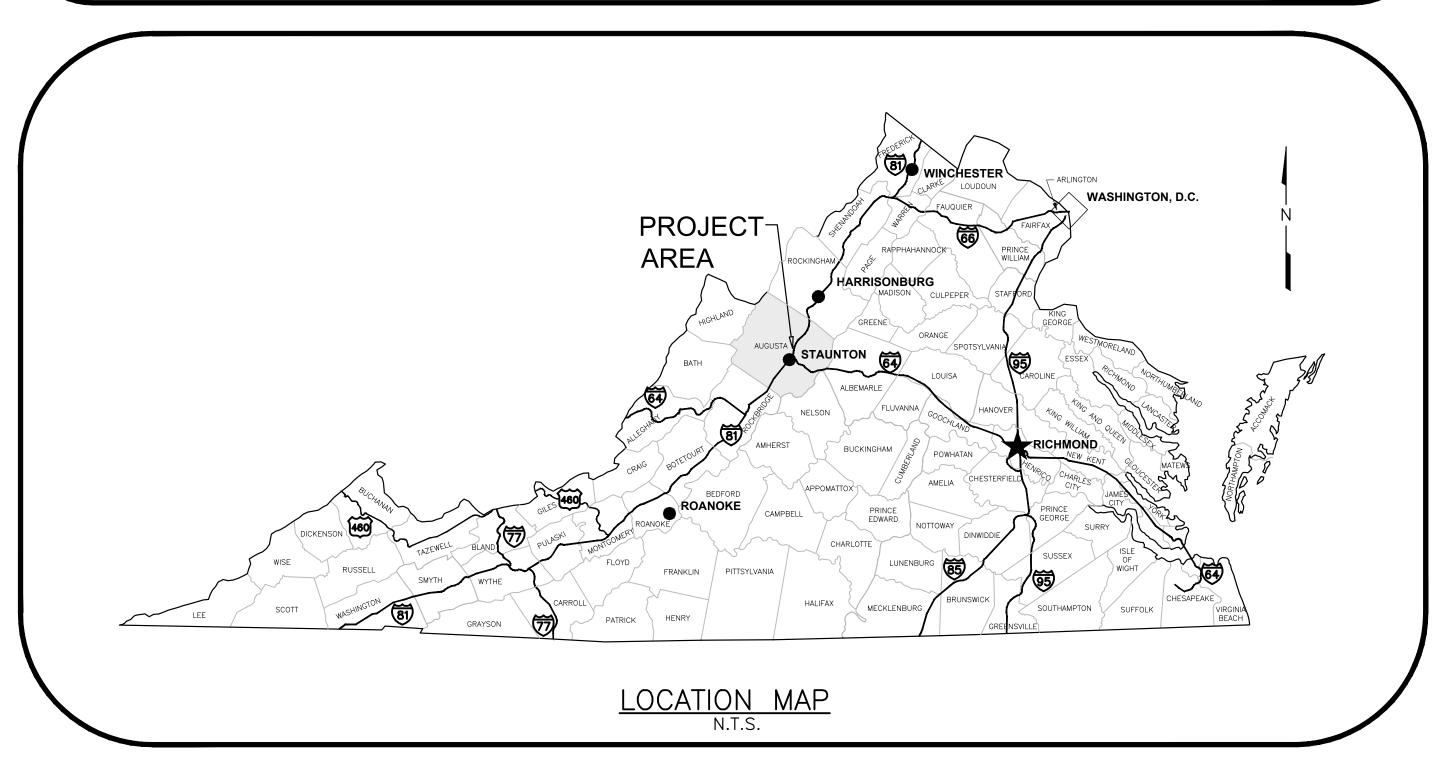
## PROJECT LOCATION MT SIDNEY WATER TANK



### MOUNT SIDNEY WATER STORAGE TANK

#### AUGUSTA COUNTY, VIRGINIA

PREPARED FOR: Augusta Water P.Ö. BOX 859 Verona, Virginia 24482

#### SHEET INDEX

G01	TITLE SHEET
C01	EXISTING CONDITIONS, DEMO, & PH1 E&SC
C02	SITE, GRADING, AND PH II E&SC
C03	TANK DETAILS (1 OF 3)
C04	TANK DETAILS (2 OF 3)
C05	TANK DETAILS (3 OF 3)
C06	VALVE SHED PLAN & SECTIONS
C07	VALVE SHED DETAILS
D01	E&S DETAILS
D02	STANDARD DETAILS

**PROJECT IDENTIFICATION:** MOUNT SIDNEY WATER STORAGE TANK 2 I AINDAKD DE I AILS

DEED BOOK REFERENCE INFORMATION: DB 550-589 (591 PLAT) CORPORATE AND POLITIC ZONE: GENERAL AGRICULTURE

PUBLIC USE OVERLAY DISTRICT

#### PROJECT NARRATIVE:

THIS PROJECT CONSISTS OF CONSTRUCTION OF A 500,000 GALLON GROUND LEVEL WATER STORAGE TANK ON A SITE WITH AN EXISTING WATER STORAGE TANK. AFTER CONSTRUCTION THE EXISTING TANK WILL BE REMOVED. ALL WORK WILL TAKE PLACE ON TANK LOT. NO CHANGES WILL BE MADE TO THE ACCESS ENTRANCE OR PARKING AS NO NEW VEHICLE TRIPS WILL BE GENERATED POST CONSTRUCTION.

PROJECT IS EXPECTED TO DISTURB APPROXIMATELY 14,200 SQFT. CONSTRUCTION OF THE EXISTING TANK IN 1970 DISTURBED APPROXIMATELY 9.200 SQFT.

THIS PLAN SET DEALS WITH TANK CONSTRUCTION ONLY. GRADING, E&S, DEMOLITION AND VALVE SHED ARE SHOWN FOR REFERENCE.

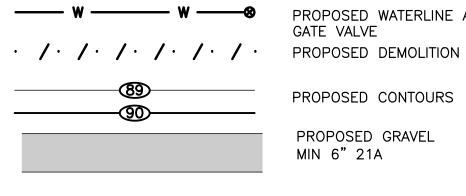
1. NO GRAVES OR STRUCTURES MARKING A PLACE OF BURIAL WERE LOCATED 2. PROPERTY IS LOCATED IN FLOOD ZONE X, AREA OF MINIMAL FLOOD HAZARD

COUNTY APPROVAL	DATE
TITLE:	DATE
TITLE:	

EROSION CONTROL TABLE OF ESTIMATED QUNATITI							
	DESCRIPTION	QUANTITY	UNI				
	SILT FENCE	225	LF				
	DIVERSION DIKE	140	LF				
	SOIL STABILIZATION BLANKETS AND MATTING	100	LF				

EROSION CONTROL LEGEND								
NO.	TITLE	KEY	SYMBOL					
3.05	SILT FENCE	SF	×××					
3.09	DIVERSION DIKE	DD	<del></del>					
3.31	TEMPORARY SEEDING	TS	TS					
3.32	PERMANENT SEEDING	PS	PS					
3.35	MULCHING	MU	MU					
3.36	SOIL STABILIZATION BLANKETS	(BM)	(BM)					

	EXISTING STRUCTURE
——— W ————— W ————	EXISTING WATERLINE
	EXISTING CONTOURS
	EXISTING EDGE OF PAVEMENT
	EXISTING EDGE OF GRAVEL
XXXXX	EXISTING FENCE
O-ohe-ohe-	EXISTING UTILITY POLE AND OVERHEAD ELECTRIC
	EXISTING DRAINAGE
	PROPOSED DRAINAGE
L.O.D	LIMITS OF DISTURBACE
	LIMITS OF DISTURBACE PROPERTY LINE
L.O.D	



PROPOSED CONTOURS

PROPOSED GRAVEL

MIN 6" 21A

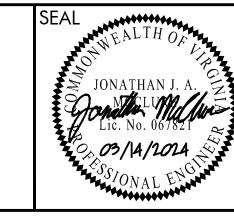
**P**ortz , L.L.C. CIVIL & ENVIRONMENTAL ENGINEERS

20 MIDWAY PLAZA DRIVE - SUITE 100 CHRISTIANSBURG, VIRGINIA 24073 PHONE: (540) 394 - 3214

FAX: (540) 394 - 3215

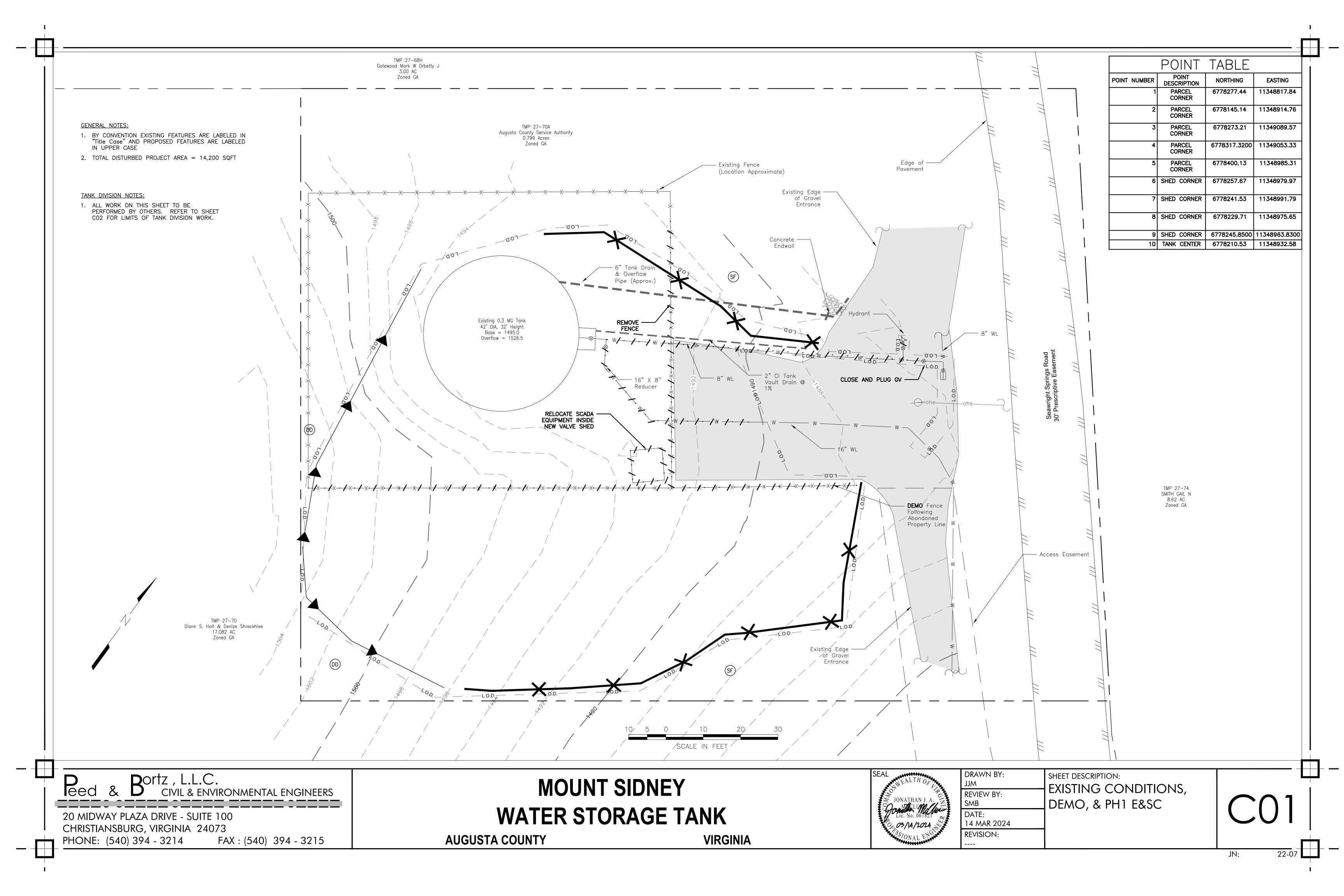
#### **MOUNT SIDNEY** WATER STORAGE TANK

