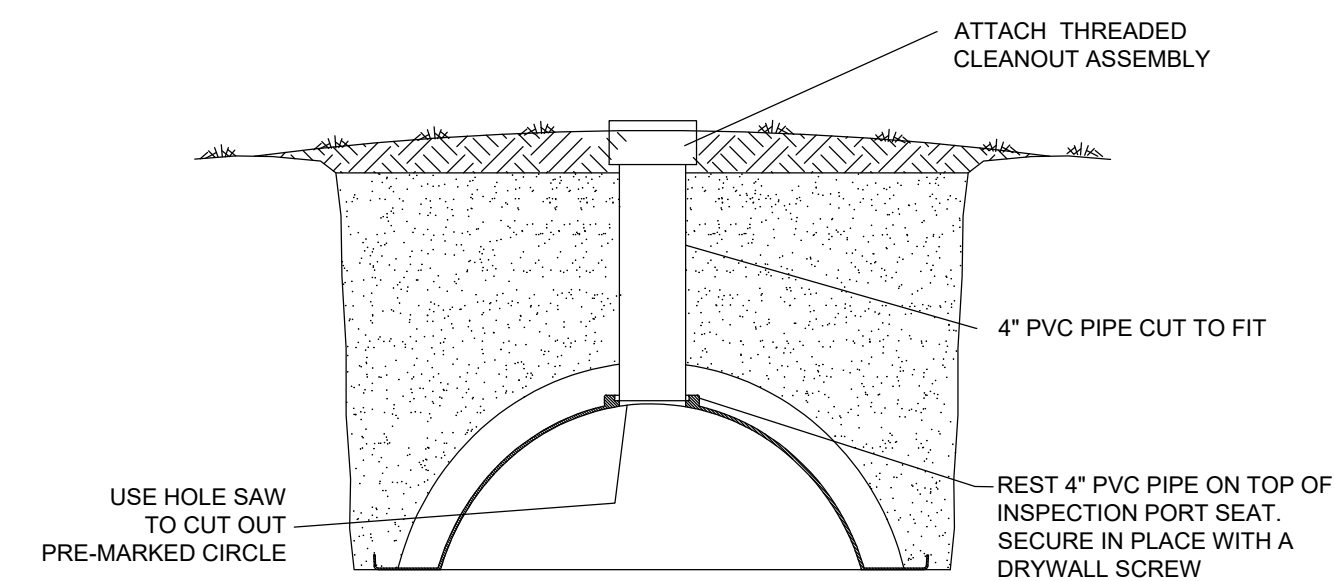


SEE SHEET C7 FOR PLAN VIEW LENGTHS. CENTER TO CENTER SPACING PER STATE CODE.

NOTES:

- MAX SIZE ROCK: 3/4". BACKFILL CAREFULLY PLACED (LADLED IN, OR PUSHED IN LIGHTLY FROM THE SIDES). NO DUMPING - IMPACT LOADING.

**INFILTRATOR WATER TECHNOLOGIES
QUICK4 HIGH CAPACITY CHAMBER
SERIAL DISTRIBUTION TYPICAL
SECTION VIEW
(NOT TO SCALE)**



**QUICK4 CHAMBERS
INSPECTION PORT
TYPICAL INSTALLATION DETAIL
(Not to Scale)**

2 CHAMBER CLEANOUT DETAIL
Scale: (NOT TO SCALE)

THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND WASTE STRENGTHS FOR THE PURPOSE OF SERVING THE RESERVE AT CRIMSON RIDGE SUBDIVISION.

EXPECTED INFLUENT CHARACTERISTICS:

TYPE	AVERAGE mg/L	WEEKLY PEAK mg/L	RARELY EXCEEDS mg/L
BOD	150	250	500
TSS	40	75	150
TKN	65	75	150
FOG	20	25	30

ONCE THE EXPANDED FACILITY IS OPERATIONAL, THE WASTE STRENGTHS AND FLOWS TO THE FACILITY SHOULD BE MONITORED. IF ANY OF THE INFLUENT WASTE STRENGTHS OR FLOW EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THIS PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

DO NOT DISPOSE OF TOXINS OR CHEMICALS INTO SYSTEM. EXAMPLES: WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, RESTAURANT DEGREASERS AND CLEANSERS, AND OTHER WASTE PRODUCTS OR OTHER TOXINS.

BASED ON PERC RATE 53 MIN/IN
APPLICATION RATE 0.4 GAL/SF PER TABLE 1 PAGE 8 GEOFLOW WASTE WATER DESIGN, INSTALLATION & MAINTENANCE GUIDELINES.

ABSORPTION APPLICATION RATES

$Q = 5.0 \text{ MIN/IN} / (53 \text{ MIN/IN} \cdot 0.5) = 0.68 \text{ GAL/SF}$

EXISTING TRENCH FIELD - PHASE 1

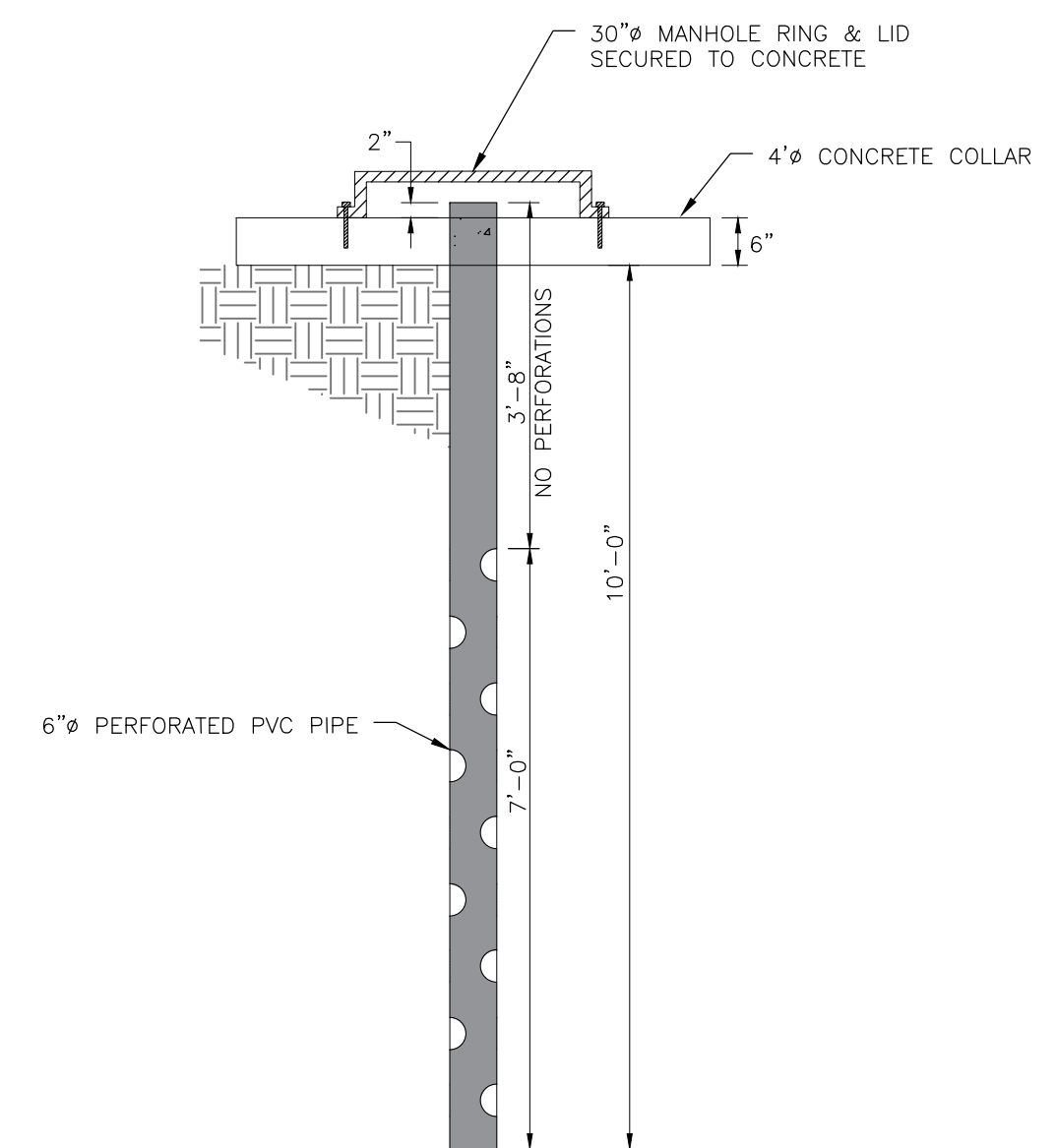
7,177 LF

APPROXIMATE APPLICATION RATES ABSORPTION FIELD
 $Q = 5.0 \text{ MIN/IN} / (53 \text{ MIN/IN} \cdot 0.5) = 0.68 \text{ GAL/SF}$
(BASED ON ORIGINAL PHASE 1 DESIGN REQUIREMENTS)

REQUIRED ABSORPTION FIELD AREA TRENCH
 $30,400 \text{ GAL/DAY} / 0.68 \text{ GAL/SF} = 44,706 \text{ SF}$