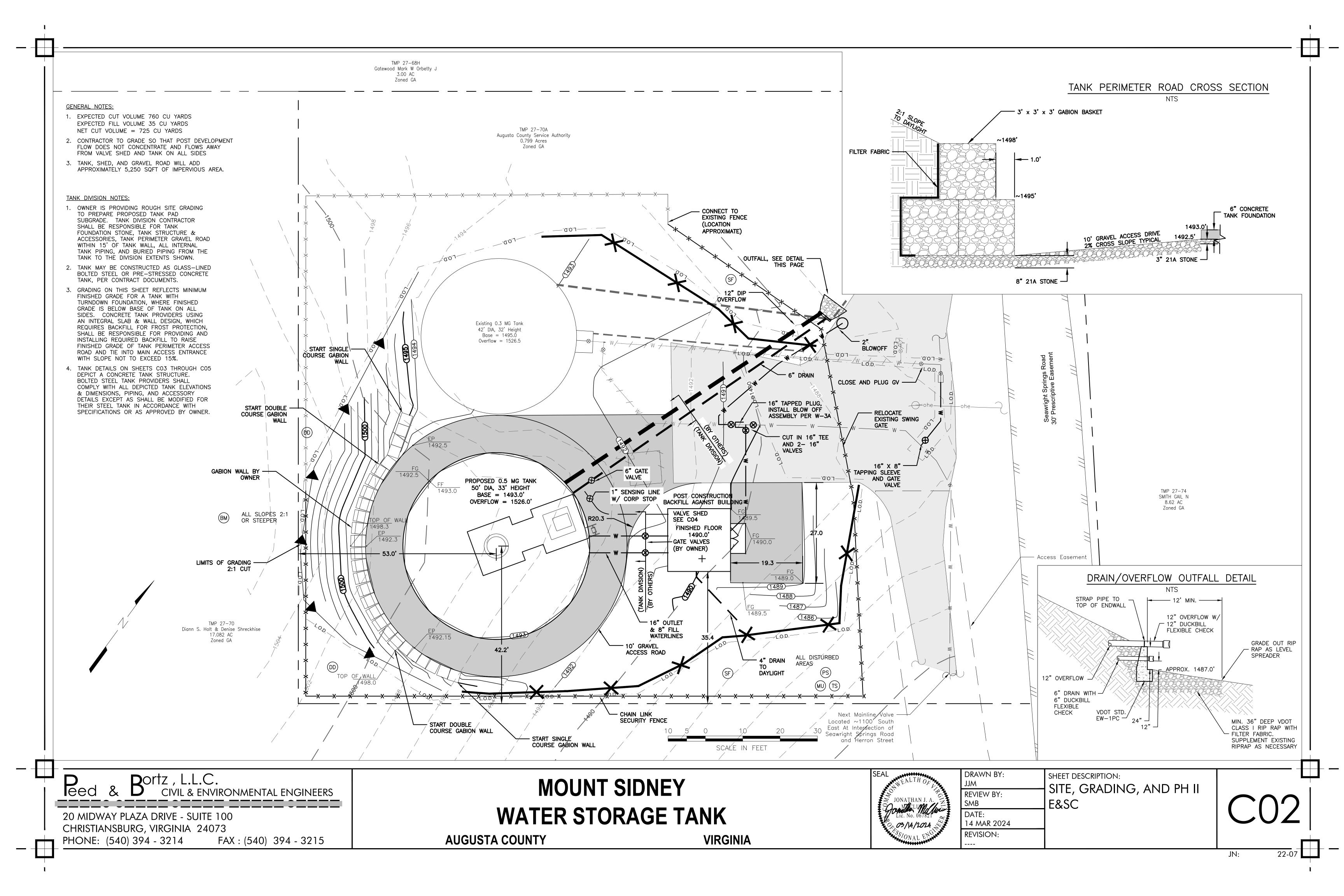
**AUGUSTA COUNTY VIRGINIA** 

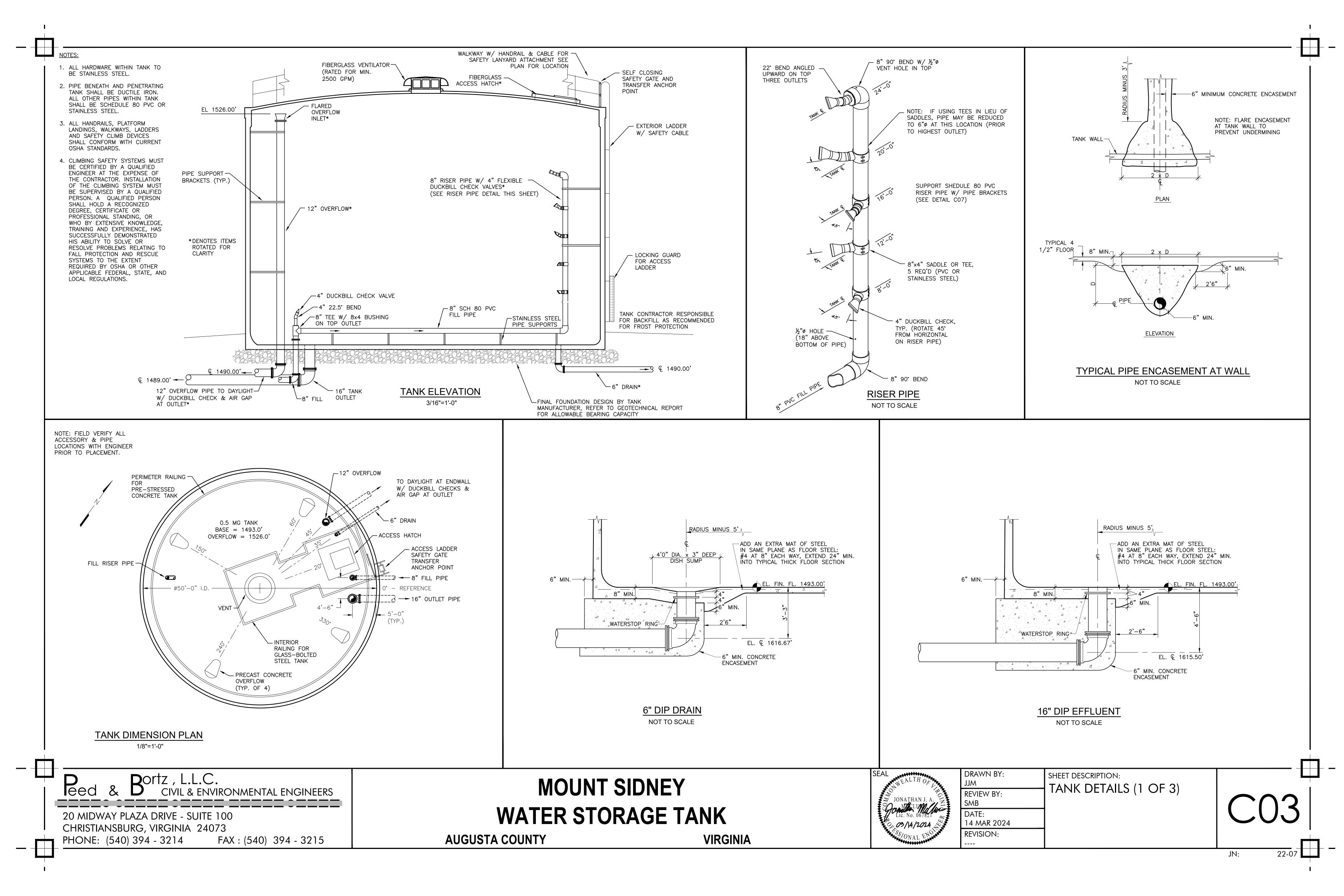


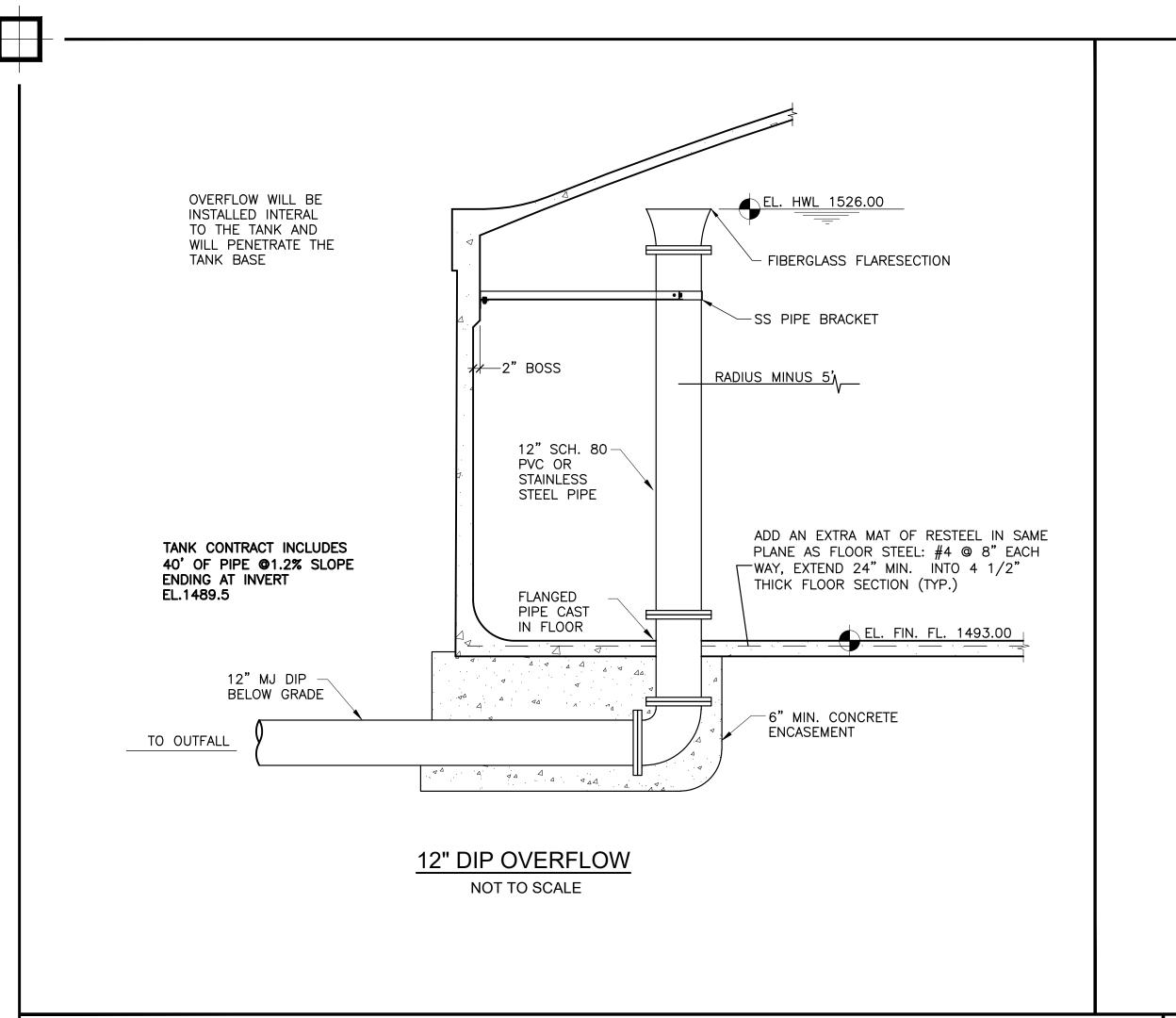
DRAWN BY: JJM	S
REVIEW BY: SMB	
DATE: 14 MAR 2024	
REVISION:	

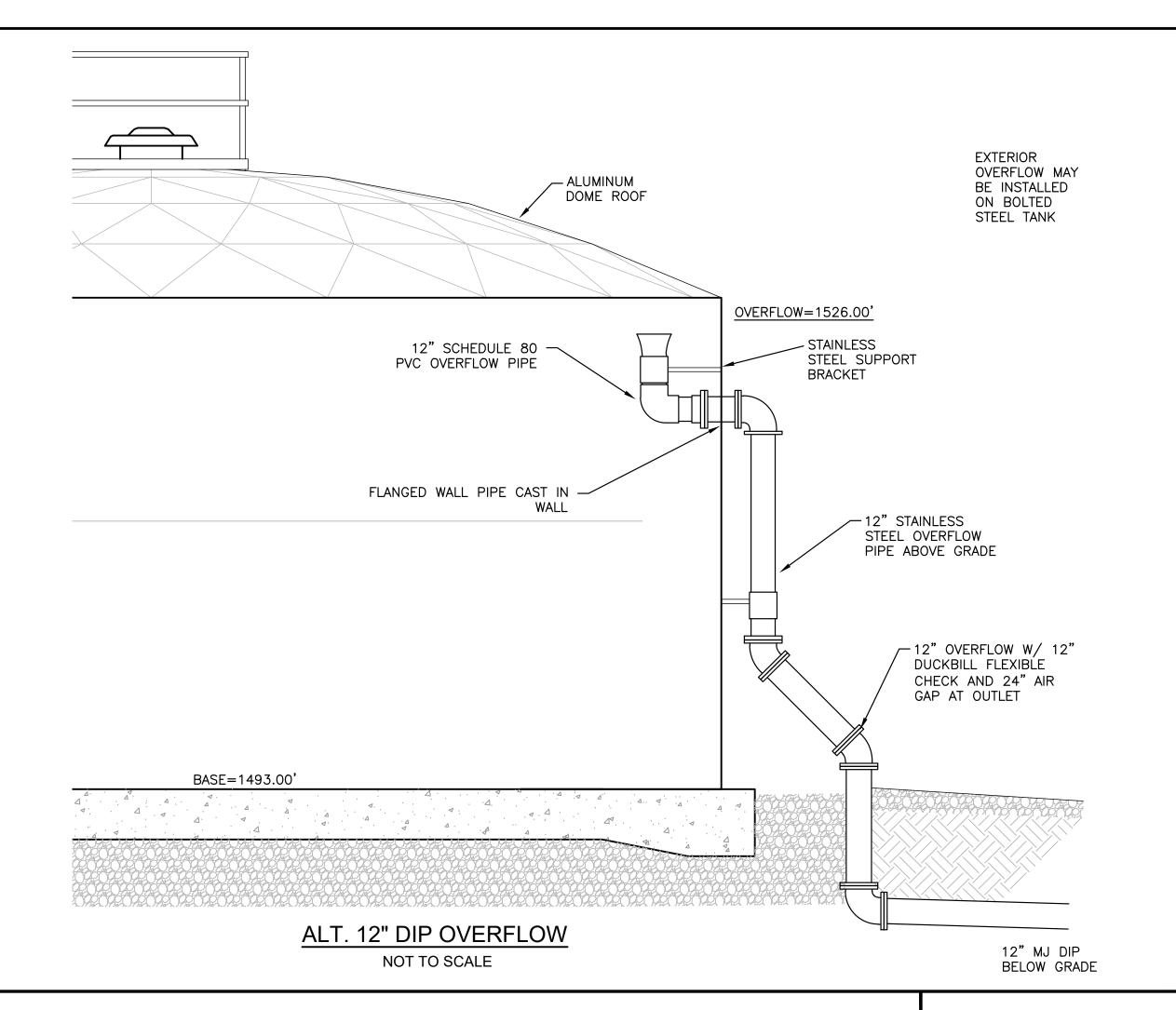
SHEET DESCRIPTION: TITLE SHEET

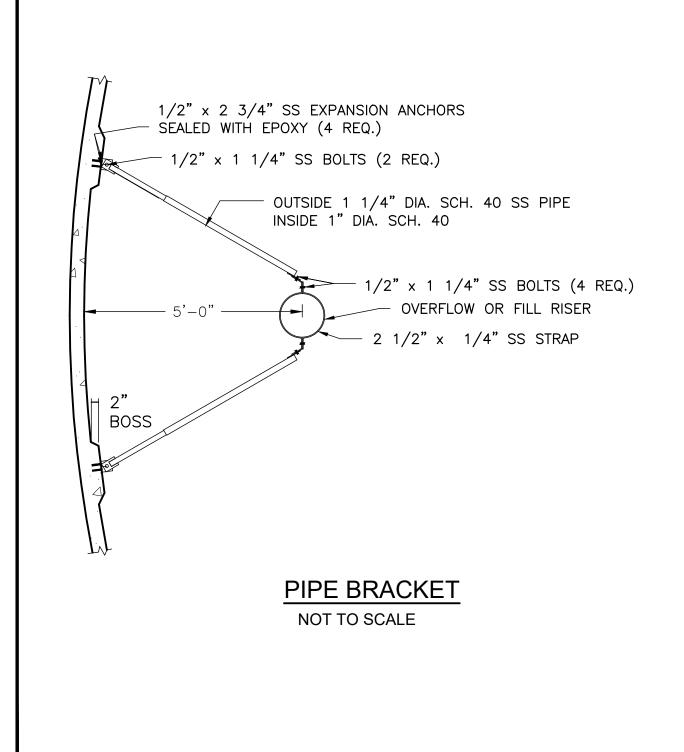


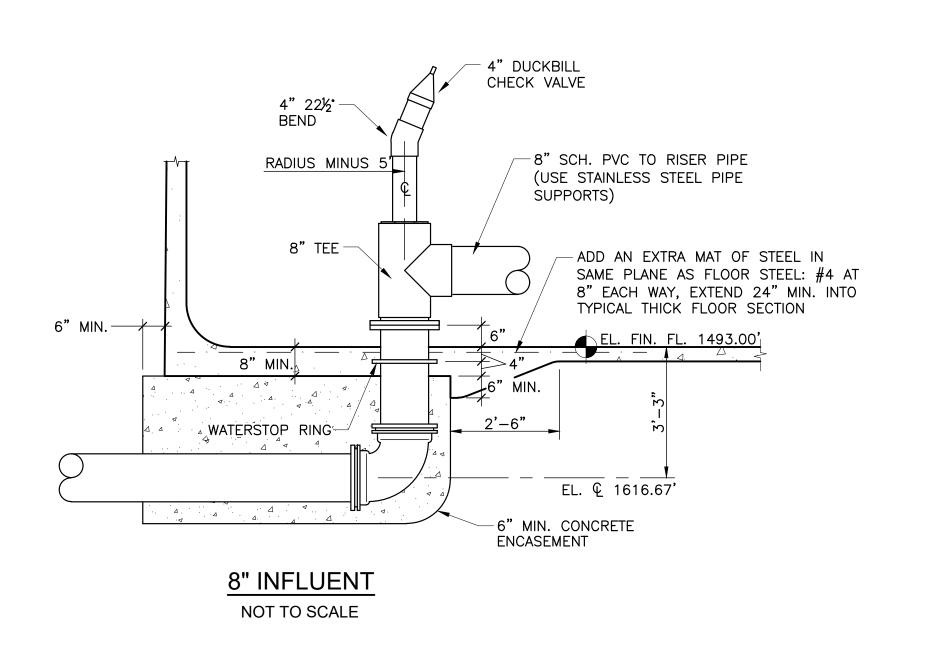












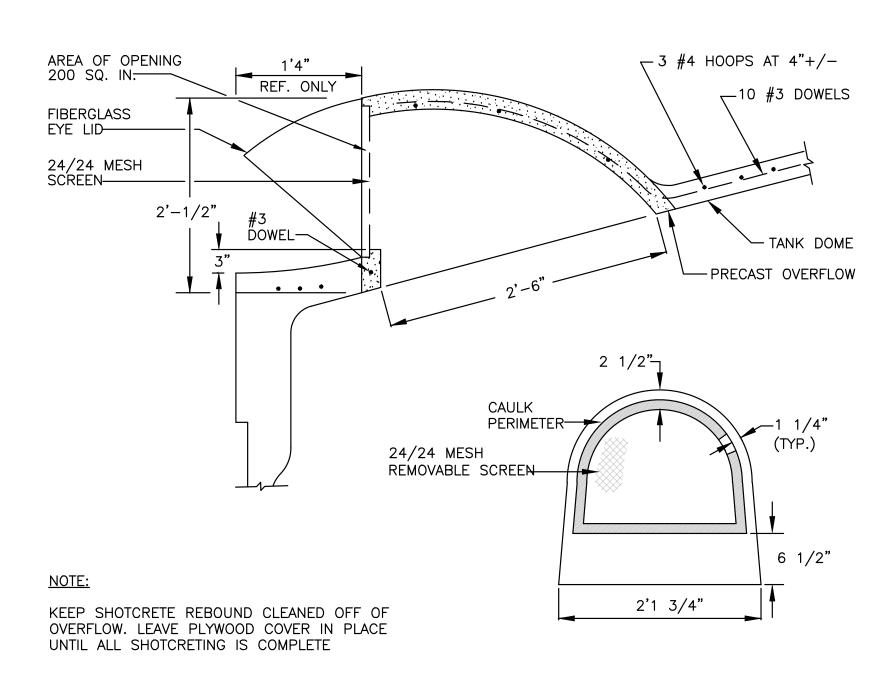
/ 10 SCREENED OPENINGS RIMS LAMINATED TO 1'-2" HIGH X 1'-11/2" WIDE HEAD CONTINUOUSLY — 24/24 MESH SCREEN (FASTEN W/ STAINLESS STEEL HOSE CLAMPS) 2#4 HOOPS —  $\frac{1}{4}$ " ×  $\frac{2}{4}$ " SS EXPANSION BOLT W/ WASHER (6 REQ'D) | 18#4 RADIALS-— CAULK PERIMETER SS HOIST HOOK — (4 REQ. AT 90°, SEE NOTE) CONCRETE — 4'-2"Ø MIN. OPENING —— BOTTOM COVERED WITH <sup>24</sup>⁄<sub>24</sub> MESH REMOVABLE SCREEN

#### NOTES:

- 1. HOIST HOOKS SHALL BE RATED FOR 5000 LB LOAD EACH.
- 2. PROVIDE SIGN INDICATING "CAUTION FALL PROTECTION REQUIRED USE ANCHOR POINTS"
- 3. VENTILATOR TO BE SIZED FOR MINIMUM 2,500 GPM TANK FILL OR DRAIN.