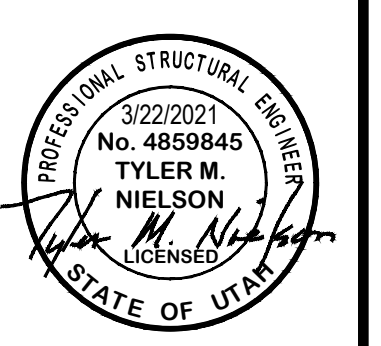
REQUIRED ABSORPTION TRENCH LENGTH
 $44,706 \text{ SF} / 3' = 14,901 \text{ LF OF TRENCH REQUIRED}$

14,933 LF OF TRENCH PROVIDED



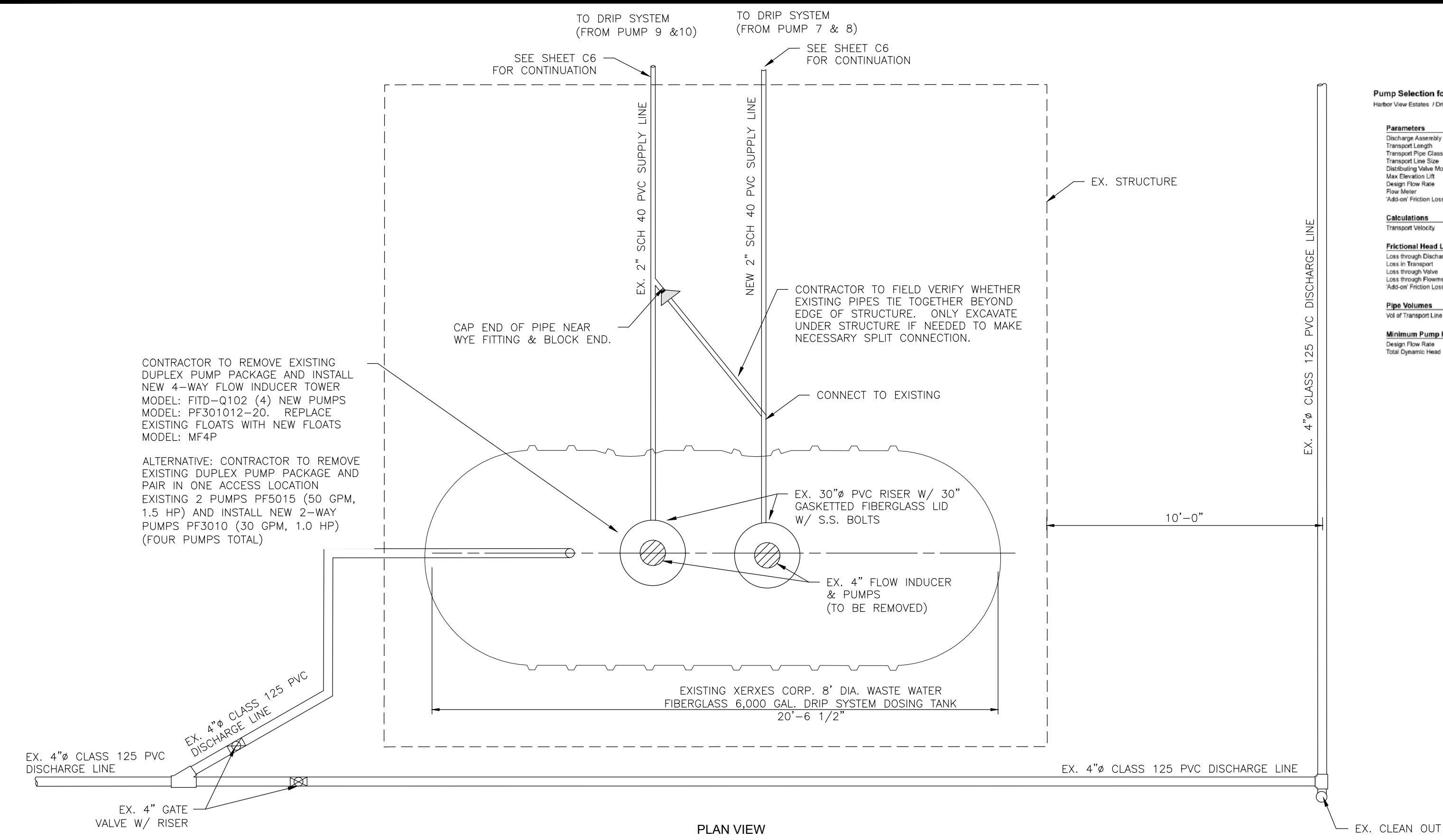
3 MONITORING / SAMPLING WELL
Scale: (NOT TO SCALE)

REVISIONS	DATE	DESCRIPTION



EFFLUENT TREATMENT - ABSORPTION BED DETAILS
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
1250 NORTH 5200 EAST
EDEN, WEBER COUNTY, UTAH

GARDNER ENGINEERING
CIVIL - LAND PLANNING
MUNICIPAL - LAND SURVEYING
5150 SOUTH 375 EAST OGDEN, UT
OFFICE: 801.476.0202 FAX: 801.476.0066



Pump Selection for a Non-Pressurized System - Commercial Project
Harbor View Estates / Drip Field Calculations