FIBERGLASS VENTILATOR

NOT TO SCALE



#200 PRECAST CONCRETE OVERFLOW WITH FIBERGLASS EYE LID NOT TO SCALE

#### **P**ortz , L.L.C. CIVIL & ENVIRONMENTAL ENGINEERS

2. PIPE BENEATH AND PENETRATING TANK SHALL BE DUCTILE IRON. ALL OTHER PIPE WITHIN TANK SHALL BE SCHEDULE 80 PVC OR STAINLESS STEEL.

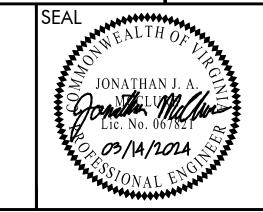
1. ALL HARDWARE WITHIN TANK TO BE STAINLESS STEEL.

20 MIDWAY PLAZA DRIVE - SUITE 100 CHRISTIANSBURG, VIRGINIA 24073

FAX: (540) 394 - 3215 PHONE: (540) 394 - 3214

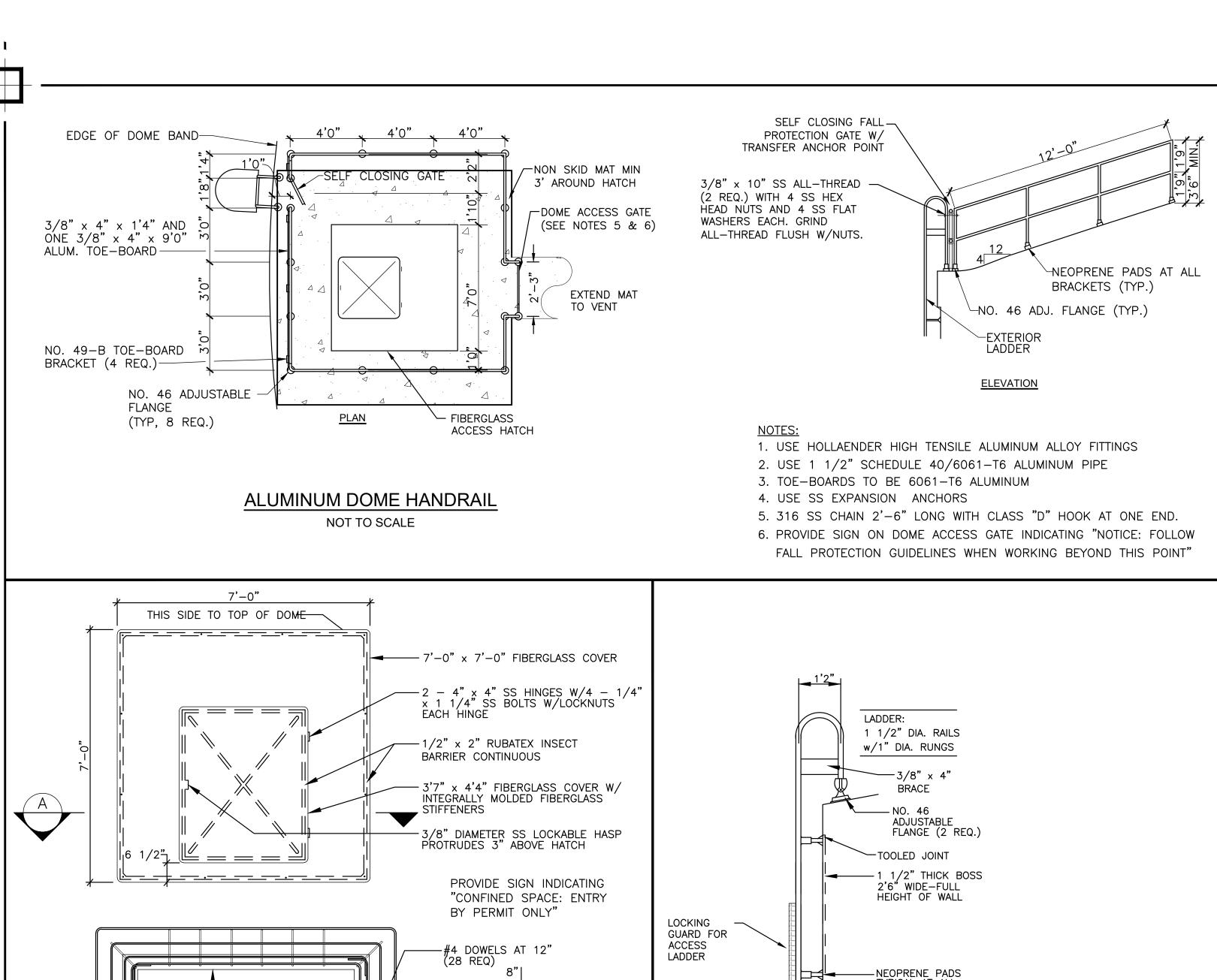
#### **MOUNT SIDNEY** WATER STORAGE TANK