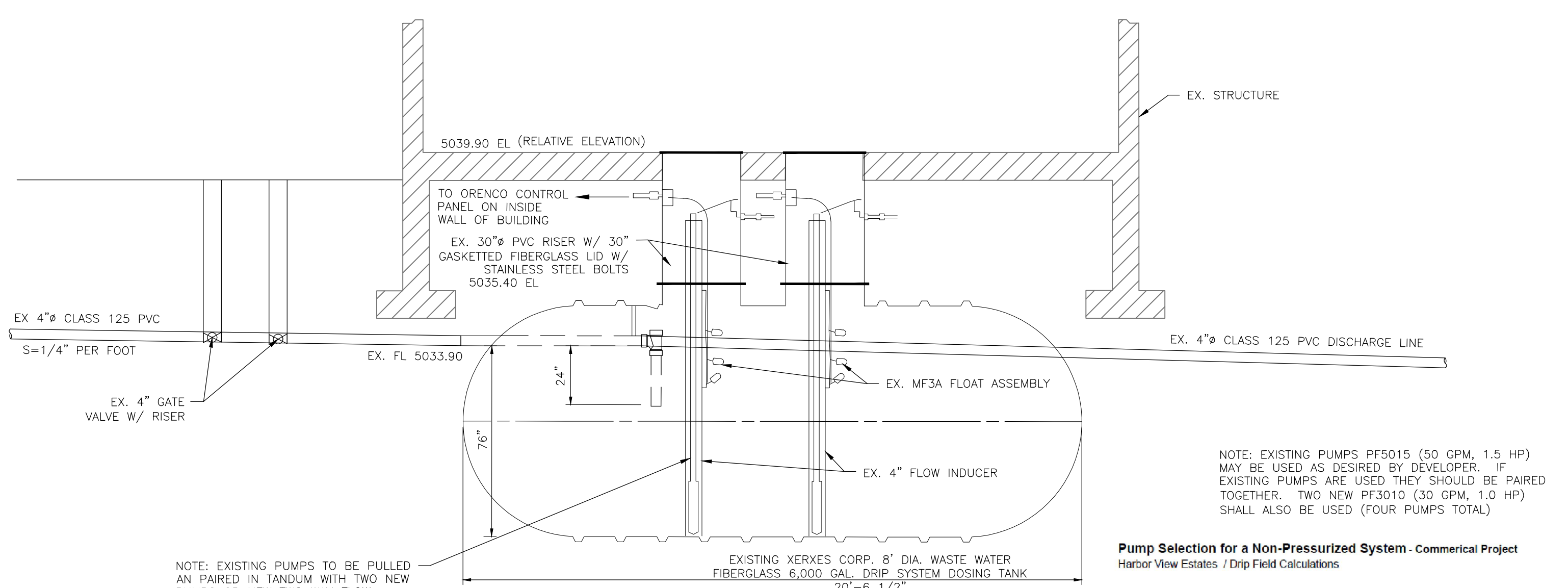
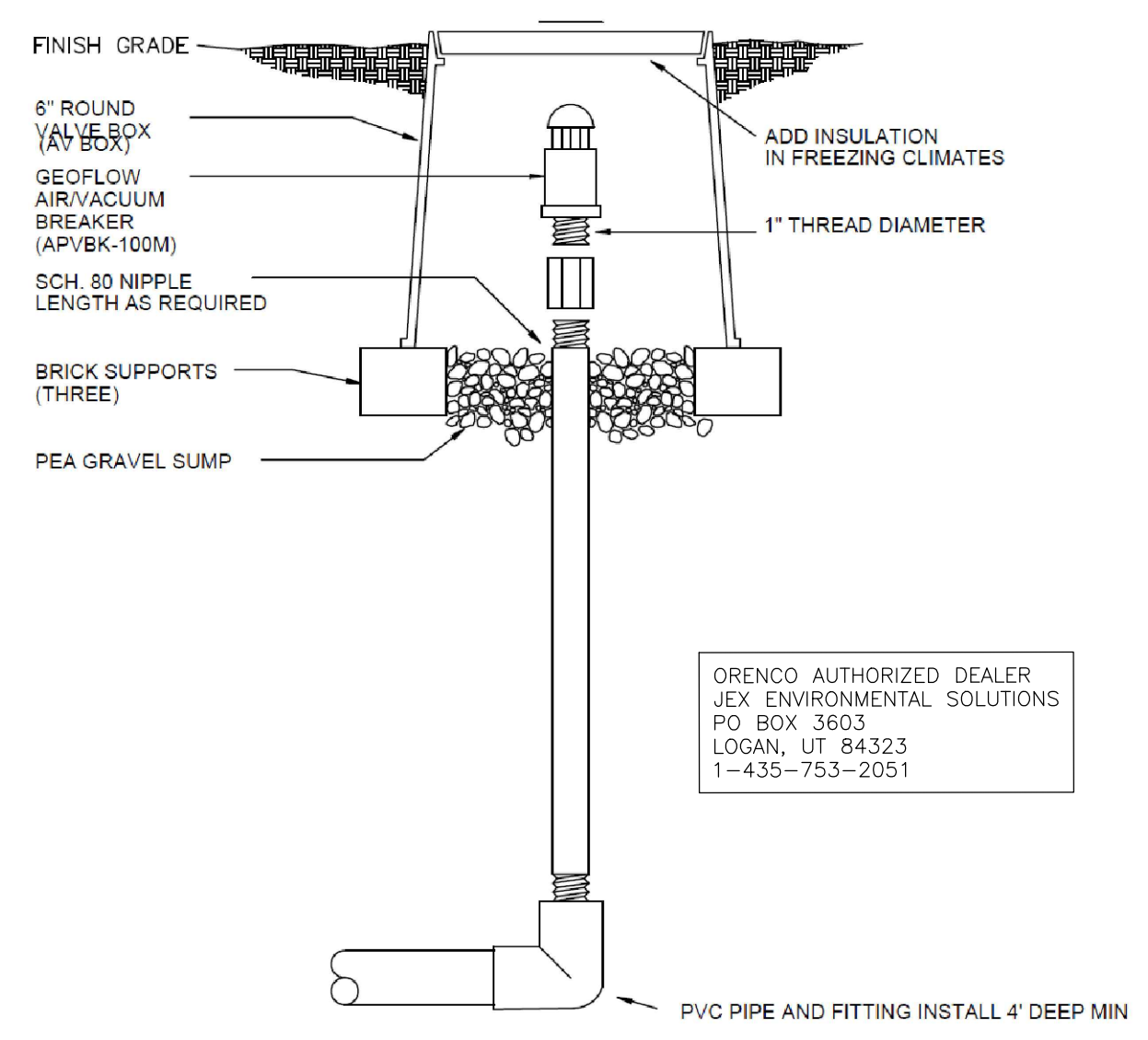
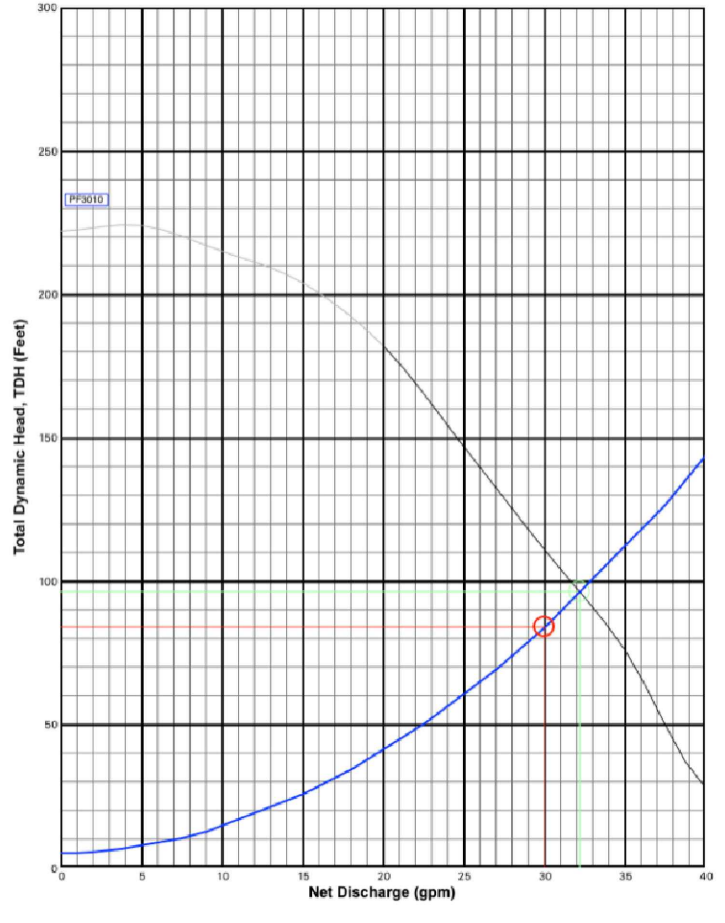
Parameters	
Discharge Assembly Size	2.00 inches
Transport Length	2000 feet
Transport Pipe Class	40
Transport Line Size	2.00 inches
Distributing Valve Model	None
Min. Elevation Lift	5 feet
Design Flow Rate	30 gpm
Flow Meter	None
Absorpt. Friction Losses	48 feet

Calculations	
Transport Velocity	2.9 fps

Frictional Head Losses	
Loss through Discharge	1.8 feet
Loss in Transport	31.1 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
Absorpt. Friction Losses	48.0 feet

Pipe Volumes	
Vol of Transport Line	348.6 gals

Minimum Pump Requirements	
Design Flow Rate	30.0 gpm
Total Dynamic Head	83.9 feet



Pump Selection for a Non-Pressurized System - Commercial Project
Harbor View Estates / Drip Field Calculations