**AUGUSTA COUNTY VIRGINIA** 



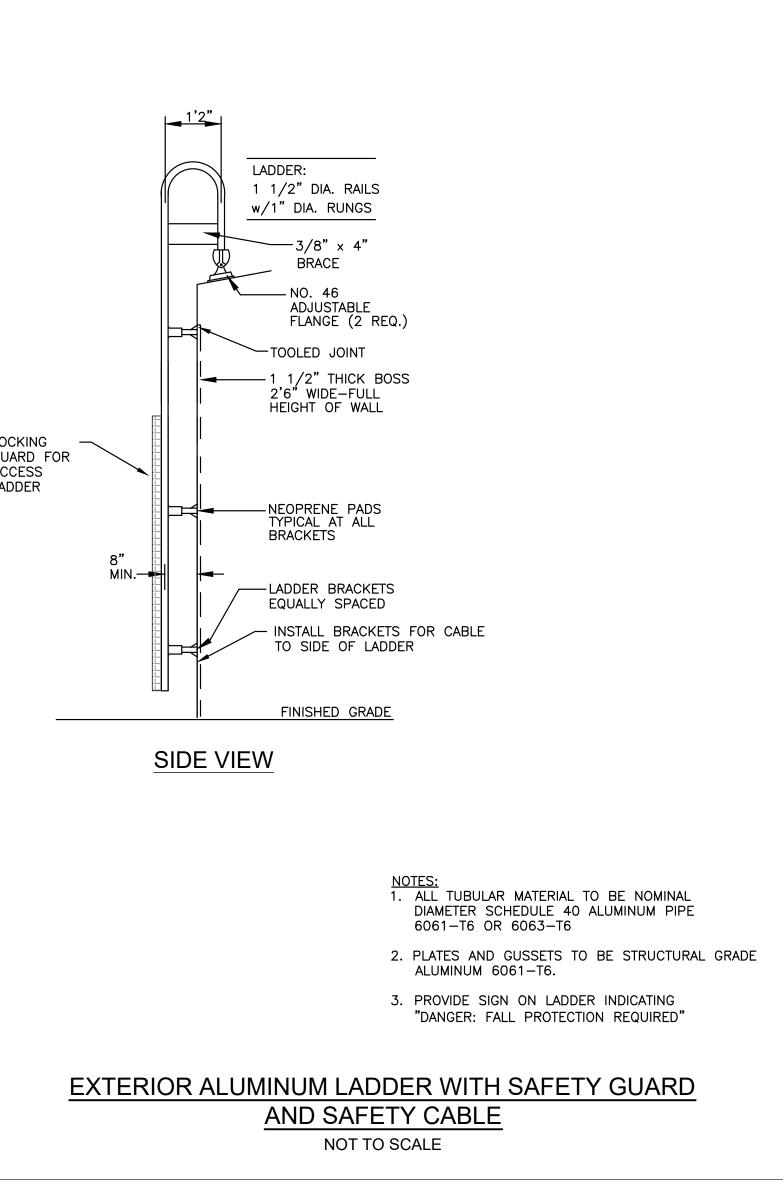
**REVISION:** 

DRAWN BY: JJM	SHEET DESCRIPTION: TANK DETAILS (2 OF 3)
REVIEW BY: SMB	TAINE DETAILS (2 OF 3)
DATE: 14 MAR 2024	

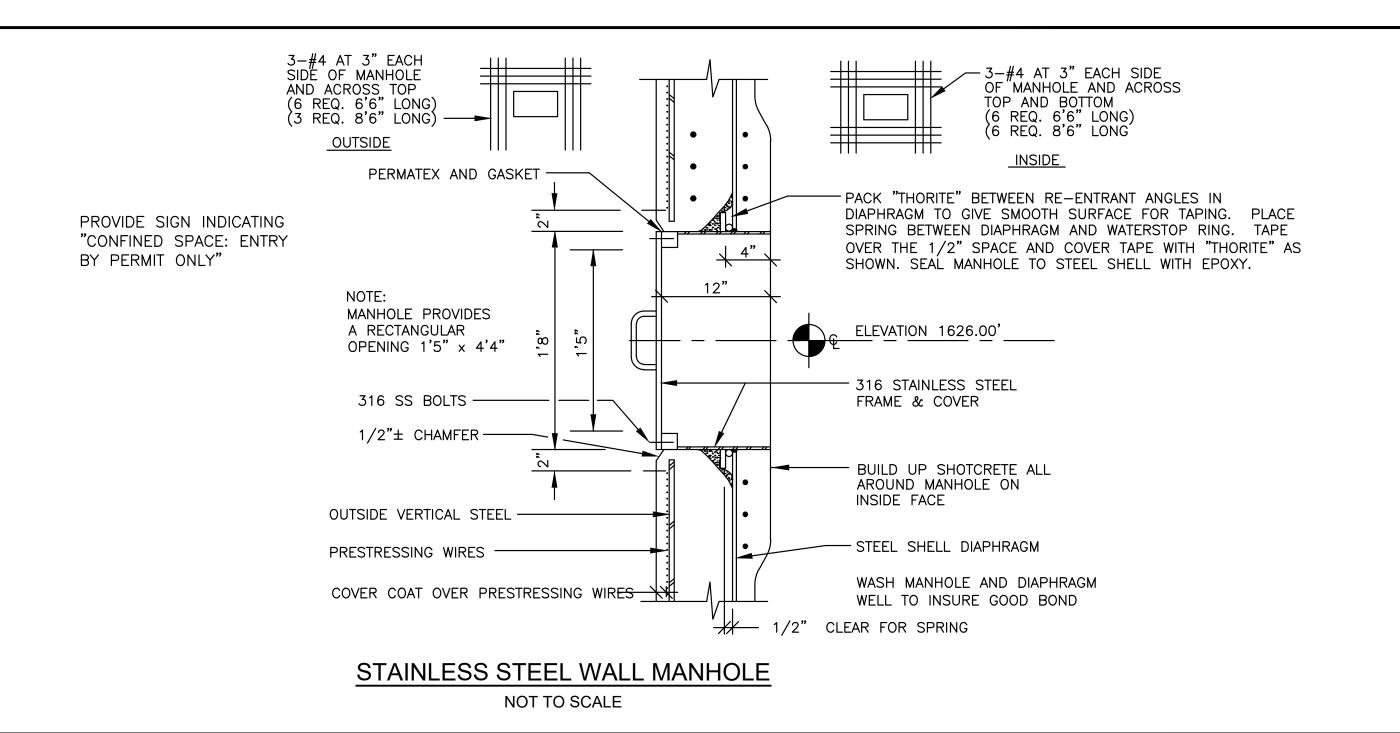


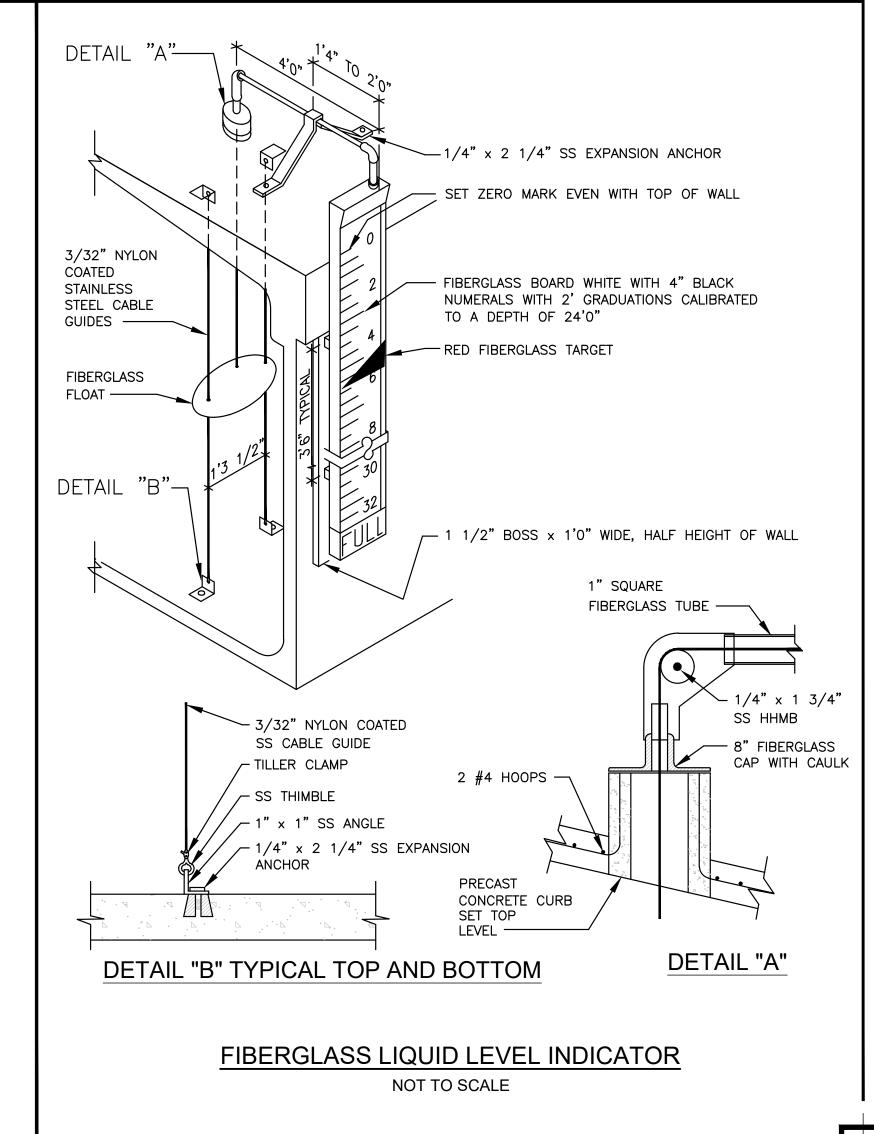
-3/8" x 3" SS EXPANSION ANCHOR (12 REQ)

-2 #4 HOOPS



**AUGUSTA COUNTY** 







CLEAR OPENING

FIBERGLASS HATCH COVER

NOT TO SCALE

-CONCRETE CURB

**SECTION** 

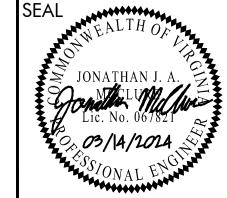
CHRISTIANSBURG, VIRGINIA 24073 FAX: (540) 394 - 3215 PHONE: (540) 394 - 3214

28 #4 DOWELS

3 #4 HOOPS AT 6"