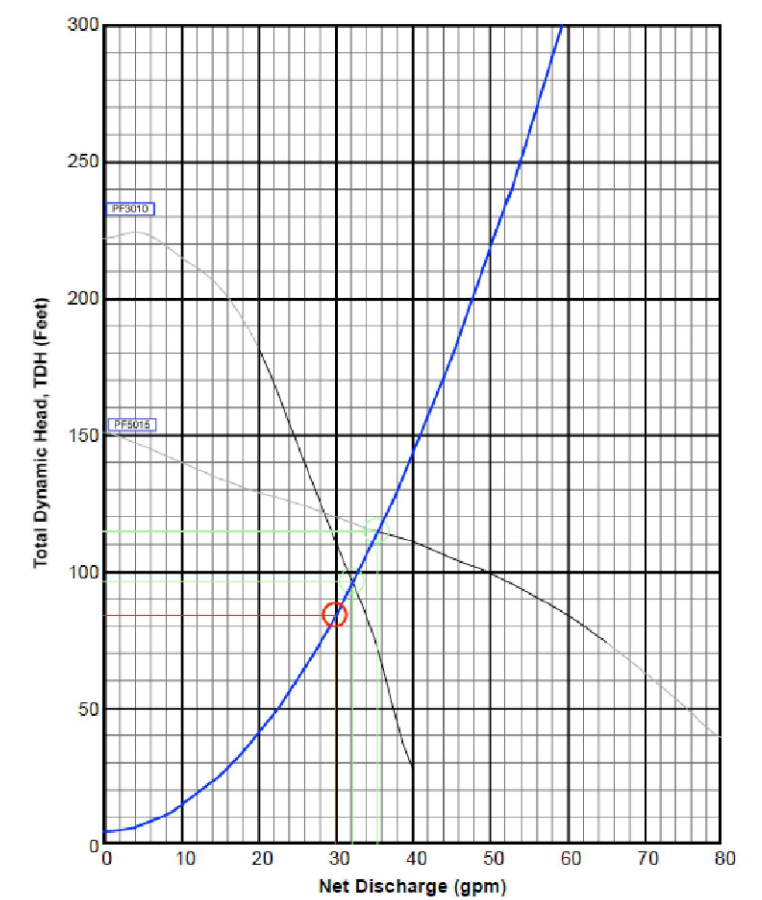
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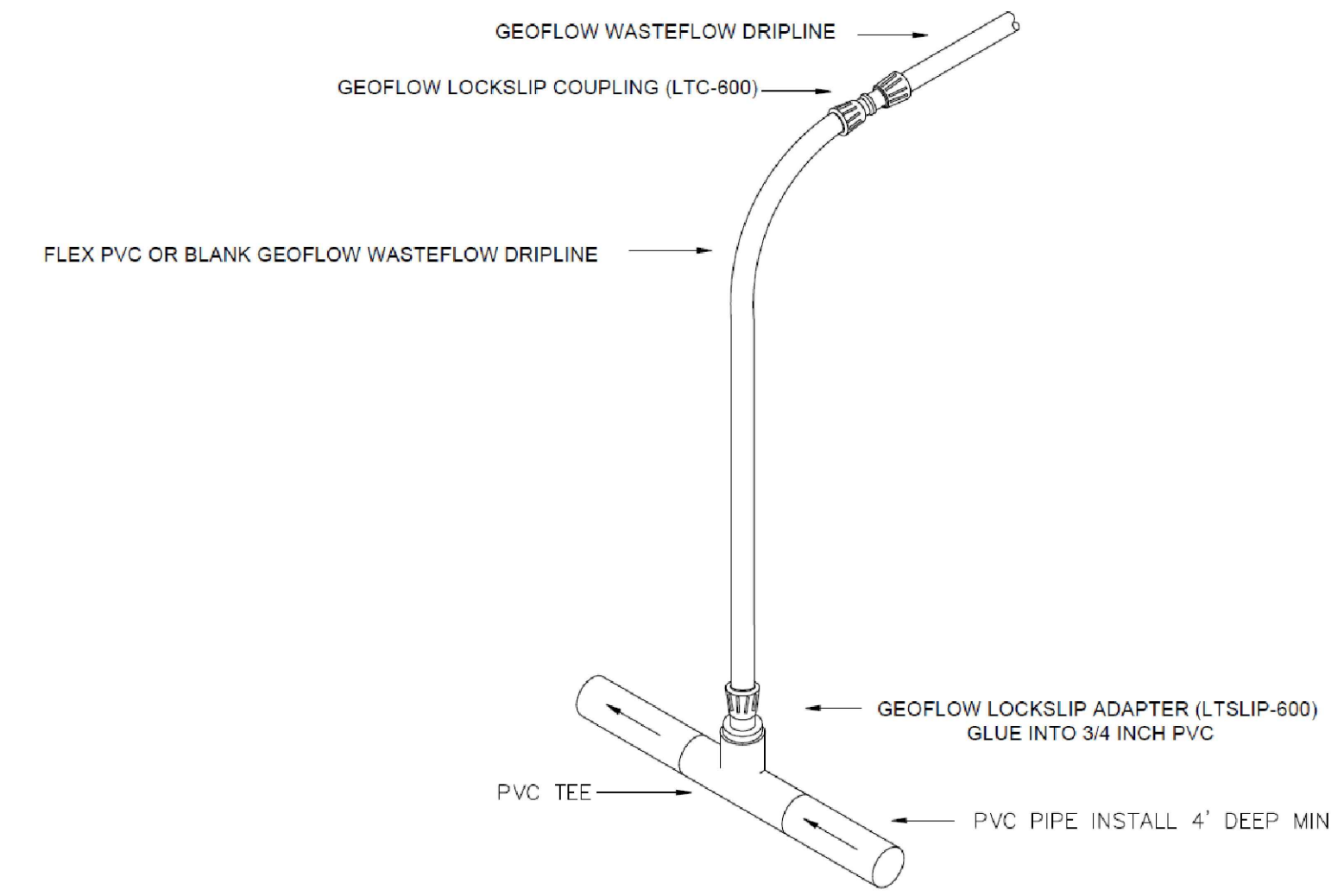
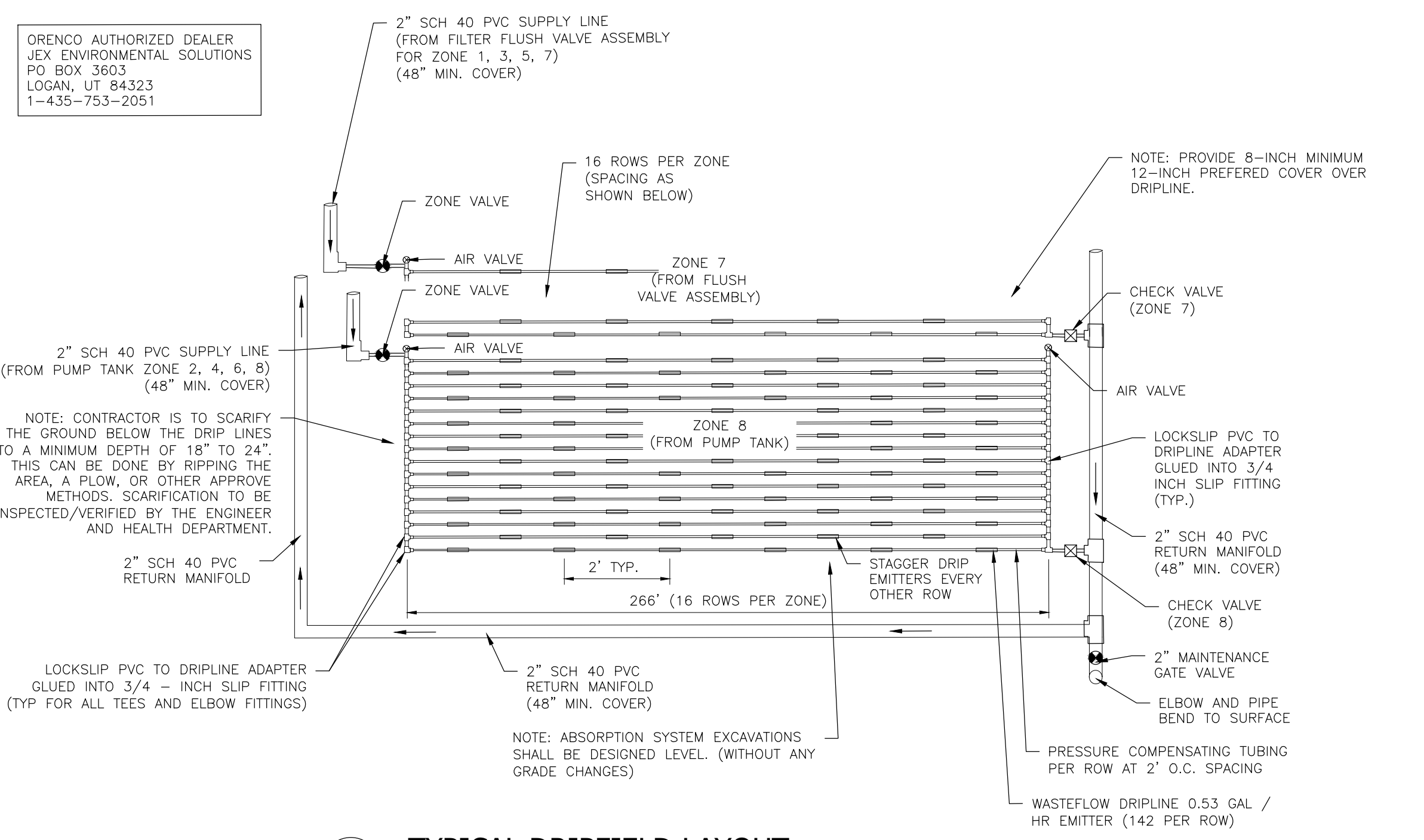
Minimum Pump Requirements	
Design Flow Rate	30.0 gpm
Total Dynamic Head	83.9 feet



PumpData

PF3010 High Head Effluent Pump
30 GPM, 1.0HP
230V 1/2 60HZ, 200/460V 3/3 60HZ

PF5015 High Head Effluent Pump
50 GPM, 1.5HP
230V 1/2 60HZ, 200V 3/3 60HZ



SCALE	NTS
DATE	3/22/2021
DESIGN	BSD/MUS
DRAWN	BSD/MUS
CHECKED	TJM

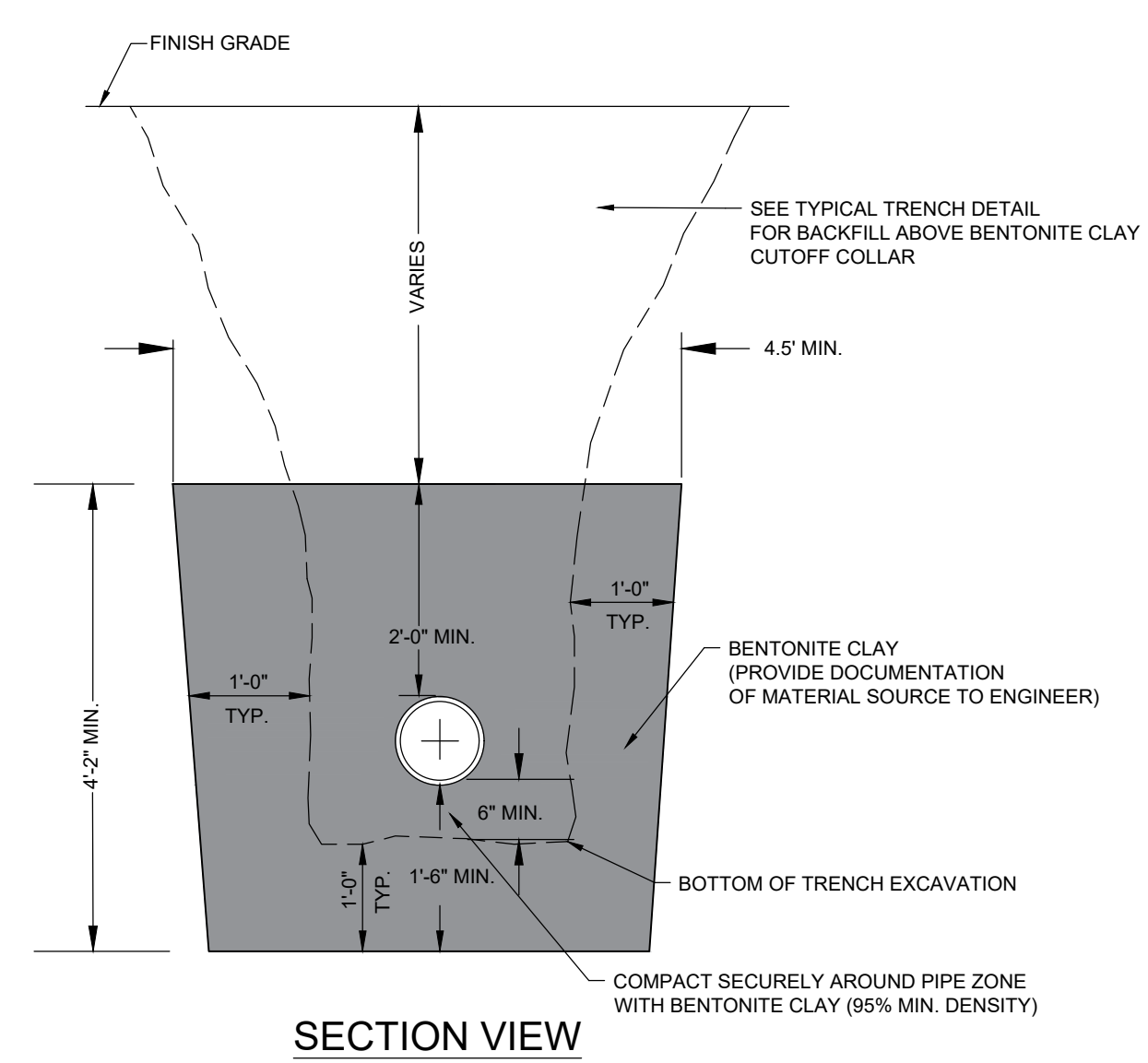
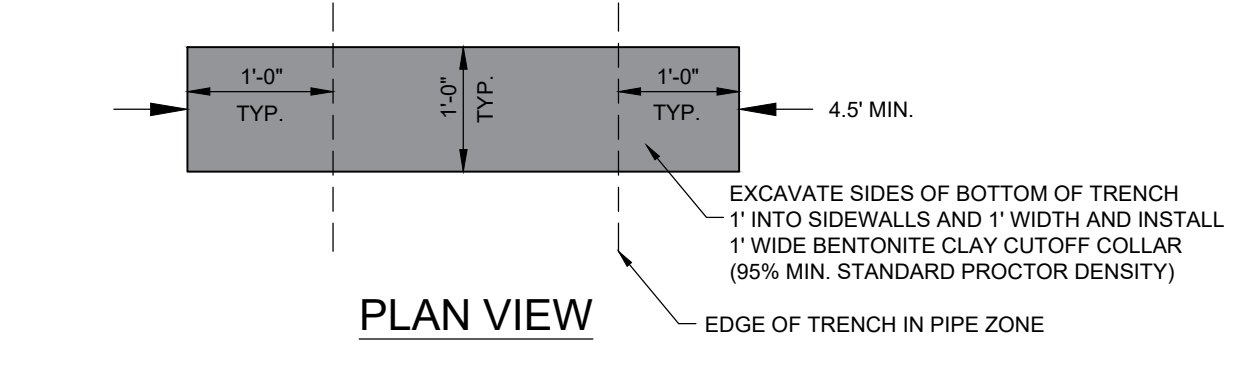
REVISIONS	DESCRIPTION
DATE	

PROFESSIONAL STRUCTURAL ENGINEER
 3/22/2021
 No. 4859845
 TYLER M. NIELSEN
 LICENSED
 STATE OF UTAH

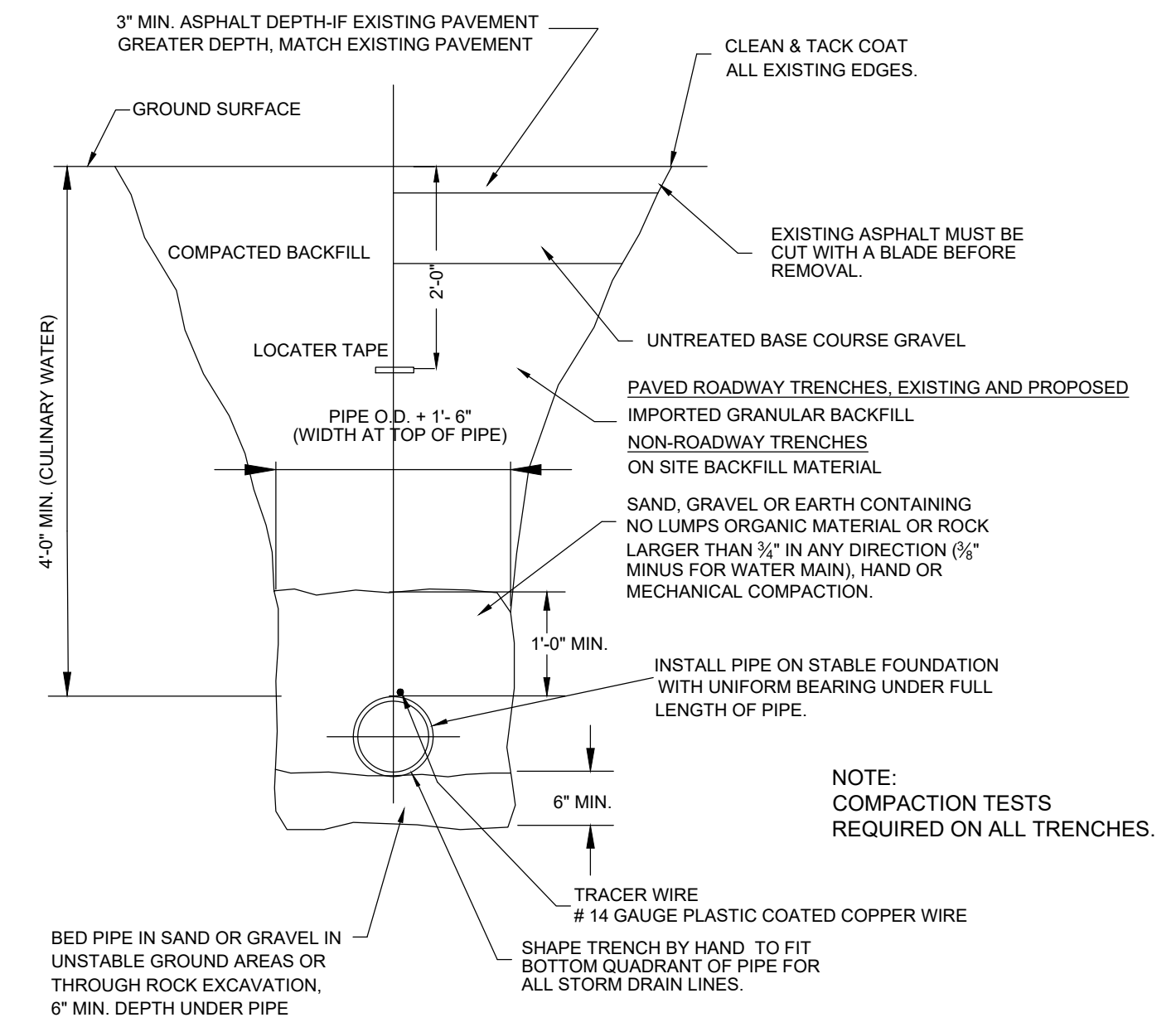
EFFLUENT TREATMENT FACILITY DRIP SYSTEM DETAILS
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
 1250 NORTH 5200 EAST
 EDEN, WEBER COUNTY, UTAH

GARDNER ENGINEERING
 CIVIL-LAND PLANNING
 MUNICIPAL-LAND SURVEYING

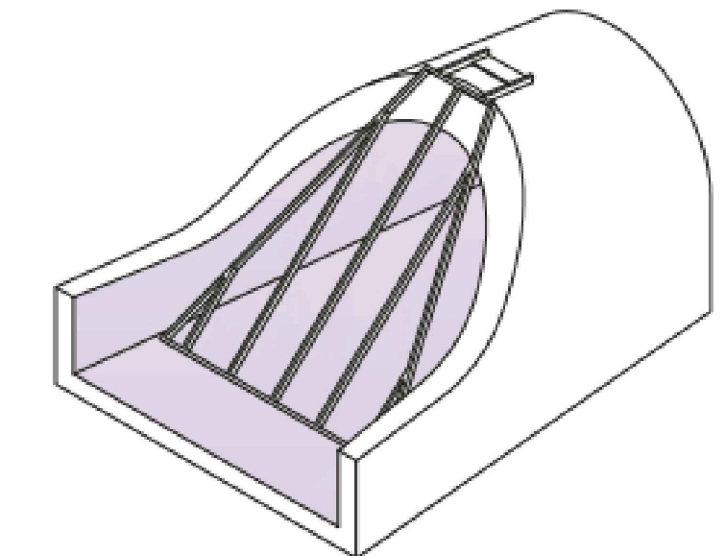
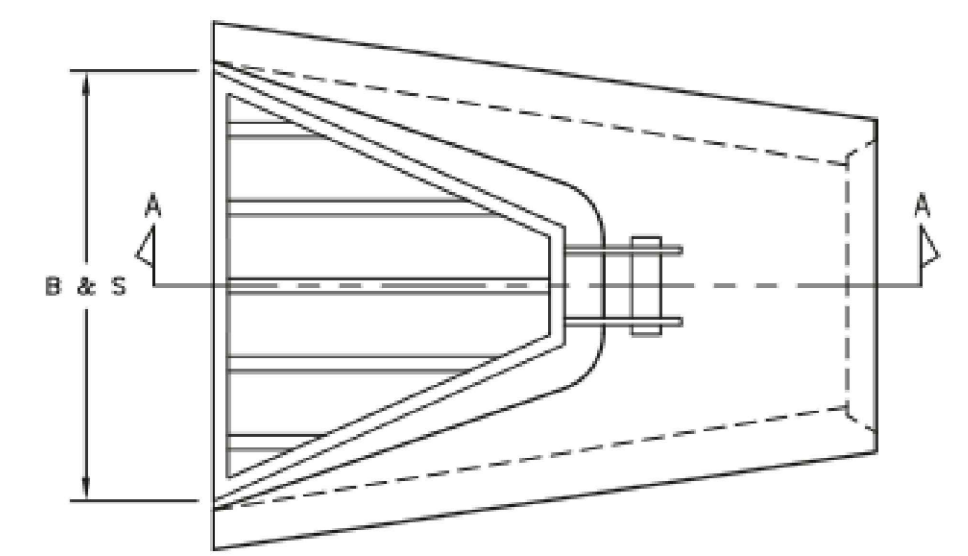
5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801-476-0202 FAX: 801-476-0066