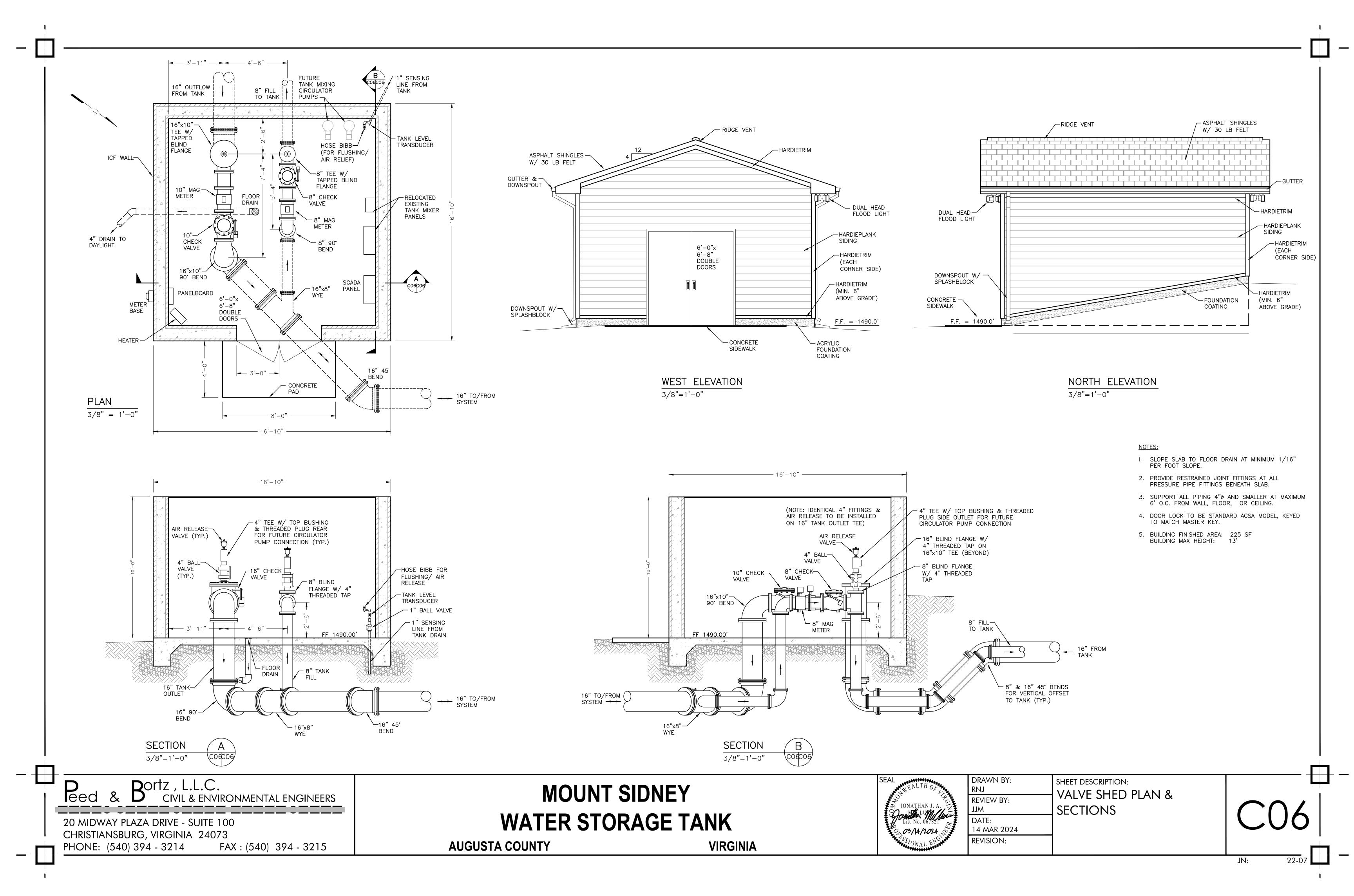
**MOUNT SIDNEY** WATER STORAGE TANK

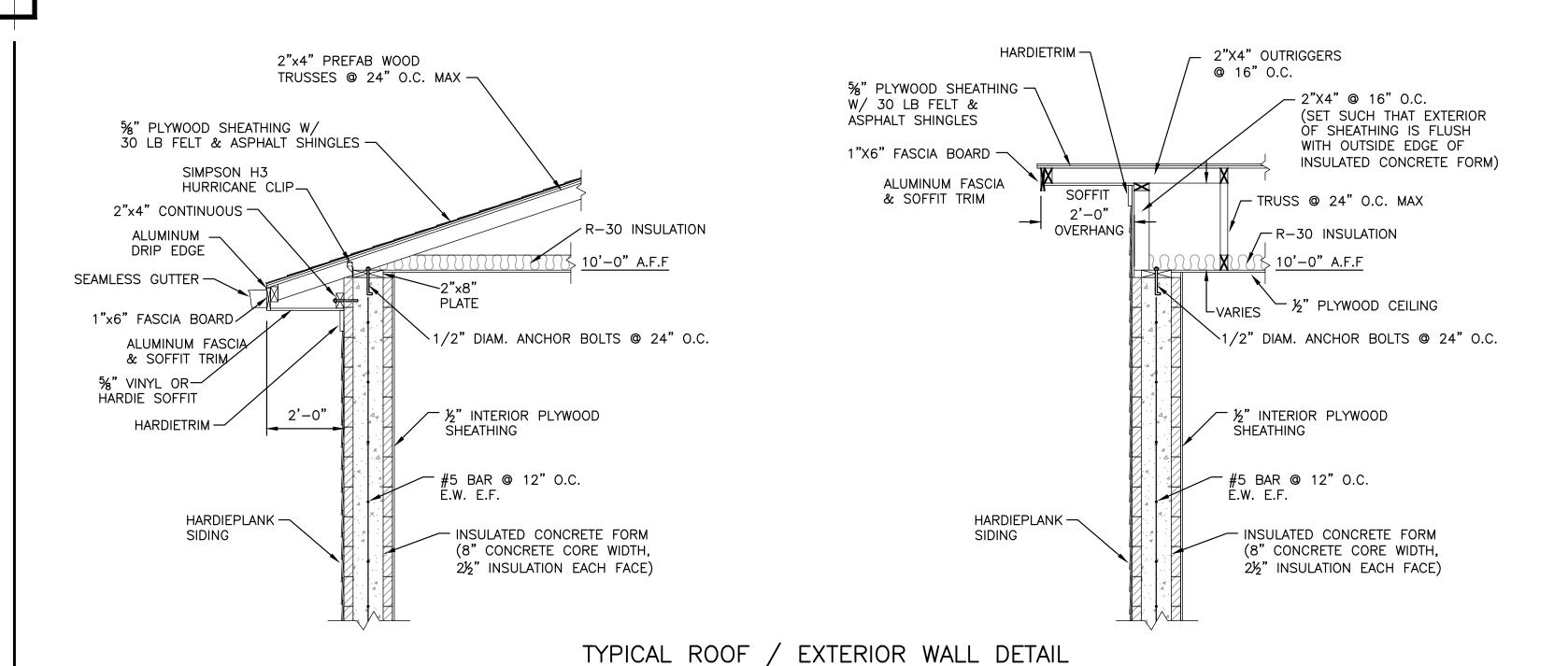
**VIRGINIA** 

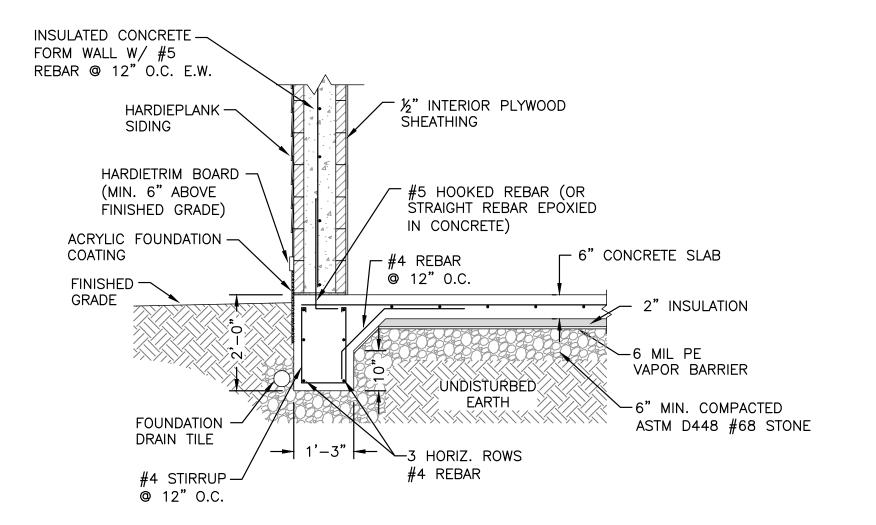


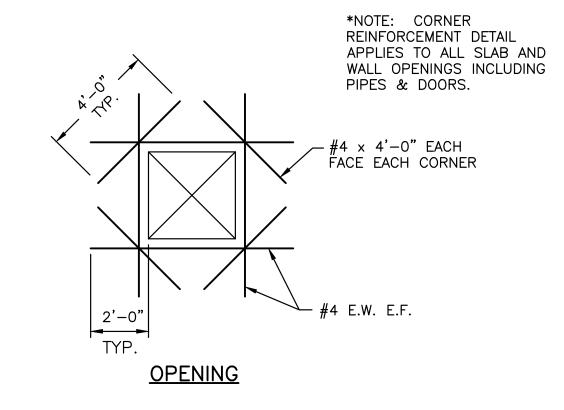
DRAWN BY:	Sł
JJW	╽┰
REVIEW BY:	
SMB	
DATE:	
14 MAR 2024	
REVISION:	

SHEET DESCRIPTION: TANK DETAILS (3 OF 3)









TYPICAL EXTERIOR WALL FOUNDATION & SLAB DETAIL 1/2"=1'-0"

TYPICAL CONCRETE OPENING REINFORCEMENT

#### NOTES:

1. FOUNDATION SHALL BE CONSTRUCTED ON UNDISTURBED NATURAL SOIL OR COMPACTED CONTROLLED FILL. EARTH CUTS MAY BE USED AS FORMS FOR FOUNDATION CONCRETE. DRAIN ALL BEARING STRATA ADEQUATELY BEFORE PLACING FOUNDATION CONCRETE. DO NOT PLACE CONCRETE ON FROZEN SOIL.

1/2"=1'-0"

- 2. SLOPE SLABS TO FLOOR DRAINS AT 1/16" PER FOOT.
- 3. BUILDING ENTRANCE PAD SHALL BE 6" THICK CONCRETE W/ 6x6-W2.9xW2.9 WWF, PLACED ON 6" COMPACTED #68 STONE.
- 4. ROOF TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

TOP CHORD LIVE LOAD 30 PSF
TOP CHORD DEAD LOAD 10 PSF
BOTTOM CHORD LIVE LOAD 20 PSF
BOTTOM CHORD DEAD LOAD 15 PSF

LOADS DO NOT INCLUDE THE WEIGHT OF THE ROOF TRUSSES.

- 5. PROVIDE ADDITIONAL TWO(2) HORIZONTAL ROWS #5 BAR @ 3" O.C. ABOVE DOUBLE DOOR OPENING.
- 6. STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (LATEST EDITION), INCLUDING ALL SUPPLEMENTS AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (LATEST EDITION).

#### A3 TANK LEVEL -TRANSDUCER (POWERED FROM TELEMETRY PANEL) TANK OUTLET MAG METER TANK FILL UNDER-SLAB-MAG METER -RELOCATED CONDUITS FOR EXISTING MAG METERS TANK MIXER (SEE NOTE 5) PANELS THERMOSTAT SCADA METER BASE PANEL W/ 200A MAIN\_ $\langle A5 \rangle$ PANELBOARD "A" BŔEAKER

#### LEGEND

DUPLEX RECEPTACLE

SURFACE MOUNT FIXTURE

FLOOD LIGHT

S SINGLE POLE TOGGLE SWITCH

LIGHT FIXTURE IDENTIFIER

CIRCUIT IDENTIFIER

#### NOTES:

- 1. ALL SIGNAL WIRING SHALL BE RUN IN SEPARATE CONDUITS FROM POWER WIRING.
- 2. CIRCUIT BREAKERS FOR ALL RECEPTACLES SHALL BE GROUND FAULT TYPE.
- 3. PROVIDE ELECTRICAL SAFETY MAT UNDER ALL ELECTRICAL PANELS.
- 4. INCLUDE SIGN ON ELECTRICAL PANELS INDICATING "WARNING: ARC FLASH AND SHOCK HAZARD APPROPRIATE PPE REQUIRED".
- 5. UNDER SLAB CONDUIT TO TANK FILL AND OUTLET MAG METERS SHALL INCLUDE A MINIMUM OF TWO ¾" CONDUITS FOR EACH METER, WITH ONE CONDUIT FOR POWER AND THE SECOND FOR SIGNAL WIRE. COORDINATE EXACT REQUIREMENTS PER METER MANUFACTURER'S RECOMMENDATIONS. CONDUIT ROUTES SHOWN ARE FOR METERS WITH INTEGRAL TRANSMITTERS. REMOTE MOUNTED TRANSMITTERS MAY BE USED WITH UNDER SLAB POWER AND SIGNAL CONDUIT ROUTES TO BOTH BE BETWEEN METER AND REMOTE TRANSMITTER LOCATIONS.

#### VALVE SHED ELECTRICAL PLAN

3/8"=1'-0"

#### LIGHTING FIXTURE SCHEDULE

TYPE		LAMPS	MOUNTING	REMARKS			
ITPE	NO.	TYPE	MOUNTING	REMARKS			
A	2	LED	SURFACE	4 FT LOW PROFILE, WET LOCATION, ENCLOSED & GASKETTED CEILING FIXTURE — 6000 LUMENS			
A	2	LED	WALL/ SOFFIT	EXTERIOR DUAL FLOOD LIGHT W/ MOTION SENSOR & PHOTOCELL — 1000 LUMEN/LAMP			
	1	LED	WALL	SOLAR FLOOD W/ MOTION DETECTOR			

#### PANELBOARD "A" SCHEDULE

 PANEL BOARD CHARACTERISTICS:

 VOLTS:
 120 / 240
 SOLID NEUTRAL: 100 %

 PHASES:
 1
 GROUND BAR

 WIRES:
 3
 MINIMUM SHORT CIRCUIT RATING: 10,000 RMS SYMAMPS

MAIN BREAKER: 200 AMPERES

CKT.	POLE		CONN.	C	ONN. AMP	S	BREAKER	×.	NO	). & WIRES	IZE	CONDUIT
NO.	NO.	DESCRIPTION	KVA	L1	L2	P	AF	AT	PHASE	NEUT.	EGC	SIZE
1	1	LIGHTING	0.60	5.0		1	100	20	#12	#12	#12	3/4"
3	3	RECEPTACLES	1.20		10.0	1	100	20	#12	#12	#12	3/4"
5	5	SCADA PANEL	0.60	5.0		1	100	20	#12	#12	#12	3/4"
7	7	MAG METERS	0.24		2.0	1	100	15	#14	#14	#14	1/2"
9	9	SPARE	p=3			1	100	20	i.		1.	
	11	SPACE & BUS ONLY	*									
	13	1										
	15	I										
	17											
	19	II.										
	21	I.										
	23	▼										
2	2	HEATER	3.4	14.0		1	100	20	#12	#12	#12	3/4"
<b></b>	4	TEXTER	J		14.0		100	2	11 12	# 12	17 12	
6	6	TANK MIXER	2.4	10.0		1	100	20	#12	#12	#12	3/4"
· ·	8	DATE MINELL	2.7		10.0		100	20	T 12	W 12	IT 12	-JV-T
10	10	SPARE			C C C	1	100	20				
	12	SPARE			E	1	100	20				
	14	SPACE & BUS ONLY	1						T.		1)	1)
	16	IÎ.										
	18	i i										
	20	1										
	24	▼										
		TOTALS	8.40	34.0	36.0							

14 MAR 2024

REVISION:

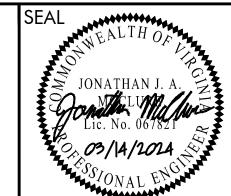
## Ped & Bortz , L.L.C. CIVIL & ENVIRONMENTAL ENGINEERS

20 MIDWAY PLAZA DRIVE - SUITE 100 CHRISTIANSBURG, VIRGINIA 24073 PHONE: (540) 394 - 3214 FAX

FAX : (540) 394 - 3215

## MOUNT SIDNEY WATER STORAGE TANK

AUGUSTA COUNTY VIRGINIA



DRAWN BY:	SHEET DESCRIPTION:					
RNJ	VALVE SHED DETAILS					
REVIEW BY:	VALVE SHED DETAILS					
JJW						
DATE:						

C07

JN:

1992

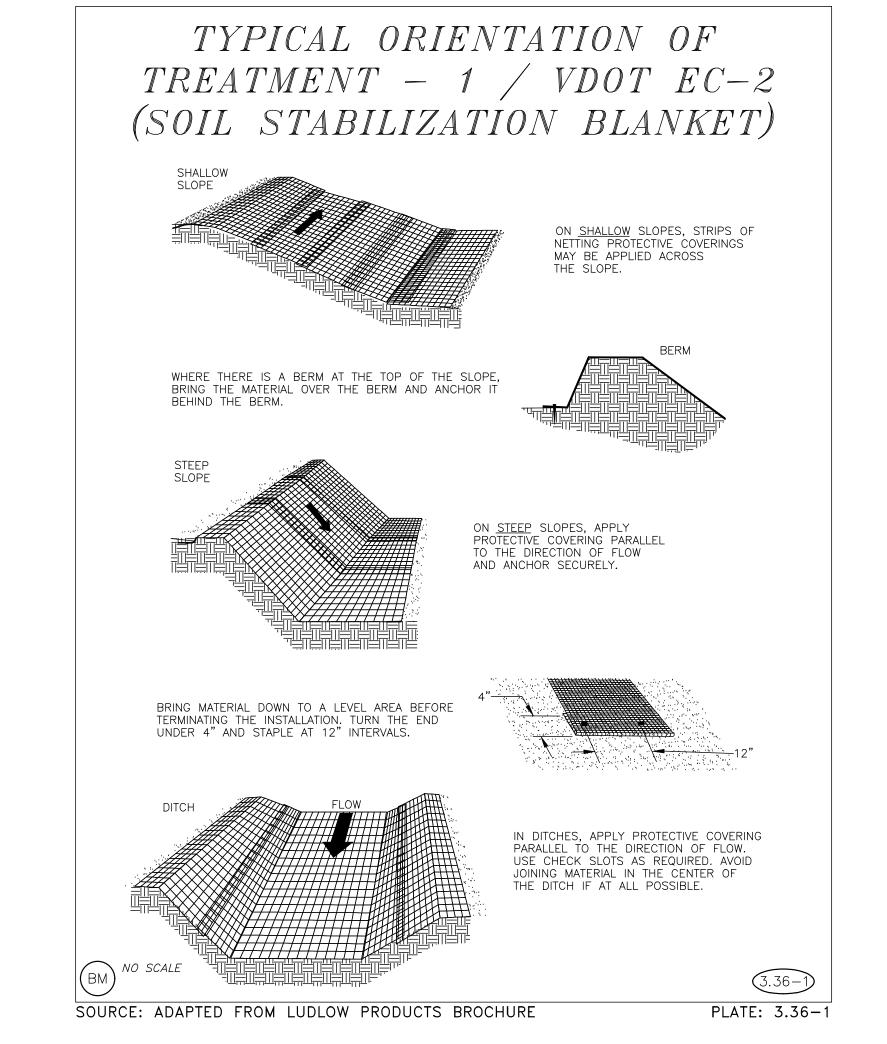
	ege stagen i na komune si kanan katalan kanan kana Kanan si kanan				
TABLE 3.32-C SITE SPECIFIC SEEDING MIXTURES FOR APPALACHIAN/MOUNTAIN AREA	Total Lbs.				
Minimum Care Lawn	Per Acre				
<ul> <li>Commercial or Residential</li> <li>Kentucky 31 or Turf-Type Tall Fescue</li> <li>Improved Perennial Ryegrass *</li> <li>Kentucky Bluegrass</li> </ul>	200-250 lbs. 90-100% 0-10% 0-10%				
High-Maintenance Lawn					
Minimum of three (3) up to five (5) varieties of bluegrass from approved list for use in Virginia.	125 lbs.				
General Slope (3:1 or less)	j				
<ul> <li>Kentucky 31 Fescue</li> <li>Red Top Grass</li> <li>Seasonal Nurse Crop **</li> </ul>	128 lbs. 2 lbs. <u>20 lbs.</u> 150 lbs.				
Low-Maintenance Slope (Steeper than 3:1)	130 lbs.				
<ul> <li>Kentucky 31 Fescue</li> <li>Red Top Grass</li> <li>Seasonal Nurse Crop **</li> <li>Crownvetch ***</li> </ul>	108 lbs. 2 lbs. 20 lbs. 20 lbs. 150 lbs.				
* Perennial Ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed.					
** Use seasonal nurse crop in accordance with seeding dates as stated below:  March, April through May 15th  May 16th through August 15th  August 16th through September, October  November through February  Winter Rye					
*** If Flatpea is used, increase to 30 lbs./acre. All legume seed inoculated. Weeping Lovegrass may also be included in an maintenance mixture during warmer seeding periods; add 10-20 lbs.	y slope or low-				

TABLE 3.35-A ORGANIC MULCH MATERIALS AND APPLICATION RATE			LICATION RATE		
	MULCHES:	RATES: Per Acre	RATES: Per 1000 sq. ft.	NOTES:	
	STRAW OR HAY	1½-2 TONS (MINIMUM 2 TONS FOR WINTER COVER)	70-90 lbs.	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.	
	FIBER MULCH	MINIMUM 1500 lbs.	35 lbs.	DO NOT USE AS MULCH FOR WINTER COVER OR DURING HOT DRY PERIODS.* APPLY AS SLURRY.	
	CORN STALKS	4-6 TONS	185-275 lbs.	CUT OR SHREDDED IN 4-6" LENGTHS. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER OR BY HAND.	
	WOOD CHIPS	4-6 TONS	185-275 lbs.	FREE OF COARSE MATTER. AIR—DRIED. TREAT WITH 12 lbs NITROGEN PER TON. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.	
	BARK CHIPS OR SHREDDED BARK	50-70 cu. yds.	1−2 cu. yds.	FREE OF COARSE MATTER. AIR—DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.	
	* WHEN FIBER MULCH IS THE ONLY AVAILABLE MULCH DURING PERIODS WHEN STRAW SHOULD BE USED, APPLY AT A MINIMUM RATE OF 2000 lbs./ac. OR 45 lbs./1000 sq.ft.				

FILTER FABRIC EMBEDDED 3" INTO GROUND

DD TEMPORARY DIVERSION DIKE (3.09–1)

NO SCALE



# 3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH. SHEET FLOW INSTALLATION (PERSPECTIVE VIEW) FLOW POINTS A SHOULD BE HIGHER THAN POINT B. DRAINAGEWAY INSTALLATION (FRONT ELEVATION) SF CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT) 3. STAPLE FILTER MATERIAL TO STAKES. 4. BACKFILL AND COMPACT THE EXCAVATED SOIL. THE EXCAVATED A" 4. BACKFILL AND COMPACT THE EXCAVATED SOIL. THE EXCAVATED STALLATION (FRONT ELEVATION) SF CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

Ded & Bortz , L.L.C.

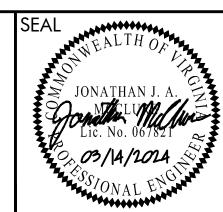
Eed & Bortz , L.L.C.

20 MIDWAY PLAZA DRIVE - SUITE 100 CHRISTIANSBURG, VIRGINIA 24073

PHONE: (540) 394 - 3214 FAX: (540) 394 - 3215

## MOUNT SIDNEY WATER STORAGE TANK

AUGUSTA COUNTY VIRGINIA



DRAWN BY: JJM	SHEET DESCRIPTION: <b>E&amp;S DETAILS</b>
REVIEW BY: SMB	EQ3 DETAILS
DATE: 14 MAR 2024	

REVISION:

1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS

5. TEMPORARY SEEDING WILL OCCUR WITHIN 7 DAYS AFTER GRADING AND PERMANENT SEEDING WILL OCCUR

7. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E & S CONTROLS WILL BE CLEANED UP AND

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT

1. STABILIZED AREAS WILL BE CHECKED WEEKLY TO ENSURE THAT THE GRASS SEED IS SUFFICIENT TO MINIMIZE

2. THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP

3. THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED.

3. SILT FENCE SHOULD BE INSTALLED AS THE FIRST STEP IN LAND DISTURBING ACTIVITIES.

4. INSTALL DIVERSION DIKES AFTER PERIMETER SILT FENCE HAS BEEN INSTALLED.

REMOVED. THE INSPECTOR WILL DETERMINE WHEN MEASURES MAY BE REMOVED.

4. FINAL GRADING AND PERMANENT STABILIZATION. PERMANENT SEEDING APPLIED.

1. INSTALL PERIMETER CONTROLS (SILT FENCE, DIVERSION DIKES) PRIOR TO LAND DISTURBANCE.

5. REMOVE ANY TEMPORARY E & S PERIMETER CONTROLS, AS SPECIFIED BY THE COUNTY.

4. PERIODICALLY INSPECT AND REMOVE ACCUMULATED SILT FROM THE DIVERSION DIKES.

AND SEDIMENT CONTROL PRACTICES.

3. APPLICATION OF GRAVEL AND OTHER IMPERVIOUS AREA.

RAINFALL. THE FOLLOWING AREAS WILL BE CHECKED IN PARTICULAR.

AREAS SHOULD BE FERTILIZED AND RE-SEEDED AS NECESSARY.

SEQUENCE OF CONSTRUCTION

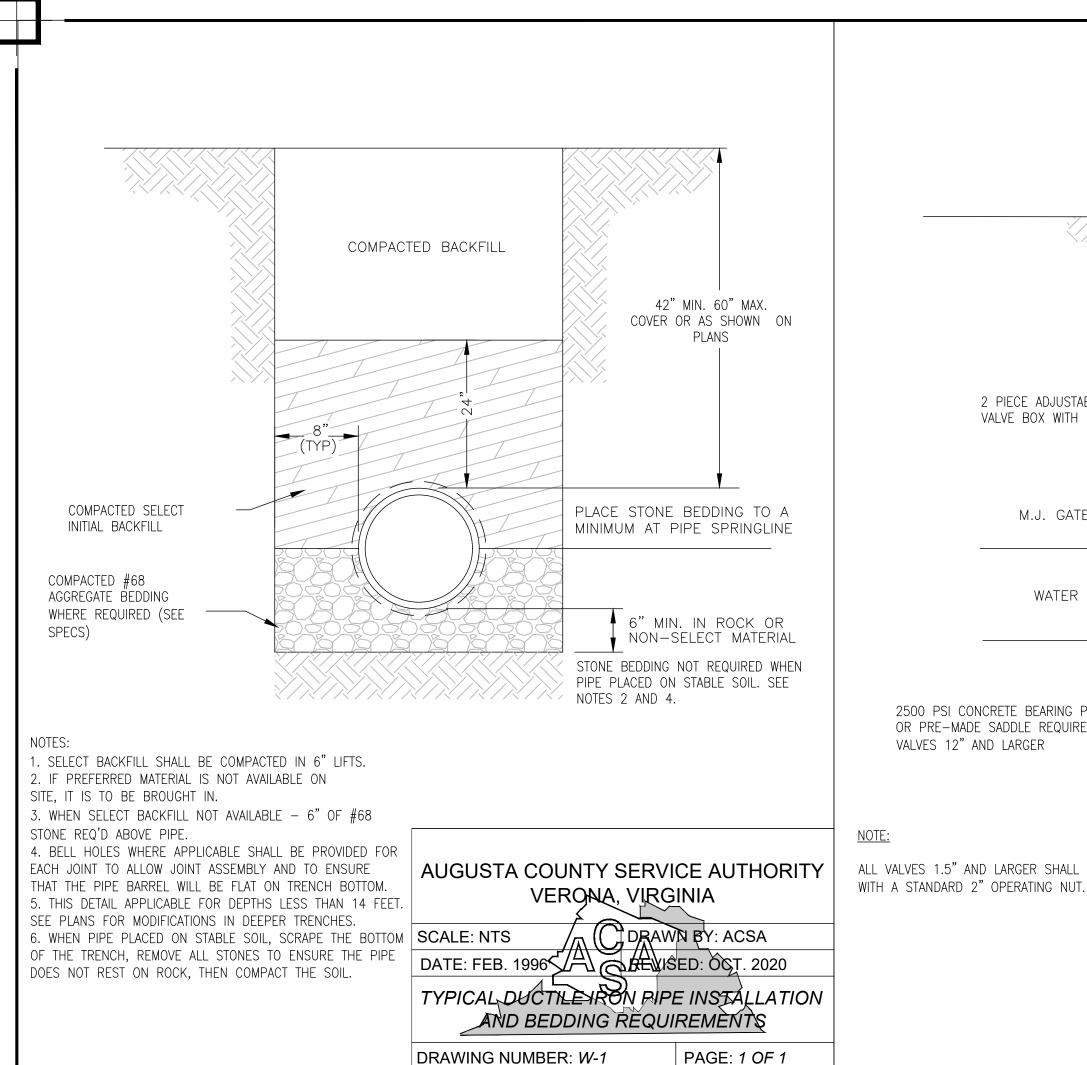
2. ROUGH GRADING OF SITE.