1 CUTOFF TRENCH DETAIL
Scale: (NOT TO SCALE)

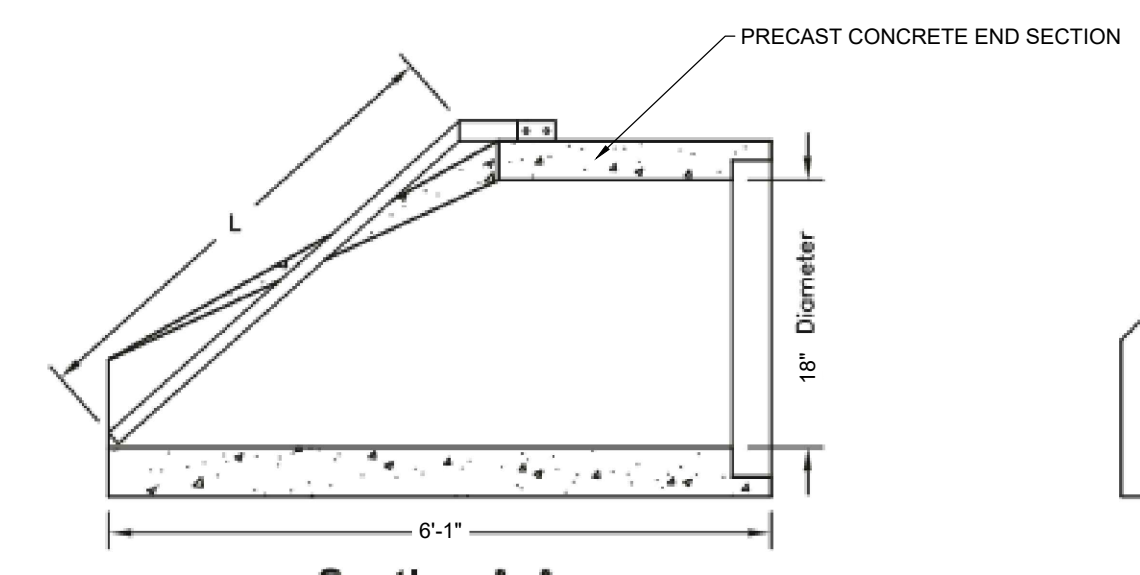


TYPICAL TRENCH DETAIL
Scale: (NOT TO SCALE)

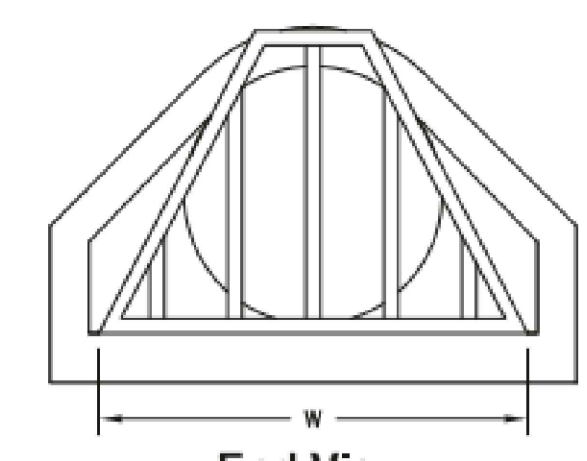


Plan View

Isometric View
(For Reference Only)



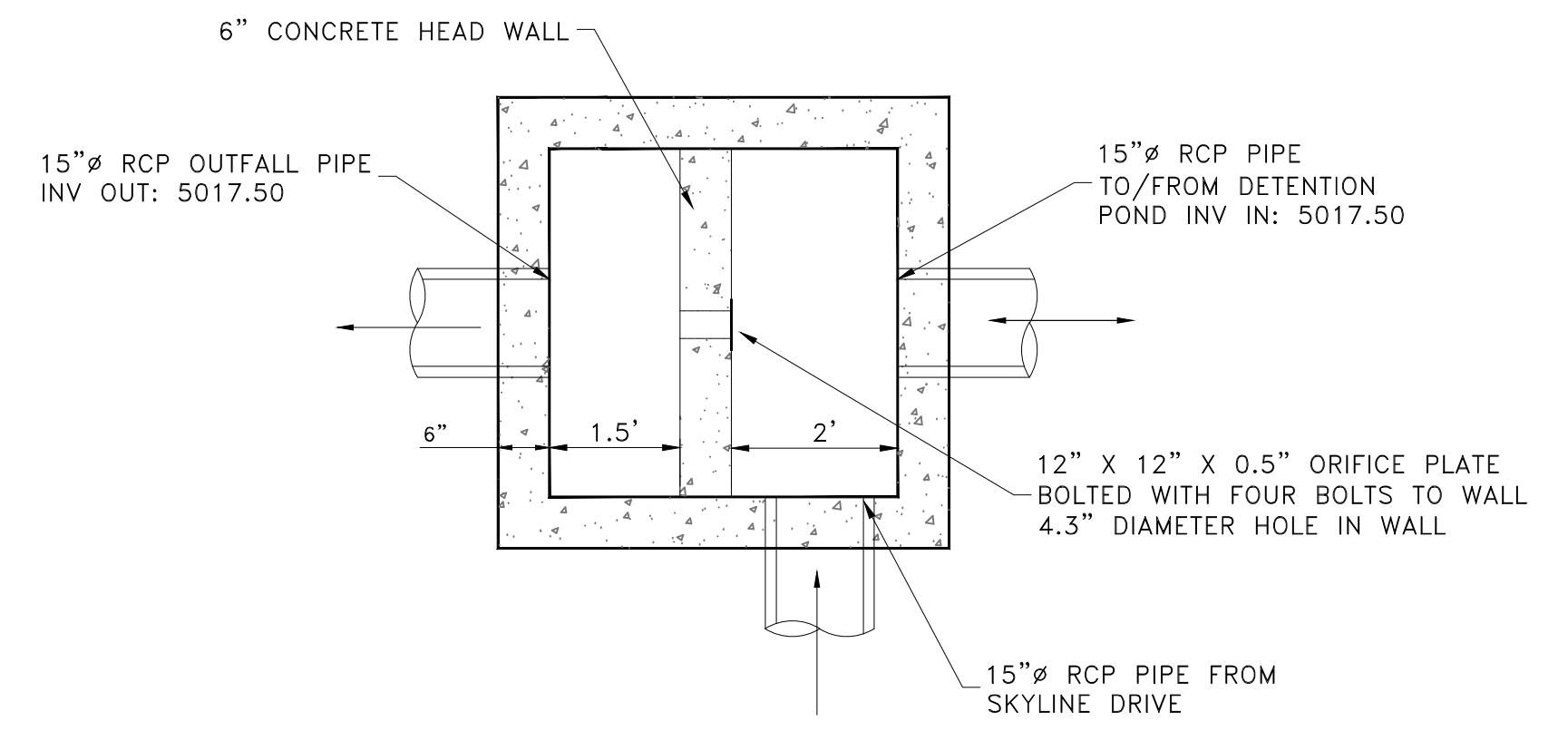
Section A-A



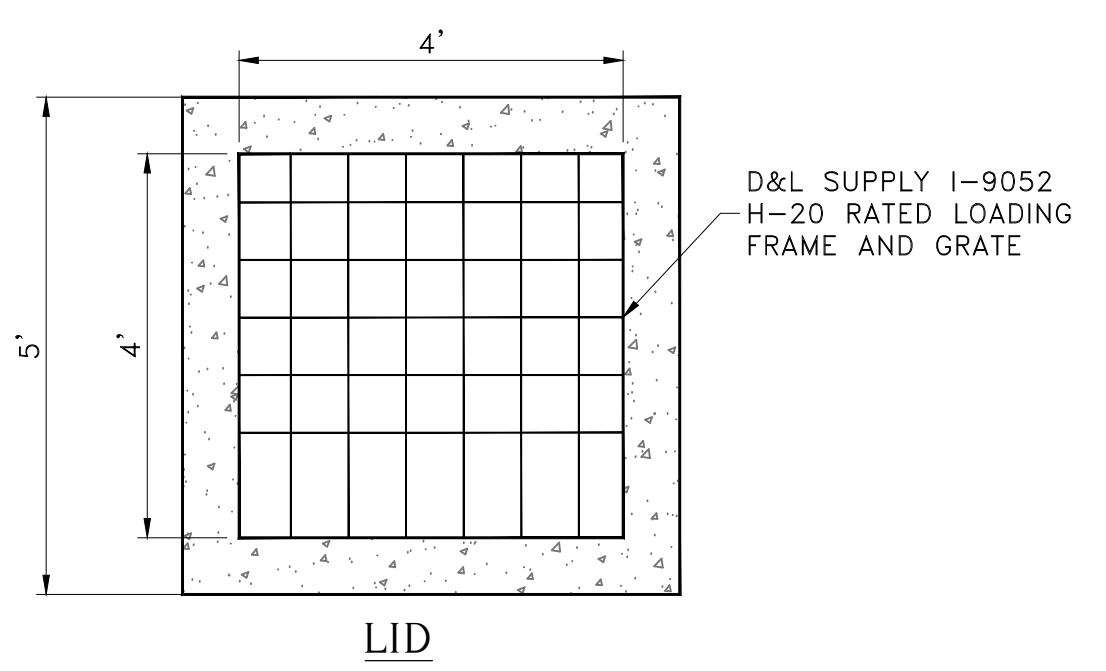
End View

Pipe Diameter	Trash Rack Width W (in.)	Trash Rack Length L (in.)	Total # of Bars B	Bar Spacing S (in.)
12"	21.00"	30.00"	3	6.0"
15"	28.00"	32.00"	3	6.5"
18"	33.00"	34.00"	3	8.0"

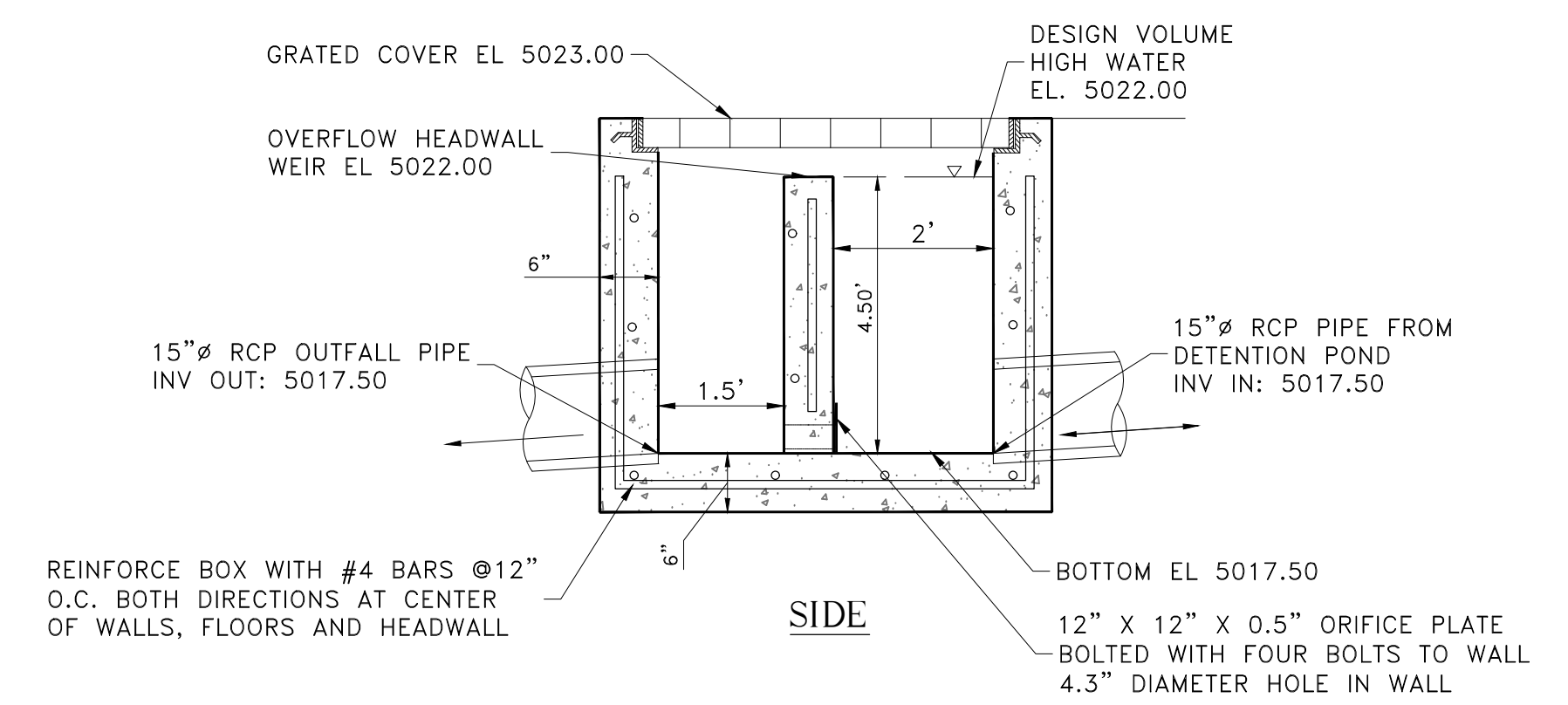
2 FLARED END SECTION
OR ENGINEER APPROVED EQUAL Scale: (NTS)



PLAN VIEW

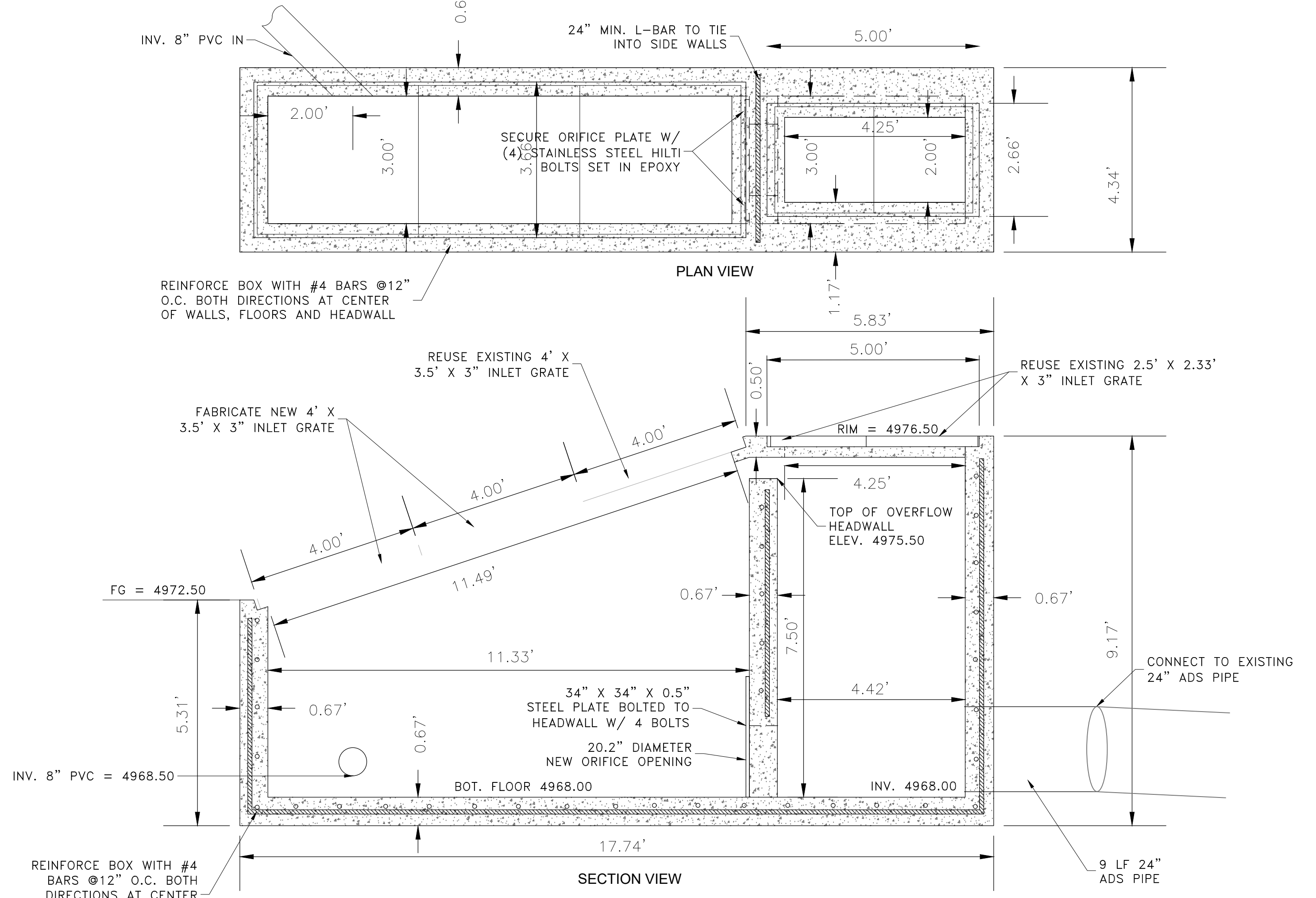


LID



SIDE

3 4' x 4' STORM DRAIN OUTLET CONTROL BOX (UPPER DETENTION POND)
Scale: (NOT TO SCALE)



SECTION VIEW

4 OUTLET CONTROL BOX (LOWER DETENTION POND)
Scale: (NOT TO SCALE)

SCALE: NTS
DATE: 3/22/2021
DESIGN: BBD/MS
DRAWN: BBD/MS
CHECKED: TMM
DWG: 815208 - 884 INVESTMENT, CRIMSON RIDGE, CRIMSON RIDGE - COS.DWG

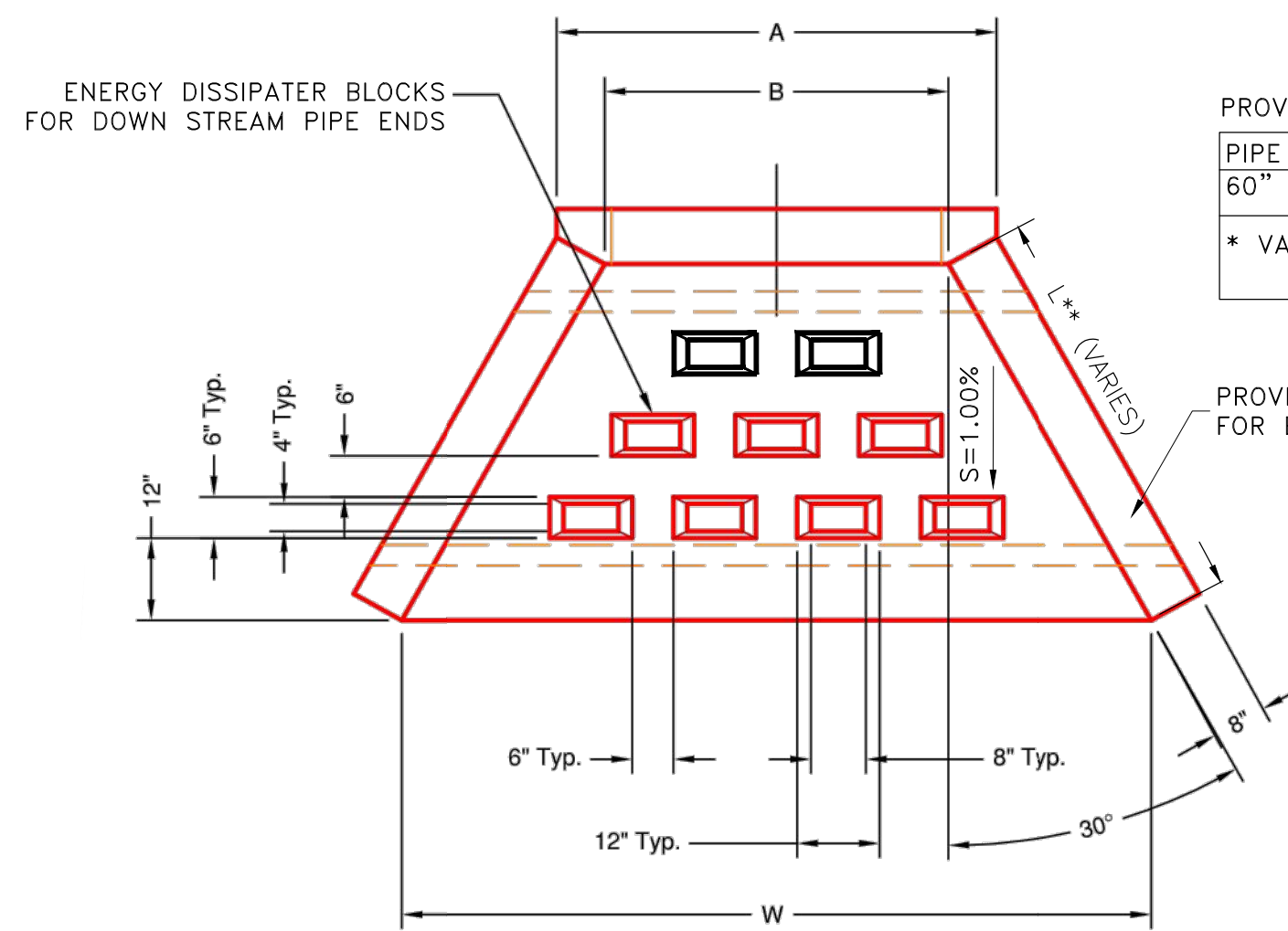
REVISIONS
DATE
DESCRIPTION

PROFESSIONAL STRUCTURAL ENGINEER
3/22/2021
No. 4859845
TYLER M. NIELSON
LICENSED
STATE OF UTAH

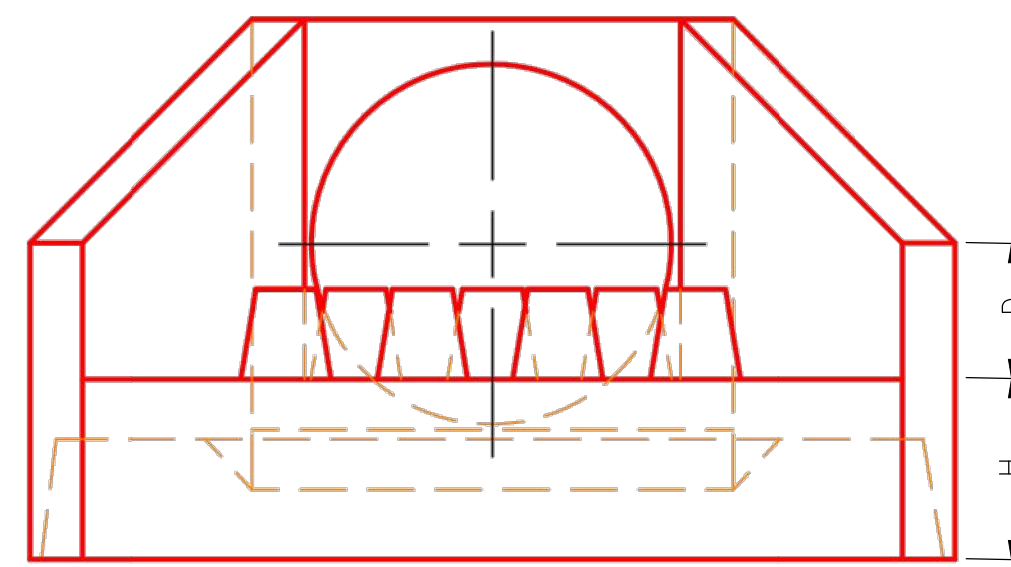
MISC. DETAILS
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2
1250 NORTH 5200 EAST
EDEN, WEBER COUNTY, UTAH

GARDNER ENGINEERING
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D7



PLAN VIEW



FRONT VIEW

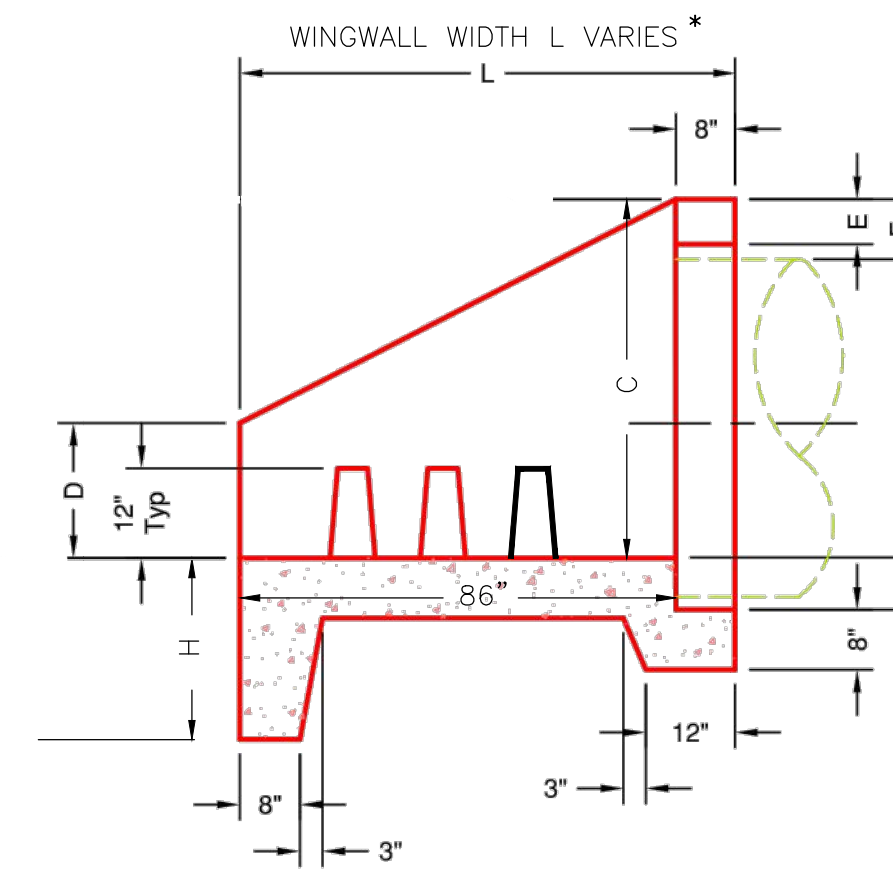
PROVIDE OLDCASTLE PRECAST (OR CAST IN PLACE)

PIPE SIZE	HOLE SIZE	W	L	H	A	B	C	D	E	F	G	H
60" RCP	76"	205"	*	24"	105"	96"	86"	33"	20"	26"	8"	24"

* VARIES SEE PROFILE SHEET FOR DIMENSIONS

PROVIDE 2 ROWS 12-INCH O.C. EACH WAY NO. 5 BAR FOR EACH FACE 2.5-INCH MIN. CLEAR FROM OUTER EDGE

NOTE: HEADWALLS AND RELATED PIPES FOR EPHEMERAL STREAM TO BE INSTALLED DURING DRY PERIODS AND WHEN NO WATER IS IN THE STREAM BED.



SECTION A-A

1 60-INCH PIPE HEADWALL DETAIL
Scale: (NOT TO SCALE)

REVISIONS	DATE	DESCRIPTION

SCALE: NTS	DATE: 3/22/2021
DESIGN: BSO/MJS	DRAWN: BSO/MJS
CHECKED: TMN	DWG: R:\V2021 - 8841 INVESTMENT\CRIMSON RIDGE\DESIGN\DWG\CRIMSON RIDGE - CDS.DWG



MISC. DETAILS

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2

1250 NORTH 5200 EAST

EDEN, WEBER COUNTY, UTAH

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