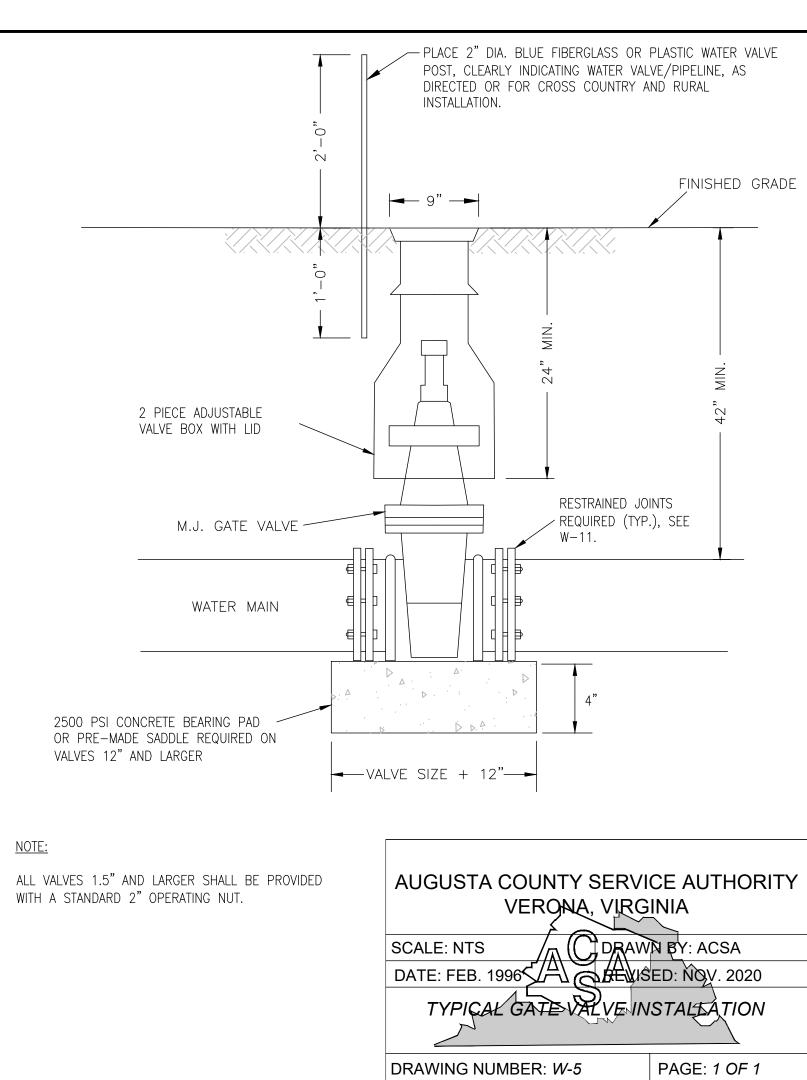
2. ALL DISTURBED AREAS WILL BE PROTECTED BY DRAINING RUNOFF TO AN APPROVED EROSION CONTROL DEVICE.

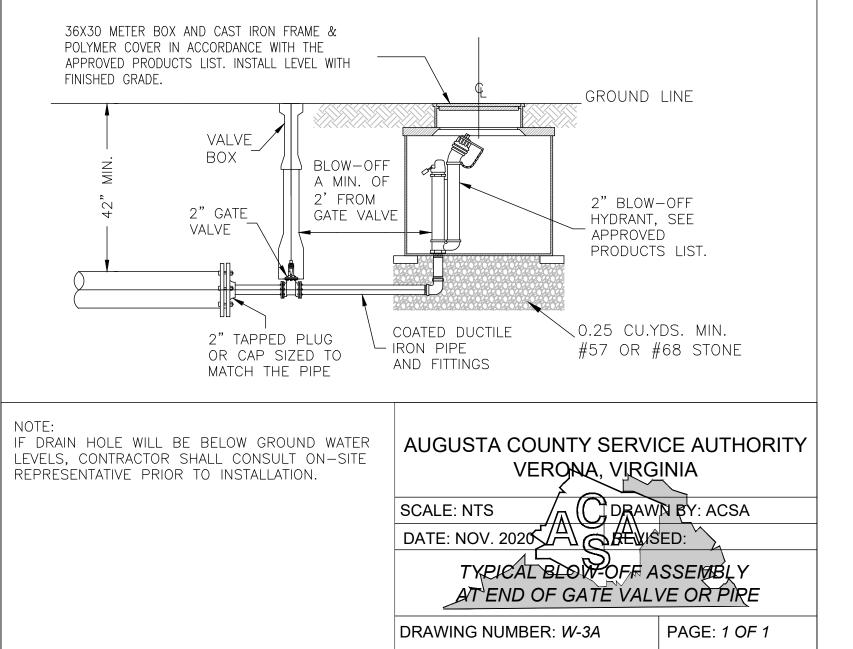
6. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION

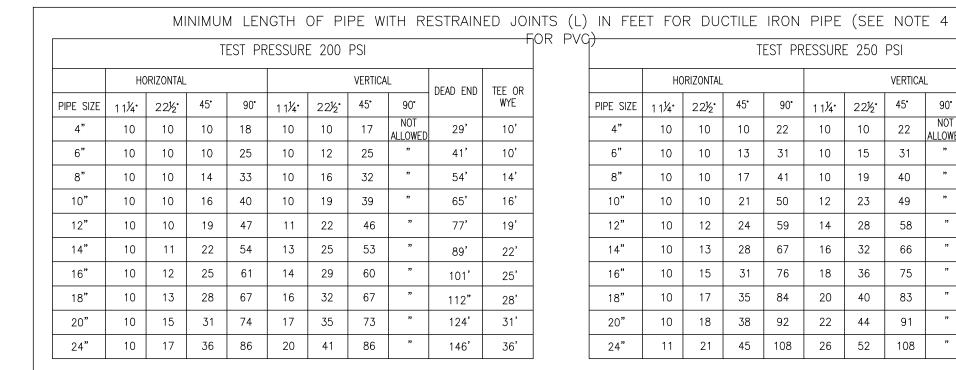
D01

IN·



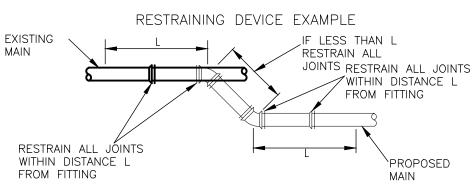






PIPE SIZE | 111/4 | 221/2 | 45° | 90° | 111/4 | 221/2 | 45° | 90° 4" 10 10 10 22 10 10 22 NOI ALLOWED 6" 10 10 13 31 10 15 31 
 8"
 10
 10
 17
 41
 10
 19
 40
 10" | 10 | 10 | 21 | 50 | 12 | 23 | 49 12" 10 12 24 59 14 28 58 14" 10 13 28 67 16 32 66 111' 28' 126' 31' 18" | 10 | 17 | 35 | 84 | 20 | 40 | 83 140' 35' 24" | 11 | 21 | 45 | 108 | 26 | 52 | 108 | 183' 45'

TEST PRESSURE 250 PSI



1. RESTRAINING DEVICES OR RESTRAINED JOINTS SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH UNCOVERED AND THE JOINTS A MINIMUM SAFETY FACTOR OF 2.

2. RESTRAINED LENGTH SHOWN IS BASED ON 3' OF COVER, SOILTYPE CL, JOINT RESTRAINING MECHANISM, THE TRENCH TYPE 4, 2:1 SAFETY FACTOR, EXISTING PIPE SHALL BE REPLACED AND DUCTILE IRON PIPE.

3. VALVES SHALL BE RESTRAINED BASED ON RESTRAINED LENGTH FOR DEAD ENDS.

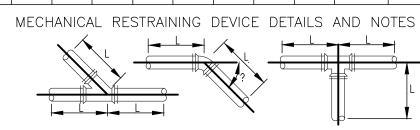
4. FOR PVC PIPE, INCREASE LENGTH "L" BY 25% FOR HORIZONTAL BENDS, AND INCREASE LENGTH "L" BY 100% FOR VERTICAL BENDS AND DEADENDS.

5. EXISTING PIPE ADJACENT TO PROPOSED BENDS, WYES, VALVES, TEES, AND PLUGS SHALL BE RESTRAINED FOR THE LENGTHS INDICATED. IF THE EXISTING PIPE IS UNABLE TO ACCEPT THE MECHANICAL WITH DUCTILE IRON WATER MAIN IN ACCORDANCE WITH THE SPECIFICATIONS AND RESTRAINED FOR

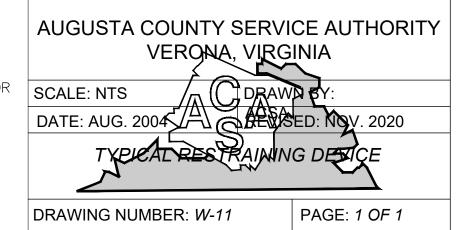
6. FIRE HYDRANTS SHALL BE RESTRAINED AT EACH JOINT IN THE

THE LENGTH INDICATED.

7. ALL JOINTS WITHIN CASING PIPES SHALL BE RESTRAINED.



8. IF A CASING PIPE FALLS WITHIN THE RESTRAINED LENGTH "L", THIS REQUIRED RESTRAINED LENGTH "L" SHALL BE INCREASED BY THE LENGTH OF THE CASING.



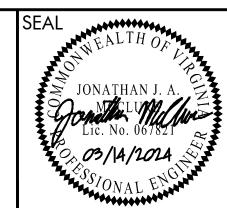
CIVIL & ENVIRONMENTAL ENGINEERS

20 MIDWAY PLAZA DRIVE - SUITE 100 CHRISTIANSBURG, VIRGINIA 24073 PHONE: (540) 394 - 3214

FAX: (540) 394 - 3215

#### **MOUNT SIDNEY** WATER STORAGE TANK

**AUGUSTA COUNTY VIRGINIA** 



PRAWN BY:	SHEET DESC
JM	STAND
EVIEW BY:	3 IAND
MB	
ATE:	
4 MAR 2024	

REVISION:

CRIPTION: **DARD DETAILS** 

JN: